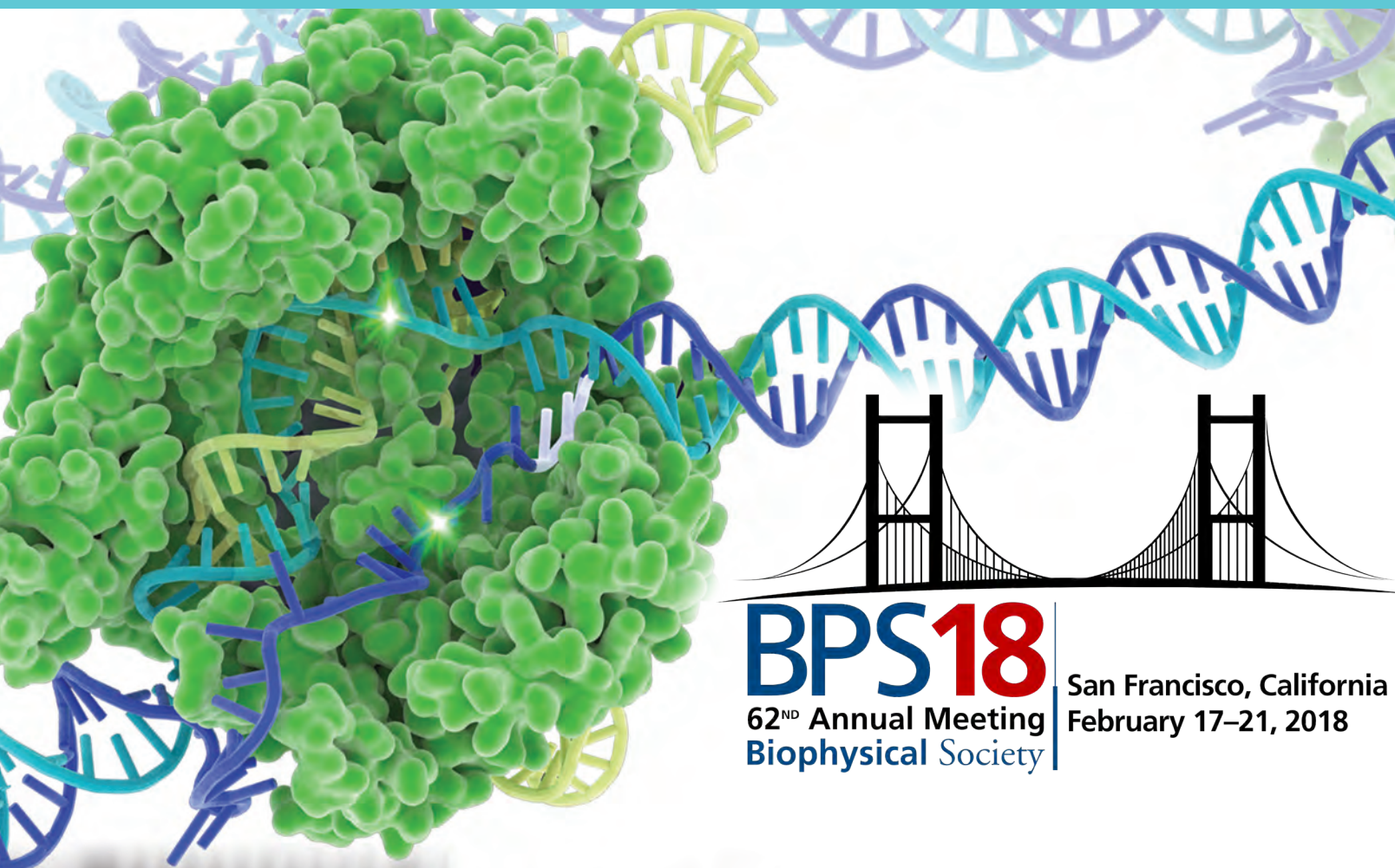
Fueling Discovery through Biophysics



BPS18

62ND Annual Meeting

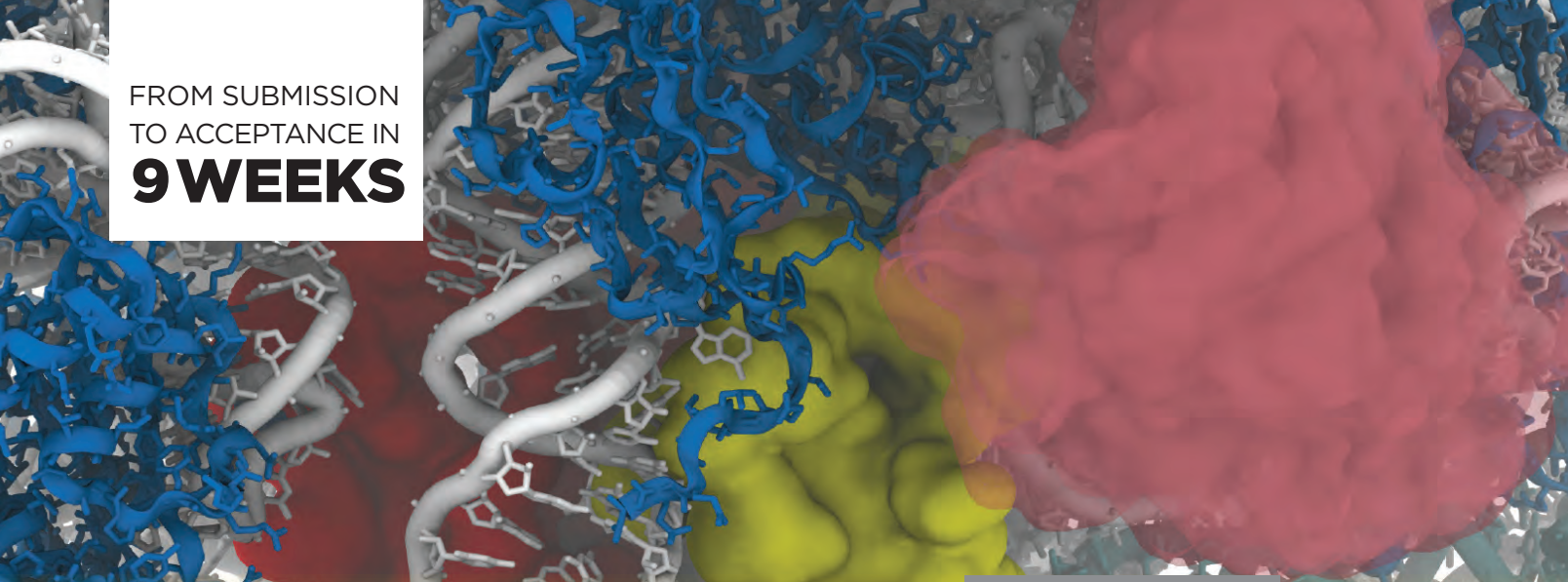
Biophysical Society

San Francisco, California

February 17–21, 2018

Program

Biophysical Society



THE JOURNAL OF PHYSICAL CHEMISTRY B

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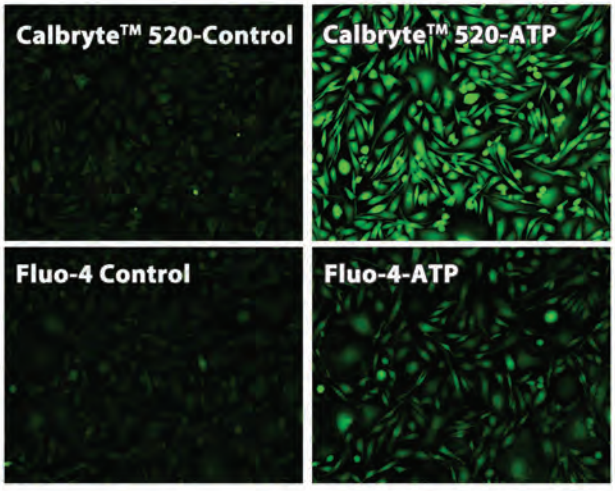
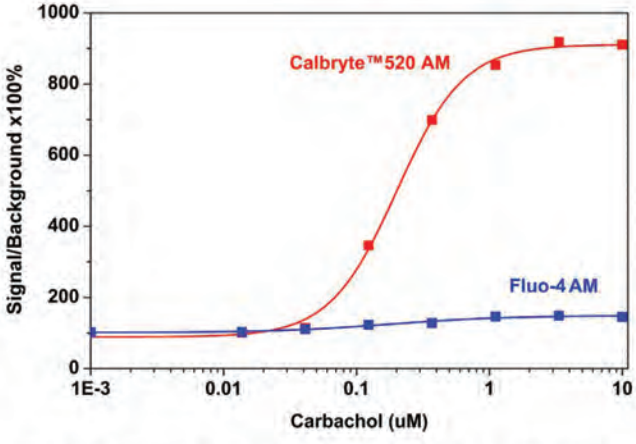


Response of endogenous P2Y receptor to ATP in CHO-K1 cells. CHO-K1 cells were seeded overnight at 40,000 cells/100 µL/well in a 96-well black wall/clear bottom Costar plate.



Carbachol dose response was measured in CHO-M1 cells with Calbryte™ 520 AM and Fluo-4 AM in the absence of probenecid.

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Biophysical Society

Thematic Meetings 2018

Genome Biophysics: Integrating Genomics and Biophysics to Understand Structural and Functional Aspects of Genomes

Santa Cruz, California
August 19–24, 2018

Abstract Submission & Registration Deadline: April 2

The Heart by Numbers: Integrating Theory, Computation and Experiment to Advance Cardiology

Berlin, Germany
September 4–7, 2018

Abstract Submission Deadline: May 7
Early Registration Deadline: June 4

For more information visit **www.biophysics.org**

Biophysical Society

BiophysicsWeek

March 12–16, 2018

Biophysics Week is a global effort aimed at encouraging connections within the biophysics community and raising awareness of the field and its impact among the general public, policy makers, students, and scientists in related fields.

Monday, March 12

- Biophysics at NIH—Lab Tour for Congressional Staff
- Communicating Science 3 Ways, Part 1

Tuesday, March 13

- Networking and Personal Branding: Two Keys to Success (David Warshaw)

Wednesday, March 14

- Communicating Science 3 Ways, Part 2

Thursday, March 15

- The Science of Unconscious Bias
- Liquid-liquid Phase Separtion (Tanja Mittag)

Friday, March 16

- Communicating Science 3 Ways, Part 3 and an Online Chat
- Capitol Hill Briefing featuring Jennifer Lippincott-Schwartz

Biophysics Week International Partners

British Biophysical Society

SIBPA Società Italiana di Biofisica Pura e Applicata

ARBRE MOBIEU BETWEEN ATOM AND CELL

Order Your T-Shirt Today

Order online at biophysics.org/BiophysicsWeek, or purchase at the Biophysical Society Booth at the BPS Annual Meeting.

On the website you will find information about additional Biophysics Week events taking place around the world to celebrate the week as well as resources you can use, such as lesson plans, trivia quizzes, "what is biophysics" video clips, and profiles. Material will be added throughout the week!

Visit biophysics.org/**BiophysicsWeek** for more information.

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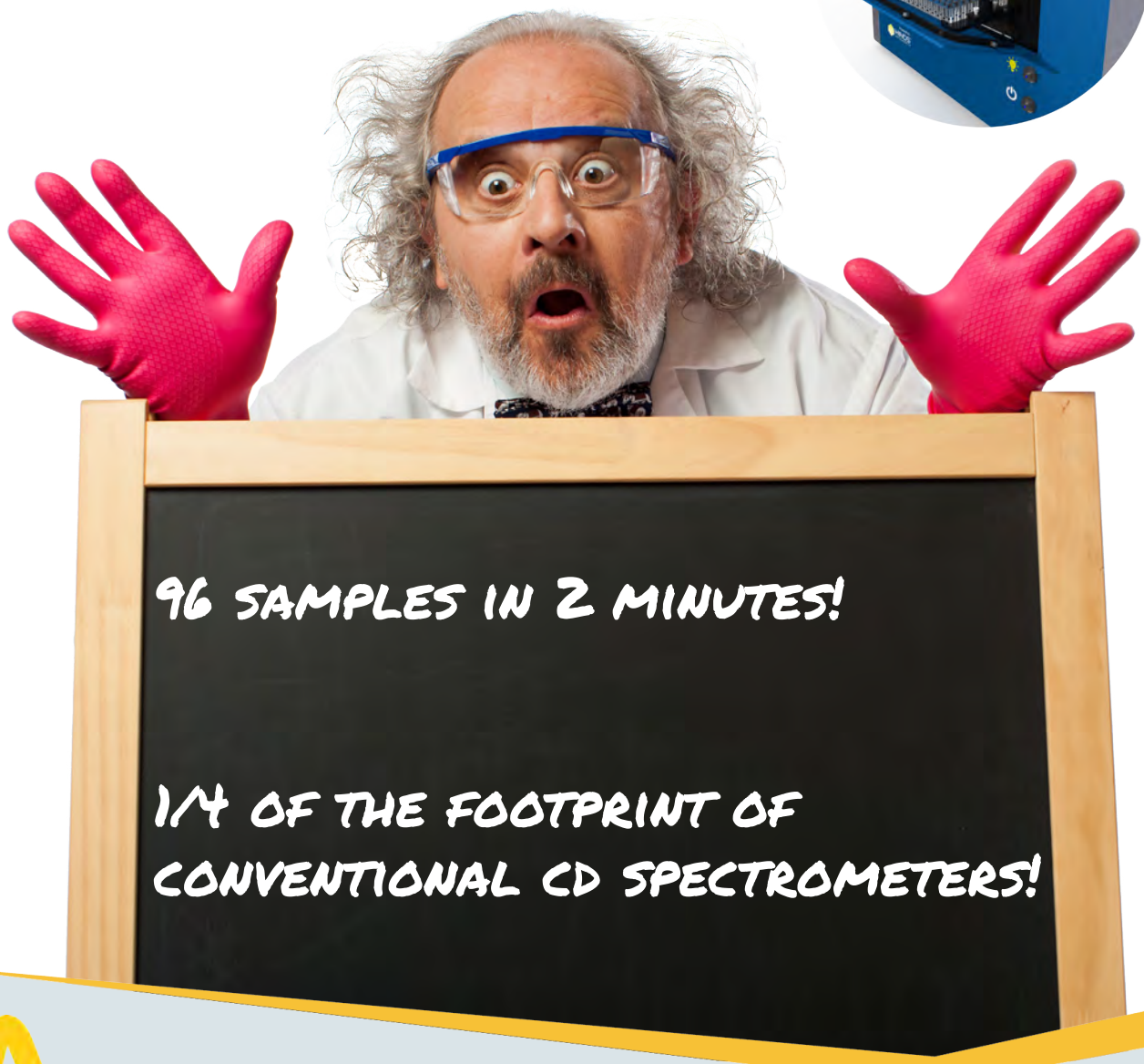

BioLogic
Science Instruments
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Booth # 719

BPS18

62ND Annual Meeting
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San Francisco, California
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Table of Contents

2018 Biophysical Society Lecturer

Jennifer A. Doudna

University of California, Berkeley, HHMI

CRISPR Systems: Biology and Application of Gene Editing

Monday, February 19, 8:00–9:30 PM, Moscone Center

About the Image

The 2018 image featured on the cover, is based on molecular structures of the RNA-guided protein CRISPR-Cas9, shows how this enzyme finds and cuts DNA within a genome to trigger site-specific genome editing. Artwork created by Janet Iwasa.

List of Advertisers in the 2018 Annual Meeting Program

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The Biophysical Society would like to thank the following companies for their generous support of the Annual Meeting:

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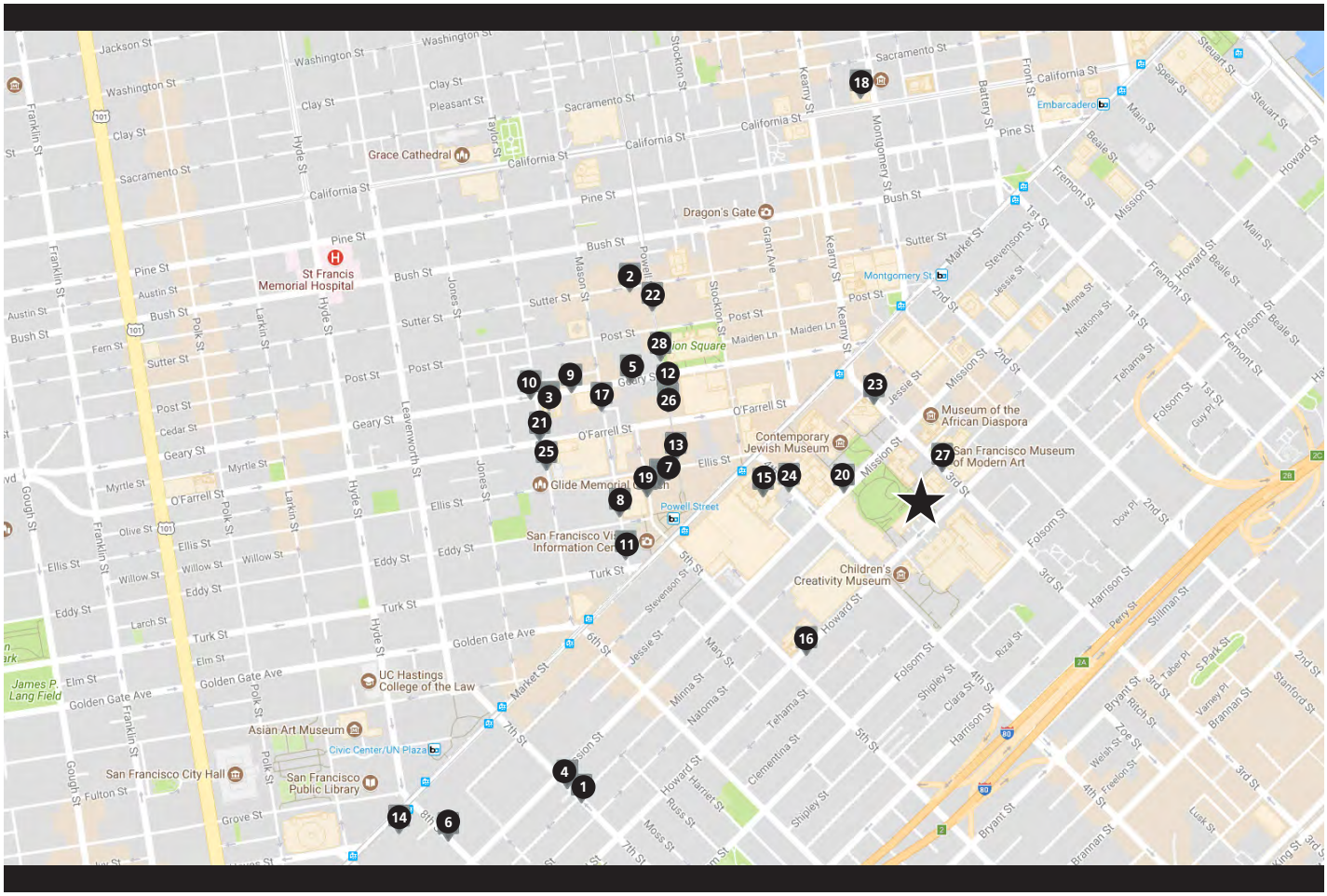
As of January 10, 2018

Hotel Map

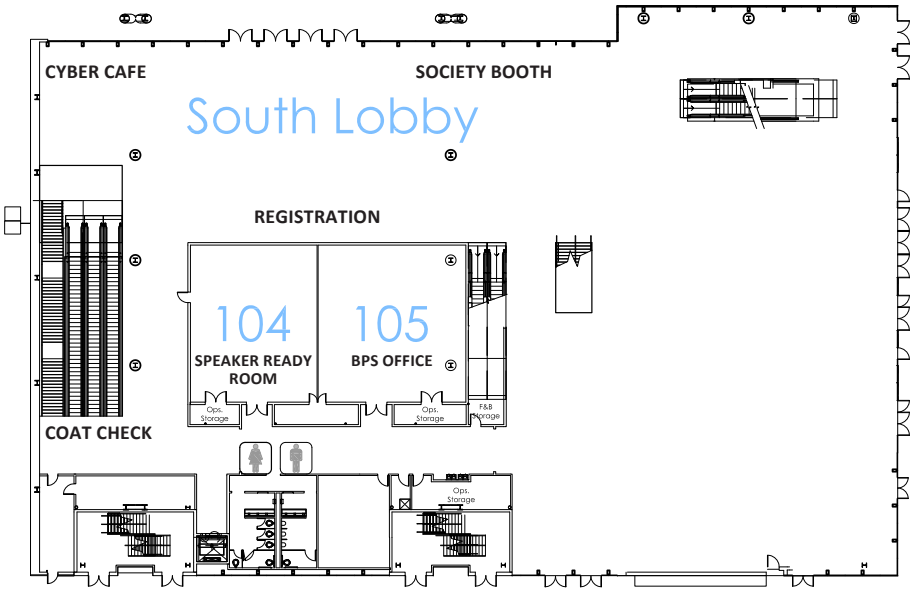


1.	Best Western Americana	☎ 415-626-0200	15.	Hotel Zelos	☎ 415-348-1111
2.	Cartwright Hotel Union Square	☎ 415-421-2865	16.	InterContinental San Francisco	☎ 415-616-6500
3.	Clift Hotel	☎ 415-775-4700	17.	King George Hotel	☎ 415-781-5050
4.	Good Hotel	☎ 415-621-7001	18.	Omni San Francisco	☎ 415-677-9494
5.	Handley Union Square Hotel	☎ 415-781-7800	19.	Parc 55 San Francisco – A Hilton Hotel	☎ 415-392-8000
6.	Holiday Inn Civic Center	☎ 415-626-6103	20.	*San Francisco Marriott Marquis	☎ 415-896-1600
7.	Hotel Abri	☎ 415-392-8800	21.	Serrano Hotel	☎ 415-885-2500
8.	Hotel Bijou	☎ 415-771-1200	22.	Sir Francis Drake Hotel	☎ 415-392-7755
9.	Hotel Diva	☎ 415-885-0200	23.	The Park Central San Francisco	☎ 415-974-6400
10.	Hotel Marker	☎ 415-292-0100	24.	The Mosser Hotel	☎ 415-986-4400
11.	Hotel Metropolis	☎ 415-775-4600	25.	Tilden Hotel	☎ 415-673-2332
12.	Hotel Stratford	☎ 415-397-7080	26.	Villa Florence Hotel	☎ 415-397-7700
13.	Hotel Union Square	☎ 415-397-3000	27.	W San Francisco	☎ 415-777-5300
14.	Hotel Whitcomb	☎ 415-626-8000	28.	Westin St. Francis	☎ 415-397-7000

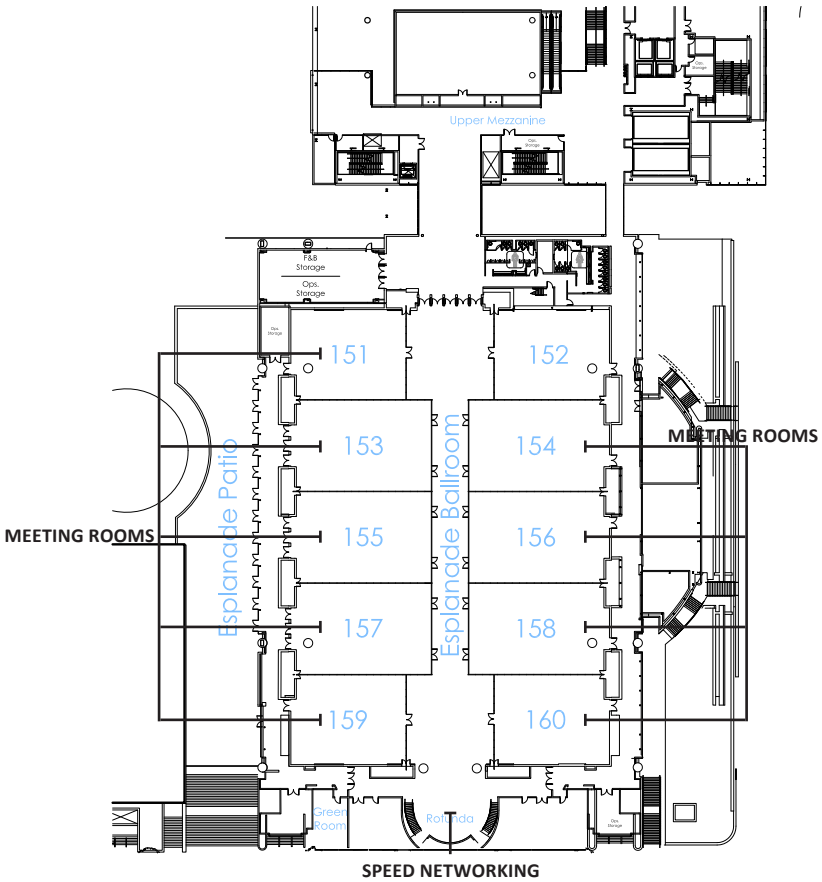
*Headquarter Hotel

Moscone Center

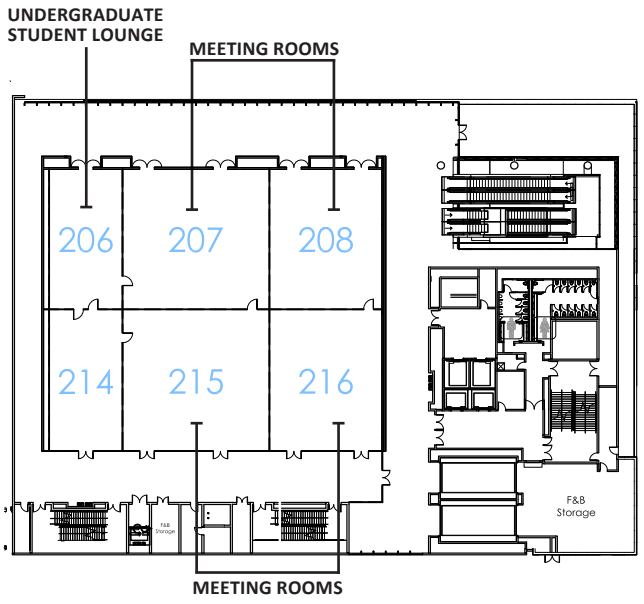
South Lobby



South, Esplanade Rooms



South, Level 2



South, Level 3

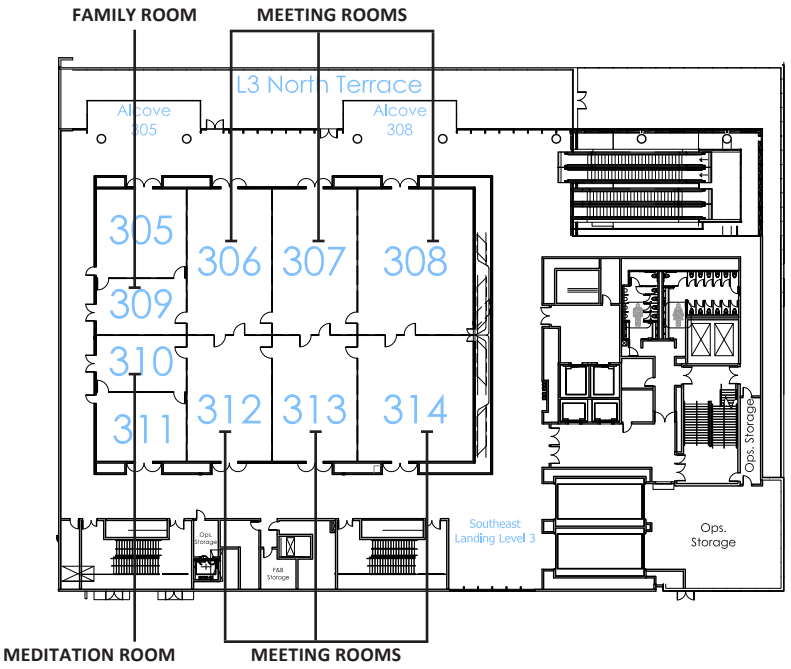
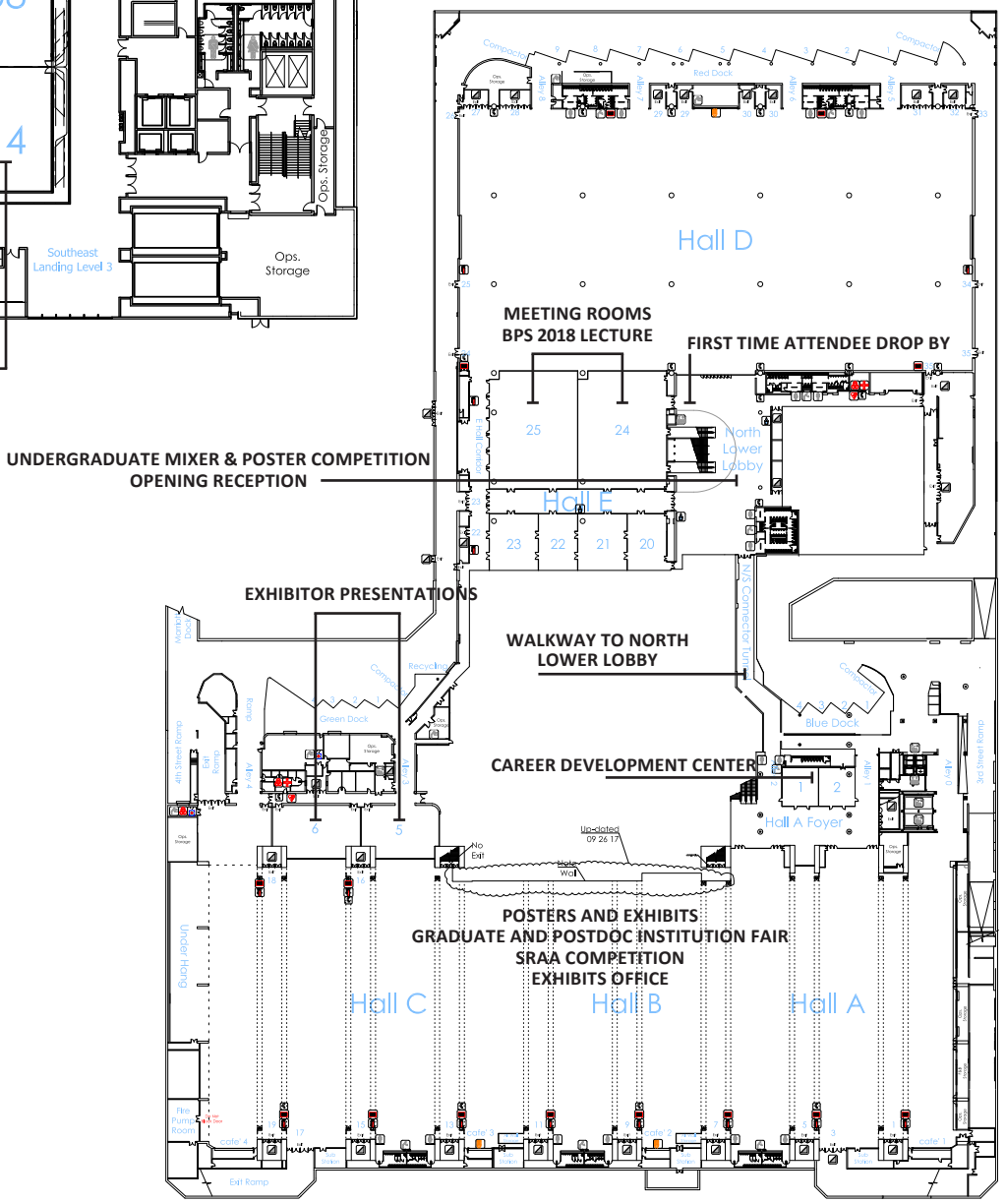


Exhibit Level



Biophysical Society Code of Conduct, Anti-Harassment Policy

Adopted by BPS Council November 2015

The Biophysical Society (BPS) is committed to providing an environment that encourages the free expression and exchange of scientific ideas. As a global, professional Society, the BPS is committed to the philosophy of equal opportunity and respectful treatment for all regardless of national or ethnic origin, religion or religious belief, gender, gender identity or expression, race, color, age, marital status, sexual orientation, disabilities, veteran status, or any other reason not related to scientific merit. All BPS meetings and BPS-sponsored activities promote a working environment that is free of inappropriate behavior and harassment by or toward all attendees of Society meetings and Society-sponsored activities, including scientists, students, guests, exhibitors, staff, vendors, and other suppliers.

This global policy applies to all locations and situations where BPS business is conducted and to all BPS-sponsored activities and events. This policy does not replace the specific staff policies for situations in which only staff are involved.

Reported or suspected occurrences of harassment will be promptly and thoroughly investigated. Following an investigation, BPS will immediately take any necessary and appropriate action. BPS will not permit or condone any acts of retaliation against anyone who files harassment complaints or cooperates in the investigation of same.

Definition of Harassment

The term "harassment" includes but is not limited to epithets, unwelcome slurs, jokes, or verbal, graphic, or physical conduct relating to an individual's race, color, religious creed, sex, national origin, ancestry, citizenship status, age, gender, or sexual orientation that denigrate or show hostility or aversion toward an individual or group.

Sexual harassment refers to unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature. Behavior and language that are welcome/acceptable to one person may be unwelcome/offensive to another. Consequently, individuals must use discretion to ensure that their words and actions communicate respect for others. This is especially important for those in positions of authority since individuals with lower rank or status may be reluctant to express their objections or discomfort regarding unwelcome behavior. It does not refer to occasional compliments of a socially acceptable nature. It refers to behavior that is not welcome, is personally offensive, debilitates morale, and therefore, interferes with work effectiveness. The following are examples of behavior that, when unwelcome, may constitute sexual harassment: sexual flirtations, advances, or propositions; verbal comments or physical actions of a sexual nature; sexually degrading words used to describe an individual; a display of sexually suggestive objects or pictures; sexually explicit jokes; unnecessary touching.

Investigative Process

Anyone who feels harassed is encouraged to immediately inform the alleged harasser that the behavior is unwelcome. In many instances, the person is unaware that their conduct is offensive and when so advised can easily and willingly correct the conduct so that it does not reoccur. Anyone who feels harassed IS NOT required to address the person believed guilty of inappropriate treatment. If the informal discussion with the alleged harasser is unsuccessful in remedying the problem or if complainant does not feel comfortable with such an approach, he/she should contact BPS's Executive Director or the Society President, or any BPS Officer. All complaints will be promptly and thoroughly investigated. All reports of harassment or sexual harassment will be treated seriously. However, absolute confidentiality cannot be promised nor can it be assured. BPS will conduct an investigation of any complaint of harassment or sexual harassment, which may require limited disclosure of pertinent information to certain parties, including the alleged harasser. No retaliation will be taken against any employee, member, volunteer, exhibitor, or supplier because he or she reports a problem concerning possible acts of harassment. Employees, members, volunteers, exhibitors, or suppliers can raise concerns and make reports without fear of reprisal.

Investigative Procedure

Once a complaint of harassment or sexual harassment is received, BPS will begin a prompt and thorough investigation.

An impartial investigative committee, consisting of the Past-President, current President, and President-Elect will be established.

The committee will interview the complainant and review the written complaint. If no written complaint exists, one will be requested.

The committee will speak to the alleged offender and present the complaint.

The alleged offender will be given the opportunity to address the complaint, with sufficient time to respond to the evidence and bring his/her own evidence.

If the facts are in dispute, the investigative team may need to interview anyone named as witnesses.

The investigative committee may seek BPS Counsel's advice. Once the investigation is complete, the committee will report their findings and make recommendations to the Society Officers.

Disciplinary Actions

Individuals engaging in behavior prohibited by this policy as well as those making allegations of harassment in bad faith will be subject to disciplinary action. Such actions range from a verbal warning to ejection from the meeting or activity in question without refund of registration fees and the reporting of their behavior to their employer. Repeat offenders may be subject to further disciplinary action, such as being banned from participating in future Society meetings or Society-sponsored activities. In the event that the individual is dissatisfied with the results of the investigation, he or she may appeal to the President of the Society. Any questions regarding this policy should be directed to the BPS Executive Officer or other Society Officer.

BPS Management Responsibility

Every officer, director, supervisor, and manager is responsible for ensuring that BPS provides an environment free of harassment and inappropriate behavior and that complaints are handled promptly and effectively. The BPS Society Office and Officers must inform the Society membership and all vendors and suppliers about this policy, promptly investigate allegations of harassment, take appropriate disciplinary action, and take steps to assure retaliation is prohibited.

Biophysical Society

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Francesca Marassi, Sanford Burnham Prebys Medical Discovery Institute, Co-Chair
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Term Ending 2018
Ruth Heidelberger
Robert Nakamoto
Gabriela Popescu
Erin Sheets

Term Ending 2019
Jane Clarke
Bertrand Garcia-Moreno
Arthur Palmer
Joanna Swain

Term Ending 2020
Zev Bryant
Teresa Giraldez
Ruben Gonzalez
Marina Ramirez-Alvarado

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Elizabeth Rhoades, Associate Editor
Brian Salzberg, Associate Editor
Tamar Schlick, Associate Editor
Stanislav Shvartsman, Associate Editor
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Tara Singh, Administrative Assistant
Beth Staehle, Director of Publications
Elizabeth Vuong, Business & Marketing Director
Ellen Weiss, Director of Policy & Communications
Ray Wolfe, Creative Designer & Systems Engineer
Umi Zhou, Meetings Associate

Sorting and Programming of 2018 Abstracts

Sorting and programming of the 2018 Annual Meeting abstracts into poster and platform sessions was completed by: Dorothy Beckett, Olga Boudker, Zev Bryant, Linda Columbus, Bertrand Garcia-Moreno, Teresa Giraldez, Ruth Heidelberger, David Jacobson, Anne Kenworthy, Francesca Marassi, Robert Nakamoto, Gregor Neuert, Arthur Palmer, Richard Pastor, David W. Piston, Gabriella Popescu, Michael Pusch, Marina Ramirez-Alvarado, Jennifer Ross, Catherine A. Royer, Andrej Sali, Suzanne Scarlata, James Sellers, Frances Separovic, Erin Sheets, Ana-Maria Soto, Joanna Swain, and Pernilla Wittung-Stafshede.

General Information

All functions will be held in the *Moscone Center*, unless otherwise noted.

Badges

Badges are required for admission to all scientific sessions, including Saturday subgroup symposia, poster areas, exhibits, and social functions. A guest badge for non-scientific guests can be purchased for $65 at the on-site registration counter located in South Lobby. Guest registration includes admittance to the Opening Mixer on Saturday night and Reception on Monday night. It does not include admission to scientific sessions, posters, or exhibits.

Banking and Currency Exchange

Foreign currency exchange and other bank transactions can be done during regular bank business hours at Bank of America, Market Street and Powell Street, 1 Powell Street, San Francisco, CA, 94102. ATMs are also available in the Moscone Center.

Monday–Thursday	9:00 AM–5:00 PM
Friday	9:00 AM–6:00 PM
Saturday	10:00 AM–2:00 PM
Sunday	Closed

Business Center, North Lower Lobby

The Moscone Center provides a full-service business center for the convenience of attendees and exhibitors. Services include photocopying, faxing, computer work stations, and printing services. Shipping is provided through UPS. To contact the business center, call 415-974-4080 or email facilityservices@moscone.com.

Sunday–Tuesday	10:00 AM–5:00 PM

Career Development Center, South, Lower Level, Room 1 and 2

Services are available for both those seeking a position and employers with positions to fill. Please note, the career development center is the only place to post job openings. Unauthorized notices placed elsewhere in the Moscone Center will be removed.

Saturday	12:00 NOON–7:00 PM
Sunday–Tuesday	8:00 AM–5:30 PM

Certificates of Attendance

Certificates of Attendance may be obtained in person in the Society Meeting Office, in South Lobby, Room 105, or at the Society Help Desk located at registration in the South Lobby.

Code of Conduct

The Biophysical Society Annual Meeting provides an environment that encourages free and respectful expression and exchange of scientific ideas.

Please review the code of conduct policy (page VI) that all meeting participants must follow.

Coat Check/Luggage Storage, South Lobby

The cost is $3.00 per checked coat or small handbag and $4.00 per checked luggage. Please do not bring luggage to meeting rooms. If you are planning to check items, please plan to arrive early to ensure that you are not late for sessions due to long lines.

Saturday	8:30 AM–7:30 PM
Sunday–Tuesday	7:30 AM–6:30 PM
Wednesday	7:30 AM–4:00 PM

Dinner Meet-ups

Interested in making new acquaintances and experiencing the cuisine of San Francisco? Meet at the Society Booth each evening, Sunday through Tuesday, at 5:30 PM where a BPS member will coordinate dinner at a local restaurant.

Exhibits, South Hall ABC

The Exhibit Hall features the most advanced equipment, products, services, and publications available. A list of exhibitors as of January 10, 2018, can be found beginning on page 183. Please see Addendum for those registered after January 11, 2018.

Sunday	10:00 AM–5:00 PM
Monday	10:00 AM–5:00 PM
Tuesday	10:00 AM–4:00 PM

Exhibitor Coupons

Pick up the Exhibitor Coupons at the on-site registration counters and inside the Exhibit Hall entrance. The coupons are valid for special offers and discounts on exhibiting companies' products and services.

Family Room, South Level Three, Room 305

The Family Room is equipped with diapers, electrical outlets for pumps, labels for breast milk, plastic bags for disposing of diapers, a small refrigerator, private areas for nursing, and a small area for rest and play.

Friday	2:00 PM–5:00 PM
Saturday	8:00 AM–7:00 PM
Sunday–Tuesday	7:30 AM–10:00 PM
Wednesday	8:00 AM–3:30 PM

First Aid, South, Lower Level

In case of medical emergency, dial 511 from any house phone or 415-974-4021 from a cell phone. For other minor medical needs, this room will be staffed with First Aid Administrators trained in First Aid Response during the hours below.

Saturday	8:00 AM–6:30 PM
Sunday	7:30 AM–6:30 PM
Monday	7:30 AM–9:00 PM
Tuesday	7:30 AM–6:30 PM
Wednesday	7:30 AM–3:30 PM

Individuals Requiring Assistance

Attendees requiring special assistance during the meeting should visit the Society Meeting Office in South Lobby Room 105 of the Moscone Center. Society staff will do their best to accommodate requests; however, we cannot ensure that special needs will be met without prior notice.

Internet Access

Wireless Internet access is available free-of-charge throughout the common areas of the Moscone Center, excluding the Exhibit Hall.

In addition, the Biophysical Society Cyber Cafe is located in the South Lobby. Attendees can access the Internet for free on one of the available computers. Usage time is limited to 10 minutes per session when others are waiting.

Saturday	8:00 AM–7:30 PM
Sunday–Tuesday	7:30 AM–10:00 PM
Wednesday	7:30 AM–3:00 PM

Mobile App and Desktop Planner

The Biophysical Society's Official Mobile App is available for download in App Store and Google Play Store. iOS and Android Users can search for "bps events" to download the App. We do not support native apps for Windows Mobile and Blackberry at this time; However, those users may access our mobile-friendly Desktop Planner at www.biophysics.org/2018meeting. Using the Mobile App you can view/create schedules, view abstracts/authors/exhibitors, receive event alerts from BPS, share your moments in social media, find/interact virtually with other attendees, and sync itineraries that were created with the Desktop Planner.

Networking Cards for Poster and Platform Presenters

Are you speaking in a platform session or presenting a poster? If so, you already have 25 pre-printed Networking Cards waiting for you. Networking Cards are like business cards, but designed just for scientists. They provide your contact information, title of your abstract, your presentation date/time and abstract content. Hand them out to other researchers before, during, or after your poster presentation. Networking Cards are available for pick up in South Lobby.

Sponsored by Quartzy.com, the world's leading free online lab management platform.

Parking

There are many parking options — both garages and lots — conveniently located within blocks of the Moscone Center. Additionally, San Francisco has several thousand metered and non-metered timed spaces around the Moscone Center. Meter rates vary per hour depending upon whether the meter is in a central location. Meter debit cards are available for purchase through the city of San Francisco. Please pay attention to the posted meter and regulation signs, including scheduled street cleaning and commuter lane restrictions.

Photography

Registration for the meeting implies consent to having photographs taken and to their use by officials of the Biophysical Society, or their representatives, for editorial and promotional purposes, on the Society website, social media outlets, and publications.

To respect the willingness of presenters to share data at the meeting, as well as their publication opportunities, **recordings of any kind (audio, video, camera, or cell phone) in the session rooms, Exhibit Hall, and poster areas are strictly prohibited.** Any individual seen taking photographs of any session or presentation will be escorted out by security.

Poster Pickup

Posters ordered in advance through Tray Printing will be available for pick up at the Moscone Center South, Lower Level outside the Exhibit Hall during the following hours:

Saturday	4:00 PM–7:00 PM
Sunday–Tuesday	9:00 AM–11:00 AM and 1:00 PM–4:00 PM

Poster Sessions, South Hall ABC

Sunday–Wednesday

The Exhibit Hall will open at 8:00 AM each morning. It will remain open for poster viewing until 10:00 PM each night, except for Tuesday, when it will close at 4:30 PM for safety purposes during exhibit tear down. Posters are arranged according to topic. Your poster board number begins with "B." On the day of presentation, authors assigned odd-numbered poster boards should present 1:45 PM–2:45 PM (10:30 AM–11:30 AM on Wednesday); even-numbered posters should present 2:45 PM–3:45 PM, (11:30 AM–12:30 PM on Wednesday). Other hours, day or evening, may be posted by the authors as desired. Additionally, authors may leave notepaper so that visitors may request an appointment. Abstracts submitted after October 2, 2017, are scheduled each day, Sunday–Wednesday, during the regular poster sessions. These board assignments will begin with "LB."

Posters are to be removed by 5:30 PM on Sunday and Monday, and 4:30 PM on Tuesday in order to accommodate exhibits tear down, and 3:00 PM on Wednesday. Please do not leave materials or belongings under poster boards or in the poster area. The Society is not responsible for any articles left in the poster area.

Meditation Room, South, Level Three, Room 311

A room will be available for attendees to use for quiet meditation or prayer.

Saturday–Tuesday	8:00 AM–10:00 PM
Wednesday	8:00 AM–3:30 PM

Raffles

Exhibitor Raffle: Want to win an Amazon Echo? Earn raffle entries by visiting with exhibitors Sunday, February 18, through Tuesday, February 20, to collect tickets. The more booths you visit, the more chances to win. Drop the raffle tickets at the Society Booth located in the South Lobby, by 2:30 PM Tuesday, February 20. The winner will be announced in the Exhibit Hall at 3:00 PM Tuesday afternoon. You must be present at the drawing to win. Good luck!

Wednesday Poster Session Raffle: Attend the Wednesday poster sessions in the Exhibit Hall for a chance to win a Fitbit Charge 2! Drop your ticket in the ballot box in the Exhibit Hall. The winner will be announced at 12:30 PM on Wednesday in the Exhibit Hall. You must be present in the Exhibit Hall to win. Good luck!

Stop by the Society Booth to answer the biophysics trivia question for a chance to win a t-shirt each day Saturday–Tuesday.

Registration Hours, South Lobby

Friday	3:00 PM–5:00 PM
Saturday	8:00 AM–6:30 PM
Sunday–Tuesday	7:30 AM–5:00 PM
Wednesday	8:00 AM–3:00 PM

Sirens

The City's Outdoor Warning System is designed to alert residents and visitors of San Francisco about possible danger. Specific emergency announcements can be broadcast over any one of the 65 sirens that are located on poles and on top of buildings throughout all neighborhoods in San Francisco, Treasure Island, and Yerba Buena. They are tested at noon every Tuesday. During the weekly test, the siren emits a single 15-second alert tone, similar to an emergency vehicle siren. In the event of a disaster, the 15-second alert tone will sound repeatedly for 5 minutes.

If you hear the siren at a time other than during its regular test on Tuesday at Noon:

- Stop what you are doing
- Stay calm
- Listen for possible voice announcements
- Turn on the radio or television (such as KCBS 740AM, KQED 88.5 FM) for important information provided by the City.
- Avoid using the telephone. Do not call 9-1-1, unless you have a life-threatening emergency.

Social Media

The Society staff will be updating the BPS Facebook page, Twitter feed, Instagram account, and blog with Annual Meeting information throughout the meeting. Follow us on:

Twitter:	@BiophysicalSoc, use hashtag #bps18
Facebook:	www.facebook.com/biophysicalsociety
Instagram:	@biophysicalsociety
Blog:	biophysicalsociety.wordpress.com

Society Meeting Office, South Lobby, Room 105

Friday	3:00 PM–5:00 PM
Saturday	8:00 AM–6:30 PM
Sunday–Tuesday	7:30 AM–5:00 PM
Wednesday	8:00 AM–3:00 PM

Speaker Ready Room, South Lobby, Room 104

We highly encourage all presenters in Symposia, Workshops, and Platform sessions to visit the Speaker Ready Room one day prior to their scheduled presentation time. This room will be set up for your use, and will contain several screens and data projectors to allow you the opportunity to review your material prior to your scheduled presentation time slot. All speakers must bring their own laptops. An audiovisual technician will be available during room hours to assist you in setting up your laptop with the data projector and to answer any questions. As a courtesy to other presenters, please limit your viewing time to five minutes during peak times.

Saturday–Tuesday	8:00 AM–6:30 PM
Wednesday	8:00 AM–1:00 PM

Data projectors will be provided in all session rooms in the Moscone Center. The data projectors will be compatible with both Windows and Mac laptops. Speakers must bring their own laptops. The Society does not provide laptops for those with flash drives or other storage devices.

Transportation

BART and Muni Railways

The Moscone Center is located a few blocks from both the BART and Muni Railways. To get to the Moscone Center, you will disembark at the Powell Street Station and exit to 4th and Market Streets. Turn right on 4th. Walk two blocks south to Howard and turn left.

Taking BART from San Francisco International Airport Station can bring you directly to the Powell Station and should take approximately 20 minutes.

CalTrain

From the CalTrain Station (Fourth and Townsend). Across 4th Street from the train station, catch either the #30 or #45 lines. Get off at Third and Folsom. Walk one block north toward Howard Street. Turn left on Howard.

Taxis

Taxis will be available from the South Lobby of the Moscone Center.

DeSoto Cab Co	415-970-1300
Luxor Cab, Inc	415-282-4141
SF Green Cab	415-626-4733
Yellow Cab	415-333-3333
National Cab Co	415-648-4444

Undergraduate Student Lounge, South, Level Two, Room 206

This special space is reserved for undergraduate meeting attendees looking for a place to relax or catch up on coursework they may be missing while at the Annual Meeting.

Sunday–Tuesday	8:00 AM–6:00 PM
Wednesday	8:00 AM–12:00 NOON

Mark Your Calendars! Future BPS Annual Meetings

63rd Annual Meeting
March 2–6, 2019
Baltimore, Maryland

64th Annual Meeting
February 15–19, 2020
San Diego, California

65th Annual Meeting
February 20–24, 2021
Boston, Massachusetts

66th Annual Meeting
February 19–23, 2022
San Francisco, California

Committee Meetings

All rooms are located in the *Moscone Center* unless noted otherwise.

Friday, February 16

3:30 PM–4:30 PM
New Council Orientation
Marriott, Sierra H

5:00 PM–9:00 PM
Joint Council Reception, Dinner, and Meeting
Marriott, Foothill C

Saturday, February 17

8:30 AM–11:00 AM
Joint Council Meeting (continued)
Marriott, Foothill C

Sunday, February 18

8:30 AM–10:30 AM
Committee for Inclusion and Diversity Meeting
South, Level Three, Room 306

10:30 AM– 12:30 PM
International Relations Committee Meeting
South, Level Three, Room 312

12:15 PM–2:15 PM
Public Affairs Committee Meeting
South, Level Three, Room 306

3:30 PM–5:00 PM
Early Careers Committee Meeting
South, Level Three, Room 306

6:00 PM–10:00 PM
Biophysical Journal Editorial Board Dinner
The Waterfront Restaurant

Monday, February 19

8:30 AM–10:30 AM
CPOW Committee Meeting
South, Level Three, Room 306

3:30 PM–5:30 PM
Membership Committee Meeting
South, Level Three, Room 306

Tuesday, February 20

8:00 AM–9:00 AM
Biophysical Society Business Meeting
South, Level Three, Room 307/308

9:00 AM–10:30 AM
Subgroup Chairs Meeting
South, Level Two, Room 206

3:00 PM–5:00 PM
Education Committee Meeting
South, Level Three, Room 306

6:00 PM–10:00 PM
Publications Committee Meeting
Marriott, Pacific A

Wednesday, February 21

8:00 AM–11:00 AM
New Council Meeting
South, Level Two, Room 206

The Biophysical Society would like to thank Society members who serve on Council or Committees for their dedication and efforts.

Professional Development & Educational Sessions

The Society's committees have planned several professional development activities to take place during the Annual Meeting. Below is a schedule of all of those activities. Detailed descriptions of the sessions can be found in the daily program. In addition, a student lounge for undergraduates will be available Sunday, February 18, to Wednesday, February 21, in South, Lower Level, Room 2.

Sessions in italics will be held in Career Development Center, South, Lower Level, Room 1 and 2.

Saturday, February 17, 2018

1:00 PM–3:00 PM	Scientific Story Telling: What's Your Story?**
3:00 PM–4:00 PM	*Going Live: Preparing for Interviews in Industry and Academia*
3:00 pm–5:00 PM	Undergraduate Mixer and Poster Award Competition
4:30 PM–5:30 PM	Informal Networking and Q&A with NPR Science Team

One-on-One Resume and Career Counseling*
1:00 PM–2:20 PM | 4:30 PM–5:30 PM

Sunday, February 18, 2018

7:30 AM–8:30 AM	Postdoctoral Breakfast
9:00 AM–10:00 AM	*Networking for Nerds: Getting the Most out of the BPS Annual Meeting*
10:30 AM–11:30 AM	*Green Cards for Scientific Researchers: How to win your EB-1A/NIW Case! with Getson & Schatz, PC*
11:30 AM–1:00 PM	Undergraduate Student Pizza "Breakfast"
11:30 AM–5:00 PM	Colleges in the Community Day
12:00 PM–1:00 PM	*Demystifying the Academic Job Search I: Understanding the Search Process from the Perspective of Search Committees and Decoding Job Announcements*
1:00 PM–2:30 PM	The World Outside the Lab: Many Ways to Use Your PhD Skills
1:00 PM–3:00 PM	Graduate & Postdoc Institution Fair
2:00 PM–3:30 PM	Teaching Science Like We Do Science
2:30 PM–3:30 PM	*Evaluating a Job Offer*
4:00 PM–5:00 PM	*Translating Your Credentials: Writing Effective Resumes + Cover Letters and your LinkedIn Profile*
5:00 PM–7:00 PM	PI to PI, a Wine & Cheese Mixer
7:00 PM–9:30 PM	Movie Night: Screening and Discussion of Merchants of Doubt

One-on-One Resume and Career Counseling*
8:30 AM–1:00 PM and 2:30 PM–6:00 PM

Monday, February 19, 2018

7:30 AM–8:30 AM	Graduate Student Breakfast
10:00 AM–11:00 AM	*Demystifying the Academic Job Search II: Preparing your Written Application Materials: CV, Cover Letter, and Research Statement*
11:30 AM–12:30 pm	*Networking for Nerds: How to Create Your Dream Career*
1:00 PM–2:30 PM	Industry Panel: Avenue to Industry
1:30 PM–3:00 PM	Biophysics 101: Mechanobiology
1:30 PM–3:00 PM	NSF Funding 101
2:30 PM–3:30 PM	*Nailing the Job Talk, or Erudition Ain't Enough*
2:30 PM–4:00 PM	Data Visualization
2:30 PM–4:00 PM	How to Project Your Best Self: Confidence Matters Just as Much as Competence
2:30 PM–4:00 PM	Speed Networking
4:00 PM–5:00 PM	*Careers in Entrepreneurship (Spoiler Alert: There's more here than launching your own start-up!)*

One-on-One Resume and Career Counseling*
8:30 AM–12:00 NOON and 2:00 PM–5:20 PM

Tuesday, February 20, 2018

9:30 AM–10:30 AM	*Looking Beyond Academia: Identifying Your Career Options using MyIDP, LinkedIn & More*
11:30 AM–12:30 PM	*Evaluating a Job Offer*
12:00 PM–2:00 PM	Postdoc to Faculty Q&A: Transitions Forum and Luncheon
1:00 PM–3:00 PM	Industry and Agency Opportunities Fair
1:15 PM–2:45 PM	We Don't Think the Way We Think We Think: Seeing and Addressing Unconscious Bias and Stereotype Threat
1:30 PM–3:30 PM	The Nuts and Bolts of Preparing Your NIH Grant
2:30 PM–3:30 PM	*Going Live: Preparing for Interviews in Industry and Academia*
2:30 PM–4:00 PM	Leveling the Playing Field

One-on-One Resume and Career Counseling*
8:00 AM–12:00 NOON and 1:30 PM–5:00 PM

* Slots for the One-on-One Resume and Career Counseling sessions are available on a first-come, first-served basis and fill up quickly. You may sign up for a slot beginning at 12:00 NOON on Saturday, February 17, in the Career Development Center, South, Lower Level, Room 1 and 2. Please come prepared with resumes, CVs, and other appropriate materials.

** This event requires pre-registration. If space is available, individuals who have not pre-registered may attend. Please stop by the event at the beginning of the session to see if space is available.

Career Development Center Information

South, Lower Level, Room 1 and 2

Andrew Green earned his PhD at the University of California, Berkeley, and has over 17 years of experience working with graduate students, PhDs, and postdocs as a career advisor. Before returning to Berkeley, ,where he serves as Associate Director of the Career Center, he spent six years on the faculty of Connecticut College. His specialty is working with PhDs and postdocs in the sciences and engineering pursuing professional opportunities in the business, government, and nonprofit sectors as well as those seeking faculty jobs. He has given invited presentations at major scientific meetings and research universities across the country; and appeared in the *Chronicle of Higher Education*, *NatureJobs*, and *The Atlantic Online*.

Alaina G. Levine is an award-winning entrepreneur, science journalist, STEM careers consultant, professional speaker and corporate comedian. Her book, *Networking for Nerds*, was published by Wiley in 2015. As President of Quantum Success Solutions, she has been advising scientists and engineers about their careers for over 15 years. She has given over 600 workshops for clients in the US, Europe, Canada, & Mexico, and is the author of over 250 articles in publications like Science, Nature, World Economic Forum, Smithsonian, Scientific American & IEEE Spectrum. As a science careers journalist, Levine researches employment trends in STEM fields and delivers up-to-date information about career issues from interviews with hiring managers, decision-makers, and recruiters in myriad industries. Levine has also served as a Contributor to National Geographic and currently pens career columns for *Physics Today* and *APS News*.

Job Postings

Employers

Stop by the Career Center to post your job opening today! All attendees will have access to your job posting while at the meeting and your job will be posted on our online Job Board as well. Search resumes for a perfect fit and schedule an interview while you're onsite at the meeting.

Job Applicants

Looking for a job in biophysics? Stop by the Career Development Center and upload your resume for employers to view on the Job Board both onsite and online. You may also apply for posted jobs.

EDUCATION COMMITTEE

Sunday

Donald S. Anderson, University of Montana
504-Pos, B274
CHARACTERIZATION OF F2N12S IN CELL MEMBRANES USING TIME-RESOLVED FLUORESCENCE TECHNIQUES.

Fikret Aydin, University of Chicago
727-Pos, B497
COMPUTATIONAL MODELING OF ENA/VASP INTERACTING WITH ACTIN FILAMENT TO UNDERSTAND ITS PROCESSIVITY.

Alida Besch, University of Minnesota Duluth
256-Pos, B26
CONFORMATIONAL DYNAMICS OF DOPAMINE β-HYDROXYLASE BY COMPUTER SIMULATIONS.

Jean-Philippe Bourgouin, University of Quebec, Montreal, Canada
797-Pos, B567
METHODOLOGICAL DEVELOPMENT TO STUDY LIPID MEMBRANES OF INTACT BACTERIA AND MICROALGAE BY 2H SOLID-STATE NMR.

Samuel W. Canner, Indiana University-Purdue University Indianapolis
520-Pos, B290
ARE VITAMIN E AND PUFA DRIVEN TOGETHER BY CHOLETEROL? COMPUTER SIMULATION STUDIES.

Jessica Cao, Brown University
228-Plat
ROLE OF TYROSINE PHOSPHORYLATION OF MITOCHONDRIAL CALCIUM UNIPORTER IN REGULATING MITOCHONDRIAL CALCIUM HOMEOSTASIS

Ugur Cetiner, University of Maryland
577-Pos, B347
RECOVERY OF EQUILIBRIUM FREE ENERGY FROM NON-EQUILIBRIUM THERMODYNAMICS WITH MECHANOSENSITIVE ION CHANNELS IN E. COLI.

Hui Huang, Vanderbilt University
616-Pos, B386
COMPREHENSIVE ASSESSMENT OF DISEASE MUTANT FORMS OF THE HUMAN KCNQ1 POTASSIUM CHANNEL.

Maciej Jagielnicki, University of Virginia School of Medicine
675-Pos, B445
MECHANISM OF PH GATING IN CX26 GAP JUNCTION CHANNELS REVEALED BY CRYOEM, CROSSLINKING AND HDX.

Kaitlin E. Johnson, University of California, Davis
892-Pos, B662
INVESTIGATION OF STABILITY AND DYNAMICS OF GEL-ENCAPSULATED BACTERIORHODOPSIN.

Laurel F. Kinman, Wellesley College
660-Pos, B430
INVESTIGATING CAMP-MEDIATED PROTEIN-PROTEIN INTERACTIONS AS MODULATORS OF HERG AND KVLQT1 PLASMA MEMBRANE EXPRESSION.

Seda Kocaman, University of Tennessee at Knoxville
271-Pos, B41
INVESTIGATION OF THE MOLECULAR MECHANISMS WHICH RESULT IN AMINOGLYCOSIDE NUCLEOTIDYLTRANSFERASE 4' (ANT4) VARIANTS WITH DIFFERENT LEVELS OF THERMOSTABILITY.

Thu N. Ly, Washington State University
706-Pos, B476
CARDIOMYOPATHY-LINKED MUTATION K15N IN TROPOMYOSIN ALTERS CALCIUM-DEPENDENT REGULATION OF RECONSTITUTED CARDIAC THIN FILAMENTS.

Varnavas D. Mouchlis, University of California, San Diego
340-Pos, B110
ALLOSTERIC REGULATION BY MEMBRANES CONTROLS SPECIFICITY OF LIPOLYTIC ENZYMES THROUGH RECRUITMENT OF UNIQUE HYDROPHOBIC BINDING POCKETS.

Yinghua Qiu, Northeastern University
902-Pos, B672
NANOPORE FABRICATION IN ULTRATHIN HFO2 MEMBRANES FOR NANOPORE-BASED DNA SEQUENCING.

Priyanka Samanta, University of Illinois
673-Pos, B443
IONIC PERMEATION AND THE NATURE OF ION SELECTIVITY IN CLAUDIN PARACELLULAR CHANNELS.

Zheng Shi, Harvard University
583-Pos, B353
LIPID-GEL MODEL OF BIOLOGICAL MEMBRANES.

M. Mert Terzi, Carnegie Mellon University
512-Pos, B282
MEMBRANE ELASTICITY: UNDERSTANDING THE GAUSSIAN CURVATURE MODULUS FROM LIPID TILT THEORY.

Christopher M. Tsiros, University of Massachusettes, Lowell
728-Pos, B498
BINDING OF THE N2A REGION OF TITIN TO ACTIN FILAMENTS.

Monday

Meagan L. Belcher Dufrisne, Columbia University
1187-Pos, B96
STRUCTURE OF A PHOSPHATIDYLINOSITOL-PHOSPHATE SYNTHASE FROM MYCOBACTERIA.

Chase M. Carver, University of Texas Health, San Antonio
1516-Pos, B425
MUSCARINIC RECEPTOR NEUROMODULATION OF KCNQ M-TYPE K+, AND OTHER, CHANNELS IN HIPPOCAMPAL PRINCIPAL NEURONS INVOLVES STRIKING CELL-SPECIFIC REGULATION CONTROLLING EXCITABILITY.

Lindsay D. Clark, University of Texas Southwestern Medical Center
1203-Pos, B112
LIGAND MODULATION OF SIDECHAIN DYNAMICS IN A WILD-TYPE HUMAN GPCR.

Paige E. Cloonan, Washington University in St. Louis
1562-Pos, B471
MECHANICAL AND STRUCTURAL ANALYSIS OF CARDIOMYOPATHIES AT THE SINGLE CELL LEVEL.

Hannelore De Peuter, University of Leuven, Belgium
1503-Pos, B412
ALLOSTERIC MODULATION OF THE PENTAMERIC LIGAND-GATED ION CHANNEL ELIC BY BARBITURATES

Adeline M. Fanni, University of New Mexico
1770-Pos, B679
HIGH SELECTIVITY AND SENSITIVITY OF OLIGOMERIC P-PHENYLENE ETHYNYLENES FOR DETECTING AMYLOID PROTEINS IN-VITRO.

Yinnian Feng, Vanderbilt University
1014-Plat
BIOPHYSICAL FEATURES OF THE αβTCR MECHANOME THAT DRIVE HIGH AVIDITY T-CELL RECOGNITION.

Wei Jiang, University of Southern California
1259-Pos, B168
INVESTIGATING THE MECHANISM OF DNA RECOGNITION BY A CRISPR-CAS12A NUCLEASE.

Sritejasvinthi Karimikonda, University of Wisconsin, Madison
1500-Pos, B409
PROBING CONFORMATIONAL MOTIONS UNDERLYING ANESTHETIC DRUG ACTIONS IN A LIGAND-GATED ION CHANNEL.

Oleg V. Kondrashov, Moscow Institute of Physics and Technology, Russian Federation
1398-Pos, B307
MEMBRANE-MEDIATED GRAMICIDIN INTERACTIONS DETERMINE PEPTIDE CLUSTERING AND ENHANCE CHANNEL FORMATION.

Dylan J. Meyer, Texas Tech University Health Sciences Center
954-Plat
ELECTROPHYSIOLOGICAL CHARACTERIZATION OF HYPERALDOSTERONISM-ASSOCIATED NA/K PUMP MUTATIONS.

Vanessa P. Nguyen, University of Tennessee, Knoxville
1339-Pos, B248
INSERTION MECHANISM INTO THE LIPID BILAYER OF THE PH SENSITIVE ATRAM PEPTIDE AND ITS THERAPEUTIC PROSPECTS.

Ani C. Nichol, Brigham Young University
1417-Pos, B326
CONFORMATIONAL CHANGES OF SNAP-25 DUE TO ENVIRONMENTAL CONDITIONS.

Ellen Rumley, Willamette University
1591-Pos, B500
THE FORCE-DEPENDENT ACTIVITY OF MULTIPLE MYOSIN VI MONOMERS.

Carly A. Sciandra, HHMI at University of Maryland, Baltimore County
1121-Pos, B30
CHARACTERIZATION OF THE MOLECULAR MECHANISM FOR MATURATION INHIBITORS AGAINST THE HIV-1 CAPSID-SP1 DOMAIN.

Christopher A. Thomas, Boise State University
1331-Pos, B240
LYSENIN CHANNEL RECONSTITUTION INTO UNSUPPORTED DROPLET INTERFACE BILAYERS.

George Vaisey, Memorial Sloan Kettering Cancer Center
1519-Pos, B428
STRUCTURAL AND FUNCTIONAL CHARACTERIZATION OF BESTROPHIN CHANNEL INACTIVATION.

Victor Vasquez-Montes, University of Kansas Medical Center
1222-Pos, B131
LIPID-DEPENDENT MODULATION OF CONFORMATIONAL SWITCHING BY PROTONATION DURING MEMBRANE PROTEIN INSERTION.

Daniel Walgenbach, University of Wisconsin
1661-Pos, B570
THE ROLE OF CALMODULIN METHIONINE OXIDATION IN REGULATING CONFORMATIONAL CHANGE.

Justin M. Westerfield, University of Tennessee
1335-Pos, B244
A NOVEL MEMBRANE PEPTIDE THAT INHIBITS CELL MIGRATION BY ACTIVATION OF THE RECEPTOR TYROSINE KINASE EPHA2.

Shannon Yan, University of California, Berkeley
1078-Plat
ALTERNATIVE SRP RNA FOLDED STATES ACCESSIBLE CO-TRANSCRIPTIONALLY CAN MODULATE SRP PROTEIN-TARGETING ACTIVITY.

Tuesday

Doran I.G. Bennett, Harvard University
2579-Pos, B595
A MULTISCALE MODEL OF PHOTOSYNTHESIS.

Geng-Yuan Chen, Pennsylvania State University
2500-Pos, B516
MECHANISM OF MICROTUBULE STABILIZATION BY KINESIN-5.

Vladimir M. Demidov, Russian Academy of Sciences
1883-Plat
ULTRAFAST FORCE-CLAMP SPECTROSCOPY REVEALS “SLIDING” CATCH-BOND BEHAVIOR OF THE MICROTUBULE-BINDING NDC80 PROTEIN.

Yanting Deng, State University of New York, Buffalo
2581-Pos, B597
INCREASE IN DYNAMICAL COLLECTIVITY AND DIRECTIONALITY OF ORANGE CAROTENOID PROTEIN IN THE PHOTO-PROTECTIVE STATE

Nordine Helassa, University of Liverpool, United Kingdom
2315-Pos, B331
DYSTONIA-ASSOCIATED HIPPOCALCIN MUTANTS DYSREGULATE CELLULAR CALCIUM INFLUX.

Logan Kaler, Bay Path University
2026-Pos, B42
STRUCTURAL DESIGN OF NOVEL PROTEIN ACETYLTRANSFERASES.

Anne Kaplan, University of Connecticut
1905-Plat
PROTEIN YOGA: CONFORMATIONAL FLEXIBILITY OF A NOVEL FOLD

Chris Lindsay, University of Oxford, United Kingdom
2327-Pos, B343
ATORVASTATIN ACTIVATES SKELETAL RYR1 CHANNELS: TOWARDS REDUCING STATIN SIDE-EFFECTS

Girik Malik, Nationwide Children's Hospital
2087-Pos, B103
CLASSIFICATION OF ALLOSTERY IN PROTEINS: A DEEP LEARNING APPROACH.

Lauren Ann Metskas, MRC Laboratory of Molecular Biology, United Kingdom
1825-Plat
CORRELATED CRYO-FLUORESCENCE AND CRYO-ELECTRON MICROSCOPY CAN IDENTIFY SITES OF MEMBRANE FUSION.

Ketaki N. Mhatre, Charité – Campus Virchow-Klinikum, Germany
2313-Pos, B329
THE INTERPLAY BETWEEN FGF23- AND ANGIOTENSIN II- MEDIATED CALCIUM SIGNALING IN CARDIAC HYPERTROPHY.

Debadrita Modak, The Ohio State University
2002-Pos, B18
RESOLVING THE MECHANISM OF ADHESION MEDIATED BY A NON-CLUSTERED DELTA-1 PROTOCADHERIN.

Farzaneh Mohajerani, Brandeis University
1843-Plat
IDENTIFYING THE FACTORS THAT CONTROL THE SIZE OF BACTERIAL MICROCOMPARTMENTS.

Ashley L. Nord, University of Montpellier, France
1834-Plat
A CATCH-BOND DRIVES STATOR MECHANOSENSITIVITY IN THE BACTERIAL FLAGELLAR MOTOR.

Dillon Nye, Johns Hopkins University
1999-Pos, B15
A HISTIDINE-LYSINE AXIAL LIGAND SWITCH IN A HEMOGLOBIN.

Eun Ae Park, California State University, Long Beach
2185-Pos, B201
TEMPLATED CROSS CATALYSIS BY OLIGOPEPTIDES AND OLIGONULLEOTIDES

Tejeshwar Rao, University of Alabama, Birmingham
2548-Pos, B564
MAPPING THE MECHANICAL CROSS-TALK BETWEEN EPIDERMAL GROWTH FACTOR RECEPTOR AND FOCAL ADHESION FORMATION

Glennis E. Rayermann, University of Washington
2235-Pos, B251
REVERSIBLE SEPARATION OF LIVING, UNPERTURBED CELL MEMBRANES INTO LIQUID PHASES.

Neeladri S. Roy, National Cancer Institute, National Institutes of Health
1998-Pos, B14
INTERACTION OF THE ASAP1 PH DOMAIN WITH THE N TERMINUS OF ARF1 IS CONTROLLED BY CONFORMATIONAL SWITCHING.

Min Kyung Shinn, Washington University in St. Louis
2184-Pos, B200
ALLOSTERIC EFFECT OF E. COLI SSB C-TERMINAL TAILS ON RecOR BINDING TO DNA.

Wanjian Tang, Penn State College of Medicine
2449-Pos, B465
IMPACT OF DILATED CARDIOMYOPATHY MUTATION AND SMALL MOLECULE REGULATOR ON HUMAN BETA-CARDIAC MYOSIN.

Bryn Taylor, University of California, San Diego, United States
1963-Plat
INVESTIGATING CHEMOKINE RECEPTOR CCR2 DYNAMICS AND DRUGGABILITY BY ENSEMBLE BASED APPROACHES

David Wang, Duke University
2599-Pos, B615
ACCURATE REFOLDING OF EXPERIMENTALLY DETERMINED PROTEIN MECHANICAL UNFOLDING INTERMEDIATES VIA ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS.

Sanjula Wickramasinghe, University of Pennsylvania
1818-Plat
CHARACTERIZATION OF THE AGGREGATION-PRONE ENSEMBLE OF TAU IN THE PRESENCE OF POLYPHOSPHATES.

Iva Ziu, Oakland University
2506-Pos, B522
ROLE OF ANTI-TAU ANTIBODIES ON MICROTUBULE POLYMERIZATION AND STABILITY.

Wednesday

Marina Angelini, University of California, Los Angeles
3090-Pos, B298
L-TYPE CALCIUM CHANNEL GATING MODIFIERS AS A NEW CLASS OF ANTIARRHYTHMIC DRUGS.

Landon J. Bayless-Edwards, Idaho State University
3133-Pos, B341
INVESTIGATING A DOMAIN I HYPOKALEMIC PERIODIC PARALYSIS MUTATION IN HNAV1.4: A COMPUTATIONAL APPROACH.

Rebecca B. Berlow, The Scripps Research Institute
2770-Plat
HYPERSENSITIVE TERMINATION OF THE HYPOXIC RESPONSE BY A DISORDERED PROTEIN SWITCH.

Jennifer C. Boatz, University of Pittsburgh
2815-Pos, B23
MAGIC ANGLE SPINNING SOLID STATE NMR STUDIES OF OXIDIZED APOLIPOPROTEIN A-I AGGREGATES.

Emerson M. Carmona, University of Valparaiso, Chile
2704-Plat
PROPERTIES OF THE VOLTAGE-GATED PROTON CHANNEL GATING CURRENTS.

Matthew D. Dalphin, University of Wisconsin, Madison
2930-Pos, B138
INSIGHTS INTO THE BALANCE BETWEEN FOLDING AND AGGREGATION DURING A PROTEIN'S LIFE.

Shreya Endapally, University of Texas Southwestern Medical Center
3039-Pos, B247
SPHINGOMYELIN-CHOLESTEROL COMPLEXES IN PLASMA MEMBRANES.

Pamela N. Gallo, Rowan University
2829-Pos, B37
STRUCTURE-FUNCTION STUDIES OF THE HYPOXIA-INDUCIBLE PROYLY HYDROXYLASES.

Alireza Ghanbarpour, Michigan State University
2856-Pos, B64
MIMICKING MICROBIAL RHODOPSIN ISOMERIZATION.

Zahra Hayati, National High Magnetic Field Laboratory
2977-Pos, B185
LIPID LATERAL ORDERING OF RAFT DOMAINS DEFINED BY HIGH-FIELD EPR.

Jaepyo Jeon, The University of Texas Health Science Center at Houston
3177-Pos, B385
ISCHEMIC NEURONAL CELL DEATH MEDIATED BY TRPC CHANNELS.

Chih Hung Lo, University of Minnesota
2906-Pos, B114
MANIPULATION OF TAU OLIGOMERIZATION AND AGGREGATION CHARACTERIZED BY TIME-RESOLVED FRET.

Joseph H. Lorent, The University of Texas Health Science Center at Houston
2722-Plat
THE BIOPHYSICAL ASYMMETRY OF MAMMALIAN PLASMA MEMBRANES.

Ornella Manfra, Oslo University Hospital and University of Oslo, Norway
3077-Pos, B285
SUPER-RESOLUTION (DSTORM) IMAGING OF CALCIUM HANDLING PROTEINS IN CARDIOMYOCYTES.

Jeffrey M. Moore, University of Colorado, Boulder
3223-Pos, B431
ORGANIZATION AND DYNAMICS OF GLIDING FLEXIBLE FILAMENTS.

Tonya Santaus, University of Maryland, Baltimore County
3287-Pos, B495
VIABLE PATHOGENIC ORGANISM TRANSPORTATION AND RECOVERY FROM A LOW-COST SUPPORT.

Pradeep Sathyanarayana, Indian Institute of Science, India
3389-Pos, B597
CHOLESTEROL PROMOTES CYTOLYSIN A ACTIVITY BY STABILIZING THEINTERMEDIATES DURING PORE FORMATION.

Nooshin Shatery Nejad, Wesleyan University
3391-Pos, B599
QUANTIFICATION OF SINGLE-MOLECULE FRET BETWEEN QUANTUM DOTS AND ORGANIC DYES.

Virangika K. Wimalasena, The University of Kansas
3024-Pos, B232
DETERMINING THE SPECIFICITY OF DESIGNED PEPTIDE THAT INHIBITS ANTIBIOTIC RESISTANCE.

Zhiyu Xiao, University of California, Davis
3226-Pos, B434
FRUSTRATED PHAGOCYTIC SPREADING OF HUMAN NEUTROPHILS ON DIFFERENT DENSITIES OF SURFACE-IMMOBILIZED IGG.

INTERNATIONAL RELATIONS

Sunday

Chiara Autilio, Complutense University, Spain
498-Pos, B268
EFFECT OF HYPOTHERMIA ON THE BIOPHYSICAL PERFORMANCE OF PULMONARY SURFACTANT FROM NEONATES WITH AND WITHOUT LUNG INJURY.

Jose C. Castillo-Sanchez, Complutense University, Spain
528-Pos, B298
LOOKING FOR GROUNDBREAKING STRUCTURAL AND FUNCTIONAL FEATURES IN THE LUNG SURFACTANT SYSTEM USING A SURFACE-ACTIVE AGENT PURIFIED FROM HUMAN AMNIOTIC FLUID.

Francesco Gentile, University of Alberta, Canada
235-Pos, B5
INVESTIGATING THE STRUCTURE OF THE XPF-ERCC1 FUNCTIONAL ENDONUCLEASE USING A COMPUTATIONAL APPROACH.

David Gnutt, Ruhr University Bochum, Germany
274-Pos, B44
SOD1 FOLDING MODULATION IN THE CROWDED CELL.

Julene Madariaga-Marcos, Spanish National Center for Biotechnology
464-Pos, B234
LATERAL MAGNETIC TWEEZERS TO STUDY DNA:PROTEIN INTERACTIONS.

Wieslaw A Nowak, Nicolaus Copernicus University, Poland
161-Plat
PHOTOSWITCHABLE DRUGS AND INSULIN RELEASE: MOLECULAR EVENTS IN EPAC2A PROTEIN

Adolfo Poma, Polish Academy of Sciences
241-Pos, B11
GENERALIZATION OF THE ELASTIC NETWORK MODEL FOR THE STUDY OF LARGE CONFORMATIONAL CHANGES IN PROTEINS.

Hyunil Ryu, Inha University, South Korea
106-Plat
DETECTION OF BACILLUS THURINGIENSIS HD-73 SPORES USING PROTEIN NANOPORES AND COMPLEMENTARY APTAMERS WITH DNA HAIRPIN PROBES.

Maria Tsemperouli, University of Geneva, Switzerland
489-Pos, B259
FREE-STANDING LIPID BILAYERS: A VERSATILE PLATFORM FOR THE MECHANISTIC STUDIES OF VOLTAGE SENSITIVE DYES AND MEMBRANE ION TRANSPORT.

Monday

Gaurav Bajpai, Indian Institute of Technology Bombay
1292-Pos, B201
DNA-BENDING NON-HISTONE PROTEINS CAN MAKE CHROMATIN IRREGULAR AND MORE COMPACT.

Sreenath Balakrishnan, Indian Institute of Science
1610-Pos, B519
HEPATITIS C VIRUS ALTERS NUCLEAR MECHANICS BY DOWN-REGULATING LAMIN A/C.

Francesca Cella Zanacchi, Italian Institute of Technology
946-Plat
QUANTITATIVE SUPER-RESOLUTION MICROSCOPY USING DNA ORIGAMI.

Sebastian Himbert, McMaster University, Canada
1362-Pos, B271
THE MOLECULAR STRUCTURE OF HUMAN RED BLOOD CELL MEMBRANES FROM HIGHLY ORIENTED, SOLID SUPPORTED MULTI-LAMELLAR MEMBRANES.

Shruti Khare, Indian Institute of Science
1006-Plat
MUTANT PHENOTYPE PREDICTION AND PROTEIN MODEL DISCRIMINATION USING DEEP SEQUENCING DATA.

Fabio Lolicato, University of Helsinki, Finland
1050-Plat
INITIAL STEPS IN THE PI(4,5)P2 DEPENDENT FIBROBLAST GROWTH FACTOR 2 OLIGOMERIZATION.

Haydee Mesa Galloso, University of Calgary, Canada
1328-Pos, B237
UNDERSTANDING THE PORE-FORMING MECHANISM OF PEPTIDES DERIVED FROM THE N-TERMINUS OF STICHOLYSIN.

Rosemary Nyamboya, King's College London, United Kingdom
1106-Pos, B15
EVOLUTION OF ANTIBODY STRUCTURE AND FUNCTION THROUGH STUDIES OF IGE AND IGM.

Irene Pertici, University of Florence, Italy
1063-Plat,
THE POWER OF A SYNTHETIC MACHINE BASED ON THE FAST MYOSIN ISOFORM OF SKELETAL MUSCLE.

Neelanjana Sengupta, Indian Institute of Science Education and Research Kolkata
1142-Pos, B519
Effect of Hyperglycemic Conditions on the Early Self-Assembly of the Alzheimer's Amyloid beta Peptide: Implications for Neurotoxicity

Haitham Ahmed Shaban, CNRS and University of Toulouse, France
1296-Pos, B205
HIGH-RESOLUTION MAPPING OF CHROMATIN DYNAMICS DURING TRANSCRIPTION IN MAMMARY TUMOR CELLS.

Jai Shankar Singh, Indian Institute of Technology Bombay
1104-Pos, B13
UNDERSTANDING THE STRUCTURAL BASIS OF RECOGNITION BETWEEN PLASMODIUM FALCIPARUM AND HUMAN SUMOYLATION MACHINERY.

Tayana M. Tsubone, University of São Paulo, Brazil
1313-Pos, B222
EFFECTS OF TPPS2a-PHOTOSENSITIZATION LYSOSOMAL MEMBRANES.

Tuesday

Zainab Ahdash, King's College London, United Kingdom
2178-Pos, B194
MECHANISTIC INSIGHT INTO THE ASSEMBLY OF THE HERA-NURA HELICASE-NUCLEASE DNA END RESECTION COMPLEX USING NATIVE MASS SPECTROMETRY.

Deniz Aydin, Swiss Federal Institute of Technology in Lausanne
2282-Pos, B298
A COMBINED COMPUTATIONAL AND EXPERIMENTAL STUDY TO INVESTIGATE THE ROLE OF COQ9 IN PROMOTING COQ BIOSYNTHESIS.

Zsofia Bata, Budapest University of Technology and Economics, Hungary
2001-Pos, B17
BIOACTIVE 3D STRUCTURE OF PHENYLALANINE AMMONIA-LYASE REVEAL KEY INSIGHTS INTO LIGAND BINDING DYNAMICS.

Pablo Carravilla, University of the Basque Country, Spain
2657-Pos, B673
SINGLE VIRION SUPER-RESOLUTION MICROSCOPY UNVEILS MECHANISTIC DETAILS OF ENV GLYCOPROTEIN RECOGNITION BY THE BROADLY NEUTRALIZING HIV-1 ANTIBODIES 4E10 AND 10E8.

Jung Ho Chun, Yonsei University, South Korea
2091-Pos, B107
SPECIFIC INTERACTIONS OF PROTEIN-PROTEIN INTERACTION BETWEEN HUMAN PROGRAMMED DEATH 1 (PD-1) AND ITS LIGAND 1 (PD-L1) WITH AB INITIO FRAGMENT MOLECULAR ORBITAL METHOD.

Mathias P. Clausen, University of Southern Denmark
2662-Pos, B678
THE MICROSCOPIC STRUCTURE OF CRUNCHY AND CRISPY JELLYFISH.

Valentin Dunsing, University of Potsdam, Germany
1841-Plat
DIRECT EVIDENCE OF APLP1 TRANS INTERACTIONS IN CELL-CELL ADHESION PLATFORMS INVESTIGATED VIA FLUORESCENCE FLUCTUATION SPECTROSCOPY.

Barbara Eicher, University of Graz, Austria
1874-Plat
CURVATURE-MEDIATED TRANSMEMBRANE COUPLING IN ASYMMETRIC LIPIDS VESICLES.

Haig A. Eskandarian, Swiss Federal Institute of Technology in Lausanne
1830-Plat
REVEALING BACTERIAL SURFACE PHYSIOLOGY USING DUAL ATOMIC FORCE AND OPTICAL TIME-LAPSE MICROSCOPY.

Yoel A. Klug, Weizmann Institute of Science, Israel
2272-Pos, B288
HIV GP41 ENVELOPE PROTEIN EARLY AND LATE MEMBRANE FUSION STAGES ARE IMPAIRED BY A SPHINGANINE BASED LIPO-PEPTIDE.

Nidhi Kundu, Indian Institute of Science Education and Research Mohali
1986-Pos, B2
EXPLORING A NOVEL OLIGOMERIZATION MECHANISM OF THERMOSTABLE DIRECT HEMOLYSIN, A PORE-FORMING PROTEIN.

Lukas F. Milles, Ludwig Maximilian University of Munich, Germany
1900-Plat,
DECONSTRUCTING THE SINGLE MOLECULE MECHANICS OF AN ULTRASTABLE PATHOGEN ADHESIN.

Roumita Moulick, National Centre For Biological Sciences, India
2049-Pos, B65
PH-INDUCED FRUSTRATION IN THE FREE ENERGY LANDSCAPE DICTATE MISFOLDING OF THE PRION PROTEIN.

Arne Raasakka, University of Bergen, Norway
2007-Pos, B23
FLEXIBILITY OF THE MYELIN SCAFFOLDING PROTEIN PERIAXIN.

Wednesday

Madhura De, German Cancer Research Center
3393-Pos, B601
THE OTHER HISTONE: PROBING THE ROLE OF LINKER HISTONE IN A CHROMATOSOME.

Melody Di Bona, Italian Institute of Technology
2787-Plat
PROBING CHROMATIN ORGANIZATION BY SORTING OF SHORT SEQUENCE FLUORESCENCE CORRELATION SPECTROSCOPY.

Priyanka Dogra, Indian Institute of Science Education and Research Mohali
2928-Pos, B136
PROTON-INDUCED SWITCHING OF AN INTRINSICALLY DISORDERED DOMAIN OF A MELANOSOMAL PROTEIN INTO A POLYMORPHIC FUNCTIONAL AMYLOID.

Eli Elyas, Linköping University, Sweden
3327-Pos, B535
MEASUREMENT OF FLUID MOVEMENT IN SCALA VESTIBULI.

Hadeel Khamis, Technion, Israel
3388-Pos, B596
SINGLE-MOLECULE DNA UNZIPPING REVEALS ASYMMETRIC MODULATION OF THE TRANSCRIPTION FACTOR EGR-1 BY ITS BINDING SITE SEQUENCE AND CONTEXT.

Dong-Hwee Kim, Korea University
3228-Pos, B436
LAMIN A/C GUIDED NUCLEAR MECHANOTRANSDUCTION.

Barun K. Maity, Tata Institute of Fundamental Research, India
2925-Pos, B133
DYNAMICS BASED DRUG DESIGN FOR INTRINSICALLY DISORDERED PROTEINS.

Paula L. Perez, National Scientific and Technical Research Council, Argentina
3188-Pos, B396
REGULATION OF CILIARY LENGTH IN LLC-PK1 RENAL EPITHELIAL CELLS.

COMMITTEE FOR INCLUSION AND DIVERSITY

Sunday

Eduardo U. Anaya, University of New Mexico
554-Pos, B324
DIFFERENTIAL SIGNALING AND CROSS-TALK OF DECTIN-1A AND -1B AFTER ACTIVATION WITH SOLUBLE BETA-GLUCANS.

Jonathan E. Eicher, Humboldt State University
89-Plat
DETERMINATION OF 3D AMOEBOID MIGRATION FORCE THROUGH UTILIZATION OF ACTUATED SURFACE ATTACHED POSTS.

Noa Erlitzki, Georgia State University
448-Pos, B218
STRUCTURE-HYDRATION RELATIONSHIPS IN DNA MINOR GROOVE BINDING.

Perla Arianna Peña Palomino, Indiana University, Bloomington
774-Pos, B544
STRUCTURAL STUDIES OF C1QL-MEDIATED COMPLEXES.

Gaddiel Rodriguez, Johns Hopkins University
417-Pos, B187
CHARACTERIZING THE ENHANCED NANOSCALE TRANSLOCATION PROPERTIES OF HUNG2 FACILITATED BY ITS DISORDERED N-TERMINAL DOMAIN IN VITRO AND IN HUMAN CELLS.

Monday, Feb. 19

Brandon M. Brown, University of California, Davis
1540-Pos, B449
MECHANISM OF GATING OF THE INTERMEDIATE-CONDUCTANCE CALCIUM-ACTIVATED POTASSIUM CHANNEL (KCA3.1).

Giancarlo N. Bruni, University of Colorado, Boulder
1736-Pos, B645
DECIPHERING THE ROLE OF BACTERIAL ELECTROPHYSIOLOGY IN MECHANOSENSATION.

Keyon Carter, James Madison University
1102-Pos, B11
SPECTROSCOPIC STUDIES OF BUFFER AND METAL ION EFFECTS ON AMYLOID-BETA PEPTIDE STRUCTURE AND AGGREGATION.

Florencia A. Monge, University of New Mexico
1768-Pos, B677
PHENYLENE ETHYNYLENE BASED SENSORS FOR THE SELECTIVE DETECTION OF TAU PATHOLOGY.

Tuesday, Feb. 20

Philip Belzeski, Boise State University
2434-Pos, B450
CONTROL OF MEMBRANE PERMEABILITY VIA VOLTAGE REGULATED LYSENIN CHANNELS.

Xavier Bonner, Morehouse College
2014-Pos, B30
ANALYSIS OF RELATIVE BINDING AFFINITY PREDICTIONS FOR PROTEIN-PROTEIN COMPLEXES.

Hana N. Grubb, Valencia College
2291-Pos, B307
INVESTIGATING THE INTERACTIONS BETWEEN VEGFR2 AND EGFR.

Keely Redhage, Mayo Clinic
2460-Pos, B476
CARDIAC LIGHT CHAIN AMYLOIDOSIS, UNDERSTANDING THE IMPLICATIONS OF CELLULAR TOXICITY IN A 3D MODEL.

Wednesday

Lucila A. Acevedo, Cornell University, United States
2888-Pos, B96
TUNING A PROLYL CIS/TRANS MOLECULAR SWITCH THAT REGULATES LATERAL ROOT DEVELOPMENT IN RICE.

Blanca B. Diaz-Rohrer, University of Texas Health Science Center
2726-Plat
MOLECULAR MECHANISM OF MICRODOMAIN DEPENDENT PROTEIN TRAFFICKING.

Francisco Padron, University of Illinois, Chicago
2871-Pos, B79
A RIGHT-HANDED COILED COIL TETRAMER TO INDUCE CELL ARREST IN PROSTATIC CARCINOMA CELLS.

Noah A. Schenk, University of Michigan
3038-Pos, B246
SUPPORTED TUBULATED BILAYERS: A NOVEL SYSTEM FOR EVALUATING PROTEIN-MEDIATED MEMBRANE REMODELING.

COMMITTEE FOR PROFRESSIONAL OPPORTUNITES FOR WOMEN

Sunday

Marianela G. Dalghi, University of Pittsburgh
560-Pos, B330
ROLE OF PIEZO CHANNELS IN UROTHELIAL CELL MECHANOTRANSDUCTION.

Viviana Monje-Galvan, University of Chicago
171-Plat
MOLECULAR INTERACTIONS OF THE MATRIX DOMAIN OF HIV-1 GAG PROTEIN AT THE MEMBRANE INTERFACE.

Emma A. Morrison, University of Iowa Carver College of Medicine
139-Plat
HISTONE H3 TAIL CONFORMATION REGULATES NUCLEOSOME ASSOCIATION BY THE BPTF PHD FINGER.

Miranda L. Schmidt, Simon Fraser University, Canada
87-Plat
CHARACTERIZATION OF PHASES AND INTERACTIONS AMONG LIPIDS INVOLVED IN DRUG DELIVERY: AN NMR AND SMALL-ANGLE X-RAY SCATTERING STUDY.

Monday

Anita Alvarez-Laviada, Imperial College London, United Kingdom
1020-Plat
DISSECTING FUNCTION AND DISTRIBUTION OF SODIUM CHANNELS AND GAP JUNCTIONAL PROTEINS USING SUPER-RESOLUTION PATCH-CLAMP.

Zohreh Farsi, Max-Delbrück Center for Molecular Medicine, Germany
1409-Pos, B318
CLATHRIN COAT CONTROLS VESICLE ACIDIFICATION BY BLOCKING VACUOLAR ATPASE ACTIVITY.

Kathrin Lehmann, German Cancer Research Center
1294-Pos, B203
DYNAMICS OF HISTONE H3 TAILS IN MONONUCLEOSOMES STUDIED BY SINGLE-MOLECULE FRET AND MD SIMULATIONS.

Mingyue Li, University of Pittsburgh School of Medicine
999-Plat
STRUCTURAL PLASTICITY OF THE PIVOTAL CYTOCHROME C/CARDIOLIPIN COMPLEX IN MITOCHONDRIAL APOPTOSIS.

Jianing Li, University of Vermont
1207-Pos, B116
MOLECULAR BASIS OF CLASS B GPCRS REVEALED BY MULTISCALE MODELING.

Lina Rivillas-Acevedo, Autonomous University of the State of Morelos, Mexico
1107-Pos, B16
SPECTROSCOPIC STUDY OF Cu(II) BINDING TO THE LIGHT CHAIN 6aJL2 AND ITS EFFECT ON AMYLOID FIBER FORMATION.

Jing Xu, University of California, Merced
982-Plat
NATIVE KINESIN-1 DOES NOT PREFERENTIALLY BIND TO GTP-RICH MICROTUBULES IN VITRO.

Tuesday

Gunjan Agarwal, Ohio State University
1897-Plat
DIRECT AND INDIRECT MAGNETIC FORCE MICROSCOPY IN HISTOLOGY.

Wednesday

Martina Pannuzzo, Carnegie Mellon University
2740-Plat
ALL IN ONE: GTP-MEDIATED MEMBRANE STRANGLING, FISSION, AND DYNAMIN SCAFFOLD DISASSEMBLY.

María Queralt-Martín, NICHD, NIH
3273-Pos, B481
ASSESSING THE ROLE OF RESIDUE E73 IN VDAC1 VOLTAGE GATING.

M. de la Encarnación Solesio Torregrosa, New York University
3274-Pos, B482
INORGANIC POLYPHOSPHATE (POLYP) PROMOTES PROTEIN AGGREGATION TO PROTECT MITOCHONDRIA AGAINST STRESS.

Raya Sorkin, Vrije Universiteit Amsterdam, Netherlands
2780-Plat
THE SOFT SIDE OF EXTRACELLULAR VESICLES.

Ancillary Meetings

Saturday, February 17, 9:00 AM–12:00 PM
Society of General Physiologists Council Meeting
South, Level Three, Room 313

Sunday, February 18, 5:00 PM–6:00 PM
Korean Biophysicists Meeting
Esplanade, Room 151

Sunday, February 18, 6:00 PM–7:00 PM
Biophysics Austria Mixer
North, Lower Lobby, Room 20/21

Sunday, February 18, 6:00 PM–8:00 PM
Biophysical Society of Canada Mixer
Temperst Bar and Box Kitchen
431 Natoma Street, San Francisco, CA 94103, USA

Tuesday, February 20, 8:00 PM–10:00 PM
SOBLA (The Society for Latinoamerican Biophysicists) Meeting
Esplanade, Room 158

How to Navigate the BPS Annual Meeting

About the Meeting

The Biophysical Society (BPS) Annual Meeting is the largest gathering of biophysicists in the world, bringing together **more than 7,000 researchers** from **over 45 countries**. With over 200 sessions and more than 4,500 poster presentations, it can be overwhelming! Use this Guide to help you get the most from your attendance at this world famous event.

Scientific Sessions

The BPS Annual Meeting is known for its many types of sessions, often taking place concurrently. Each type has its own distinct scope, format, and speaker makeup.

Symposia
- Broad topics featuring talks by leading researchers presenting new research
- Four speakers per two-hour session
- Two-to-three held concurrently

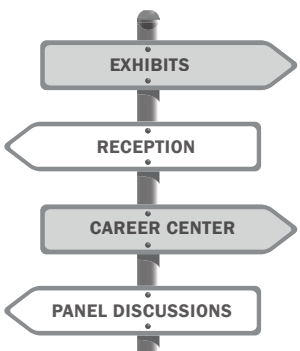
Platforms
- More focused topics selected from among submitted abstracts held concurrently with symposia
- Eight speakers per two-hour session, including younger researchers
- Approximately six held concurrently during each symposium session

Workshops
- Technique-oriented sessions
- Four-to-eight speakers per two-hour session
- Two-to-four held concurrently on Tuesday evenings

Posters
- Most interactive and well attended scientific sessions of the meeting
- Poster presentations held Sunday–Wednesday, with no competing scientific programming
- Late abstracts are scheduled each day during the same time as abstracts submitted by the regular deadline

Subgroup Programs
- Scientific sessions held on the Saturday before the start of the Meeting
- Feature speakers presenting the latest research in biophysics subfields

Biophysical Society Lecture
- One-hour presentation by a world-renowned biophysicist



Professional Development

The Annual Meeting includes daily sessions and resources for the professional development of biophysicists at all stages of their careers: undergrads and grad students, early and mid-stage, and senior scientists. These sessions are held before, after, and in-between the scientific sessions.

Career Development Center
Open all day, includes job and resume postings, interview scheduling, CV reviews, and job-related workshops

Breakfasts
For students and postdocs to network and learn about available resources

Panel Discussions
Expert presentations on career options, guidance on career transitions, funding resources, science policy

Workshops
On publishing, teaching and science education, social media, grant writing, communication, and outreach

Exhibits
Over 200 displays of new equipment, publications, and products

Exhibitor Presentations
Hands-on demonstrations conducted by exhibiting companies of scientific products and their use

Social and Networking Events

Opening Reception
- Hors d'oeuvres and cash bar
- First-Time Attendee Drop-By for help in navigating the meeting

Dinner Meet-Ups
- Local student and early career attendees available each day at the Society Booth to help you explore local restaurants and neighborhoods

Monday Evening Reception
- The place to meet, drink, eat, dance, and socialize with other meeting attendees
- Photo Booth to capture memories
- Lounge with soft music for those who prefer a more quiet atmosphere

New Member Welcome
- Opportunity to meet and socialize with new members and members of Society governance and committees

Friday, February 16, 2018

Daily Program Summary

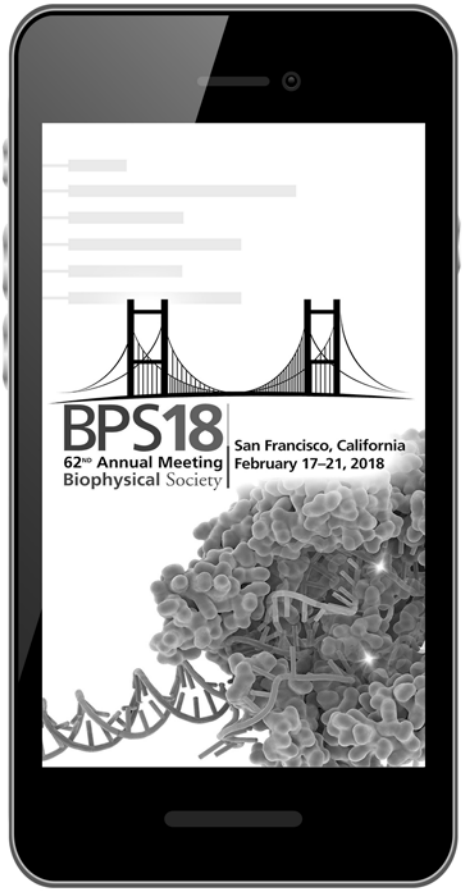
All rooms are located in the *Moscone Center* unless noted otherwise.

8:00 AM–5:00 PM	Exhibitor Registration	South Lobby
8:00 AM–5:00 PM	Drug Discovery for Ion Channels XVII Satellite Meeting	Esplanade, Room 160
1:00 PM–5:00 PM	Eye Lens Crystallins and the Development of Cataract Disease Workshop	South, Level Three, Room 312
1:20 PM–5:40 PM	Symposium in Memory of Kamal Shukla	Esplanade, Room 154
3:00 PM–5:00 PM	Registration	South Lobby
3:30 PM–4:30 PM	New Council Orientation	Marriott Marquis, Sierra H
5:00 PM–9:00 PM	Joint Council Reception, Dinner, and Meeting	Marriott Marquis, Foothill C

Navigate the Meeting

Meeting Mobile App:

- Stay organized and keep up with the latest event information
- Search by keywords, sessions, presentations, or authors
- Bookmark sessions, abstracts, presentations, exhibitors
- Create your itinerary
- Sync itinerary you may have created using the Desktop Planner into the mobile app
- View abstracts
- Make and keep notes about sessions
- Browse exhibitors
- Find attendees and connect with colleagues through "Friends"
- Follow social media postings
- And much, much more!



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Friday, February 16

Exhibitor Registration

8:00 AM–5:00 PM, South Lobby

Drug Discovery for Ion Channels XVIII Satellite Meeting

8:00 AM–5:00 PM, Esplanade, Room 160

Sponsored by Sophion Bioscience together with Charles River; Icagen, Inc; and Nanion Technologies

Ion channels are an important class of therapeutic drug targets, and mutations in ion channel genes are found to be responsible for an increasing number of diseases. While conventional electrophysiological techniques permit the most detailed and direct study of ion channel function, they are limited due to the manual nature of the method and their low throughput. Because of this, ion channels remain an underrepresented target class for drug discovery. The advent of higher throughput automated electrophysiology systems has changed the face of ion channel drug discovery. Since the inaugural "Drug Discovery for Ion Channels" satellite meeting, there have been many advances in ion channel drug discovery including new instrumentation and techniques. This year's meeting will highlight presentations from users of automated electrophysiology instrumentation as well as other speakers in the field of ion channel drug discovery, including several academic speakers.

8:00 AM **REGISTRATION**

8:30 AM **WELCOME AND OPENING REMARKS**
Thais Johnson

SESSION I
Chair: Saverio Géntile

8:45 AM
NATURAL PRODUCTS AS PROBES OF THE PAIN PATHWAY: FROM PHYSIOLOGY TO ATOMIC STRUCTURE.
Keynote Speaker: David Julius

9:30 AM
HIGH-THROUGHPUT VALIDATION OF INCORPROATION OF UNNATURAL AMINO ACIDS INTO AN ION CHANNEL. **Stephan Pless**

10:00 AM
KNOTBODIES™: A NEW GENERATION OF ION CHANNEL THERAPEUTIC BIOLOGICS CREATED BY FUSING KNOTTIN TOXINS INTO ANTIBIODIES.
Damian Bell

10:30 AM COFFEE BREAK

SESSION II
Chair: Kris Kalig

11:00 AM
FINDING NAV1.1 ACTIATORS – DEVELOPMENT AND VALIDATION OF A HTS SUITABLE ASSAY. **Julie Klint**

11:30 AM
A NOVEL PAIN AND TARGET ENGAGEMENT ASSAY FOR HNAV1.7: EFFICACY IN INFLAMMATORY AND NEUROPATHIC PAIN MODELS CORRELATES WITH RESIDENCE TIME FOR INHIBITION OF NAV1.7. **Charles Cohen**

12:00 PM
SODIUM CHANNEL ACTIVATORS: FROM MECHANISMS TO DRUG BINDING SITES. **Jun Chen**

12:30 PM **LUNCH (PROVIDED)**

SESSION III
Chair: Richard Kondo

1:30 PM
BENCHMARKING ELECLAZINE: BIOPHYSICAL CHARACTERIZATION OF A CARDIAC LAE INA INHIBITOR. **Kris Kahlig**

2:00 PM
A CHANNELOPATHY CALLED CANCER: FROM DISCOVERING NOVEL ROLES OF ION CHANNELS TO DESIGNING NOVEL PRECISION CANCER MEDICINE.
Saverio Gentile

2:30 PM
FUNCTIONAL ANNOTATION OF ION CHANNELS IMPLICATED BY HUMAN GENETICS WITH 384 CHANNEL APC.
Jen Q. Pan

3:00 PM **COFFEE BREAK**

SESSION IV
Chair: Aaron Gerlach

3:30 PM
A NEXT GENERATION OPTICAL PLATGE READER FOR CAPTURING DATA AT THE SPEED OF MEMBRANE BIOLOGY. **Stephen Smith**

3:55 PM
TARGETING THE CU TRANSPORTER ATP7A FOR TREATMENT OF AMYOTROPHIC LATERAL SCLEROSIS (ALS).
Robert Bowser

4:20 PM
PHARMACOLOGICAL CHARACTERIZATION OF AN AMINO ACID TRANSPORTER AND HIS BACTERIAL HOMOLOGUE – A CASE STUDY USING SOLID SUPPORTED MEMBRANE TECHNOLOGY. **Thomas Licher**

4:45 PM
MICROPLATE-BASED DYNAMIC OPTICAL STIMULATION OF HUMAN IPSC-DERIVED CARDIOMYOCYTES FOR ALL-OPTICAL CARDIOTOXICITY ASSAYS.
Alex Savchenko

5:10 PM **CLOSING REMARKS**
Aaron Gerlach

Eye Lens Crystallins and the Development of Cataract Disease Workshop

1:00 PM–5:00 PM, South, Level Three, Room 312

The transparency of the eye lens depends on maintenance of the native state of the Greek key γ- and β–crystallins. These proteins define the Greek key fold and have served as models for β-sheet proteins. The α-crystallin chaperones are the original examples of the small heat shock proteins family and the crystallin system has provided important models for subtrate/chaperone action. The γD-crystallins in the central core of the lens, are synthesized during infancy, and are AMong the longest-lived proteins in the body. Cataract, the leading cause of blindness worldwide, involves the polymerization of covalently damaged or partially unfolded conformations of the lens crystallins into aggregates large enough to scatter visible light. Congenital cataracts are associated with a number of single AMino acid substitutions in γD-crystallin and other lens crystallins.

The folding, unfolding and aggregation of mutant and modified crystallins have been studied in considerable detail, aided by unusual fluorescence properties of the four buried and conserved tryptophan residues in βγ-crystallins. However the results have not accounted for the development of cataracts in the lens environment. Recent experiments have identified more precisely a) the sites on the protein where oxidative damage results in destabilization b) the potential role of copper and zinc binding in driving aggregation, and c) the identification of sterols that can retard aggregation reactions and are candidates for anti-cataract therapy. The transition from a soluble well-folded β-sheet to the polymerized state appears to proceeds through a domain-swapping mechanism. This depends on transient stabilization of a distinctive partially-unfolded β-sheet intermediate induced in the mutant or modified protein by temperatures at and above physiological and involves some unexpected thiol chemistry.

Co-Chairs
Jonathan King, MIT
Liliana Quintanar, CINVESTAV, Mexico

Presenters
Jose Antonio Dominguez Calva, CINVESTAV, Mexico
Jason Gestwicki, University of California, San Francisco
Jonathan King, MIT
Kirsten Lampi, Oregon Health Science Center
Rachel Martin, University of California, Irvine
Liliana Quintanar, CINVESTAV, Mexico
Eugene Serebryany, Harvard University

Thanks to the MIT International Science and Technology Initiative for US/Mexico Collaboration, for support of this workshop.

Symposium in Memory of Kamal Shukla

1:20 PM–5:40 PM, Esplanade, Room 154

For 25 years, Kamal Shukla helped shape molecular biophysics in the United States and abroad. In his role as the leader of the Molecular Biophysics Cluster in the Biological Science Directorate at the National Science Foundation, Dr. Shukla seeded and promoted the careers of an entire generation of biophysicists. His vision for the development of quantitative, theoretical and physical approaches to the study of biological systems, and his success and accomplishments, live on in the thriving community he left behind. For his contributions to biophysics he received the prestigious Distinguished Service Award from the Biophysical Society in 2015.

12:45 PM REGISTRATION

1:20 PM	**WELCOME AND OPENING REMARKS** Bertrand Garcia-Moreno
	SESSION I Chair, Susan Marqusee, University of California, Berkeley
1:30 PM	José Onuchic, Rice University
1:45 PM	Catherine A. Royer, Rensselaer Polytechnic Institute
2:10 PM	Gaetano Montelione, Rutgers University
2:35 PM	C. Robert Matthews, University of Massachusetts
3:00 PM	**COFFEE BREAK**
	SESSION II Chair, Catherine A. Royer, Rensselaer Polytechnic Institute
3:30 PM	Joan Emma Shea, University of California, Santa Barbara
3:55 PM	Neal Woodbury, Arizona State University
4:20 PM	Dave Thirumalai, University of Texas at Austin
4:45 PM	William Moerner, Stanford University
5:10 PM	Wilson Francisco, NSF
5:25 PM	Krastan Blagoev, NSF
5:40 PM	**CLOSING REMARKS**

Registration

3:00 PM–5:00 PM, South Lobby

New Council Orientation

3:30 PM–4:30 PM, Marriott Marquis, Sierra H

Joint Council Reception, Dinner, and Meeting

5:00 PM–9:00 PM, Marriott Marquis, Foothill C

FRIDAY

Saturday, February 17, 2018

Daily Program Summary

All rooms are located in the *Moscone Center* unless noted otherwise.

8:00 AM-6:30 PM	Registration/Exhibitor Registration	South Lobby
8:30 AM-11:00 AM	Joint Council Meeting	Marriott Marquis, Foothill C
9:00 AM-12:00 PM	Society of General Physiologists Council Meeting	South, Level Three, Room 313
9:00 AM-1:00 PM	Bioengineering Subgroup	Esplanade, Room 159
9:00 AM-7:00 PM	Bioenergetics Subgroup	Esplanade, Room 154
9:30 AM-6:30 PM	Mechanobiology Subgroup	Esplanade, Room 157
10:00 AM-12:00 PM	Cell Biophysics Subgroup	Esplanade, Room 155
10:30 AM-3:30 PM	Molecular Biophysics Subgroup	South, Level Two, Room 207/208
12:00 PM-6:00 PM	Biopolymers in vivo Subgroup	Esplanade, Room 158
12:30 PM-6:00 PM	Nanoscale Biophysics Subgroup	Esplanade, Room 160
12:30 PM-6:15 PM	Intrinsically Disordered Proteins Subgroup	Esplanade, Room 153
1:00 PM-5:15 PM	Biological Fluorescence Subgroup	South, Level Two, Room 215/216
1:00 PM-6:00 PM	Membrane Biophysics Subgroup	North, Lower Lobby, Room 24
1:00 PM-6:00 PM	Membrane Structure and Assembly Subgroup	North, Lower Lobby, Room 25
1:00 PM-6:00 PM	Motility and Cytoskeleton Subgroup	Esplanade, Room 156
1:00 PM-7:00 PM	Exocytosis and Endocytosis Subgroup	Esplanade, Room 151
1:30 PM-6:00 PM	Permeation and Transport Subgroup	Esplanade, Room 155
2:00 PM-4:00 PM	Scientific Story Telling: What's Your Story?	North, Lower Lobby, Room 20/21
3:00 PM-4:00 PM	Career Development Center Workshop: Going Live: Preparing for Interviews in Industry and Academia	South, Lower Level, Room 2
3:00 PM-5:00 PM	Undergraduate Mixer and Poster Award Competition	North, Lower Lobby
4:30 PM-5:30 PM	Informal Networking and Q&A with NPR Science Team	North, Lower Lobby, Room 20/21
5:00 PM-6:00 PM	First-Time Attendee Drop By	North, Lower Lobby
5:00 PM-7:00 PM	Opening Mixer	North, Lower Lobby
6:00 PM-10:00 PM	Poster Viewing	Exhibit Hall ABC
6:30 PM-7:30 PM	CID/Education/CPOW Travel Awardee Reception	North, Lower Lobby, Room 20/21
7:00 PM-10:00 PM	Cryo-EM Subgroup	South, Level Two, Room 207/208

Saturday, February 17

Registration/Exhibitor Registration

8:00 AM–6:30 PM, SOUTH LOBBY

Joint Council Meeting

8:30 AM–11:00 AM, MARRIOTT MARQUIS, FOOTHILL C

Society of General Physiologists Council Meeting

9:00 AM–12:00 PM, SOUTH, LEVEL THREE, ROOM 313

Bioengineering Subgroup

9:00 AM–1:00 PM, ESPLANADE, ROOM 159

Subgroup Chair
Jonathan Rocheleau, University of Toronto, Canada

9:00 AM **OPENING REMARKS**

NO ABSTRACT **9:10 AM**
PROTEIN FOLDING AS A MAJOR SOURCE OF MECHANICAL WORK IN PHYSIOLOGY. **Julio Fernandez**

1-SUBG **9:40 AM**
ROLE OF CHOLESTEROL IN ADENOSINE A_{2A} RECEPTOR ACTIVITY. **Anne S. Robinson**, Claire McGraw, Edward R. Lyman, Clement Arnarez, Eric Rouviere

2-SUBG **11:20 AM**
LIGHT SHEET SPECTROSCOPY FOR THE INVESTIGATION OF BIOFILMS. **Thorsten Wohland**, Andreas Karampatzakis, Jagadish Sankaran, Yehuda Cohen, Scott A. Rice

10:40 AM **BREAK**

10:50 AM **BUSINESS MEETING**

3-SUBG **11:50 AM**
ENGINEERING-BASED APPROACHES TO UNDERSTANDING, DIAGNOSING, AND TREATING INHERITED CARDIOMYOPATHIES. **Stuart G. Campbell**

4-SUBG **12:20 PM**
MICROFLUIDIC TOOL FOR THE GENERATION AND CHARACTERIZATION OF LIPID GRADIENTS IN MODEL BIOMEMBRANES. **Arne Gericke**, Brittany M. Neumann, Qi Wen

12:50 PM **CLOSING REMARKS**

1:00 PM **ADJOURNMENT**

Bioenergetics Subgroup

9:00 AM–7:00 PM, ESPLANADE, ROOM 154

Subgroup Chairs
Elizabeth Jonas, Yale University
George A. Porter, Jr., University of Rochester Medical Center

9:00 AM **OPENING REMARKS**

NO ABSTRACT **9:15 AM**
MITOCHONDRIAL TRANSPORT AND ENERGY HOMEOSTASIS IN AXONAL DEGENERATION AND REGENERATION. **Zu-Hang Sheng**

5-SUBG **9:45 AM**
MITOCHONDRIAL EFFECTS ON ANESTHETIC SENSITIVITY AND ANESTHETIC INDUCED NEURODEGENERATION. Pavel I. Zimin, Margaret M. Sedensky, **Philip Morgan**

6-SUBG **10:15 AM**
NEURODEGENERATIVE LOSS OF MITOCHONDRIAL QUALITY VIA THE 18KDA PROTEIN TSPO. Michele Frison, Radha Desai, Aarti Singh, Liana Hardy, **Michelangelo Campanella**

10:45 AM **BREAK**

7-SUBG **11:00 AM**
ALPHA-SYNUCLEIN-INDUCED MITOCHONDRIAL DYSFUNCTION: ROLE OF VDAC AND MEMBRANE COMPOSITION. **Tatiana Rostovtseva**, AMandine Rovini, Daniel Jacobs, David Hoogerheide, Philip Gurnev, Sergey Bezrukov

NO ABSTRACT **11:30 AM**
KINASE SIGNALING AND MITOCHONDRIAL DYSFUNCTION IN FAMILIAL PARKINSON'S DISEASE. **Mark Cookson**

12:00 PM **CLOSING REMARKS**

12:10 PM **LUNCH BREAK**

2:00 PM **YOUNG BIOENERGETICS AWARD & LECTURE**

NO ABSTRACT **2:30 PM**
CHOREOGRAPHY OF PLASTIDIAL RETROGRADE SIGNALING NETWORK IN INTERORGANELLAR COMMUNICATION. **Katayoon Dehesh**

NO ABSTRACT **3:00 PM**
INTEGRATION OF ORGANELLE SIGNALING WITH EPIGENETIC OUTCOMES. **Sally Mackenzie**

3:30 PM **BREAK**

8-SUBG **3:45 PM**
ORGANELLES DRIVING IMMUNOMETABOLISM. **Angelika Rambold**

NO ABSTRACT **4:15 PM**
MEMBRANE LIPIDS IN REGULATION OF METABOLISM. **Tobias Walther**

4:45 PM **CLOSING REMARKS**

5:00 PM **BUSINESS MEETING**

5:30 PM **GENERAL DISCUSSION**

7:00 PM **SUBGROUP DINNER**

Mechanobiology Subgroup

9:30 AM–6:30 PM, ESPLANADE, ROOM 157

Subgroup Chair
Alex Dunn, Stanford University

9:30 AM **OPENING REMARKS**

9-SUBG **9:35 AM**
PHYSICAL FORCES DRIVING MIGRATION, DIVISION AND FOLDING IN EPITHELIAL SHEETS. **Xavier Trepat**

10:00 AM **STUDENT TALK**

10:15 AM **STUDENT TALK**

NO ABSTRACT **10:30 AM**
SYNTHETIC HYDROGELS FOR MECHANOTRANSDUCTION. **Andrés García**

10:55 AM **BREAK**

10-SUBG **11:10 AM**
BACTERIA SENSE MECHANICAL FORCE AS A CUE TO FORM A PATHOGENIC BIOFILM. **Vernita Gordon**

11:35 AM **STUDENT TALK**

11:50 AM **STUDENT TALK**

12:05 PM **LUNCH BREAK**

NO ABSTRACT **1:30 PM**
BLOOD FLOW STIMULATED BEHAVIORS THAT REGULATE ARTERY SIZE AND SHAPE. **Kristy Red-Horse**

1:55 PM **STUDENT TALK**

2:10 PM **STUDENT TALK**

NO ABSTRACT **2:25 PM**
VOLUMETRIC MORPHOGENESIS IN THE MOUSE EMBRYO. **Sevan Hopyan**

2:50 PM **BREAK**

11-SUBG **3:05 PM**
ELASTIC-MEDIATED INTERACTIONS BETWEEN CELLS: MECHANICAL COMMUNICATION IN CARDIAC CELL BEATING . **Shelly Tzlil**

3:30 PM **STUDENT TALK**

3:45 PM **STUDENT TALK**

12-SUBG **4:00 PM**
SHAPING ACTIN NETWORK ORGANIZATION AND COMPOSITION WITH FORCE. **Daniel A. Fletcher**

4:25 PM **CLOSING REMARKS**

4:30 PM **BREAK**

4:45 PM **BUSINESS MEETING**

5:00 PM **ADJOURNMENT**

Cell Biophysics Subgroup

10:00 AM–12:00 PM, ESPLANADE, ROOM 155

Organizing Members
Julie Biteen, University of Michigan
Jung-chi Liao, Academia Sinica, Taiwan
Keng-hui Lin, Academia Sinica, Taiwan
Antoine van Ojien, University of Wollongong, Australia
David Rueda, Imperial College of London, United Kingdom
Jie Xiao, Johns Hopkins University

10:00 AM **OPENING REMARKS**

10:05 AM **BUSINESS MEETING**

NO ABSTRACT **10:20 AM**
MEMBRANE CURVATURE AND CURVATURE-SENSING PROTEINS AT THE NANO-BIO INTERFACE. **Bianxiao Cui**

NO ABSTRACT **10:50 AM**
VISUALIZING BIOLOGY AT THE NANOSCALE. **Melike Lakadamyali**

NO ABSTRACT **11:20 AM**
THE ALLEN INSTITUTE FOR CELL SCIENCE–CREATING A HIGH DIMENSIONAL CELLULAR "STATE SPACE". **Rick Horwitz**

11:50 AM **CLOSING REMARKS**

12:00 PM **ADJOURNMENT**

Molecular Biophysics Subgroup

10:30 AM–3:30 PM, SOUTH, LEVEL TWO, ROOM 207/208

Subgroup Chair
Philip Kukura, Oxford University, United Kingdom

10:30 AM **OPENING REMARKS**

13-SUBG **10:40 AM**
SINGLE-MOLECULE ELECTROMETRY: A NEW TOOL FOR STRUCTURE, CONFORMATION AND INTERACTION STUDIES ON SINGLE BIOMOLECULES IN SOLUTION. **Madhavi Krishnan**

14-SUBG **11:10 AM**
EXPLORING NANOSCALE BIOMECHANICS WITH PARALLEL FORCE SPECTROSCOPY. **Wesley P. Wong**

15-SUBG **11:35 AM**
BACTERIAL MECHANOSENSING WITH TYPE IV PILI. Lorenzo Tala, Xavier Pierrat, **Alexandre Persat**

12:05 PM **BREAK**

12:15 PM **BUSINESS MEETING**

16-SUBG **12:35 PM**
GENOME-SCALE BIOPHYSICAL PROFILING OF CRISPR INTERFERENCE. **Ilya Finkelstein**

17-SUBG **1:00 PM**
IMAGING OF HEAT PRODUCTION AND HEAT-MEDIATED CONTRACTION IN SINGLE MUSCLE CELLS. **Madoka Suzuki**

18-SUBG **1:30 PM**
IMPROVING AFM REVEALS A MULTITUDE OF HIDDEN DYNAMICS IN THE UNFOLDING OF A MEMBRANEPROTEIN. **Thomas T. Perkins**

NO ABSTRACT **2:00 PM**
QUANTITATIVE NATIVE MASS SPECTROMETRY: WEIGHING-UP THE EVOLUTION OF PROTEIN SELF-ASSEMBLY. **Justin Benesch**

2:30 PM **CLOSING REMARKS**

3:00 PM **ADJOURNMENT**

Biopolymers in vivo Subgroup

12:00 PM–6:00 PM, ESPLANADE, ROOM 158

Subgroup Chair
Patricia Clark, University of Notre Dame

12:00 PM **BUSINESS MEETING**

1:00 PM **OPENING REMARKS**

19-SUBG **1:05 PM**
RNA GRANULES: LIQUIDS OR ACTIVE CONDENSATES? Jarrett Smith, Andrea Putnam, **Geraldine Seydoux**

20-SUBG **1:50 PM**
A GENERAL FRAMEWORK FOR PREDICTING AND UNDERSTANDING SEQUENCE-ENCODED PHASE DIAGRAMS OF INTRINSICALLY DISORDERED PROTEINS. **Alex S. Holehouse,** Rohit V. Pappu

21-SUBG **2:15 PM**
REINVENTING RNA REGULATORS: THE STRUCTURAL PLASTICITY OF RNA-PROTEIN REGULATORY INTERACTIONS. **Michelle Meyer**

2:40 PM **STUDENT TALK**

2:55 PM **BREAK**

3:05 PM **JUNIOR FACULTY AWARD & LECTURE**

3:35 PM **STUDENT TALK**

22-SUBG **3:50 PM**
PS2 RNA: SAR AND BIOPHYSICS. **Martin Egli**

4:15 PM **BREAK**

23-SUBG **4:30 PM**
EVOLUTION AND ENCAPSULATION OF FUNCTIONAL RNA. **Irene Chen**

4:55 PM **STUDENT TALK**

24-SUBG **5:10 PM**
EXTENDING THE CONCEPTS OF HEREDITY AND EVOLUTION TO ARTIFICIAL GENETIC POLYMERS. **John Chaput**

6:00 PM **ADJOURNMENT**

Nanoscale Biophysics Subgroup

12:30 PM–6:00 PM, ESPLANADE, ROOM 160

Subgroup Chair
Wesley Wong, Harvard University

12:30 PM **OPENING REMARKS**

25-SUBG **12:35 PM**
NANO-TO-MICROSCALE IMMUNOPHYSICS: SPRAWLING FRONTIER AND FOUNDATION FOR TRANSFORMATIVE ADVANCES IN BIOMEDICINE. **Volkmar Heinrich**

26-SUBG **1:05 PM**
STUDYING NANOSCALE MECHANICS OF SINGLE MOLECULES AND CELLS WITH ATOMIC FORCE MICROSCOPY. **Ozgur Sahin**

27-SUBG **1:35 PM**
PROGRESS IN DEVELOPING (SINGLE) INORGANIC VOLTAGE NANOSENSORS. **Shimon Weiss**, Yung Kuo, Joonhyuck Park, Jack J. Li, Kyoungwon Park, Asaf Grupi, Shimon Yudovich, Zehavit Yatzkan, Nurit Degani-Katzav, Volodymyr Shvadchak, Anastasia Ludwig, Omri Bar Elli, Joerg Enderlein, Dan Oron, Antione Triller

2:20 PM **STUDENT/ POSTDOC TALK**

2:05 PM **STUDENT/ POSTDOC TALK**

2:35 PM **STUDENT/ POSTDOC TALK**

2:50 PM **BREAK**

28-SUBG **3:20 PM**
ENZYME STUDIES WITH SINGLE-MOLECULE PICOMETER RESOLUTION NANOPORE TWEEZERS, SPRNT. **Jens H. Gundlach**

29-SUBG **3:50 PM**
CATHODOLUMINESCENCE-ACTIVATED IMAGING OF NANOSCALE DYNAMICS BY RESONANCE ENERGY TRANSFER. **Naomi Ginsberg**

NO ABSTRACT **4:20 PM**
PRECISION MEASUREMENTS OF BIOMOLECULAR STRUCTURES AND INTERACTIONS, SUPPORTED BY DNA ORIGAMI. **Hendrik Dietz**

30-SUBG **4:50 PM**
WATCHING INDIVIDUAL MOLECULES: UNDERSTANDING BIOLOGY FROM STOCHASTIC BEHAVIOR. **Stephen Kowalczykowski**

5:20 PM **BUSINESS MEETING**

6:00 PM **SUBGROUP DINNER**

Intrinsically Disordered Proteins Subgroup

12:30 PM–6:15 PM, ESPLANADE, ROOM 153

Subgroup Chair
Jean Baum, Rutgers University

12:30 PM **BUSINESS MEETING**

1:00 PM **OPENING REMARKS**

NO ABSTRACT **1:10 PM**
THE BIOPHYSICS OF AMYLOIDOSIS INDUCED CELL DEATH.
Daniel P. Raleigh

NO ABSTRACT **1:55 PM**
BINDING REACTIONS OF DISORDERED PROTEINS. **Sarah Shammas**

NO ABSTRACT **2:25 PM**
PROBING FOLDING AND CONFORMATIONAL DYNAMICS OF INTRINSICALLY DISORDERED PROTEINS BY SINGLE MOLECULE FRET. **Hoi Sung Chung**

2:55 PM **POSTDOC TALK**

3:15 PM **BREAK**

NO ABSTRACT **4:00 PM**
HANDSHAKE OR HIGH-FIVE? TWO DISTINCT MODES OF NUCLEOPORIN-RECEPTOR BINDING. **Frauke Graeter**

31-SUBG **4:30 PM**
CONFORMATIONAL HETEROGENEITY AND THEORY OF SEQUENCE-SPECIFIC FUNCTIONAL PHASE SEPARATION OF INTRINSICALLY DISORDERED PROTEINS. Yi-Hsuan Lin, Jianhui Song, Gregory-Neal Gomes, Suman Das, Claudiu C. Gradinaru, Julie D. Forman-Kay, **Hue Sun Chan**

5:00 PM **POSTDOC TALK**

NO ABSTRACT **5:20 PM**
ALLOSTERIC REGULATION OF CELLULAR SIGNALING PATHWAYS BY INTRINSICALLY DISORDERED PROTEINS. **Peter E. Wright**

6:05 PM **CLOSING REMARKS**

6:15 PM **ADJOURNMENT**

Biological Fluorescence Subgroup

1:00 PM–5:15 PM, SOUTH, LEVEL TWO, ROOM 215/216

Subgroup Chair
Michelle Digman, University of California, Irvine

1:00 PM **OPENING REMARKS**

32-SUBG **1:05 PM**
RESOLVING DOPAMINE RECEPTOR DYNAMICS WITH SPATIAL, TEMPORAL, AND SPECTRAL SAMPLING. **David W. Piston**, Daniel Foust, Antoine Godin, Paul W. Wiseman

33-SUBG **1:35 PM**
FLUORESCENCE LIFETIME TECHNIQUES FOR BIOMEDICAL APPLICATIONS. **Laura Marcu**

NO ABSTRACT **2:05 PM**
FAST 3D SUPER-RESOLUTION MICROSCOPY WITH MULTIFOCUS SIM. **Sara Abrahamsson**

34-SUBG **2:35 PM**
QUANTITATIVE IMAGING OF CELLULAR MORPHODYNAMICS AND SIGNALING WITH LIGHT-SHEET MICROSCOPY. **Reto P. Fiolka**, Kevin M. Dean, Meghan Driscoll, Erik Welf, Gaudenz Danuser

3:05 PM **BREAK**

3:15 PM **BUSINESS MEETING**

NO ABSTRACT **3:25 PM**
BRIDGING THE GAP: PROTEIN ORDER AND ORGANIZATION IN CELL ADHESION. **Alexa Mattheyses**

35-Subg **3:55 pm**
HYBRID FLUORESCENT MARKERS FOR REPORTING AND BIOSENSING ON DEMAND. **Arnaud Gautier**

4:25 pm **Rapid Fire Student Talks**

4:45 pm **Young Fluorescence Investigator Award & Lecture**

5:00 pm **Gregorio Award & Lecture**

5:15 pm **Adjournment**

Membrane Biophysics Subgroup

1:00 pm–6:00 pm, North Lower Lobby, Room 24

Subgroup Chair
Jose Faraldo-Gomez, NIH

1:00 pm **Opening Remarks**

No Abstract **1:05 pm**
THERMODYNAMIC METHODS FOR MEASURING TRANSPORTER STOICHIOMETRY. **Joseph A. Mindell**

36-Subg **1:35 pm**
MULTISCALE KINETIC MODELING OF A CL-/H^+ ANTIPORTER: INTEGRATING SIMULATION AND EXPERIMENT TO CHARACTERIZE A COMPLEX ION EXCHANGE PROCESS. **Jessica M.j. Swanson**, Heather B. Mayes, Sangyun Lee, Gregory A. Voth

37-Subg **2:05 pm**
HIGH-SPEED ATOMIC FORCE MICROSCOPY: A NEW APPROACH TO STUDY CHANNELS AND TRANSPORTERS. **Simon Scheuring**, Yi Ruan, Arin Marchesi

38-Subg **2:35 pm**
OBSERVING INSERTASE- AND TRANSLOCASE-ASSISTED INSERTION AND FOLDING PATHWAYS OF SINGLE TRANSMEMBRANE TRANSPORTERS. **Tetiana Serdiuk**, Stefania Mari, Ronald Kaback, Daniel Müller

3:05 pm **Break**

3:20 pm **Business Meeting**

39-Subg **3:50 pm**
MOLECULAR MECHANISMS OF ION PERMEATION, SELECTIVITY, AND LEAKAGE. **Régis Pomès**

40-Subg **4:20 pm**
GENERALIZED INTERACTION ENERGY ANALYSIS (GIA) REVEALS VOLTAGE TRANSDUCTION PATHWAYS IN THE SHAKER POTASSIUM CHANNEL. **Baron Chanda**

41-Subg **4:50 pm**
ON THE SELECTIVE PROMISCUITY OF CALMODULIN. Annie M. Westerlund, **Lucie Delemotte**

5:20 pm **Closing Remarks**

5:30 pm **Adjournment**

6:00 pm **Subgroup Dinner**

Membrane Structure & Assembly Subgroup

1:00 pm–6:00 pm, North, Lower Lobby, Room 25

Subgroup Chair
Tobias Baumgart, University of Pennsylvania

1:00 pm **Opening Remarks**

42-Subg **1:05 pm**
THE CELL ENVELOPE OF GRAM-NEGATIVE BACTERIA: THE MORE WE KNOW; THE MORE WE DON'T KNOW! **Syma Khalid**

No Abstract **1:35 pm**
MEMBRANE SCAFFOLDING AT THE TIGHT JUNCTION: SUPERRESOLUTION AND RECONSTITUTION. **Alf Honigmann**

43-Subg **2:05 pm**
DIFFERENCES BETWEEN MICELLES, BICELLES, AND MEMBRANES AND THE IMPACT ON MEMBRANE PROTEIN STRUCTURE. **Linda Columbus**

44-Subg **2:35 pm**
SPONTANEOUS ASSEMBLY OF FUNCTIONAL MEMBRANE PROTEINS FROM SOLUBLE MEMBRANE ACTIVE PEPTIDES. **Martin Ulmschneider**

3:05 pm **Break**

45-Subg **3:30 pm**
RECEPTOR MOBILITY IS REGULATED BY THE CYTOSKELETON CONNECTED TO AN EXOSKELETON VIA TRANSMEMBRANE PICKETS: ROLE IN PHAGOCYTOSIS. **Sergio Grinstein**, Spencer A. Freeman

46-Subg **4:00 pm**
REVISITING MEMBRANE NANO-ELASTICITY: TILT, COMPOSITION, AND HIGHER ORDER HEADACHES. **Markus Deserno**

47-Subg **4:30 pm**
NMR INVESTIGATIONS OF LIPID CHAINS: A BOOK OF TAILS. **Daniel Huster**

5:10 pm **Business Meeting**

5:50 pm **Closing Remarks**

6:00 pm **Adjournment**

Motility and Cytoskeleton Subgroup

1:00 pm–6:00 pm, Esplanade, Room 156

Subgroup Chairs
Carolyn Moores, University of London, Birbeck College, United Kingdom
Kristen Verhey, University of Michigan Medical School

1:00 pm **Opening Remarks**

No Abstract **1:05 pm**
CYTOSKELETAL STRUCTURAL PLASTICITY IN FORCE GENERATION AND MECHANOSENSATION. **Gregory M. Alushin**

48-Subg **1:30 pm**
DYNAMICS OF MICROTUBULE MINUS ENDS. **Marija Zanic**

No Abstract **1:55 pm**
THE KINESIN-14 GIKIN14A ACHIEVES LONG-DISTANCE MINUS-END-DIRECTED MOTILITY VIA ITS N-TERMINAL NONMOTOR MICROTUBULE-BINDING TAIL. **Weihong Qiu**

2:20 pm **Student Talk**

2:25 pm **Break**

49-Subg **2:45 pm**
THE MOONLIGHTING MECHANISMS OF UNC-45 FOR KEEPING MUSCLE MYOSIN IN SHAPE. **Tim Clausen**

50-Subg **3:10 pm**
HOW MICROTUBULES ACTIVATE KINESIN & DYNEIN ATPASE ACTIVITY. **Etsuko Muto**

3:35 pm **Student Talk**

51-SUBG **3:40 PM**
MECHANISMS OF REGULATING CYTOPLASMIC DYNEIN.
Samara Reck-Peterson, Andres Leschziner, Morgan DeSantis, Michael Cianfrocco, Zaw Min Htet, Phuoc Tien Tran

52-SUBG **4:05 PM**
CYTOSKELETAL CONTROL OF CELL POLARITY IN THE DROSOPHILA OOCYTE.
Margot E. Quinlan

4:30 PM **BUSINESS MEETING**

NO ABSTRACT **5:00 PM**
FLAGELLAR LENGTH CONTROL SYSTEM: A PARADIGM FOR ORGANELLE SIZE REGULATION. **Wallace Marshall**

6:00 PM **CLOSING REMARKS**

Exocytosis and Endocytosis Subgroup

1:00 PM–7:00 PM, ESPLANADE, ROOM 151

Subgroup Chair
Dixon Woodbury, Brigham Young University

1:00 PM **OPENING REMARKS**

1:05 PM **STUDENT TALK**

1:20 PM **STUDENT TALK**

NO ABSTRACT **1:35 PM**
CELLULAR DYNAMICS VISUALIZED FROM MOLECULES TO ORGANISMS AT INCREASED SPATIO-TEMPORAL RESOLUTION. **Tomas Kirchhausen**

53-SUBG **2:05 PM**
QUANTITATIVE MICROSCOPY OF SNARE COMPLEXES IN LIVE CELLS.
Geert van den Bogaart, Danielle R. Verboogen, Martin ter Beest

2:35 PM **BREAK**

54-SUBG **2:45 PM**
TYPE-2 DIABETES–A FUSION PORE DISEASE? **Patrik Rorsman**, Stephan C. Collins, Benoit Hastoy

55-SUBG **3:15 PM**
MEMBRANE TRAFFICKING AT KV2.1 INDUCED ENDOPLASMIC RETICULUM/PLASMA MEMBRANE CONTACT SITES. **Michael M. Tamkun**, Yaping Moshier, Laura Solé

56-SUBG **3:45 PM**
VESICLE HETEROGENEITY AND DIFFERENT MODES OF SYNAPTIC TRANSMISSION. Simon Chamberland, **Katalin Toth**

4:15 PM **BUSINESS MEETING**

NO ABSTRACT **4:40 PM**
THE MYSTERY OF THE FUSION PORE. **Manfred Lindau**

5:50 PM **ADJOURNMENT**

7:00 PM **SUBGROUP DINNER**

Permeation and Transport Subgroup

1:30 PM–6:00 PM, ESPLANADE, ROOM 155

Subgroup Chair
Olga Boudker, Weill Cornell Medical College

1:30 PM **OPENING REMARKS**

57-SUBG **1:35 PM**
STRUCTURE AND FUNCTION OF THE EPITHELIAL CALCIUM CHANNEL TRPV6.
Alexander Sobolevsky

58-SUBG **2:05 PM**
RESOLUTION OF HETEROGENEITY IN NICOTINIC RECEPTOR ASSEMBLY BY CRYO-EM . Richard M. Walsh Jr., Soung-Hun Roh, **Ryan E. Hibbs**

2:35 PM **STUDENT TALK**

NO ABSTRACT **2:55 PM**
INTERPRETATION OF SPECTROSCOPIC DATA FOR MEMBRANE TRANSPORTERS USING SIMULATED CONFORMATIONAL ENSEMBLES. **Lucy R. Forrest**

3:25 PM **BREAK**

59-SUBG **3:35 PM**
ALLOSTERIC CONTROL OF THE K^+ UPTAKE SYSTEM KTRAB. Marina Diskowski, Vedrana Mikusevic, Dorith Wunnicke, Ahmed R. Mehdipour, Deryck J. Mills, Gerhard Hummer, Klaus Fendler, Janet Vonck, **Inga Haenelt**

4:05 PM **STUDENT TALK**

60-SUBG **4:25 PM**
HOW LIPIDS MODULATE TRANSPORTER AND CHANNEL FUNCTION.
Christine Ziegler, Matthias Gregor Madej, Arun Chandramohan, Ganesh Srinivasan Anand, Thorben Cordes, Atieh AMinian, Reinhard Krämer

4:55 PM **BUSINESS MEETING**

6:00 PM **SUBGROUP DINNER**

Scientific Story Telling
What's Your Story?

2:00 PM–4:00 PM, NORTH, LOWER LOBBY, ROOM 20/21

Journal manuscript—check. Abstract writing—check. But can you explain your work to your grandmother? Being able to talk about your research to someone who is not a scientist is an important skill usually not included in formal scientific training. Come to this session to learn the art of telling your scientific story. Bring either your own abstract, or an abstract from your field, paper, and pencil to use during this hands-on workshop. Please plan to stay for the full two hours.

Panelists
Lesley Earl, NCI, NIH
Joe Palca, NPR
Madeline K. Sofia, NPR

Career Development Center Workshop
Going Live: Preparing for Interviews in Industry and Academia

3:00 PM–4:00 PM, SOUTH, LOWER LEVEL, ROOM 2

Most grad students and postdocs are used to having their work and accomplishments "speak" for them, and have never had an interview of any consequence. But to reach that goal of securing your first assistant professorship or research job in industry, you need to be prepared to close the deal on your own behalf and articulate why you are a great fit for their department or organization. Get answers to: what are the most common interview questions, how do I build effective answers that are more than empty clichés, what is an effective strategy for interview preparation, and more.

Undergraduate Mixer and Poster Award Competition

3:00 PM–5:00 PM, NORTH, LOWER LOBBY

If you're an undergraduate student, plan on attending this social and scientific mixer! Come meet other undergraduates and learn about their research projects. For undergraduate students who will be presenting during the standard scientific sessions, the mixer provides an opportunity to hone presentation skills before the general poster session begin. Undergraduates listed as co-authors on posters are welcome to practice their poster presentation skills in a less formal setting, even if not listed as the presenting author. Additionally, undergrads presenting as first or second author on a poster may participate in the Undergraduate Poster Award Competition and be recognized for their work. Three students will be selected for a $100 award and recognized by the BPS meeting attendees prior to the 2018 BPS Lecture. Winners will be selected based on the quality and scientific merit of their research, knowledge of the research problem, contribution to the project, and overall presentation of the poster. Pre-registration required to participate in the competition. No on-site regisration.

Informal Networking and Q&A with NPR Science Team

4:30 PM–5:30 PM, NORTH, LOWER LOBBY, ROOM 20/21

Stop by to get your questions answered about careers, science communication, Friends of Joe's Big Ideas, and other related topics on your mind.

Panelists
Joe Palca, NPR
Madeline Sofia, NPR

First-Time Attendee Drop By

5:00 PM–6:00 PM, NORTH, LOWER LOBBY

Learn to navigate the meeting! If this is your first time attending a BPS Annual Meeting, you may find it helpful to speak to Society staff and committee members who can help you get the most out of your time at the BPS 2018 San Francisco meeting.

Opening Mixer

5:00 PM–7:00 PM, NORTH, LOWER LOBBY

All registered attendees are welcome to attend this reception. Cash bar and light refreshments will be offered.

Poster Viewing

6:00 PM–10:00 PM, EXHIBIT HALL ABC

CID/Education/CPOW Travel Awardee Reception

6:30 PM–7:30 PM, NORTH, LOWER LOBBY, ROOM 20/21

During this reception, students, postdocs, and early and mid-career scientists will be honored and presented with their travel awards by the chairs of the Education, Inclusion and Diversity, and Professional Opportunities for Women Committees.

Speaker
Madeline Shea, University of Iowa

Cryo-EM Subgroup

7:00 PM–10:00 PM, SOUTH, LEVEL TWO, ROOM 207/208

Subgroup Chair
Tamir Gronen, HHMI

7:00 PM **OPENING REMARKS**

NO ABSTRACT **7:05 PM**
OPENING WINDOWS INTO THE CELL: BRINGING ®STRUCTURE TO CELL BIOLOGY USING CRYO-ELECTRON TOMOGRAPHY. Reika Castillon, Robert Buschauer, Jan Bohning, Kanika Khanna, Matt Croxford, Vinson Lam, Daniela Boassa, Susan Taylor, **Elizabeth Villa**

NO ABSTRACT **7:30 PM**
STRUCTURAL BASIS OF MITOCHONDRIAL RECEPTOR BINDING AND GTP-DRIVEN CONFORMATIONAL CONSTRICTION BY DYNAMIN-RELATED PROTEIN 1. **Adam S. Frost**

61-SUBG **7:55 PM**
STRUCTURAL BIOLOGY OF CELL SHAPE FORMATION. **Naoko Mizuno**

8:20 PM **BUSINESS MEETING**

62-SUBG **8:35 PM**
HOW LOW CAN YOU GO? SIZE AND RESOLUTION LIMITS USING CONVENTIONAL CRYO-EM AT 200 KEV. Mark A. Herzik, Jr., Mengyu Wu, **Gabriel C. Lander**

63-SUBG **9:00 PM**
CRYO EM STUDIES CAPTURING DYNAMIC INTERMEDIATES IN UBIQUITIN CONJUGATION. **Brenda A. Schulman**

64-SUBG **9:25 PM**
GRAPHENE-OXIDE SUBSTRATE FOR HIGH-RESOLUTION SINGLE PARTICLE CRYO-EM. Eugene Palovcak, David Bulkley, Shawn Zheng, Feng Wang, David Agard, **Yifan Cheng**

10:00 PM **ADJOURNMENT**

Notes

Sunday, February 18, 2018

Daily Program Summary

All rooms are located in the *Moscone Center* unless noted otherwise.

7:00 AM-9:00 AM	**Editorial Board Boot Camp**	**South, Level Three, Room 313**
7:30 AM-8:30 AM	**Postdoctoral Breakfast**	**South, Level Three, Room 307/308**
7:30 AM-5:00 PM	**Registration/Exhibitor Registration**	**South Lobby**
8:00 AM-10:00 PM	**Poster Viewing**	**Exhibit Hall ABC**
8:15 AM-10:15 AM	**Symposium: Biophysical Mechanisms of Molecular Evolution** **Co-Chairs** *Michael Harms, University of Oregon* *Claus Wilke, University of Texas, Austin* STRUCTURAL AND FUNCTIONAL CONSTRAINTS ON PROTEIN EVOLUTION. *Claus O. Wilke* MOLECULAR ENSEMBLES SHAPE EVOLUTIONARY TRAJECTORIES. *Michael J. Harms* CELLULAR CONSEQUENCES OF SYSTEMATIC PERTURBATIONS OF A HIGHLY CONSERVED BIOLOGICAL SWITCH. *Tanja Kortemme* AN ALTERNATIVE STRATEGY TO GENERATE BINDING PROTEINS. *Andreas Plueckthun*	**North, Lower Lobby, Room 24**
8:15 AM-10:15 AM	**Symposium: DNA Supercoiling** **Co-Chairs** *Laura Finzi, Emory University* *Sarah Harris, University of Leeds, United Kingdom* SEEING SUPERCOILED DNA WITH ATOMISTIC SIMULATION: A NEW TWIST ON A FAMILIAR STRUCTURE. *Sarah A. Harris* PROTEIN-MEDIATED LOOPS IN SUPERCOILED DNA GENERATE LARGE, DYNAMIC TOPOLOGICAL DOMAINS. *Laura Finzi* ORGANISATION AND FUNCTION OF DNA SUPERCOILING IN THE HUMAN GENOME. *Nick Gilbert* THE ROLE OF DNA TOPOLOGY AND CONFORMATION IN GENE REGULATION, IN VIVO. *David Levens*	**North, Lower Lobby, Room 25**
8:15 AM-10:15 AM	**Platform: Optical Microscopy and Superresolution Imaging: Methods I**	**South, Level Two, Room 207/208**
8:15 AM-10:15 AM	**Platform: Membrane Physical Chemistry I**	**South, Level Two, Room 215/216**
8:15 AM-10:15 AM	**Platform: Cell Mechanics and Motility I**	**Esplanade, Room 153**
8:15 AM-10:15 AM	**Platform: Mechanosensation**	**Esplanade, Room 154**
8:15 AM-10:15 AM	**Platform: Sensing in Vivo and in Vitro**	**Esplanade, Room 155**
8:15 AM-10:15 AM	**Platform: Membrane Proteins: Structure and Folding**	**Esplanade, Room 156**
8:30 AM-10:30 AM	**CID Committee Meeting**	**South, Level Three, Room 306**
9:00 AM-10:00 AM	**Career Development Center Workshop:** **Conference Networking 101: Getting the Most out of the BPS Annual Meeting**	**South, Lower Level, Room 2**
10:00 AM-5:00 PM	**Exhibits**	**Exhibit Hall ABC**
10:15 AM-11:00 AM	**Coffee Break**	**Exhibit Hall ABC**
10:30 AM-11:30 AM	**Career Development Center Workshop:** **Green Cards for Scientific Researchers: How to Win Your EB-1A/NIW Case!** **with Getson & Schatz, PC**	**South, Lower Level, Room 2**
10:30 AM-12:00 PM	**Exhibitor Presentation: Cellular Dynamics International, a FUJIFILM company** **Using Human iPSC-Derived Cell-Types in Novel Functional Assays,** **Disease Modeling, and Drug Discovery**	**Exhibit Hall, Room 6**
10:30 AM-12:30 PM	**International Relations Committee Meeting**	**South, Level Three, Room 312**

10:45 AM-12:45 PM	**Symposium: Translational Biophysics** **Co-Chairs** *Melanie Cocco, University of California, Irvine* *Shankar Subramaniam, University of California, San Diego* AGENTS TO BLOCK THE NEURITE OUTGROWTH INHIBITOR (NOGO, RTN4) INSPIRED BY THE STRUCTURE. *Melanie J. Cocco* BIOPHYSICS-ENABLED TRANSLATIONAL MEDICINE. *Donald Ingber* ROLE OF MATRIX PROTEINS IN BALANCING TISSUE STIFFNESS AND INFLAMMATION IN FIBROSIS. *Shyni Varghese* MECHANISMS DEFINING THE NEURONAL STATE SPACE. *Shankar Subramaniam*	**North, Lower Lobby, Room 24**
10:45 AM-12:45 PM	**Symposium: Protein and RNA Phase Separation** **Co-Chairs** *Simon Alberti, Max Planck Institute, Germany* *Tanja Mittag, St. Jude Children's Research Hospital* ORGANIZING LIVING MATTER: THE ROLE OF PHASE TRANSITIONS IN CELL BIOLOGY AND DISEASE. *Simon Alberti* DYSREGULATION OF PHASE SEPARATION IN CANCER. *Tanja Mittag* LIGHTING UP INTRACELLULAR PHASE SPACE. *Clifford P. Brangwynne* PHYSICAL MECHANISMS OF CELL ORGANIZATION ON MICRON LENGTH SCALES. *Michael K. Rosen*	**North, Lower Lobby, Room 25**
10:45 AM-12:45 PM	**Platform: Ligand-gated Channels**	**South, Level Two, Room 207/208**
10:45 AM-12:45 PM	**Platform: Protein Structure and Conformation I**	**South, Level Two, Room 215/216**
10:45 AM-12:45 PM	**Platform: Bacterial Electrophysiology: From Single Cells to Biofilms**	**Esplanade, Room 153**
10:45 AM-12:45 PM	**Platform: DNA Structure and Dynamics**	**Esplanade, Room 154**
10:45 AM-12:45 PM	**Platform: Protein-Small Molecule Interactions**	**Esplanade, Room 155**
10:45 AM-12:45 PM	**Platform: Protein-Lipid Interactions I**	**Esplanade, Room 156**
11:30 AM-1:00 PM	**Undergraduate Student Pizza "Breakfast"**	**North, Lower Lobby, Room 20/21**
11:30 AM-1:00 PM	**Exhibitor Presentation: Carl Zeiss Microscopy LLC** **ZEISS Live Cell Imaging Tools Allow New Levels of Resolution, Sensitivity, and Throughput**	**Exhibit Hall, Room 5**
11:30 AM-5:00 PM	**Colleges in the Community Day**	**North, Lower Lobby, Room 20/21**
12:00 PM-1:00 PM	**Career Development Center Workshop:** **Demystifying the Academic Job Search I: Understanding the Search Process from the Perspective of Search Committees and Decoding Job Announcements**	**South, Lower Level, Room 2**
12:15 PM-2:15 PM	**Public Affairs Committee Meeting**	**South, Level Three, Room 306**
12:30 PM-1:30 PM	**International Travel Awardee Luncheon**	**South, Level Three, Room 307/308**
12:30 PM-2:00 PM	**Exhibitor Presentation: Alvéole** **Maskless Quantitative Multi-Protein Photopatterning to Orchestrate Cellular Microenvironment**	**Exhibit Hall, Room 6**
1:00 PM-2:30 PM	**The World Outside the Lab: Many Ways to Use Your PhD Skills**	**Esplanade, Room 151**
1:00 PM-3:00 PM	**Graduate & Postdoc Institution Fair**	**Exhibit Hall ABC**
1:30 PM-3:00 PM	**Exhibitor Presentation: HORIBA Scientific** **New Fluorescence and Absorbance Spectrometer Concept**	**Exhibit Hall, Room 5**
1:45 PM-3:00 PM	**Snack Break**	**Exhibit Hall ABC**
1:45 PM-3:45 PM	**Poster Presentations and Late Posters**	**Exhibit Hall ABC**
2:00 PM-3:30 PM	**Teaching Science Like We Do Science**	**North, Lower Lobby, Room 20/21**
2:30 PM-3:30 PM	**Career Development Center Workshop: Evaluating a Job Offer**	**South, Lower Level, Room 2**
2:30 PM-4:00 PM	**Exhibitor Presentation: Allen Institute for Cell Science** **The Allen Institute for Cell Science – Resources to Empower Your Research**	**Exhibit Hall, Room 6**
3:30 PM-5:00 PM	**Early Careers Committee Meeting**	**South, Level Three, Room 306**

3:30 PM-5:00 PM	**Exhibitor Presentation: Wyatt Technology Corporation** **Light Scattering Tools for Biophysical Characterization**	**Exhibit Hall, Room 5**
4:00 PM-5:00 PM	**Career Development Center Workshop:** **Translating Your Credentials: Writing Effective Resumes and Cover Letters and Your LinkedIn Profile**	**South, Lower Level, Room 2**
4:00 PM-6:00 PM	**Symposium: Membrane Bending: Mechanisms and Consequences** **Co-Chairs** *Jeanne Stachowiak, University of Texas, Austin* *Anne Ulrich, Karlsruhe Institute of Technology, Germany* STOCHASTIC MECHANISMS IN MEMBRANE TRAFFIC. *Jeanne Stachowiak* FLIPPING HELICES: MEMBRANE INSERTION OF AMPHIPHILIC HELICES AND EXTRUSION OF TRANSMEMBRANE SEGMENTS. *Anne S. Ulrich* FRICTION-DRIVEN SCISSION OF MEMBRANE TUBES. *Andrew Callan-Jones* MOLECULAR MECHANISMS OF MEMBRANE REMODELING. *Ralf Langen*	**North, Lower Lobby, Room 24**
4:00 PM-6:00 PM	**Symposium: Channel Mechanisms: Sensing and Gating** **Co-Chairs** *Teresa Giraldez, University of La Laguna, Spain* *Robert Stroud, University of California, San Diego* MOLECULAR REARRANGEMENTS UNDERLYING FUNCTION OF LARGE CONDUCTANCE CALCIUM- AND VOLTAGE-REGULATED POTASSIUM CHANNELS. *Teresa Giraldez* STRUCTURE AND MECHANISMS OF SELECTIVITY GATING, INHIBITION, AND ACTIVATION IN AN ION CHANNEL. *Robert Stroud* INSIGHTS INTO GATING OF GIRK (KIR3) CHANNELS THROUGH G PROTEIN-INDEPENDENT PATHWAYS. *Paul A. Slesinger* CAN K^+ BE CONDUCTED THROUGH A NARROW PORE? INVESTIGATING THE ROLE OF CONFORMATIONAL CHANGE IN GATING KIR CHANNELS. *Jacqueline M. Gulbis*	**North, Lower Lobby, Room 25**
4:00 PM-6:00 PM	**Platform: Protein Structure, Prediction, and Design**	**South, Level Two, Room 207/208**
4:00 PM-6:00 PM	**Platform: Cardiac Muscle Mechanics, Structure, and Regulation I**	**South, Level Two, Room 215/216**
4:00 PM-6:00 PM	**Platform: Voltage-gated Na and Ca Channels**	**Esplanade, Room 153**
4:00 PM-6:00 PM	**Platform: Excitation-Contraction Coupling**	**Esplanade, Room 154**
4:00 PM-6:00 PM	**Platform: Computational Methods and Bioinformatics**	**Esplanade, Room 155**
4:00 PM-6:00 PM	**Platform: Energy Transducing Complexes and Mitochondria in Cell Life and Death**	**Esplanade, Room 156**
4:30 PM-6:00 PM	**Exhibitor Presentation: Molecular Devices LLC** **Supercharge Your Patch-Clamp Data Acquisition and Analysis with the NEW pCLAMP 11 Software**	**Exhibit Hall, Room 6**
5:00 PM-6:00 PM	**Korean Biophysicists Meeting**	**Esplanade, Room 151**
5:00 PM-7:00 PM	**PI to PI: A Wine & Cheese Mixer**	**South, Level Three, Room 307/308**
5:30 PM-5:45 PM	**Dinner Meet-Ups**	**South, Lobby, Society Booth**
5:30 PM-7:00 PM	**Exhibitor Presentation: LUMICKS BV** **Novel Developments and Applications of Single-Molecule Tools with Ultra-High Resolution, Stability, and Throughput**	**Exhibit Hall, Room 5**
6:00 PM-7:00 PM	**Biophysics Austria Mixer**	**North, Lower Lobby, Room 20/21**
6:00 PM-9:00 PM	**Student Research Achievement Award (SRAA) Poster Competition**	**Exhibit Hall ABC**
6:00 PM-10:00 PM	***Biophysical Journal* Editorial Board Dinner**	**Waterfront Restaurant**
6:30 PM-8:00 PM	**Exhibitor Presentation: HEKA Elektronik** **Driving E-Phys the Smart Way – Lateset Advances in Electrochemical and Electrophysiological Applications**	**Exhibit Hall, Room 6**
7:00 PM-9:30 PM	**Movie Night & Discussion: *Merchants of Doubt***	**Esplanade, Room 153**

Sunday, February 18

Editorial Board Boot Camp

7:00 AM–9:00 AM, SOUTH, LEVEL THREE, ROOM 313

Postdoctoral Breakfast

7:30 AM–8:30 AM, SOUTH, LEVEL THREE, ROOM 307/308

Support contributed by the Burroughs Wellcome Fund.

This breakfast presents an opportunity for postdoctoral Annual Meeting attendees to meet and discuss the issues they face in their current career stage. Limited to the first 100 attendees.

Panelists
Shawnna Buttery, Editor, Cell Reports
Darren Hwee, Group Leader, Cytokinetics
Mana Candida Vila

Registration/Exhibitor Registration

7:30 AM–5:00 PM, SOUTH LOBBY

Poster Viewing

8:00 AM–10:00 PM, EXHIBIT HALL ABC

Symposium
Biophysical Mechanisms of Molecular Evolution

8:15 AM–10:15 AM, NORTH, LOWER LOBBY, ROOM 24

Co-Chairs
Michael Harms, University of Oregon
Claus Wilke, University of Texas, Austin

65-Symp **8:15 AM**
STRUCTURAL AND FUNCTIONAL CONSTRAINTS ON PROTEIN EVOLUTION. **Claus O. Wilke**

66-Symp **8:45 AM**
MOLECULAR ENSEMBLES SHAPE EVOLUTIONARY TRAJECTORIES. **Michael J. Harms**, Zachary R. Sailer, Lucas C. Wheeler

67-Symp **9:15 AM**
CELLULAR CONSEQUENCES OF SYSTEMATIC PERTURBATIONS OF A HIGHLY CONSERVED BIOLOGICAL SWITCH. **Tanja Kortemme**

68-Symp **9:45 AM**
AN ALTERNATIVE STRATEGY TO GENERATE BINDING PROTEINS. **Andreas Plueckthun**

Symposium
DNA Supercoiling

8:15 AM–10:15 AM, NORTH, LOWER LOBBY, ROOM 25

Co-Chairs
Laura Finzi, Emory University
Sarah Harris, University of Leeds, United Kingdom

69-Symp **8:15 AM**
SEEING SUPERCOILED DNA WITH ATOMISTIC SIMULATION: A NEW TWIST ON A FAMILIAR STRUCTURE. **Sarah A. Harris**, Agnes Noy, Thana Sutthibutpong

70-Symp **8:45 AM**
PROTEIN-MEDIATED LOOPS IN SUPERCOILED DNA GENERATE LARGE, DYNAMIC TOPOLOGICAL DOMAINS. **Laura Finzi**

71-Symp **9:15 AM**
ORGANISATION AND FUNCTION OF DNA SUPERCOILING IN THE HUMAN GENOME. **Nick Gilbert**

72-Symp **9:45 AM**
THE ROLE OF DNA TOPOLOGY AND CONFORMATION IN GENE REGULATION, IN VIVO. **David Levens**, Fedor Kouzine, Laura F. Baranello

Platform
Optical Microscopy and Superresolution Imaging: Methods I

8:15 AM–10:15 AM, SOUTH, LEVEL TWO, ROOM 207/208

Co-Chairs
Samuel Hess, University of Maine
Xiyu Yi, University of California, Los Angeles

73-Plat **8:15 AM**
THE ROLE OF PROBE PHOTOPHYSICS IN LOCALIZATION-BASED SUPER-RESOLUTION MICROSCOPY. Francesca Pennacchietti, Travis J. Gould, **Samuel T. Hess**

74-Plat **8:30 AM**
PUSHING THE BOUNDARY OF STORM RESOLUTION: SEEING THE ACTIN LATTICE IN MUSCLE. **Sheema Rahmanseresht**, Kyounghwan Lee, Jeffrey Robbins, David M. Warshaw, Roger Craig, Michael J. Previs

75-Plat **8:45 AM**
FAST SUPER RESOLVED IMAGING OF LIVE CELLS USING SUPERRESOLUTION OPTICAL FLUCTUATION IMAGING 2.0 (SOFI-2.0). **Xiyu Yi**, Sungho Son, Shimon Weiss

76-Plat **9:00 AM**
3D SINGLE-MOLECULE SUPERRESOLUTION MICROSCOPY IN MAMMALIAN CELLS USING A TILTED LIGHT SHEET. **Anna-Karin Gustavsson**, Petar N. Petrov, Maurice Y. Lee, Yoav Shechtman, W. E. Moerner

77-Plat **9:15 AM**
IMAGING COMPLEX PROTEIN MACHINES BY HIGH-THROUGHPUT LOCALIZATION MICROSCOPY. **Joran Deschamps**, Markus Mund, Jonas Ries

78-Plat **9:30 AM**
OPTIMIZATION OF HIGHLY INCLINED OPTICAL SHEET ILLUMINATION FOR SUPERRESOLUTION MICROSCOPY. Tiziano Vignolini, Lucia Gardini, Valentina Curcio, **Marco Capitanio**, Francesco Saverio Pavone

79-Plat **9:45 AM**
GRAPHENE BIOINTERFACES FOR OPTICAL STIMULATION OF GENETICALLY INTACT CELLS. **Alex Savtchenko**, Volodymyr Cherkas, Alexander Kleschevnikov, Gary Braun, Aliaksandr Zaretski, Darren L. Lipomi, Ke Wei, Elena Molokanova

80-Plat **10:00 AM**
A NEW METHOD (SIGMA-SHREC) FOR TWO-COLOR FLUORESCENT DISTANCE MEASUREMENTS WITH NANOMETER ACCURACY. **Stefan Niekamp**, Jongmin Sung, Walter Huynh, Ronald D. Vale, Nico Stuurman

Platform
Membrane Physical Chemistry I

8:15 AM–10:15 AM, SOUTH, LEVEL TWO, ROOM 215/216

Co-Chairs
Kaori Sugihara, University of Geneva, Switzerland
Erdinc Sezgin, University of Oxford, United Kingdom

81-Plat 8:15 AM
EMERGING APPROACHES TO FABRICATE SUPPORTED LIPID BILAYERS: MOVING BEYOND VESICLES. **Nam-Joon Cho**

82-Plat 8:30 AM
LIPID SPONGE-PHASE NANOPARTICLES AS CARRIERS FOR ENZYMES. **Maria Valldeperas Badell**, Aleksandra Dabkowska, Polina Naidjonoka, Rebecca Welbourn, Gunnar K. Pálsson, Justas Barauskas, Tommy Nylander

83-Plat 8:45 AM
ARTIFICIAL TUNNELING NANOTUBES BETWEEN CELLS. **Kaori Sugihara**

84-Plat 9:00 AM
OUTPERFORMING NATURE: SYNTHETIC ENZYME BUILT FROM DNA FLIPS LIPIDS OF BIOLOGICAL MEMBRANES AT RECORD RATES. **Alexander Ohmann**, Chen-Yu Li, Christopher Maffeo, Kareem Al Nahas, Kevin N. Baumann, Kerstin Göpfrich, Jejoong Yoo, Ulrich F. Keyser, Aleksei Aksimentiev

85-Plat 9:15 AM
SYNTHESIS AND BIOPHYSICAL CHARACTERIZATION OF THE CHLOROSULFOLIPIDS OF *OCHRAMONAS DANICA*. **Grace M. McKenna**, Frank R. Moss III, Matthew L. Landry, Noah Z. Burns, Steven G. Boxer

86-Plat 9:30 AM
USING HYSCORE SPECTROSCOPY OF NITROXIDES TO PROFILE WATER CONTENT OF LIPID BILAYERS WITH 2 Å SPATIAL RESOLUTION. **Melanie Chestnut**, Sergey Milikisiyants, Amir Koolivand, Maxim A. Voynov, Tatyana I. Smirnova, Alex I. Smirnov

87-Plat 9:45 AM CPOW TRAVEL AWARDEE
CHARACTERIZATION OF PHASES AND INTERACTIONS AMONG LIPIDS INVOLVED IN DRUG DELIVERY: AN NMR AND SMALL-ANGLE X-RAY SCATTERING STUDY. **Miranda L. Schmidt**, Bashe Y.M. Bashe, Iulia Bodnariuc, Joanne E. Mercer, Sherry S.W. Leung, Mohsen Ramezanpour, Yoav Atsmon-Raz, Nandhitha Subramanian, Pieter R. Cullis, D. Peter Tieleman, Jenifer L. Thewalt

88-Plat 10:00 AM
SPECTRAL STED IMAGING OF CELL MEMBRANES. **Erdinc Sezgin**, Falk Schneider, Victoria Zilles, Iztok Urbancic, Esther Garcia, Dominic Waithe, Andrey Klymchenko, Christian Eggeling

Platform
Cell Mechanics and Motility I

8:15 AM–10:15 AM, ESPLANADE, ROOM 153

Co-Chairs
Seth H. Weinberg, Virginia Commonwealth University
Stephanie Fraley, University of California, San Diego

89-Plat 8:15 AM
CID Travel Awardee
DETERMINATION OF 3D AMOEBOID MIGRATION FORCE THROUGH UTILIZATION OF ACTUATED SURFACE ATTACHED POSTS. **Jonathan E. Eicher**, Maryna Kapustina, Michael Falvo, Kenneth Jacobson

90-Plat 8:30 AM
STRUCTURE AND CONSTRICTION MECHANISM OF THE ACTOMYOSIN RING. **Lam T. Nguyen**, Matthew Swulius, Grant J. Jensen

91-Plat 8:45 AM
THE ARP2/3 COMPLEX IS NECESSARY FOR MIGRATION OF GLIOBLASTOMA CELLS ON COMPLIANT SUBSTRATES DUE TO A LAMELLIPODIA-PROVIDED MECHANICAL ADVANTAGE. **Devin B. Mair**, Jin Zhu, Seth H. Weinberg, Rong Li

92-Plat 9:00 AM
VINCULIN FORMS A DIRECTIONALLY ASYMMETRIC CATCH BOND WITH F-ACTIN. **Derek L. Huang**, Nicolas A. Bax, Craig D. Buckley, William I. Weis, Alexander R. Dunn

9:15 AM flash talks

93-Plat 9:30 AM
3D MATRIX ARCHITECTURE REGULATES CELL MIGRATION THROUGH DEGRADABILITY. **Stephanie I. Fraley**, Daniel Ortiz

94-Plat 9:45 AM
TUMOR INVASION THROUGH HYALURONIC ACID MATRICES IS MEDIATED BY CD44-DEPENDENT MICROTENTACLES. **Kayla J. Wolf**, Sam Kenny, Ke Xu, Sanjay Kumar

95-Plat 10:00 AM
FLNA AND FILGAP INTERACTIONS REGULATE THE CONTRACTILITY OF CELLS IN SHEAR STRESS. **Rosa Kaviani**, Chris Sitaras, Haruka Yoshie, Allen Ehrlicher

Platform
Mechanosensation

8:15 AM–10:15 AM, ESPLANADE, ROOM 154

Co-Chairs
Yan Jiang, Boston Children's Hospital
Thomas Schmidt, Leiden University, The Netherlands

96-Plat 8:15 AM
STRETCHING AND ACTIVATION OF SINGLE PROTEIN MOLECULES BY FLOW REVEALS THE MECHANISM OF VON WILLEBRAND FACTOR ADHESION. **Yan Jiang**, Hongxia Fu, Darren Yang, Friedrich Scheiflinger, Timothy A. Springer, Wesley P. Wong

97-Plat 8:30 AM
COMPRESSIVE STRESS STALLS GROWTH AND DECREASE CYTOPLASMIC DIFFUSION. **Morgan Delarue**, Liam Holt

98-Plat 8:45 AM
STRUCTURAL FEATURES AND MOLECULAR BASES UNDERLYING THE ION PERMEATION AND MECHANOGATING OF THE MECHANOSENSITIVE PIEZO CHANNELS. **Bailong Xiao**

99-Plat 9:00 AM
THE DYNAMICS OF SOMATOSENSORY MECHANOTRANSDUCTION IN *C. ELEGANS* TOUCH RECEPTOR NEURONS. **Samata Katta**, Valeria Vásquez, Miriam B. Goodman

100-Plat 9:15 AM
THE INTEGRATION OF MECHANICAL AND CHEMICAL SIGNALLING IN THE DEVELOPING BRAIN. **Kristian Franze**

101-Plat 9:30 AM
METABOLISM MODULATION OF CANCER CELLS ON VARYING SUBSTRATE STIFFNESSES. **Emma J. Mah**, Albert F. Yee, Michelle A. Digman

102-Plat 9:45 AM
CELLULAR MECHANOTRANSDUCTION VIA ION CHANNELS AT THE CELL-SUBSTRATE INTERFACE. **Navid Bavi**, Jessica Richardson, Kate Poole

103-Plat 10:00 AM
SUBSTRATE RIGIDITY MODULATES THE COMPOSITION IN CELL-MATRIX ADHESIONS. **Thomas Schmidt**, Hayri E Balcioglu, Rolf Harkes, Erik HJ Danen

Platform
Sensing in Vivo and in Vitro

8:15 AM–10:15 AM, ESPLANADE, ROOM 155

Co-Chairs
Leonor Saiz, University of California, Davis
Gaurav Chopra, Purdue University

104-Plat 8:15 AM
NANOFLUIDIC SENSOR FOR ANTIGEN-ANTIBODY BINDING DETECTION. **Denise Pezzuoli**, Alessia Cazzulo, Elena Angeli, Francesca Ferrera, Giuseppe Firpo, Patrizia Guida, Roberto Lo Savio, Diego Repetto, Luca Repetto, Ugo Valbusa

105-Plat 8:30 AM
STRUCTURE AND DYNAMICS OF THE MUC1-BINDING APTAMER ATTACHED TO A BIOSENSOR SURFACE. Iman Jeddi, **Leonor Saiz**

106-Plat 8:45 AM INTERNATIONAL TRAVEL AWARDEE
DETECTION OF *BACILLUS THURINGIENSIS* HD-73 SPORES USING PROTEIN NANOPORES AND COMPLEMENTARY APTAMERS WITH DNA HAIRPIN PROBES. **Hyunil Ryu**

107-Plat 9:00 AM
LIVE CELL SURFACE CONJUGATION METHODS FOR IMAGING, SENSING AND THERAPY. **Joydeb Majumder**, Gaurav Chopra

108-Plat 9:15 AM
NON-INVASIVE MONITORING OF MITOCHONDRIAL OXYGEN CONSUMPTION AND INTRACELLULAR DISTRIBUTION OF $[O_2]$. **Rozhin Penjweini**, Alessio Andreoni, Dan L. Sackett, Jay R. Knutson

109-Plat 9:30 AM
NOVEL CONFORMATION SELECTIVE MOLECULAR SENSORS FOR AMYLOID AGGREGATES. **Eva Y. Chi**, Florencia A. Monge, Patrick L. Donabedian, Adeline M. Fanni, Nicole M. Maphis, Kiran Bhaskar, David G. Whitten

110-Plat 9:45 AM
ORGANELLE-TARGETING OF APOLLO-NADP$^+$ MAKES TRACKING NADPH/NADP$^+$ REDOX POSSIBLE ACROSS MULTIPLE ORGANELLES. **William D. Cameron**, Jonathan Rocheleau

111-Plat 10:00 AM
PROBE THE CONFORMATIONAL CHANGES OF INDIVIDUAL MOLECULES IN LIVING CELLS. **Bei Liu**, Orrin Stone, Onur Dagliyan, Klaus Hahn

Platform
Membrane Proteins: Structure and Folding

8:15 AM–10:15 AM, ESPLANADE, ROOM 156

Co-Chairs
Cristina Paulino, University of Groningen, The Netherlands
William Dowhan, University of Texas Medical School at Houston

112-Plat 8:15 AM
INTEGRIN-BASED MECHANOSENSING IS MEDIATED BY CONFORMATIONAL ACTIVATION. **Tamara C. Bidone**, Tristan Driscoll, Martin A. Schwartz, Gregory A. Voth

113-Plat 8:30 AM
MOLECULAR SIMULATIONS PROVIDE INSITE ON LYSINE SNORKELING MODULATION OF THE INTEGRIN TRANSMEMBRANE DOMAIN. **Melanie Muller**, Emad Tajkhorshid

114-Plat 8:45 AM
STRUCTURAL CHARACTERIZATION OF THE N-TERMINUS OF CRGA: AN INTRINSICALLY DISORDERED REGION AND SHORT B STRANDS TO STABILIZE DIMERIZATION. **Yiseul Shin**, Riqiang Fu, Huajun Qin, Joshua Taylor, Malini R. Rajagopalan, Timothy A. Cross

115-Plat 9:00 AM
DYNAMICS AND LIGAND BINDING OF THE GHS G PROTEIN-COUPLED RECEPTOR IN LIPID MEMBRANES. **Daniel Huster**, Gerrit Vortmeier, Stefanie Schrottke, Sylvia Els-Heindl, Stephanie DeLuca, Brian Bender, Annette Beck-Sickinger, Jens Meiler

116-Plat 9:15 AM
CRYO-EM STRUCTURE OF THE MECHANOTRANSDUCTION CHANNEL NOMPC. **Peng Jin**, David Bulkley, Yanmeng Guo, Wei Zhang, Zhenhao Guo, Walter Huynh, Shenping Wu, Shan Meltzer, Tong Cheng, Lily Yeh Jan, Yuh-Nung Jan, Yifan Cheng

117-Plat 9:30 AM
STRUCTURAL BASIS FOR ANION CONDUCTION AND GATING IN THE CALCIUM-ACTIVATED CHLORIDE-CHANNEL TMEM16A. **Cristina Paulino**, Valeria Kalienkova, Andy K.M. Lam, Yvonne Neldner, Raimund Dutzler

118-Plat 9:45 AM
MAGNETICALLY ORIENTED PHOSPHOLIPID BILAYER DISCS FOR MEMBRANE PROTEIN NMR. **Sang Ho Park**, Jasmina Radoicic, Stanley J. Opella

119-Plat 10:00 AM
LIPIDS AS DETERMINANTS OF MEMBRANE PROTEIN STRUCTURE. **William Dowhan**, Mikhail Bogdanov, Heidi Vitrac

CID Committee Meeting

8:30 AM–10:30 AM, SOUTH, LEVEL THREE, ROOM 306

Career Development Center Workshop
Conference Networking 101: Getting the Most out of the BPS Annual Meeting

9:00 AM–10:00 AM, SOUTH, LOWER LEVEL, ROOM 2

The BPS Annual Meeting is a multi-faceted, exciting conference consisting of hundreds of sessions, attended by thousands of scientists. In this workshop, we will discuss how to get the most out of attending, and how to identify the most valuable sessions, events, and other experiences at the conference. We will offer specific networking tips that are customized for the events at the Annual Meeting, including how to behave with speakers, how to meet key attendees, and how to interface with and leverage social media for an optimized conference experience. Conference etiquette and follow-up will also be discussed.

Exhibits

10:00 AM–5:00 PM, EXHIBIT HALL ABC

Coffee Break

10:15 AM–11:00 AM, EXHIBIT HALL ABC

Career Development Center Workshop
Green Cards for Scientific Researchers: How to Win Your EB-1A/NIW Case! with Getson & Schatz, PC

10:30 AM–11:30 AM, SOUTH, LOWER LEVEL, ROOM 2

Brian Getson is a leading U.S. immigration lawyer who represents scientific researchers in applying for green cards in the EB-1A, EB-1B and NIW categories. Learn about the U.S. immigration process and how to maximize your chances of immigration success during this workshop. He will answer questions and provide free legal consultations after the presentation and throughout BPS 2018 in the Career Development Center.

Exhibitor Presentation
Cellular Dynamics International, a FUJIFILM company

10:30 AM–12:00 PM, EXHIBIT HALL, ROOM 6

Using Human iPSC-Derived Cell-Types in Novel Functional Assays, Disease Modeling, and Drug Discovery
The availability of donor-specific induced pluripotent stem (iPS) cells, coupled with gene-editing techniques, is enabling new insights into the molecular basis and mechanisms of human disease. Join us as we describe how Cellular Dynamics' cryopreserved iPSC-derived cell-types have been used to develop disease models with innate or introduced mutations.

10:30 AM: Dr. Leonard Kaczmarek from Yale University will begin the talks by describing the use of stem cells in understanding mechanisms of ataxias and epilepsy, highlighting human iPSC-derived neurons harboring mutations in the KCNT1 Slack channel.

11:00 AM: Dr. Kile Mangan from Cellular Dynamics International will follow with a talk on utilizing novel functional assays with high-definition multielectrode arrays (HD-MEAs: MaxWell Biosystems) to uncover phenotypic differences in neurons harboring single-nucleotide disease mutations (alpha synuclein A53T Parkinson's Disease) or in normal control following pharmacological perturbation.

11:30 AM: Recent advances in cardiac tissue engineering have increased significantly cell functional across electrophysiological, Ca2+ handling, and contractility. The third presentation of this session will discuss these advances and provide exemplar laboratory case studies highlighting the increased functionality and experimental implementation.

Speakers
Leonard Kaczmarek, Professor of Pharmacology and Cellular and Molecular Physiology, Yale University
Kile Mangan, Group Leader, Application Development, Cellular Dynamics International, a FUJIFILM company
TBD, Cardiomyocyte Bioengineering Applications Specialist

International Relations Committee Meeting

10:30 AM–12:30 PM, SOUTH, LEVEL THREE, ROOM 312

Symposium
Translational Biophysics

10:45 AM–12:45 PM, NORTH, LOWER LOBBY, ROOM 24

Co-Chairs
Melanie Cocco, University of California, Irvine
Shankar Subramaniam, University of California, San Diego

120-Symp 10:45 AM
AGENTS TO BLOCK THE NEURITE OUTGROWTH INHIBITOR (NOGO, RTN4) INSPIRED BY THE STRUCTURE. **Melanie J. Cocco**

121-Symp 11:15 AM
BIOPHYSICS-ENABLED TRANSLATIONAL MEDICINE. **Donald Ingber**

122-Symp 11:45 AM
ROLE OF MATRIX PROTEINS IN BALANCING TISSUE STIFFNESS AND INFLAMMATION IN FIBROSIS. **Shyni Varghese**

123-Symp 12:15 PM
MECHANISMS DEFINING THE NEURONAL STATE SPACE. **Shankar Subramaniam**, Andrew Caldwell, Vipul Bhargava, Dinorah Friedman-Morvinski, Qing Lu, Shauna Yuan, Douglas Galasko, Inder Verma, Steven Wagner

Symposium
Protein and RNA Phase Separation

10:45 AM–12:45 PM, NORTH, LOWER LOBBY, ROOM 25

Co-Chairs
Simon Alberti, Max Planck Institute, Germany
Tanja Mittag, St. Jude Children's Research Hospital

124-Symp 10:45 AM
ORGANIZING LIVING MATTER: THE ROLE OF PHASE TRANSITIONS IN CELL BIOLOGY AND DISEASE. **Simon Alberti**

125-Symp 11:15 AM
DYSREGULATION OF PHASE SEPARATION IN CANCER. **Tanja Mittag**

126-Symp 11:45 AM
LIGHTING UP INTRACELLULAR PHASE SPACE. **Clifford P. Brangwynne**

127-Symp 12:15 PM
PHYSICAL MECHANISMS OF CELL ORGANIZATION ON MICRON LENGTH SCALES. **Michael K. Rosen**

Platform
Ligand-gated Channels

10:45 AM–12:45 PM, SOUTH, LEVEL TWO, ROOM 207/208

Co-Chairs
Ljudmila Katchan, Leibniz-Forschungsinstitut for Molecular Pharmacology, Germany
Nadine Mundt, University of California, Berkeley

128-Plat 10:45 AM
ION SELECTIVITY IN ACID-SENSING ION CHANNELS AND EPITHELIAL SODIUM CHANNELS. **Zeshan P. Sheikh**, Timothy P. Lynagh, Stephan A. Pless

129-Plat 11:00 AM
MECHANISM OF NMDA RECEPTOR CHANNEL BLOCK BY MK-801 AND MEMANTINE. **Xianqiang Song**, Morten Ø. Jensen, Vishwanath Jogini, Richard A. Stein, Chia-Hsueh Lee, Hassane S. Mchaourab, David E. Shaw, Eric Gouaux

130-Plat 11:15 AM
MEASURING CONFORMATIONAL DYNAMICS OF AMPA RECEPTOR-TARP COMPLEXES USING FRET. **Ljudmila Katchan**, Yuchen Hao, Andrew J. Plested

131-Plat 11:30 AM
MOLECULAR MECHANISMS OF NMDA RECEPTOR FUNCTION AND REGULATION. **Nami Tajima**

132-Plat 11:45 AM
IDENTIFICATION OF NEUROSTEROID BINDING SITES ON $GABA_A$ RECEPTORS USING PHOTOLABELING WITH MASS SPECTROMETRY. **Zi-Wei Chen**, John Bracamontes, Wayland WL Cheng, Melissa Budelier, Krishnan Kathiresan, Mingxing Qian, Douglas F. Covey, Alex S. Evers

133-Plat 12:00 PM
"DSPER"–THE DEPOLARIZING PROTEIN OF HUMAN SPERM. **Nadine Mundt**, Polina Lishko

134-Plat 12:15 PM
VISUALIZING ADENINE NUCLEOTIDE REGULATION OF THE K_{ATP} CHANNEL. **Samuel G. Usher**, Natascia Vedovato, Michael C. Puljung, Frances M. Ashcroft

135-Plat 12:30 PM
MECHANISM OF ANION CONDUCTION IN THE CALCIUM-ACTIVATED CHLORIDE CHANNEL TMEM16A. **Andy Lam**, Raimund Dutzler

Platform
Protein Structure and Conformation I

10:45 AM–12:45 PM, South, Level Two, Room 215/216

Co-Chairs
Jordan Chill, Bar Ilan University, Israel
Catherine A. Musselman, University of Colorado-Denver

136-Plat 10:45 AM
CHARACTERIZING E. COLI PHOSPHOENOLPYRUVATE CARBOXYKINASE CONFORMATIONAL STATES THROUGH SMALL ANGLE X-RAY SCATTERING. **Greg L. Hura**, Henry Y.H. Tang, John A. Tainer

137-Plat 11:00 AM
FROM DISORDERED POLYPEPTIDE TO FUNCTIONAL REGULATOR: A STRUCTURAL VIEW OF WASP-INTERACTING PROTEIN AND ITS COMPLEX WITH WASP IN HUMAN T-CELLS. Adi Halle-Bikovski, Eva Rozentur-Shkop, Hadassa Shaked, Mira Barda-Saad, **Jordan H. Chill**

138-Plat 11:15 AM
INVESTIGATING THE CONFORMATIONAL TRANSITIONS OF HUMAN ADIPOCYTE FATTY ACID BINDING PROTEIN UPON BINDING LEUKOTRIENE B4 BY SOLUTION-STATE NMR SPECTROSCOPY. **Kim N. Ha**, Youlin Xia, Yenchi Tran, Gianluigi Veglia, David A. Bernlohr

139-Plat 11:30 AM CPOW TRAVEL AWARDEE
HISTONE H3 TAIL CONFORMATION REGULATES NUCLEOSOME ASSOCIATION BY THE BPTF PHD FINGER. **Emma A. Morrison**, Samuel Bowerman, Kelli Sylvers, Jeff Wereszczynski, Catherine A. Musselman

11:45 AM flash talks

140-Plat 12:00 PM
SINGLE-MOLECULE FRET REVEALS AN ADDITIONAL CONFORMATIONAL STATE OF HIV-1 ENVELOPE GLYCOPROTEIN CRITICAL FOR VACCINE DESIGN. **Maolin Lu**, Xiaochu Ma, Castillo-Menendez Luis R., Utz Ermel, Terry Daniel S., Jay Gorman, Nick Reichard, Kevin Wang, Jonathan Grover, Andres Finzi, James B. Munro, Peter D. Kwong, Scott C. Blanchard, Joseph Sodroski, Walther Mothes

141-Plat 12:15 PM
HYBRID STRUCTURE OF THE RAGA/C-RAGULATOR MTORC1 ACTIVATION COMPLEX . **Ming-Yuan Su**, Kyle K. Morris, Do Jin Kim, Yangxue Fu, Rosalie Lawrence, Goran Stjepanovic, Roberto Zoncu, James H. Hurley

142-Plat 12:30 PM
VINCULIN AND ITS FUNDAMENTAL ROLE IN ACTIN BUNDLING FORMATION. **Ernesto Alva Sevilla**, Andrey Krokhotin, Nikolay V. Dokholyan

Platform
Bacterial Electrophysiology: From Single Cells to Biofilms

10:45 AM–12:45 PM, Esplanade, Room 153

Co-Chairs
Gurol Suel, University of California, San Diego
Joel Kralj, University of Colorado-Boulder

143-Plat 10:45 AM
VOLTAGE AND CALCIUM MEDIATE *E. COLI* MECHANOSENSATION. **Joel Kralj**

144-Plat 11:00 AM
ELECTRICAL SIGNALING IN BIOFILMS. **Gurol Suel**

145-Plat 11:15 AM
PROBING PHENAZINE ELECTRON TRANSFER AND RETENTION IN *PSEUDOMONAS AERUGINOSA* BIOFILMS. **Scott H. Saunders**, Matthew D. Yates, Edmund C. M. Tse, Jacqueline K. Barton, Leonard M. Tender, Dianne K. Newman

146-Plat 11:30 AM
SURFACE SENSING, MOTILITY APPENDAGES, AND EXTRACELLULAR ELECTRON TRANSPORT IN P. AERUGINOSA AND S. ONEIDENSIS. **Gerard Wong**

147-Plat 11:45 AM
MEMBRANE TENSION INHIBITS WALL SYNTHESIS VIA ELECTRICAL DEPOLARIZATION TO BALANCE BACTERIAL CELL ENVELOPE EXPANSION. **Kerwyn Casey Huang**, Enrique Rojas, Julie Theriot

148-Plat 12:00 PM
A PHYSIOLOGICAL ROLE FOR THE KCH K^+ CHANNEL IN E. COLI. **Steve Lockless**, Sarah Beagle

149-Plat 12:15 PM
IS THERE A ROLE FOR MECHANOSENSITIVE CHANNELS IN FORMATION AND MAINTENANCE OF BACTERIAL BIOFILMS? **Boris Martinac**

150-Plat 12:30 PM
MEMBRANE TENSION AND THE CHARGE STATE OF CELLS. **Rob Phillips**

Platform
DNA Structure and Dynamics

10:45 AM–12:45 PM, Esplanade, Room 154

Co-Chairs
Bruno Beltran, Stanford University
Thomas Prisner, Goethe University Frankfurt, Germany

151-Plat 10:45 AM
EFFECT OF PRESSURE ON THE CONFORMATIONAL LANDSCAPE OF A LARGE LOOP DNA HAIRPIN IN THE PRESENCE OF SALTS AND OSMOLYTES. **Satyajit Patra**, Vitor D. Schuabb, Rosario Oliva, Roland Winter

152-Plat 11:00 AM
MULTISCALE MODELING AND SIMULATION OF MULTIVALENT CATION INDUCED DNA CONDENSATION. **Tiedong Sun**, Alexander Mirzoev, Nikolay Korolev, Alexander Lyubartsev, Lars Nordenskiöld

153-Plat 11:15 AM
STRUCTURE AND DYNAMICS OF NUCLEIC ACID MOLECULES STUDIED BY PULSED EPR. **Thomas F. Prisner**, Claudia M. Grytz, Markus Graenz, Philipp E. Spindler, Nicole Erlenbach, Andriy Marko, Pavol Cekan, Snorri Th Sigurdsson

154-Plat 11:30 AM
EQUILIBRIUM CONFORMATIONAL DISTRIBUTIONS OF BENT DNA IN COMPLEX WITH IHF MAPPED WITH FLUORESCENCE LIFETIME MEASUREMENTS. Mitch Connolly, **Viktoriya Zvoda**, Anjum Ansari

155-Plat 11:45 AM
DISSECTING THE MECHANISM OF HP1 MEDIATED CHROMATIN COMPACTION VIA SINGLE MOLECULE DNA CURTAINS. **Madeline M. Keenen**, Adam G. Larson, Geeta J. Narlikar, Sy Redding

156-Plat 12:00 PM
NUCLEAR ARCHITECTURE CONTROLS THE TIMESCALES OF GENOMIC INTERACTIONS. **Yaojun Zhang**, Nimish Khanna, Olga Dudko, Cornelis Murre

157-Plat 12:15 PM
CHROMATIN ORGANIZATION BY AN INTERPLAY OF LOOP EXTRUSION AND COMPARTMENTAL SEGREGATION. **Johannes Nuebler**, Geoffrey Fudenberg, Maxim Imakaev, Nezar Abdennur, Leonid Mirny

158-Plat 12:30 PM
LONG-RANGE STRUCTURAL CHANGES IN THE MEIOTIC NUCLEUS REVEALED BY CHANGES IN STRESS COMMUNICATION ALONG THE CHROMOSOME. Trent Newman, **Bruno G. Beltran**, James McGehee, Cori Cahoon, Daniel Elnatan, Daniel Chu, Sean Burgess, Andrew Spakowitz

Platform
Protein-Small Molecule Interactions

10:45 AM–12:45 PM, Esplanade, Room 155

Co-Chairs
Andrea Gohlke, The Beatson Institute for Cancer Research, United Kingdom
Wieslaw Nowak, Institute of Physics, Nicolaus Copernicus University in Toruń, Poland

159-Plat 10:45 AM
A CENTRAL ROLE FOR BIOPHYSICS IN CANCER DRUG DISCOVERY–DEVELOPMENT OF CANDIDATE SMALL MOLECULE INHIBITORS IN MUTANT KRAS. **Andrea Gohlke**, Justin Bower, Peter N. Brown, Ken S. Cameron, Martin Drysdale, Gillian Goodwin, Christopher Gray, Jen Konczal, Duncan McArthur, Heather McKinnon, Mokdad Mezna, Angelo Pugliese, Alexander W. Schuettelkopf

160-Plat 11:00 AM
IDENTIFICATION OF THE FLEXIBLE REGIONS DIFFERENTIATING LIGAND-BINDING AFFINITY FOR MDM2 AND MDMX. **Zheng Su**, Xiyao Cheng, Lingyun Qin, Rong Rong, Yongqi Huang

161-Plat 11:15 AM INTERNATIONAL TRAVEL AWARDEE
PHOTOSWITCHABLE DRUGS AND INSULIN RELEASE: MOLECULAR EVENTS IN EPAC2A PROTEIN. **Wieslaw A. Nowak**, Lukasz Peplowski, Jakub Rydzewski, Tomoo Miyahara, Haruki Nakamura, Hiroshi Nakatsuji

162-Plat 11:30 AM
REPEATABILITY OF ENTHALPIES AND GIBBS ENERGIES OF A PROTEIN–LIGAND BINDING REACTION MEASURED BY ITC. **Vaida Paketuryte**, Vaida Linkuviene, Daumantas Matulis

163-Plat 11:45 AM
BINDING POCKETS UNDER MECHANICAL STRESS. Matteo Tiberti, Bob-Dan Lechner, **Arianna Fornili**

164-Plat 12:00 PM
NEUTRON DIFFRACTION STUDIES OF A NON-CANONICAL CATALYTIC TRIAD OF A LESS PROMISCUOUS AMINOGLYCOSIDE ACETYLTRANSFERASE. **Fnu Prashasti**

165-Plat 12:15 PM
MEASURE SMALL MOLECULE-MEMBRANE PROTEIN BINDING KINETICS WITH NANO-OSCILLATORS. **Guangzhong Ma**

166-Plat 12:30 PM
PORPHYRIN-INDUCED MULTIMERIZATION OF SOLUTION-STATE PROTEINS. **Oleksandr Kokhan**, Daniel Marzolf, Coleman Swaim

Platform
Protein-Lipid Interactions I

10:45 AM–12:45 PM, Esplanade, Room 156

Co-Chairs
Tatyana Igumenova, Texas A&M University
Matthias Buck, Case Western Reserve University

167-Plat 10:45 AM
MEHANISMS IN CANCER SIGNALING: THE ROLE OF THE MEMBRANE IN THE RECRUITMENT OF THE ONCOGENE KRAS4B. **Stephen G. Sligar**, Michael C. Gregory, Mark A. McLean

168-Plat 11:00 AM
HOW TOPOLOGY CORRELATES TO DYNAMICS AND FUNCTION FOR MEMBRANE PERIPHERAL PROTEIN COMPLEX. **Zhenlu Li**, Matthias Buck

169-Plat 11:15 AM
INTERACTION BETWEEN MYRISTOYLATED HUMAN ARF1 AND ASAP1 AT THE MEMBRANE SURFACE. Yifei Li, **Olivier Soubias**, Jess Li, Paul A. Randazzo, R Andrew Byrd

170-Plat 11:30 AM
MEMBRANE BOUND STRUCTURE OF THE HIV-1 ACCESSORY PROTEIN NEF. **Rebecca Eells**, Kindra Whitlatch, Bradley Treece, Frank Heinrich, John Jeff Alvarado, Thomas E. Smithgall, Mathias Lösche

171-Plat 11:45 AM CPOW TRAVEL AWARDEE
MOLECULAR INTERACTIONS OF THE MATRIX DOMAIN OF HIV-1 GAG PROTEIN AT THE MEMBRANE INTERFACE. **Viviana Monje-Galvan**

172-Plat 12:00 PM
OXIDATIVELY STRESSED MITOCHONDRIAL MEMBRANES: INSIGHT INTO THEIR ORGANIZATION AND FUNCTION DURING APOPTOSIS. Artur P.G. Dingeldein, Tobias Sparrman, Jörgen Åden, Hanna Wacklin, Radek Šachl, Šárka Pokorná, Martin Hof, **Gerhard Gröbner**

173-Plat 12:15 PM
IMPORTANCE OF MEMBRANE CURVATURE NEAR HOLE EDGES IN PLASMA MEMBRANE REPAIR. Theresa Louise Boye, Weria Pezeshkian, **Adam Cohen Simonsen**, Jesper Nylandsted

174-Plat 12:30 PM
NOT JUST IONIC MIMICRY: BIOPHYSICS OF TOXIC METAL ION INTERACTIONS WITH PERIPHERAL MEMBRANE TARGETS. **Tatyana I. Igumenova**, Taylor R. Cole, Sachin Katti, Krystal A. Morales, Samuel G. Erickson, Min Woo Sung, Sarah B. Nyenhuis, Alexander B. Taylor, P. John Hart, Andreas Holzenburg, David S. Cafiso

Undergraduate Student Pizza "Breakfast"

11:30 AM–1:00 PM, North, Lower Lobby, Room 20/21

This "breakfast" for undergraduate students offers a valuable networking and social opportunity to meet other students, Biophysical Society Committee members, and scientists at all career levels to discuss academic goals and questions, and to develop a biophysics career path. The Breakfast will include a panel discussion on academic and career paths in biophysics, with opportunities for questions and answers from the audience–come prepared to find out about the course of study that aspiring biophysicists undertake, what it means to be a biophysicist, and how biophysicists make important discoveries. Space for this session is limited to the first 100 attendees.

Exhibitor Presentation
Carl Zeiss Microscopy LLC

11:30 AM–1:00 PM, Exhibit Hall, Room 5

ZEISS Live Cell Imaging Tools Allow New Levels of Resolution, Sensitivity, and Throughput
Imaging live cell samples offers unique insights into cellular function and gives the freedom to explore dynamic changes in cell behavior. Successful live cell imaging relies on maintenance of an appropriate cellular environment and an effort to minimize cellular damage. Keeping up with dynamic events inside a living cell requires an optical design that produces gentle high signal to noise images. The optical design and configuration of the imaging platform plays a crucial role in the success of an imaging experiment.

ZEISS has introduced a completely automated inverted platform, the Celldiscoverer 7, which simplifies every aspect of experimental setup and gives every live cell experiment the best chance for success. At the heart of the Celldiscoverer 7 is a completely unique optical concept with record setting optical resolution and light throughput. Paired with gentle

LED illumination and image detectors designed for low magnification the Celldiscoverer 7 achieves new levels of imaging throughput. Complicated tasks of microscope configuration and optimization are completely automated and designed to make the most of any sample type. Automated control of cellular environment allows imaging stability to be maintained over long time course experiments. The system can be expanded with a robotic plate loading system to allow high throughput imaging from plate and slide based samples.

The ZEISS LSM 880 confocal with Airyscan and Fast technology offers a unique detector design that counters the typical loss of sample light experienced when using a confocal pinhole. The Airyscan detector provides superresolution down to 120 nm in x,y and 350 nm in z with higher SNR allowing acquisitions with lower laser illumination. The Fast mode for Airyscan provides the ability to image four times faster while maintaining improved resolution and SNR over conventional confocal imaging. The result is gentle superresolution imaging and the needed speed to follow live cells and quantify fast live cell events.

Join this workshop and learn how the ZEISS Celldiscoverer 7 and the LSM 880 Airyscan can help your imaging experiments in completely new ways.

Speakers
Scott Olenych, North American Product Marketing Group Manager, Light Microscopy, Carl Zeiss Microscopy LLC
Renée Dalrymple, Product Marketing Manager, Imaging Products, Carl Zeiss Microscopy LLC

Colleges in the Community Day

11:30 AM–5:00 PM, North, Lower Lobby, Room 20/21

This free day for San Francisco Bay Area college students at the BPS 62nd Annual Meeting kicks off with an Undergraduate Student Pizza "Breakfast" where participants will have an opportunity to network with their peers and members of the Biophysical Society's Education Committee in a fun and relaxed environment. The Breakfast will include a panel discussion on academic and career paths in biophysics, with opportunities for questions and answers from the audience–come prepared to find out about the course of study that aspiring biophysicists undertake, what it means to be a biophysicist, and how biophysicists make important discoveries. Students will also receive information and advice on how to get the most out of attending the Annual Meeting. Attendees will be permitted to attend any of the meetings open sessions and activities for the full day, including the Graduate & Postdoc Institution Fair where they can meet with representatives of, and learn about, programs from all over the country. Local undergraduate students, and their PI's, residing within a 50-mile radius of the San Francisco who are not presenting an abstract or listed on an abstract being presented at this meeting may register for this event and gain FREE access to all Annual Meeting sessions on Sunday, February 18, 2018. Pre-registration is required. There will be no onsite registration.

Career Development Center Workshop Demystifying the Academic Job Search I: Understanding the Search Process from the Perspective of Search Committees and Decoding Job Announcements

12:00 PM–1:00 PM, South, Lower Level, Room 2

What goes on inside search committees; the "black box" of the academic job search process? How are they constituted, what are their processes, and what do they look for when assessing applicants? Answers to these and other questions presented by Andrew Green, a veteran of the academic job search and numerous search committees.

Public Affairs Committee Meeting

12:15 PM–2:15 PM, South, Level Three, Room 306

International Travel Awardee Luncheon

12:30 PM–1:30 PM, South, Level Three, Room 307/308

A number of international students, postdocs, and scientists will be recognized during this luncheon for their outstanding achievements in biophysics research. This event is hosted by the International Relations Committee.

Exhibitor Presentation Alvéole

12:30 PM–2:00 PM, Exhibit Hall, Room 6

Maskless Quantitative Multi-Protein Photopatterning to Orchestrate Cellular Microenvironment
Cell biology is faced with significant challenges when attempting to create complex microenvironments to unravel intricate mechanisms involved in cell adhesion, cell polarity, cell migration etc. These challenges can be overcome by molecular printing which involves the controlled deposition of molecules on a substrate at the micrometer scale. These approaches have developed tremendously in the past few years and micropatterned substrates are now routinely used for biological research. To yield biologically relevant data, printed biomolecules should mimic the complexity of the in vivo microenvironment. Micrometer-scale gradients of multiple proteins are thus highly desirable.

Here we present PRIMO custom micropatterning system for cell control which allows to control the chemistry and topography of the cellular microenvironment and study their impacts on cell development.

This maskless quantitative multi-protein photopatterning solution is based on the light-induced molecular adsorption of proteins (LIMAP) technology. The PRIMO system combines a UV illumination module and a specific photoactivatable reagent (PLPP). The combined action of UV-light and PLPP locally degrades antifouling polymer brushes allowing for the adsorption of proteins in a well-defined area.

PRIMO relies on a wide-field DMD-based projection system coupled to an epifluorescence microscope to project custom-defined patterns of UV light onto all standard cell culture surface. As a result, micrometer scale patterns are generated within seconds. The remaining background allows for the sequential patterning of multiple proteins. Controlled protein gradients of custom-defined shape can also be patterned. In addition, PRIMO technology allows for microfabrication by photopolymerization of UV-sensitive materials and also protein patterning onto pre-existing 3D surfaces.

This new micropatterning technology empowers biomedical research in neurobiology, immunology, stem cell biology, oncology, and tissue engineering. The applications in cell biology, such as studying how the asymetry of the focal adhesion can regulate the cytoskeleton, will be illustrated by some user testimonials presenting their research works conducted with PRIMO.

Visit www.alveolelab.com for more information.

Speaker
Pierre-Olivier Strale, Senior Scientist, Alvéole

The World Outside the Lab
Many Ways to Use Your PhD Skills

1:00 PM–2:30 PM, Esplanade, Room 151

Have you ever wondered how you can apply the skills learned while working on your PhD in a career away from the bench? This panel will explore multiple career options that exist in government, industry, and academia. Panelists with science backgrounds, now involved in a wide variety of careers, will share their personal experiences.

Panelists
Yasmeen Hussain, 2017-2018 BPS Congressional Fellow
Darren Hwee, Cytokinetics
Alexandra Schnoes, iBiology
Jeanne Small, NSF Program Director

Graduate & Postdoc Institution Fair

1:00 PM–3:00 PM, Exhibit Hall ABC

Learn about the different leading biophysics programs. This fair will give you the opportunity to speak to representatives from different institutions about their biophysics programs. All students and postdocs are encouraged to attend.

Exhibitor Presentation
HORIBA Scientific

1:30 PM–3:00 PM, Exhibit Hall, Room 5

New Fluorescence and Absorbance Spectrometer Concept
HORIBA Scientific is pleased to announce the launch of their newest spectroscopic instrument; Duetta™ fluorescence and absorbance spectrometer. Duetta combines fluorescence with absorbance in a single compact instrument, making this unique combination a breakthrough in the field of fluorescence spectroscopy.

Duetta is a new analytical fluorometer concept with many unique benefits over traditional bench-top scanning spectrofluorometers. It is a complete Fluorescence and Absorbance Spectrometer from the UV to the NIR (250 to 1,100 nm) using CCD detection to allow for fluorescence spectral acquisitions in the blink of an eye. Duetta saves you money and time, and because it can acquire both fluorescence and absorbance simultaneously, it offers enhanced dynamic range and precise multivariate analysis capabilities for molecular fingerprinting.

The Duetta fluorescence and absorbance spectrometer is powered by a new software platform from HORIBA called EzSpec™. EzSpec is an intuitive user interface that allows for simple operation, acquisition and analysis. It features single button Apps for routine fluorescence and absorbance applications.

Key benefits that will be presented:

1. Simultaneous Absorbance-Transmission and EEM Fluorescence Spectrometer (A-TEEM™)
2. 3-D Excitation Emission Matrix Acquired in 30 seconds
3. Automatic Inner Filter Effect (IFE) Correction for quantitative fluorescence measurements over a wide range of concentrations
4. Millisecond CCD detection with effective scan speed of 980,000 nm/minute (with 50 ms integration)
5. UV-Vis-NIR Absorbance Detection range from 250 to 1,100 nm
6. UV-Vis-NIR Fluorescence Detection range from 250 to 1,100 nm
7. Sensitivity Specification of 3,000:1 RMS for water Raman

Come see a presentation and demonstration of this exciting new instrument from the leaders in fluorescence!

Speaker
Cary Davies, Global Product Line Manager, Fluorescence Division, HORIBA Scientific

Snack Break

1:45 PM–3:00 PM, Exhibit Hall ABC

Poster Presentations and Late Posters

1:45 PM–3:45 PM, Exhibit Hall ABC

Teaching Science Like We Do Science

2:00 PM–3:30 PM, North, Lower Lobby, Room 20/21

This interactive, hands-on workshop will provide participants with practical tools and evidence-based recommendations for bringing biophysics education to life in the lab, the classroom and the community. Experienced educators will share their first-hand experiences in brief presentations. The session focus will be on collaborative group discussions, during which participants will design an individualized action plan for implementing active learning techniques and effective assessment strategies into their teaching practice. Moderators will offer guidance and advice on adequate projects for any educational level.

Speakers
Gundula Bosch, Johns Hopkins University
Pedro Muino, St Francis University

Career Development Center Workshop
Evaluating a Job Offer

2:30 PM–3:30 PM, South, Lower Level, Room 2

So they've offered you the position and now you need to make a decision. How you proceed from here on out is critical to ensure you start your new role in the organization successfully, and to ensure that you create a launchpad for future roles and compensation packages you will pursue. In this workshop, we will discuss how to evaluate the offer by examining a number of very specific elements of the opportunity, including what you will gain (for example, salary, skills, opportunity for advancement) and what you will give (for example, time for commuting and travel). We will work off of a checklist that you can use for any job offer you receive and even use it for scrutinizing multiple job offers at once. We will also discuss negotiation strategies and tactics.

Exhibitor Presentation
Allen Institute for Cell Science

2:30 PM–4:00 PM, Exhibit Hall, Room 6

The Allen Institute for Cell Science – Resources to Empower Your Research
The Allen Institute for Cell Science aims to understand and predict behavior of human cells in health and disease. We have chosen the induced pluripotent human stem cell as our model because it is diploid, proliferative, and differentiates in a number of different cell types.

In this presentation, the Allen Institute for Cell Science team will introduce you to the publicly available cell lines, observations, imaging and computational methods and tools, and the data produced by the Institute. We will discuss our legacy collection of endogenous fluorescently tagged human induced pluripotent stem cell lines highlighting key intracellular structures, and how we image our cells in our high-replicate microscopy pipeline, that includes automated cell culture and imaging using spinning disk microscopy. We will also discuss our workflow quality control criteria, the methods developed to ensure day-to-day consistency between data sets, and how alternate pipeline modes may offer the flexibility to evaluate new assays and imaging technologies.

We have collected 3D, 4 channel images from more than 20,000 live cells thus far, comprised of high replicates for each genome-edited cell line. This data offers ideal input for key analyses examining variation in the cell population and machine learning. We will demonstrate this using some easily accessible tools for descriptive statistical analyses developed in-

house. We will also show how this rich, high-replicate image set is used as input for deep neural networks which generate unified, integrated cell models and label free imaging. Finally, we'll demonstrate how to navigate our large, high replicate 3D image data sets, revealing the subcellular localization of key tagged structures.

All of our procedures, tools, and data are shared on our webpage, the Allen Cell Explorer (www.allencell.org), which will be highlighted during the presentation.

Speakers
Allen Institute for Cell Science team

Early Careers Committee Meeting

3:30 PM–5:00 PM, South, Level Three, Room 306

Exhibitor Presentation
Wyatt Technology Corporation

3:30 PM–5:00 PM, Exhibit Hall, Room 5

Light Scattering Tools for Biophysical Characterization
Explore Wyatt Technology's powerful suite of light scattering tools for biophysical characterization of protein and other biopolymer samples. Multi-angle light scattering (MALS) and dynamic light scattering (DLS) experiments help quantifying many critical attributes of samples, such as their molar mass, radius, and degree of conjugation. At the same time, these techniques allow characterization of sample preparation quality by giving information about the aggregate content, thermal stability, and details of self- and hetero-association. All these parameters may not be amenable to standard characterization methodology but are readily and consistently elucidated with light scattering.

Due to their ease of use, potential for automation, and high throughput capabilities, light scattering techniques can be incorporated into many workflows, such as a quality control tool prior to surface plasmon resonance (SPR), biolayer interferometry (BLI), isothermal titration calorimetry (ITC) experiments. Light scattering can also be used to select samples for further characterization in large scale instrumentation, like small angle X-ray scattering (SAXS) or small angle neutron scattering experiments (SANS), and thus help in utilizing expensive large scale instrumentation more efficiently. The high throughput light scattering instrumentation can further be used to screen crystallization trials.

This seminar will review static and dynamic light scattering theory and instrumentation, and then discuss a set of complementary techniques, all based on light scattering, that are useful in addressing many sample characterization aspects.

Speaker
Andre Mueller, Application Scientist, Wyatt Technology Corporation

Career Development Center Workshop
Translating Your Credentials: Writing Effective Resumes and Cover Letters and Your LinkedIn Profile

4:00 PM–5:00 PM, South, Lower Level, Room 2

If you are applying to jobs outside academia, employers (even in biotech/pharma) will typically ask for a resume, rather than a CV; and want to know much more about your collaboration and communication skills than the content of your dissertation or postdoc research. Learn how to craft written application materials and curate your online presence in a way that showcases the skills and capabilities that employers most covet.

Symposium
Membrane Bending: Mechanisms and Consequences

4:00 PM–6:00 PM, North, Lower Lobby, Room 24

Co-Chairs
Jeanne Stachowiak, University of Texas, Austin
Anne Ulrich, Karlsruhe Institute of Technology, Germany

175-Symp **4:00 PM**
STOCHASTIC MECHANISMS IN MEMBRANE TRAFFIC. **Jeanne Stachowiak**

176-Symp **4:30 PM**
FLIPPING HELICES: MEMBRANE INSERTION OF AMPHIPHILIC HELICES AND EXTRUSION OF TRANSMEMBRANE SEGMENTS. Torsten Walther, Lena Steger, Erik Strandberg, Ariadna Grau Campistany, Parvesh Wadhwani, Benjamin Zimpfer, Jochen Bürck, Dirk Windisch, Katharina Becker, Stephan Grage, Johannes Reichert, Sergiy Afonin, **Anne S. Ulrich**

177-Symp **5:00 PM**
FRICTION-DRIVEN SCISSION OF MEMBRANE TUBES.
Andrew Callan-Jones

178-Symp **5:30 PM**
MOLECULAR MECHANISMS OF MEMBRANE REMODELING.
Ralf Langen

Symposium
Channel Mechanisms: Sensing and Gating

4:00 PM–6:00 PM, North, Lower Lobby, Room 25

Co-Chairs
Teresa Giraldez, University of La Laguna, Spain
Robert Stroud, University of California, San Diego

179-Symp **4:00 PM**
MOLECULAR REARRANGEMENTS UNDERLYING FUNCTION OF LARGE CONDUCTANCE CALCIUM- AND VOLTAGE-REGULATED POTASSIUM CHANNELS. **Teresa Giraldez**

180-Symp **4:30 PM**
STRUCTURE AND MECHANISMS OF SELECTIVITY GATING, INHIBITION AND ACTIVATION IN AN ION CHANNEL. **Robert Stroud**, Alexander F. Kintzer

181-Symp **5:00 PM**
INSIGHTS INTO GATING OF GIRK (KIR3) CHANNELS THROUGH G PROTEIN-INDEPENDENT PATHWAYS. **Paul A. Slesinger**

182-Symp **5:30 PM**
CAN K^+ BE CONDUCTED THROUGH A NARROW PORE? INVESTIGATING THE ROLE OF CONFORMATIONAL CHANGE IN GATING KIR CHANNELS. **Jacqueline M. Gulbis**, David M. Miller, Katrina Black, Adam P. Hill, Derek Laver

Platform
Protein Structure, Prediction, and Design

4:00 PM–6:00 PM, South, Level Two, Room 207/208

Co-Chairs
Shruthi Viswanath, University of California, San Francisco
Thrasyvoulos Karydis, MIT

183-Plat **4:00 PM**
ELECTRIC FIELD OPTIMIZATION IN ENZYMES. **Valerie Vaissier**

184-Plat **4:15 PM**
DESIGNED ENZYMES: CREATING A MORE EFFICIENT NITRIC OXIDE DIOXYGENASE. **Mia C. Brown**, Kelly Greenland, Lei Zhang, Ronald L. Koder

185-Plat 4:30 PM
A BAYESIAN INTEGRATIVE STRUCTURE MODEL OF THE YEAST CENTROSOME. **Shruthi Viswanath**, Massimiliano Bonomi, Seung Joong Kim, Vadim A. Klenchin, Keenan Taylor, King C. Yabut, Neil T. Umbreit, Janet Meehl, Michele H. Jones, Javier Velazquez-Muriel, Mark Winey, Ivan Rayment, Trisha N. Davis, Andrej Sali, Eric D. Muller

186-Plat 4:45 PM
COILED COIL PROTEINS AS SCAFFOLD FOR BROAD RANGE, ULTRAFAST BIOSENSORS. **Ameed Hashmi**, Florence R. Lucey, Mourad Sadqi, Victor Muñoz

187-Plat 5:00 PM
MOLECULAR DESIGN AND X-RAY CRYSTAL STRUCTURE OF ENGINEERED PHOSPHOLAMBAN TRANSMEMBRANE VARIANT. **Marco Mravic**, J. Thomaston, William F. DeGrado

188-Plat 5:15 PM
MAINMAST: DE NOVO MAIN-CHAIN MODEL TRACING FOR EM MAPS USING TREE-GRAPH OPTIMIZATION METHOD. **Genki Terashi**, Daisuke Kihara

189-Plat 5:30 PM
EXPLORING FOLDING FEATURES IN PROTEIN STRUCTURE PREDICTION. **Saulo H.P. de Oliveira**, Charlotte M. Deane

190-Plat 5:45 PM
PREDICTING PROTEIN CONTACT MAPS DIRECTLY FROM PRIMARY SEQUENCE WITHOUT THE NEED FOR HOMOLOGS. **Thrasyvoulos Karydis**, Joseph M. Jacobson

Platform
Cardiac Muscle Mechanics, Structure, and Regulation I

4:00 PM–6:00 PM, South, Level Two, Room 215/216

Co-Chairs
Vitold Galkin, Eastern Virginia Medical School
Mathias Gautel, King's College London, United Kingdom

191-Plat 4:00 PM
ALLOSTERIC MODULATION OF CARDIAC MYOSIN DYNAMICS BY OMECAMTIV MECARBIL. **Shaima Hashem**, Matteo Tiberti, Arianna Fornili

192-Plat 4:15 PM
PHOSPHOINOSITIDE-MEDIATED MYOSIN-1 MEMBRANE TARGETING DURING ENDOCYTOSIS. Girish Rajendraprasad, Tim Scholz, Matthias Preller, **Georgios Tsiavaliaris**

193-Plat 4:30 PM
THE MOLECULAR DEFECTS IN CA^{2+} REGULATION DUE TO MUTATIONS THAT CAUSE HYPERTROPHIC CARDIOMYOPATHY CAN BE REVERSED BY SMALL MOLECULES THAT BIND TO TROPONIN. **Steven B. Marston**, Andrew E. Messer, Juan Eiros-Zamora, Ian Gould, Maria Papadaki, Afnan Choudry, Alice Sheehan

194-Plat 4:45 PM
HIGH-THROUGHPUT SCREENING FOR ACTIN-BINDING COMPOUNDS THAT AFFECT ACTOMYOSIN STRUCTURE AND FUNCTION USING TIME-RESOLVED FRET. **Piyali Guhathakurta**, Ewa Prochniewicz, Kurt C. Peterson, Benjamin D. Grant, Gregory D. Gillispie, David D. Thomas

195-Plat 5:00 PM
CONTROLLING CARDIAC CONTRACTILITY AT THE SINGLE MOLECULE LEVEL. **Chao Liu**, Dan L. Song, Masataka Kawana, Kathleen M. Ruppel, James A. Spudich

196-Plat 5:15 PM
NON-LINEAR MODEL FOR MECHANICAL ENTRAINMENT OF CARDIOMYOCYTES. **Ohad Cohen**, Samuel A. Safran

197-Plat 5:30 PM
SUBSTRATE STIFFNESS AND WORK AFFECTS MYOCYTE HYPERTROPHY AND CAPZ DYNAMICS VIA PKC-EPSILON AND PIP2 SIGNALING PATHWAYS. **Christopher Solís**, Michael Mkrtschjan, Brenda Russell

198-Plat 5:45 PM
PRE-ACTIVATION OF CARDIOMYOCYTES DETERMINES CONTRACTILE FORCE AND SPEED OF CONTRACTION; ROLE OF TITIN AND CALCIUM. **Diederik W. Kuster**, Michiel Helmes, Aref Najafi, Maike Schuldt, Jolanda van der Velden

Platform
Voltage-gated Na and Ca Channels

4:00 PM–6:00 PM, Esplanade, Room 153

Co-Chairs
Sudha Chakrapani, Case Western Reserve University
Toni Schneider, University of Cologne, Germany

199-Plat 4:00 PM
FENESTRATION MUTANTS OF A VOLTAGE-GATED SODIUM CHANNEL THAT MODIFY CHANNEL BLOCKER INGRESS. **Giulia Montini**, Altin Sula, Andrew J. Miles, B A. Wallace

200-Plat 4:15 PM
CHARACTERIZATION OF PHOTOSWITCHABLE SODIUM CHANNEL INHIBITORS BY PLANAR PATCH CLAMP. Nils Winter, **Andrea Brüggemann**, Claudia Haarmann, Michael George, Niels Fertig, Martin Sumser, Dirk Trauner

201-Plat 4:30 PM
STRUCTURAL DYNAMICS OF SLOW-INACTIVATION IN A VOLTAGE-GATED SODIUM CHANNEL. **Soumili Chatterjee**, Rajan Vyas, Sreevatsa Chalamalasetti, Indra D. Sahu, Jerome Clatot, Gary A. Lorigan, Isabelle Deschenes, Sudha Chakrapani

202-Plat 4:45 PM
STRUCTURAL MODELING OF LOCAL ANESTHETIC AND ANTIARRHYTHMIC DRUG BINDING TO THE HUMAN CARDIAC VOLTAGE GATED SODIUM CHANNEL. **Phuong T. Nguyen**, Kevin R. DeMarco, Igor Vorobyov, Colleen E. Clancy, Vladimir Yarov-Yarovoy

203-Plat 5:00 PM
INSIGHTS INTO SODIUM CHANNEL GATING ENABLED BY TRANSPLANTATION OF AN ARYL SULFONAMIDE DRUG BINDING SITE IN COMBINATION WITH GENETICALLY-ENCODED CROSS LINKING. **Daniel T. Infield**, Samuel J. Goodchild, Jason D. Galpin, Christopher A. Ahern

204-Plat 5:15 PM
OPTICALLY-TRACKED STRUCTURAL REARRANGEMENTS OF THE VOLTAGE SENSING DOMAINS IN THE HUMAN $CA_V1.1$ CHANNEL. **Nicoletta Savalli**, Fenfen Wu, Marbella Quinonez, Stephen C. Cannon, Riccardo Olcese

205-Plat 5:30 PM
ISOPROTERENOL PROMOTES AUGMENTATION OF L-TYPE $CA_V1.2$ CHANNEL CLUSTERING AND COOPERATIVE GATING IN VENTRICULAR MYOCYTES. **Danica W. Ito**, Karen I. Hannigan, Luis F. Santana, Rose E. Dixon

206-Plat 5:45 PM
DISTURBANCES OF TRANSRETINAL SIGNALING AFTER ABLATION OF $CA_V2.3$ / R-TYPE CALCIUM CHANNELS. **Toni Schneider**, Jan Niklas Lüke, Isha Akhtar, Felix Neumaier, Gerrit Alexander Schubert, Hans Clusmann, Jürgen Hescheler, Matthias Lüke, Walid Albanna

Platform
Excitation-Contraction Coupling

4:00 PM–6:00 PM, Esplanade, Room 154

Co-Chairs
Siobhan Wong, University of British Columbia, Canada
Leighton Izu, University of California, Davis

207-Plat 4:00 PM
STAC PROTEINS ASSOCIATE WITH THE DOMAIN OF THE $CA_V1.1$ II-III LOOP CRITICAL FOR EC COUPLING. **Alexander Polster**, Benjamin R. Nelson, Symeon Papadopoulos, Eric N. Olson, Kurt G. Beam

208-Plat 4:15 PM
STRUCTURAL INSIGHTS INTO THE STAC ADAPTOR PROTEIN AND VOLTAGE-GATED CALCIUM CHANNEL INTERACTION. **Siobhan Wong King Yuen**, Marta Campiglio, Ching-Chieh Tung, Bernhard Flucher, Filip Van Petegem

209-Plat 4:30 PM
DE NOVO RECONSTITUTION OF SKELETAL MUSCLE VOLTAGE-INDUCED CALCIUM RELEASE. **Stefano Perni**, Manuela Lavorato, Kurt G. Beam

210-Plat 4:45 PM
EVERY ACTION POTENTIAL ACTIVATES STORE-OPERATED CA^{2+} ENTRY IN SKELETAL MUSCLE. Xaver Koenig, **Bradley S. Launikonis**

211-Plat 5:00 PM
ROLE OF THE CACC CHANNEL ANO1 IN ELECTROMECHANICAL COUPLING OF MURINE PULMONARY ARTERY SMOOTH MUSCLE. Katie Mayne, Michael D. Young, Nathan Grainger, Julius C. Baeck, Kenton M. Sanders, Sean M. Ward, Iain A. Greenwood, Simon A. Bulley, Jonathan H. Jaggar, **Normand Leblanc**

212-Plat 5:15 PM
EXPRESSION OF ORAI1 RESTORES NORMAL SARCOPLASMIC CALCIUM RELEASE IN *CMPT* MICE. **Mónika T. Sztretye**, Péter Szentesi, László Csernoch, Beatrix Dienes

213-Plat 5:30 PM
FIBROBLAST-MEDIATED ATRIAL MECHANICAL DYSFUNCTION IN HFPEF AND HYPERTENSIVE HEART DISEASE. **David Bode**, Rafael Doerr, Diana Lindner, Michael Schwarzl, Dirk Westermann, Uwe Primessnig, Burkert Pieske, Frank R. Heinzel, Felix Hohendanner

214-Plat 5:45 PM
SURFACE MECHANOSENSORS AND THE FUNDAMENTAL CONUNDRUM OF HOMEOMETRIC REGULATION. Rafael Shimkunas, Zhong Jian, Zana Coulibaly, Ye Chen-Izu, **Leighton T. Izu**

Platform
Computational Methods and Bioinformatics

4:00 PM–6:00 PM, ESPLANADE, ROOM 155

Co-Chairs
Mary Maleckar, Allen Institute for Cell Science
Karel Berka, Palacký University, Czech Republic

215-Plat 4:00 PM
A DIMENSION REDUCTION METHOD FOR CRYO-EM IMAGE ANALYSIS. **I-Ping Tu**

216-Plat 4:15 PM
IDENTIFYING METASTABLE STATES OF PROTEIN FOLDING WITH DEEP CLUSTERING TECHNIQUES. **Debsindhu Bhowmik**, Arvind Ramanathan

217-Plat 4:30 PM
EFFECTIVELY DETECT METASTABLE STATES OF PROTEINS BY NON-EQUILIBRIUM SIMULATIONS. **Xin Zhou**

218-Plat 4:45 PM
SEEKR: SIMULATION ENABLED ESTIMATION OF KINETIC RATES, A MULTISCALE APPROACH FOR THE CALCULATION OF PROTEIN-LIGAND ASSOCIATION AND DISSOCIATION KINETICS. **Benjamin R. Jagger**, Lane W. Votapka, Rommie E. AMaro

219-Plat 5:00 PM
ACCURATE PREDICTION OF PROTEIN-LIGAND BINDING BY COMBINED MOLECULAR DYNAMICS-BASED DOCKING AND QM/MM METHODS. **Iris Antes**, Antoine Marion, Chen Zheng, Okke Melse

220-Plat 5:15 PM
A NOVEL FINITE VOLUME METHOD FOR DIFFUSION EQUATION COUPLED WITH CELL SURFACE REACTION. **Myles Kim**

221-Plat 5:30 PM
STUDYING STEM CELL ORGANIZATION USING "LABEL-FREE" METHODS AND A NOVEL GENERATIVE ADVERSARIAL MODEL. Gregory Johnson, Rory Donovan-Maiye, Chek Ounkomol, **Mary M. Maleckar**

222-Plat 5:45 PM
IN SILICO IDENTIFICATION OF RESCUE SITES BY DOUBLE FORCE SCANNING. Matteo Tiberti, **Alessandro Pandini**, Franca Fraternali, Arianna Fornili

Platform
Energy Transducing Complexes and Mitochondria in Cell Life and Death

4:00 PM–6:00 PM, ESPLANADE, ROOM 156

Co-Chairs
Anjali Pandit, Leiden University,The Netherlands
Elena Pohl, University of Veterinary Medicine Vienna, Austria

223-Plat 4:00 PM
CRYO-EM STRUCTURE OF ALTERNATIVE COMPLEX III/ AA_3 CYTOCHROME OXIDASE SUPERCOMPLEX FROM *FLAVOBACTERIUM JOHNSONIAE*. **Chang Sun**, Padmaja Venkatakrishnan, Samir Benlekbir, Yuhang Wang, John Rubinstein, Robert B. Gennis, Emad Takjhorshid

224-Plat 4:15 PM
MODULATION OF THE MITOCHONDRIAL POTASSIUM CHANNEL ACTIVITY BY INFRARED LIGHT. **Adam Szewczyk**, Piotr Bednarczyk

225-Plat 4:30 PM
STRUCTURAL DYNAMICS OF LIGHT-HARVESTING COMPLEX II IN NATIVE THYLAKOID MEMBRANES DETECTED BY SOLID-STATE NMR. **Anjali Pandit**

226-Plat 4:45 PM
STRUCTURE OF PHOTOSYSTEM I–INTERPLAY BETWEEN ROBASTNESS AND COMPLEXITY. **Nathan Nelson**, Ido Caspy, Daniel Klaiman

227-Plat 5:00 PM
HIGH-RESOLUTION SUB-ENSEMBLE OPTICAL SPECTROSCOPY STUDY OF PROTEIN DYNAMICS AND ENERGY TRANSFER IN PIGMENT-PROTEIN COMPLEXES. **Valter Zazubovits**

228-Plat 5:15 PM EDUCATION TRAVEL AWARDEE
ROLE OF TYROSINE PHOSPHORYLATION OF MITOCHONDRIAL CALCIUM UNIPORTER IN REGULATING MITOCHONDRIAL CALCIUM HOMEOSTASIS. **Jessica L. Cao**, Stephanie Adaniya, AMy K. Landi, Dong Qin Yang, Bong Sook Jhun, Shey-Shing Sheu, Jin O-Uchi

229-Plat 5:30 PM
UCP3: NEW INSIGHTS IN TISSUE DISTRIBUTION AND (TRANSPORT) FUNCTION. **Elena E. Pohl**, Gabriel Macher, Karolina Hilse

230-Plat 5:45 PM
MITOCHONDRIAL DEFECTS IN PRIMARY OSTEOCYTES DERIVED FROM AN ALS MOUSE MODEL. Huan Wang, Jianxun Yi, Xinyang Xu, Xuejun Li, Yajuan Xiao, **Jingsong Zhou**

Exhibitor Presentation
Molecular Devices LLC

4:30 PM–6:00 PM, EXHIBIT HALL, ROOM 6

Supercharge Your Patch-Clamp Data Acquisition and Analysis with the NEW pCLAMP 11 Software
The patch-clamp technique remains the best method for evaluating ion channel physiology, and since 1983, Axon Instruments has been the gold standard in patch-clamp equipment. Axon Instruments continues to push the envelope with new innovations with best-in-class systems and software.

Axon Instruments pCLAMP software remains, to this day, the most widely used and best software available for data acquisition and analysis. And now pCLAMP is getting even better. Come and learn about pCLAMP 11, our latest software innovation, and how you can optimize your workflow and simplify your experiments with pCLAMP 11.

Speaker
Jeffrey Tang, Senior Global Axon Electrophysiology Application Scientist, Molecular Devices LLC

Korean Biophysicists Meeting

5:00 PM–6:00 PM, Esplanade Room 151

PI to PI
A Wine & Cheese Mixer

5:00 PM–7:00 PM, South, Level Three, Room 307/308

You finally have a job working in biophysics, in industry or academia, with some funding and a lab, but you've realized that the career challenges continue. Come relax and network with your contemporaries and senior biophysicists over a beer or glass of wine. This event is a great chance to compare notes with colleagues and discuss one-on-one your unique solutions to issues that arise in the time between getting your job and getting your next promotion, including management of lab staff, getting your work published, and renewing your funding. Refreshments will be provided, with cash bar.

Dinner Meet-Ups

5:30 PM – 5:45 PM, South Lobby, Society Booth

Interested in making new acquaintances and experiencing the cuisine of San Francisco? Meet at the Society Booth each evening, Sunday through Tuesday, at 5:30 PM where a BPS member will coordinate dinner at a local restaurant.

Exhibitor Presentation
LUMICKS BV

5:30 PM–7:00 PM, Exhibit Hall, Room 5

Novel Developments and Applications of Single-Molecule Tools with Ultra-High Resolution, Stability, and Throughput
LUMICKS brings to market revolutionary single-molecule technologies that enable –for the first time –visualization of molecular interactions and acoustic manipulation of biomolecules. We aim at creating an environment for researchers to perform high quality, high throughput single-molecule and -cell experiments, in the most accessible manner by providing novel single-molecule instruments.

During this presentation, we will discuss the latest developments and applications of our single-molecule technologies and how they can enhance the understanding in the fields of DNA/RNA-protein interactions and kinetics, molecular motors, protein folding, genome organization, membrane dynamics, and much more.

The C-Trap™ is the world's first instrument to combine high-resolution optical tweezers, confocal microscopy or STED nanoscopy and an advanced microfluidics systems in a truly integrated and correlated solution. This allows scientists to simultaneously manipulate and viualize molecular interactions in real-time. Acoustic Force Spectroscopy (AFS™) is LUMICKS' highly parallel single-molecule manipulation method, capable of applying forces on thousands of biomolecules in parallel with high precision. Our technologies are designed for easy and automated user interface, with high-throughput capabilities and world-wide technical support.

Speakers
Rosalie P.C. Driessen, Application Scientist, LUMICKS BV
Ali Raja, Sales Manager, LUMICKS BV
Avin Ramaiya, Technology and Application Development Scientist, LUMICKS BV
Jordi Cabanas-Danés, Application Scientist, LUMICKS BV
Arne Gennerich, Associate Professor, Albert Einstein College of Medicine
Willem Peutz, Sales Director, LUMICKS BV

Biophysics Austria Mixer

6:00 PM–7:00 PM, North, Lower Lobby, Room 20/21

Student Research Achievement Award (SRAA) Poster Competition

6:00 PM–9:00 PM, Exhibit Hall ABC

This session features students who are presenting posters at the Meeting and have indicated at the time of abstract submission that they wish to participate in the competition. During the competition, students will give a five-to-seven minute oral presentation of their posters to one or more judges. Winners will be recognized on Monday evening prior to the 2018 BPS Lecture.

During the competition, only participating students, judges, and BPS staff are allowed in the competition area.

Biophysical Journal Editorial Board Dinner

6:00 PM–10:00 PM, Waterfront Restaurant

Exhibitor Presentation
HEKA Elektronik

6:30 PM–8:00 PM, Exhibit Hall, Room 6

Driving E-Phys the Smart Way – Latest Advances in Electrochemical and Electrophysiological Applications
This HEKA symposium is intended for existing and new HEKA users interested in electrochemical and electrophysiological approaches including the latest advances in both areas. Speakers from diverse areas will present their results achieved with HEKA instruments and software either using our electrochemical probe scanner (ElProScan) which allows various investigations of electrochemical active surfaces or from multi-patch clamp experiments obtained with our EPC 10 USB AMplifiers.

Please feel free to visit us at our booth 535. We look forward to speaking with you about any patch clamp related topic and having the opportunity to provide you with a personalized demonstration of our new PATCHMASTER NEXT software. Visit www.keka.com.

Speaker
Martin Oberhofer, Product Specialist, HEKA Elektronik

Movie Night & Discussion
Merchants of Doubt

7:00 PM–9:30 PM, Esplanade, Room 153

After a full day of scientific talks and posters, join fellow attendees for a screening and discussion of the 2014 documentary *Merchants Of Doubt*. This film, based on a book of the same title, examines the tactics used to cast doubt on science by those that have an interest in doing so—from the health risks of tobacco use to the cause of global climate change.

Discussants
Ann Reid, National Center for Science Education
Kathleen Hall, Washington University in St. Louis

SUNDAY POSTER SESSIONS

1:45 PM–3:45 PM, EXHIBIT HALL ABC

Below is the list of poster presentations for Sunday of abstracts submitted by October 2. ***The list of late abstracts scheduled for Sunday is available in the Program Addendum, and those posters can be viewed on boards beginning with L.***

Posters should be mounted beginning at 6:00 PM on Saturday and removed by 5:30 PM on Sunday evening. Posters will be on view until 10:00 PM the night before presentation. Poster numbers refer to the program order of abstracts as they appear in the online Abstracts Issue. Board numbers indicate where boards are located in the Exhibit Hall.

ODD-NUMBERED BOARDS 1:45 PM–2:45 PM | EVEN-NUMBERED BOARDS 2:45 PM–3:45 PM

Board Numbers	Category
B1–B31	Protein Structure and Conformation: Computational Methods
B32–B54	Protein Stability, Folding, and Chaperones I
B55–B73	Protein-Small Molecule Interactions I
B74–B103	Protein Assemblies I
B104–B130	Protein Dynamics and Allostery I
B131–B158	Membrane Protein Dynamics I
B159–B185	Intrinsically Disordered Proteins (IDP) and Aggregates I
B186–B209	DNA Replication, Recombination, and Repair
B210–B229.1	DNA Structure and Dynamics I
B230–B248	Protein-Nucleic Acid Interactions I
B249–B262	Membrane Physical Chemistry I
B263–B279	Membrane Dynamics I
B280–B308	Membrane Structure I
B309–B325.1	Membrane Receptors and Signal Transduction I
B326–B354	Mechanosensation
B355–B374	Intracellular Calcium Channels and Calcium Sparks and Waves I
B375–B397	Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating I
B398–B425	Ligand-gated Channels I
B426–B437	Ion Channel Regulatory Mechanisms I
B438–B449	Other Channels I
B450–B463	Skeletal Muscle Mechanics, Structure, and Regulation I
B464–B478	Cardiac Muscle Regulation I
B479–B501	Actin Structure, Dynamics, and Associated Proteins
B502–B525	Membrane Pumps, Transporters, and Exchangers I
B526–B535	Genetic Regulatory Systems
B536–B561	Neuroscience
B562–B574	EPR and NMR: Spectroscopy and Imaging
B575–B598	Electron Microscopy
B599–B613	Optical Microscopy and Superresolution Imaging: Novel Approaches and Analysis I
B614–B627	Single-Molecule Spectroscopy I
B628–B650	Optical Spectroscopy: CD, UV-VIS, Vibrational, Fluorescence
B651–B671	Bioengineering I
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231-Pos Board B1
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232-Pos Board B2
ZOOMING IN ON SOLVATION FREE ENERGY SURFACES IN ATOMISTIC SIMULATIONS. **Matthias Heyden**

233-Pos Board B3
QUANTITATIVE UNDERSTANDING OF DISTANCES FROM CROSS LINKING MASS SPECTROMETRY. Isaac Fillela-Merce, Guillaume Bouvier, **Michael Nilges**

234-Pos Board B4
MECHANISTIC PICTURE OF ALLOSTERIC INFORMATION FLOW OF HIV-1 RESTRICTION FACTOR, SAMHD1 VIA MD STUDIES. **Kajwal K. Patra**

235-Pos Board B5 **INTERNATIONAL TRAVEL AWARDEE**
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236-Pos Board B6
DYNAMICAL ANALYSIS METHODS FOR PROTEIN FOLDING SIMULATIONS. **Ayori Mitsutake**, Hiroshi Takano

237-Pos Board B7
PDB2CD: A WEB-BASED APPLICATION FOR THE GENERATION OF CIRCULAR DICHROISM SPECTRA FROM PROTEIN ATOMIC COORDINATES. **Elliot D. Drew**, Lazaros Mavridis, Robert W. Janes

238-Pos Board B8
STRUCTURE-FUNCTION RELATIONSHIPS IN PROTEIN COMPLEXES. **Petras Kundrotas**, Saveliy Belkin, Ilya Vakser

239-Pos Board B9
MOLECULAR BASIS FOR THE LINK BETWEEN MACULAR DEGENERATION AND A SINGLE NUCLEOTIDE POLYMORPHISM. **Reed E. S. Harrison**, Dimitrios Morikis

240-Pos Board B10
AN AMBIGUOUS VIEW OF PROTEIN ARCHITECTURE. Guillaume Postic, Charlotte Périn, Yassine Ghouzam, **Jean-Christope Gelly**

241-Pos Board B11 **INTERNATIONAL TRAVEL AWARDEE**
GENERALIZATION OF THE ELASTIC NETWORK MODEL FOR THE STUDY OF LARGE CONFORMATIONAL CHANGES IN PROTEINS. **Adolfo Poma**, Panagiotis Theodorakis

242-Pos Board B12
SECONDARY STRUCTURE ELEMENTS–ANNOTATIONS AND SCHEMATIC 2D VISUALIZATIONS STABLE FOR INDIVIDUAL PROTEIN FAMILIES. **Radka Svobodova Varekova**, Adam Midlik, Ivana Hutarova Varekova, Jan Hutar, Veronika Navratilova, Jaroslav Koca, Karel Berka

243-Pos Board B13
INTERACTIVE 3D MACROMOLECULAR STRUCTURE DATA MINING WITH MOLQL AND LITEMOL SUITE. **David Sehnal**, Mandar Deshpande, Alexander Rose, Lukas Pravda, Adam Midlik, Radka Svobodová Vařeková, Saqib Mir, Karel Berka, Sameer Velankar, Jaroslav Koca

244-Pos Board B14
THE PROTEIN RECYCLING MACHINE OF THE CELL–INSIGHTS THROUGH A NOVEL HYBRID INTEGRATIVE MODELING APPROACH. **Till Rudack**

245-Pos Board B15
STRUCTURAL ANALYSIS OF HUMAN GLYCOPROTEIN BUTYRYLCHOLINESTERASE USING ATOMISTIC MOLECULAR DYNAMICS: THE IMPORTANCE OF GLYCOSYLATION SITE ASN $_{241}$. Austen Bernardi, Karl Kirschner, **Roland Faller**

246-Pos Board B16
ACCURATE PREDICTION OF FORSTER RESONANCE ENERGY TRANSFER DURING CO-TRANSLATIONAL FOLDING WITH COARSE-GRAINED MOLECULAR DYNAMICS SIMULATIONS. **Daniel A. Nissley**, Edward P. O'Brien

247-Pos Board B17
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248-Pos Board B18
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249-Pos Board B19
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250-Pos Board B20
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251-Pos Board B21
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252-Pos Board B22
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253-Pos Board B23
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254-Pos Board B24
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255-Pos Board B25
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256-Pos Board B26 **EDUCATION TRAVEL AWARDEE**
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257-Pos Board B27
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258-Pos Board B28
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260-Pos **Board B30**
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261-Pos **Board B31**
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264-Pos **Board B34**
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265-Pos **Board B35**
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266-Pos **Board B36**
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268-Pos **Board B38**
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269-Pos **Board B39**
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270-Pos **Board B40**
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271-Pos **Board B41** **EDUCATION TRAVEL AWARDEE**
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272-Pos **Board B42**
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273-Pos **Board B43**
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274-Pos **Board B44** **INTERNATIONAL TRAVEL AWARDEE**
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276-Pos **Board B46**
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277-Pos **Board B47**
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278-Pos **Board B48**
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279-Pos **Board B49**
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280-Pos **Board B50**
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283-Pos **Board B53**
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284-Pos **Board B54**
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286-Pos **Board B56**
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287-Pos Board B57
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288-Pos Board B58
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289-Pos Board B59
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291-Pos Board B61
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292-Pos Board B62
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294-Pos Board B64
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295-Pos Board B65
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296-Pos Board B66
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297-Pos Board B67
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298-Pos Board B68
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302-Pos Board B72
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305-Pos Board B75
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306-Pos Board B76
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307-Pos Board B77
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308-Pos Board B78
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309-Pos Board B79
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310-Pos Board B80
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313-Pos Board B83
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314-Pos Board B84
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316-Pos Board B86
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317-Pos Board B87
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320-Pos Board B90
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322-Pos Board B92
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325-Pos Board B95
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326-Pos Board B96
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327-Pos Board B97
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328-Pos Board B98
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329-Pos Board B99
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330-Pos Board B100
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331-Pos Board B101
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332-Pos Board B102
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333-Pos Board B103
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334-Pos Board B104
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335-Pos Board B105
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336-Pos Board B106
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337-Pos Board B107
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338-Pos Board B108
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339-Pos Board B109
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340-Pos Board B110 **EDUCATION TRAVEL AWARDEE**
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341-Pos Board B111
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342-Pos Board B112
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343-Pos Board B113
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344-Pos Board B114
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345-Pos Board B115
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346-Pos Board B116
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347-Pos Board B117
EVALUATING HOW BINDING INTERACTIONS FOR PARS CHANGE AS PROTHROMBIN IS CONVERTED TO THROMBIN. **Ramya Billur**, Thomas Michael Sabo, Muriel C. Maurer

348-Pos Board B118
A SINGLE MUTATION ON A SURFACE LOOP ALTERS THE KEY DYNAMICS OF THE DISTANT ACTIVE SITE: HIGH PRESSURE AND RELAXATION DISPERSION NMR STUDIES OF *E.COLI* DIHYDROFOLATE REDUCTASE. **Kazuyuki Akasaka**

349-Pos Board B119
STRUCTURAL INSIGHT INTO THE METAL-ION MEDIATED MODULATION OF THE CATALYTIC FUNCTION OF *H. PYLORI* ARGINASE. **Ankita Dutta**, Mohit Mazumder, Mashkoor Alam, Samudrala Gourinath, Apurba Kumar Sau

350-Pos Board B120
DYNAMIC OF APOBEC3G IN COMPLEX WITH SSDNA REVEALED BY HIGH-SPEED AFM. **Yangang Pan**, Zhiqiang Sun, Luda S Shlyakhtenko, Reuben S Harris, Yuri L Lyubchenko

351-Pos Board B121
RELATING THE VIBRATIONAL LINESHAPES OF THE THIOCYANATE (SCN) PROBE TO STRUCTURES AND DYNAMICS IN CALMODULIN ENSEMBLES VIA COMPUTATIONAL APPROACHES. **Rosalind J. Xu**, Shannon R. Dalton, Kristen L. Kelly, Casey H. Londergan

352-Pos Board B122
DYNAMIC OBSERVATION OF KAI PROTEINS BY HS-AFM REVEALS A MECHANISM OF THE ROBUSTNESS IN THE CYANOBACTERIAL CIRCADIAN OSCILLATOR. **Shogo Sugiyama**, Tetsya Mori, Mark Byrne, Takayuki Uchihashi, Carl H. Johnson, Toshio Ando

353-Pos Board B123
USING A FLUORESCENT UNNATURAL AMINO ACID TO CHARACTERIZE THE CONTRIBUTION OF PRE AND POST-CHEMISTRY ENZYME STRUCTURAL DYNAMICS TO HIGH FIDELITY DNA REPLICATION. **Tyler Dangerfield**

354-Pos Board B124
PROBING SUBSTRATE SEQUESTRATION IN CARRIER PROTEINS USING VIBRATIONAL SPECTROSCOPY LABELS AND MOLECULAR DYNAMIC SIMULATIONS. **Caroline A. McKeon**, Louise K. Charkoudian, Casey H. Londergan

355-Pos Board B125
DEVELOPMENT AND CHARACTERIZATION OF TWO PHENYLALANINE DERIVATIVES FOR USE AS RAMAN PROBES IN PROTEINS. **Eliana V. von Krusenstiern**, Joie Ling, Casey H. Londergan

356-Pos Board B126
CO-TRANSLATIONAL TARGETING BY SIGNAL RECOGNITION PARTICLE ACTIVATES ONLY AFTER CYTOSOLIC EXPOSURE OF SIGNAL SEQUENCE. **Hao Hsuan Hsieh**, Shu-ou Shan

357-Pos Board B127
PROTEIN:PROTEIN INTERACTIONS CONTROL SENSITIVITY OF A TRANSCRIPTION RESPONSE TO INPUT SIGNAL. **Dorothy Beckett**, Chenlu He, Jingheng Wang, Gregory Custer, Silvina Matysiak

358-Pos Board B128
CONFORMATION-INDEPENDENT DYNAMICS OF O_2 REBINDING TO MYOGLOBIN. Seongchul Park, Jaeheung Park, Joohyang Shin, **Manho Lim**

359-Pos Board B129
MECHANISMS OF OUTPUT SIGNALING FROM A CIRCADIAN OSCILLATOR. **Jeffrey A. Swan**, Joel Heisler, Courtney Dailley, Andy LiWang, Carrie L. Partch

360-Pos Board B130
CHARACTERIZING THE STRUCTURAL AND FUNCTIONAL ROLE OF W215 IN THROMBIN. **Riley Peacock**, Jessie Davis, Elizabeth Komives

Membrane Protein Dynamics I (Boards B131–B158)

361-Pos Board B131
MECHANISM OF PROTEIN TARGETING TO LIPID DROPLETS. **Morris E. Sharp**, Coline Prevost, Maria-Jesus Olarte, Robert V. Farese Jr., Tobias C. Walther, Gregory A. Voth

362-Pos Board B132
DYNAMIC CHARACTERIZATION OF PHOTOSYNTHETIC PROTEINS ON THYLAKOID MEMBRANES BY HIGH-SPEED AFM. **Bibiana Onoa**, Shingo Fukuda, Masakazu Iwai, Krishna K. Niyogi, Carlos Bustamante

363-Pos Board B133
HIGH-SPEED AFM CORRELATION SPECTROSCOPY (HS-AMF-CS): µS PROTEIN DYNAMICS WITHOUT LABELS. **George R. Heath**, Beatrice Ramm, Petra Schwille, Simon Scheuring

364-Pos Board B134
INVESTIGATION OF THERMODYNAMIC DISSOCIATION KINETICS TO DETERMINE THE BINDING STRENGTHS WITHIN A MEMBRANE PROTEIN COMPLEX: PHOTOSYSTEM II SUPERCOMPLEX. **Eunchul Kim**, Ryutaro Tokutsu, Akimasa Watanabe, Jun Minagawa

365-Pos Board B135
CYTOCHROME P450 PREFERS TO BE IN LIQUID-ORDERED DOMAINS IN THE ENDOPLASMIC RETICULUM. **Carlo Barnaba**, Bikash R. Sahoo, Ayyalusamy Ramamoorthy

366-Pos Board B136
IN VIVO X-RAY MONITORING OF DYNAMICS BETWEEN INTERLEUKIN 2 AND INTERLEUKIN 15 ON NK CELLS. **Jaewon Chang**, Masahiro Kuramochi, Youngsuk Beak, Kouhei Ichiyanagi, Hiroshi Sekiguchi, Yuji C. Sasaki

367-Pos Board B137
NEURONAL KV2.1 CLUSTERS INFLUENCE THE DIFFUSION LANDSCAPE OF THE ADJACENT ASTROCYTE MEMBRANE. **Ashley N. Leek**, Diego Krapf, Michael Tamkun

368-Pos Board B138
THE TYROSINE KINASE LCK TRANSLATIONAL DYNAMICS AND ITS INTERRELATION WITH ITS CONFORMATIONAL STATE. **Geva Hilzenrat**, Elvis Pandzic, Katharina Gaus

369-Pos Board B139
DOMAIN INTERFACES FACILITATE PROTEIN ASSOCIATION AND AGGREGATION IN MULTICOMPONENT LIPID BILAYERS. **Asanga Bandara Ekanayaka Mudiyanselage**, Afra Panahi, George A. Pantelopulos, John E. Straub

370-Pos Board B140
TLR4 RECRUITMENT INTO LIPID RAFTS STUDIED BY COARSE GRAINED MD SIMULATION. **Paulo C. T. Souza**, Tsjerk A. Wassenaar, Munir S. Skaf, Siewert J. Marrink

371-Pos Board B141
A NOVEL COMPUTATIONAL FRAMEWORK FOR *D*(*T*) FROM FRAP DATA REVEALS VARIOUS ANOMALOUS DIFFUSION TYPES. **Minchul Kang**

372-Pos Board B142
IN VIVO MEASUREMENTS OF TETRASPANIN 8 INTERACTIONS IN LIVING CELLS. **Daniel Wirth**

373-Pos Board B143
MOLECULAR BASIS OF EPHA2 PRE-OLIGOMERS AND THE INHIBITORY FUNCTION OF ITS SAM DOMAIN. **Xiaojun Shi**, Ryan Lingerak, Chuan Yu, Jeannine Muller-Greven, SoonJeung Kim, Paloma Gill-Rodriguez, Fatima Raeselle Javier, Deanna Bowman, Yixuan Hou, Yifan Ge, Matthias Buck, Bingcheng Wang, Adam W. Smith

374-Pos Board B144
INTERACTIONS BETWEEN THE TRANSMEMBRANE DOMAINS OF PLEXIN, SEMAPHORIN, AND NEUROPILIN. **Shaun M. Christie**, Soon-Jeung Kim, Paul D. Toth, Jeannine Muller-Greven, Matthias Buck, Adam W. Smith

375-Pos Board B145
COMPUTATIONALLY DETERMINED FREE ENERGY PROFILES OF THE MUCIN-1 TRANSMEMBRANE HOMODIMER. **Christina M. Freeman**, Alexander J. Sodt

376-Pos Board B146
DECIPHERING THE ROLE OF FISB DURING SPORULATION OF BACILLUS SUBTILIS THROUGH MUTAGENESIS. **Anna Georgieva**, Ane Landajuela, Erdem Karatekin

377-Pos Board B147
ORGANIZATION OF I-BAR PROTEINS ON TUBULAR AND VESICULAR MEMBRANES. **Zack Jarin**, Feng-Ching Tsai, Patricia Bassereau, Gregory A. Voth

378-Pos Board B148
INTERACTION OF KRAS4B PROTEIN WITH C6-CERAMIDE CONTAINING LIPID MODEL MEMBRANES. **Lei Li**, Roland Winter

379-Pos Board B149
LIPID-ANCHORED RAS PROTEINS SENSE/MODULATE PLASMA MEMBRANE CURVATURE IN AN ISOFORM- SPECIFIC MANNER. Hong Liang, Alemayehu Gorfe, John F. Hancock, **Yong Zhou**

380-Pos Board B150
MEMBRANE ALLOSTERY RECRUITS UNIQUE HYDROPHOBIC BINDING SITES PROMOTING SUBSTRATE SPECIFICITY OF LIPOLYTIC ENZYMES. **Varnavas D. Mouchlis**, J. Andrew McCammon, Edward A. Dennis

381-Pos Board B151
INVESTIGATING COMPLEX FORMATION OF C99 WITH GAMMA-SECRETASE, USING ATOMISTIC MM-MD SIMULATIONS AND FREE ENERGY CALCULATIONS. **Manuel Hitzenberger**, Martin Zacharias

382-Pos Board B152
MODELING OF CLAUDIN-15 PARACELLULAR CHANNELS VIA MOLECULAR DYNAMICS SIMULATIONS. **Giulio Alberini**, Fabio Benfenati, Luca Maragliano

383-Pos Board B153
EFFECT OF MILD AND HARSH DETERGENTS ON THE STABILITY OF THE MODEL MEMBRANE PROTEIN PROTEORHODOPSIN. **Sadegh Faramarzi**, Blake Mertz

384-Pos Board B154
INTERROGATING MEMBRANE PROTEIN CONFORMATIONAL DYNAMICS WITHIN NATIVE LIPID BILAYERS WITH HYDROGEN-DEUTERIUM EXCHANGE MASS SPECTROMETRY. **Eamonn Reading**

385-Pos Board B155
ASSESSING THE STRUCTURE OF TRANSMEMBRANE OLIGOMERIC INTERMEDIATES OF AN AHELICAL TOXIN USING MOLECULAR DYNAMICS SIMULATIONS. Rajat Desikan, **Ganapathy Ayappa**, Prabal K. Maiti

386-Pos Board B156
INCLUDING H-BONDING AND LIPID EXPOSURE IN NEAR-ATOMIC LEVEL FOLDING SIMULATIONS OF HELICAL MEMBRANE PROTEINS: II. APPLICATIONS TO SINGLE-MOLECULE FORCE SPECTROSCOPY. **Zongan Wang**

387-Pos Board B157
CONTINUUM THEORY OF HIV-BUDDING. **Sanjay Dharmavaram**, Baochen She, Ioulia Rouzina, Robijn Bruinsma

388-Pos Board B158
TOWARDS PIECING TOGETHER THE RAS-RAF PUZZLE: DYNAMICS OF MEMBRANE-ASSOCIATED KRAS4B-RAF RBD/CRD TERNARY COMPLEX. **Timothy Travers**, Cesar A. López, S. Gnanakaran

Intrinsically Disordered Proteins (IDPs) and Aggregates I (Boards B159–B185)

389-Pos Board B159
A-SYNUCLEIN IS A NEURON SPECIFIC LECTIN. **Melissa Birol**, Siobhan Toal, Elizabeth Rhoades

390-Pos Board B160
EXPLORING THE ROLE OF O_2 ON THE METAL ION SPECIFIC MODULATION OF ALPHA-SYNUCLEIN STRUCTURE. **Heather R. Lucas**

391-Pos Board B161
INVESTIGATIONS ON THE FACTORS RESPONSIBLE FOR THE CYTOCHROME C-ALPHA SYNUCLEIN BINDING-AGGREGATION LANDSCAPE. **Sumanta Ghosh**

392-Pos Board B162
ILLUMINATING THE SELF-ASSEMBLY OF ALPHA-SYNUCLEIN AMYLOID FIBRILS. **Jervis V. Thevathasan**, Jonas Ries

393-Pos Board B163
ALPHA-SYNUCLEIN MODULATION OF VESICLE EXOCYTOSIS IN SECRETORY CELLS. **Meraj Ramezani**, Marcus Wilkes, Tapojyoti Das, David Eliezer, David Holowka, Barbara Baird

394-Pos Board B164
DEVELOPING NOVEL FRET BASED BIOSENSORS THAT MONITOR A-SYNUCLEIN ASSEMBLY FOR USE IN HIGH THROUGHPUT SCREENING. **Malaney Young**, Anthony R. Braun, Jonathan N. Sachs, Chi Hung Lo

395-Pos Board B165
INTERACTION OF THE COPPER CHAPERONE ATOX1 WITH ALPHA-SYNUCLEIN. **Istvan Horvath**, Tony Werner, Pernilla Wittung-Stafshede

396-Pos Board B166
CHARACTERIZING ALPHA-SYNUCLEIN BINDING TO GLYCANS. **Karen Acosta**, Elizabeth Rhoades

397-Pos Board B167
STRUCTURAL DYNAMICS OF MONOMERIC A-SYNUCLEIN ON THE PS-μS TIME SCALE DERIVED FROM MD SIMULATIONS. **Reinhard Klement**, Timo Graen, Asaf Grupi, Elisha Haas, Helmut Grubmueller

398-Pos Board B168
SYSTEMATIC DEVELOPMENT OF SMALL MOLECULES TO INHIBIT SPECIFIC STEPS OF A-SYNUCLEIN AGGREGATION IN PARKINSON'S DISEASE. **Roxine Staats**, Patrick Flagmeier, Michele Vendruscolo

399-Pos Board B169
IDENTIFICATION OF A SPECIFIC RESIDUE SIDE CHAIN CONTROLLING THE SELF-ASSEMBLY AND CYTOTOXICITY OF ISLET AMYLOID POLYPEPTIDE. **Phuong Trang Nguyen**, Elizabeth Godin, Ximena Zottig, Steve Bourgault

400-Pos Board B170
EXOSOMES FROM HUMAN PANCREATIC ISLETS SUPPRESS IAPP AMYLOID FORMATION. **Pernilla Wittung-Stafshede**

401-Pos Board B171
HUMAN ISLET AMYLOID POLYPEPTIDE: IDENTIFYING EARLY-STAGE AGGREGATION MECHANISMS THROUGH MOLECULAR SIMULATION. **Ashley Z. Guo**, Juan J. de Pablo

402-Pos Board B172
AMYLIN (HIAPP) AGGREGATES ON THE MEMBRANE. **Simli Dey**, Anoop Rawat, Bappaditya Chandra, Barun Kumar Maity, Perunthiruthy K. Madhu, Sudipta Maiti

403-Pos Board B173
STRUCTURAL ANALYSES OF A LINKER REGION OF THE AMYLOID PRECURSOR PROTEIN. **Mizuho Imamura**, Shingo Kanemura, Masaki Okumura, Shigeru Shimamoto, Yuji Hidaka

404-Pos Board B174
HSP70 DELAYS AMYLOID AGGREGATION OF AMYLIN BY INHIBITING PRIMARY NUCLEATION. Neeraja Chilukoti, Bankanidhi Sahoo, Mithun Maddheshiya, **Kanchan Garai**

405-Pos Board B175
CONFORMATIONAL CHANGES AND FLEXIBILITY FOR ARKA BINDING TO ABP1-SH3. **Kristina Foley**, Robyn Stix, Gabriella Gerlach, K. Aurelia Ball

406-Pos Board B176
CONFORMATIONAL CHANGES OF ARKA12. **Robyn Stix**, Kristina Foley, Gabriella Gerlach, K. Aurelia Ball

407-Pos Board B177
INITIAL BINDING INTERACTION BETWEEN ARKA AND ABP1SH3. **Gabriella Gerlach**, Kristina Foley, Robyn Stix, Lia Ball

408-Pos Board B178
INTRINSICALLY DISORDERED PROTEINS LINK ALTERNATIVE SPLICING AND POST-TRANSLATIONAL MODIFICATIONS TO COMPLEX CELL SIGNALING AND REULATION. Jinhong Zhou, Suwen Zhao, **A. K. Dunker**

409-Pos Board B179
LARGE-SCALE ANALYSIS OF THE EVOLUTION OF FUNCTIONS MEDIATED BY INTRINSICALLY DISORDERED REGIONS. **Mary O. G. Richardson**, Alex S. Holehouse, Iris Langstein, Philipp Korber, Rohit V. Pappu

410-Pos Board B180
CONTROLLED LIQUID-LIQUID PHASE SEPERATION OF RECOMBINANT OLEOSIN. **Ellen H. Reed**, Daniel A. Hammer

411-Pos Board B181
CONTROLLABLE PROTEIN PHASE SEPARATION AND MODULAR RECRUITMENT TO INVESTIGATE BIOCHEMICAL COMPARTMENTALIZATION IN MEMBRANELESS ORGANELLES. **Benjamin S. Schuster**, Matthew C. Good, Daniel A. Hammer

412-Pos Board B182
MICROSCOPIC OBSERVATIONS OF PROTEIN BROWNIAN MOTIONS IN SUPERSATURATED SOLUTIONS. **Kazuki Yoshimura**, Msahiro Kuramochi, Yuji C. Sasaki

413-Pos Board B183
PROTEIN INTERACTIONS CONTROL DYNAMICS OF LIQUID COMPARTMENTS. **Tyler S. Harmon**, Frank Jülicher, Anthony A. Hyman

414-Pos Board B184
QUANTITATIVE MEASUREMENT OF STABILITY AND HETEROGENEITY OF PROTEIN AMYLOIDS USING DISAGGREGATION BY CHEMICAL DENATURANTS. **Timir Baran Sil**, Bankanidhi Sahoo, Subhas Chandra Bera, Kanchan Garai

415-Pos Board B185
THERMODYNAMIC AND HYDRODYNAMIC PROPERTIES OF A DOXORUBICIN LABELED ELP-DRUG CARRIER. **Valeria Zai-Rose**, Wolfgang Kramer, Reid Bishop, John J. Correia

DNA Replication, Recombination, and Repair (Boards B186–B209)

416-Pos Board B186
QUATERNARY INTERACTIONS AND DNA TWIST MODULATE THE COOPERATIVE BINDING OF AGT. **Michael G. Fried**, Manana Melikishvili

417-Pos Board B187 **CID TRAVEL AWARDEE**
CHARACTERIZING THE ENHANCED NANOSCALE TRANSLOCATION PROPERTIES OF HUNG2 FACILITATED BY ITS DISORDERED N-TERMINAL DOMAIN IN VITRO AND IN HUMAN CELLS. **Gaddiel Rodriguez**, Alexandre Esadze, Brian P. Weiser, Joseph D. Schonhoft, Philip A. Cole, James T. Stivers

418-Pos Board B188
DNA SYNTHESIS DETERMINES THE BINDING MODE OF THE HUMAN MITOCHONDRIAL SSB PROTEIN. Fernando Cerron, Jose Morin, Javier Jarillo, Elena Beltrán-Heredia, Grzegorz Ciesielski, Francisco Cao, Laurie S. Kaguni, **Borja Ibarra**

419-Pos Board B189
A NOVEL DNA REPAIR MECHANISM FOR THE PROCESSING OF LOW-LEVEL UV-INDUCED DAMAGE IN BACTERIA. Luke Springall, Craig Hughes, Michelle Simons, Stavros Azinas, Bennett Van Houten, **Neil Kad**

420-Pos Board B190
IPMK AND PTEN REGULATE NUCLEAR PHOSPHOINOSITIDE-DEPENDENT ATR SIGNALING UPON DNA DAMAGE. **Yu-Hsiu Wang**, Anushya Hariharan, Giulia Bastianello, Yusuke Toyama, G. V. Shivashankar, Marco Foiani, Michael P. Sheetz

421-Pos Board B191
COORDINATED ACTIONS OF FOUR ATPASE SITES ON $UVRA_2$ DURING INITIATION OF NUCLEOTIDE EXCISION REPAIR. **Brandon C. Case**, Silas Hartley, David Jeruzalmi, Manju M. Hingorani

422-Pos Board B192
FUNCTION OF THE INTRINSICALLY DISORDERED N-TERMINUS OF URACIL DNA GLYCOSYLASE. **Brian P. Weiser**, Gaddiel Rodriguez, Alexandre Esadze, Philip A. Cole, James T. Stivers

423-Pos Board B193
THE 5′ NUCLEASE DOMAIN OF DNA POLYMERASE I MEDIATES A NOVEL DNA TRANSFER PATHWAY DURING PROOFREADING. **Raymond Pauszek**, Rajan Lamichhane, Arishma Rajkarnikar Singh, Edwin van der Schans, David Millar

424-Pos Board B194
DIRECT OBSERVATION OF MUTYH AND THE CANCER-ASSOCIATED Y150C VARIANT BINDING TO OG:A MISMATCHES AT THE SINGLE MOLECULE LEVEL. **Shane R. Nelson**, Andrea J. Lee, Scott D. Kathe, Thomas S. Hilzinger, April M. Averill, Susan S. Wallace, David M. Warshaw

425-Pos Board B195
FLUORESCENCE LIFETIME OF NADH REVEALS PARP-DEPENDENT INCREASE OF OXIDATIVE PHOSPHORYLATION CRITICAL FOR CELL SURVIVAL. **Michael M. Murata**, Xiangduo Kong, Kyoko Yokomori, Michelle A. Digman

426-Pos Board B196
CIRCULOMICS: THE STRUCTURAL GENOMICS OF ENDOGENOUS AND EXOGENOUS EXTRACHROMOSOMAL CIRCULAR DNAS. **Stephen D. Levene**, Massa J. Shoura, Andrew Z. Fire

427-Pos Board B197
CIRCULOMICS: ULTRASENSITIVE CHARACTERIZATION OF EXTRACHROMOSOMAL CIRCULAR DNA (ECCDNA) DISTRIBUTIONS AND FUNCTIONS IN EUKARYOTES. **Massa Shoura**, Stephen Levene, Andrew Fire

428-Pos Board B198
MASSIVELY PARALLEL MEASUREMENT OF DNA MISMATCH REPAIR EFFICIENCY IN VIVO. **Tunc Kayikcioglu**, Chang-Ting Lin, Taekjip Ha

429-Pos Board B199
PHYSICAL BIOLOGY OF MEIOTIC CHROMOSOME PAIRING IN THE NEMATODE LINEAGE. **Baris Avsaroglu**, Kayla Baskevitch, Abby Dernburg

430-Pos Board B200
A GENOME EDITED PIG WITH THE HYPERTROPHIC CARDIOMYOPATHY-MUTATION R723G IN THE *MYH7*-GENE. **Judith Montag**, Björn Petersen, Anna Katharina Flögel, Edgar Becker, Andrea Lucas-Hahn, Gregory J. Cost, Christian Mühlfeld, Theresia Kraft, Heiner Niemann, Bernhard Brenner

431-Pos Board B201
VERTEBRATE ENDONUCLEASE G PREFERENTIALLY CLEAVES HOLLIDAY JUNCTIONS AND SPECIFICALLY RECOGNIZES 5-HYDROXYMETHYLCYTOSINE. **Crystal M. Vander Zanden**, Adam B. Robertson, Shing P. Ho

432-Pos Board B202
COMPUTATIONAL ANALYSIS OF DNA HOMOLOGOUS RECOMBINATION PATHWAY IN A FOLDBACK INTERCOIL STRUCTURE. **Byung Ho Lee**, Soojin Jo, Byung-Dong Kim, Sung Ha Park, Moon Ki Kim

433-Pos Board B203
MOLECULAR DYNAMICS SIMULATION STUDY OF DNA MISMATCH RECOGNITION BY COMPLEMENTARY STRAND INTERACTIONS IN THYMINE DNA GLYCOSYLASE. **Ozge Yoluk**, Alexander C. Drohat, Alexander D. MacKerell Jr.

434-Pos Board B204
HOMOLOGY MODELING AND STRUCTURAL ANALYSIS OF S. CEREVISIAE MSH4 AND MSH5 PROVIDE INSIGHT INTO DNA BINDING AND SPECIFICITY. **Sudipta Lahiri**, Ishita Mukerji

435-Pos Board B205
VISUALIZING SPONTANEOUS DNA DYNAMICS AND ITS ROLE IN MISMATCH RECOGNITION BY DAMAGE RECOGNITION PROTEIN RAD4. Sagnik Chakraborty, Debamita Paul, **Saroj Baral**, Hong Mu, Peter J. Steinbach, Suse Broyde, Jung-Hyun Min, Anjum Ansari

436-Pos Board B206
SINGLE MOLECULE EXPERIMENTS REVEAL MOLECULAR LEVEL DETAILS OF MUTS-MUTL INTERACTIONS IN DNA MISMATCH ACTIVATED SLIDING CLAMP. **Pengyu Hao**, Sharonda LeBlanc, Dorothy Erie, Keith Weninger

437-Pos Board B207
HIGH-SPEED MAGNETIC TWEEZERS STUDIES OF THE *E. COLI* REPLISOME. **Samuel M. Leachman**, Nynke H. Dekker

438-Pos Board B208
ATP-DEPENDENT TOPOLOGY DISCRIMINATION BY TYPE IIA TOPOISOMERASES: IMPLICATIONS FOR BELOW EQUILIBRIUM TOPOLOGY SIMPLIFICATION. **Yeonee Seol**, Tamara Litwin, Lauren Kim, Laudan Nikoobakht, Neil Osheroff, Keir C. Neuman

439-Pos Board B209
SKEWING THE PLAYING FIELD: A SINGLE-MOLECULE STUDY ON HOW RSS SEQUENCE INFLUENCES GENE SEGMENT SELECTION. **Soichi Hirokawa**, Nathan M. Belliveau, Geoffrey A. Lovely, Michael Anaya, David G. Schatz, David Baltimore, Rob Phillips

DNA Structure and Dynamics I (Boards B210–B229.1)

440-Pos Board B210
FOLDING/UNFOLDING THERMODYNAMICS OF THREE-WAY AND FOUR-WAY JUNCTIONS. **Luis A. Marky**, Carolyn E. Carr

441-Pos Board B211
UNEXPECTED DISCONTINUOUS SUPERCOILING OF TORSIONALLY BUCKLED DNA: EVIDENCE FOR A SOLENOID? **Andrew Dittmore**, Keir C. Neuman

442-Pos Board B212
DIRECT MEASUREMENT OF TORQUE INDUCED TELOMERE STRAND INVASION USING MAGNETIC TWEEZERS. Xi Long, **Terren Chang**, Shankar Shastry, Joeseph W. Parks, Michael D. Stone

443-Pos Board B213
SINGLE MOLECULE MEASUREMENT OF DNA FOLDING BY PROTAMINES. **Luka Matej Devenica**, Bishop Grimm, Ashley R. Carter

444-Pos Board B214
ISOTHERMAL CALORIMETRY INVESTIGATION OF DNA COMPACTION UNDER OSMOTIC STRESS. **Kurt Andresen**, Amlan Chowdhury

445-Pos Board B215
1-PROPANOL CAUSES REENTRANT TRANSITION ON DNA WHEREAS 2-PROPANOL DOES NOT: EXPERIMENTAL VERIFICATION THROUGH SINGLE MOLECULAR OBSERVATION. **Yue Ma**, Yuko Yoshikawa, Koichiro Sadakane, Kenichi Yoshikawa

446-Pos Board B216
THE BINDING KINETICS AND MECHANICAL PROPERTIES OF DNA-YOYO-1 COMPLEXES. **Ali A. Almaqwashi**, Mark C. Williams

447-Pos Board B217
STRONG ACCUMULATION OF DNA AT A HEATED AIR-WATER INTERFACE. **Jonathan Liu**, Matthias Morasch, Dieter Braun

448-Pos Board B218
CID Travel Awardee
STRUCTURE-HYDRATION RELATIONSHIPS IN DNA MINOR GROOVE BINDING. **Noa Erlitzki**, Abdelbasset A. Farahat, Arvind Kumar, David W. Boykin, Gregory M.K. Poon

449-Pos Board B219
THE EFFECT OF CATION SIZE ON DNA THERMAL STABILITY. Earle Stellwagen, **Nancy C. Stellwagen**

450-Pos Board B220
ELASTIC PROPERTIES OF DNA AS THE ENTROPIC DRIVING FORCE FOR DEHYBRIDIZATION TRANSITIONS. **Sebastian Sensale**, Hsueh-Chia Chang, Zhangli Peng

451-Pos Board B221
EXPERIMENTALLY MOTIVATED SEQUENCE-DEPENDENT MODELS OF MELTING AND OVERSTRETCHING FOR DIAMINOPURINE-SUBSTITUTED DNA. **Daniel T. Kovari**, Matteo Cristofalo, Roberta Corti, Domenico Salerno, Valeria Cassina, Yoojin Lee, Geethika Malla, Laura Finzi, Francesco Mantegazza, David Dunlap

452-Pos Board B222
PROBING CHANGES IN IONIC ATMOSPHERE AND HYDRATION ACCOMPANYING I-MOTIF FORMATION. **Lutan Liu**

453-Pos Board B223
GLOBAL STRUCTURAL DEFORMATIONS OBSERVED THROUGH OPTIMIZATION CALCULATIONS OF SMOOTHLY BENT AND MINI-KINKED CLOSED DNA. **Robert T. Young**, Wilma Olson

454-Pos Board B224
IMPROVED SAMPLING IN MOLECULAR DYNAMIC STUDIES OF Z[WC]-DNA AND THE B TO Z-DNA TRANSITION. **Sirajus Salekin**, Micaela Bush, Alma Gracic, Ahmed Imamovic, Ahsan A. Khoja, Jinhee Kim, Lam T. Nguyen, Sunil Pun, Ashutosh Rai, Sirajus Salekin, Alexander K. Seewald, Benjamin L. Yee, Michael G. Lerner

455-Pos Board B225
DETERMINING THE EFFECTS OF METHYLATION ON THE FLEXIBILITY OF CGG/CCG REPEAT DNA. **Michaela Norbury**, Catherine Volle

456-Pos Board B226
DNA HYBRIDIZATION: CONCENTRATION-DEPENDENT CHANGES IN BINDING AFFINITY REVEAL INTRINSIC CHANGE IN HYDRATION ENERGY. Caroline Harmon, Juan Rangel, Christopher Trinh, **Daryl K. Eggers**

457-Pos Board B227
A COARSE-GRAINED SIMULATION STUDY OF THE EFFECT OF SALT CONCENTRATION ON DNA INTERNAL MOTIONS. **Benson Ma**, Edmond Chow

458-Pos Board B228
QUANTIFYING NUCLEIC ACID BASE PAIRING FREE ENERGY. **Rongpeng Li**, Chi H. Mak

459-Pos Board B229
BINDING KINETICS OF DNA INTERCALATION BY SMALL RHODIUM COMPLEXES. **Guðfríður Björg Möller**, Liam Price, Grace Ferris, Micah J. McCauley, Ioulia Rouzina, Megan Núñez, Mark C. Williams

459.1-Pos Board B229.1
HYPERSTRETCHING DNA. Koen Schakenraad, Andreas S. Biebricher, Maarten Sebregts, Brian ten Bensel, Erwin J.G. Peterman, Gijs J.L. Wuite, Cornelis Storm, Paul van der Schoot, Paul van der Schoot, **Iddo Heller**

Protein-Nucleic Acid Interactions I (Boards B230–B248)

460-Pos Board B230
A NANOFLUIDIC DEVICE FOR REAL-TIME VISUALIZATION OF DNA-PROTEIN INTERACTIONS ON THE SINGLE DNA MOLECULE LEVEL. **Robin Öz**, Sriram Kesarimangalam Kalyanavenkatramanan, Fredrik Westerlund

461-Pos Board B231
INTERACTIONS BETWEEN THE BACTERIOPHAGE PROTEIN COX AND DNA INVESTIGATED ON THE SINGLE DNA MOLECULE LEVEL USING NANOFLUIDIC CHANNELS. Karolin Frykholm, Ronnie P-A Berntsson, Pål Stenmark, **Fredrik Westerlund**

462-Pos Board B232
INTERACTIONS BETWEEN DNA AND HIV-1 NUCLEOCAPSID PROTEIN STUDIED USING NANOFLUIDIC CHANNELS. **Kai Jiang**, Nicolas Humbert, Sriram Kesarimangalam Kalyanavenkatramanan, Yves Mely, Fredrik Westerlund

463-Pos Board B233
DESIGN OF NOVEL MAGNETIC TWEEZERS AND ITS USE FOR STUDYING DNA-COMPACTING PROTEINS. **Roberto Jr Fabian**, Christopher Tyson, Anneliese Striz, Pamela L. Tuma, Ian L. Pegg, Abhijit Sarkar

464-Pos Board B234 **INTERNATIONAL TRAVEL AWARDEE**
LATERAL MAGNETIC TWEEZERS TO STUDY DNA:PROTEIN INTERACTIONS. **Julene Madariaga-Marcos**, Silvia Hormeño, Cesar L. Pastrana, Gemma L. M. Fisher, Mark S. Dillingham, Fernando Moreno-Herrero

465-Pos Board B235
MECHANISM OF SEQUENCE DEPENDENT TRANSLOCATION OF A SUPERFAMILY 2 HELICASE ON SSDNA. **Jonathan M. Craig**

466-Pos Board B236
HIGH-RESOLUTION SINGLE-MOLECULE ANALYSIS OF UVRD HELICASE USING NANOPORE TWEEZERS. **Hugh Higinbotham**

467-Pos Board B237
ANALYSIS OF FORCE DEPENDENCE OF TRANSLOCATION AND UNWINDING OF HELICASE PCRA USING SPRNT. **Andrew H. Laszlo**, Jonathan M. Craig, Henry Brinkerhoff, Ian C. Nova, Matthew T. Noakes, Jonathan W. Mount, Jasmine O. Bowman, Hugh Higinbotham, Katherine Baker, Jesse Huang, Ramreddy Tippana, Momcilo Gavrilov, Taekjip Ha, Jens H. Gundlach

468-Pos Board B238
REGULATION OF A VIRAL PACKAGING MOTOR'S GRIP ON DNA. **Mariam Ordyan**, Douglas E. Smith, Venigalla B. Rao, Istiaq Alam, Marthandan Mahalingam

469-Pos Board B239
CHALLENGING A DNA PACKAGING MOTOR WITH A MODIFIED SUBSTRATE. **Juan P. Castillo**, Alexander Tong, Sara Tafoya, Paul Jardine, Carlos Bustamante

470-Pos Board B240
CONSTRUCTION OF A VIRAL HELICASE NANOPORE FOR ACTIVE DNA UNWINDING AND TRANSPORT. **Yuejia Chen**, Ke Sun, Changjian Zhao, Xialin Zhang, Jia Geng

471-Pos Board B241
MEASURING SEARCH TIMES IN SITE SPECIFIC DNA BINDING. **Allen C. Price**, Raquel Ferreira, Sadie Piatt, Stephen Parziale

472-Pos Board B242
SINGLE MOLECULE DETECTION OF TRANSCRIPTION FACTOR USING FLUORESCENT MOLECULAR BEACONS. **Pin Ren**, Yuji Ishitsuka, Paul Selvin

473-Pos Board B243
SHORT-READ SINGLE-MOLECULE DNA SEQUENCING FOR HIGHLY PARALLEL ANALYSIS OF PROTEIN-DNA INTERACTIONS. **Rebecca Andrews**, Horst Steuer, Arun Shivalingam, Afaf H. El-Sagheer, Tom Brown, Achillefs N. Kapanidis

474-Pos Board B244
DIRECT AFM VISUALIZATION OF RECG TRANSLOCATION AFTER REMODELING BY SSB PROTEIN. **Zhiqiang Sun**, Mohtadin Hashemi1, Piero R. Bianco, Yuri L. Lyubchenko

475-Pos Board B245
PEAKFORCE TAPPING AFM REVEALS THAT HUMAN XPA BINDS TO DNA DAMAGE AS A MONOMER PRODUCING A 60° BEND. **Emily C. Beckwitt**, Nina Simon, Isadora Carnaval, Caroline Kisker, Thomas Carell, Bennett Van Houten

476-Pos Board B246
ENERGETICS OF NUCLEOTIDE TRANSLOCATION THROUGH HIV-1 CA HEXAMER. **Chaoyi Xu**, Juan Perilla

477-Pos Board B247
CHARACTERIZATION OF SINGLE-STRANDED DNA BINDING BY APOBEC3 FAMILY PROTEINS USING FORCE SPECTROSCOPY. **Michael Morse**, Yuqing Feng, Robin P. Love, Ioulia Rouzina, Linda Chelico, Mark C. Williams

478-Pos Board B248
RNA POLYMERASE PAUSES AT *LAC* REPRESSOR OBSTACLES. **Yan Yan**, Wenxuan Xu, David D. Dunlap, Laura Finzi

Membrane Physical Chemistry I (Boards B249–B262)

479-Pos Board B249
PEPTIDE-LIPID INTERACTIONS AND LIPID LATERAL DIFFUSION MONITORED VIA ^{31}P CODEX NMR. Angel Lai, **Peter MacDonald**

480-Pos Board B250
SUBDIFFUSIVE MOTION OF STIM1 AT ER MEMBRANE AND ER-PLASMA MEMBRANE JUNCTION. **Xianan Qin**, Adolfo Alsina, Sang Kwon Lee, Chan Young Park, Hyokeun Park

481-Pos Board B251
THEORETICAL MODELING OF EXPERIMENTALLY DETERMINED TILT MODULUS OF LIPID BILAYERS. **John F. Nagle**

482-Pos Board B252
MEASUREMENTS AND IMPLICATIONS OF HOW ELECTRICAL POTENTIALS CAN BEND MEMBRANES. Dennis Bruhn, Weria Pezeshkian, **Himanshu Khandelia**

483-Pos Board B253
BENDING MODULUS AND EDGE TENSION OF GIANT UNILAMELLAR VESICLES (GUVS) COMPOSED OF LIPID EXTRACTS FROM ERYTHROCYTES MEMBRANES. **Bruna R. Casadei**, Rumiana Dimova, Karin A. Riske

484-Pos Board B254
MIMICKING CELL PINOCYTOSIS: LIPID VESICLES ENGULFMENT OF OIL-IN-WATER DROPLETS. **Rafael B. Lira**, Lucia Benk, Eleanor Ewins, Joachin P. Spatz, Reinhard Lipowsky, Ilia Platzman, Rumiana Dimova

485-Pos Board B255
DEWETTING-INDUCED LIPID DROPLET BUDDING. **Aymeric Chorlay**, Abdou Rachid Thiam

486-Pos Board B256
EXPLORING APPARENT MEMBRANE STIFFNESS DUE TO THE PRESENCE OF GM1 USING A CONTINUUM MODEL. **Kayla Sapp**, Alexander Sodt

487-Pos Board B257
MAKING SOFT MAGNETICALLY-ORIENTABLE MEMBRANES: AN ALTERNATIVE TO BICELLES. Andrée E. Gravel, Alexandre A. Arnold, Dror E. Warschawski, **Isabelle Marcotte**

488-Pos Board B258
HOW THE PROPERTIES OF NANODISCS ARE MODULATED BY THEIR SIZE AND LIPID CONTENT? **Tomasz Rog**, Bozena Milanović, Piotr Stepien, Chetan Poojari, Wojciech Galan, Agnieszka Polit, Ilpo Vattulainen, Anna Wisniewska-Becker

489-Pos Board B259 **INTERNATIONAL TRAVEL AWARDEE**
FREE-STANDING LIPID BILAYERS: A VERSATILE PLATFORM FOR THE MECHANISTIC STUDIES OF VOLTAGE SENSITIVE DYES AND MEMBRANE ION TRANSPORT. **Maria Tsemperouli**, Kaori Sugihara

490-Pos Board B260
SILICA-SUPPORTED LIPID BILAYERS: ELECTROSTATIC EFFECTS AT LIPID INTERFACES AS REPORTED BY SPIN-LABELING EPR. Erkang Ou, Maxim A. Voinov, Alex I. Smirnov, **Tatyana I. Smirnova**

491-Pos Board B261
FRACTIONATION OF STYRENE AND MALEIC ACID COPOLYMERS: THE "HOLY GRAIL"OF MEMBRANE SOLUBILIZATION. **Juan J. Dominguez Pardo**, Josephine A. Killian

492-Pos Board B262
EXPANDING THE PREPARATION OF ASYMMETRIC LIPID VESICLES TO ADDITIONAL CYCLODEXTRINS AND CATIONIC LIPIDS. **Sunjae Park**, Bingchen Li, Erwin London

Membrane Dynamics I (Boards B263–B279)

493-Pos Board B263
LATERAL DIFFUSIVITY OF CHOLESTEROL DEPENDS ON ITS SPATIAL ARRANGEMENT IN LIPID MEMBRANES. **Younghoon Oh**, Bong June Sung

494-Pos Board B264
SCRAMBLASE ACTIVITIES OF TRANSMEMBRANE PEPTIDES DEPEND ON RELATIVE POSITION OF HYDROPHILIC AMINO ACID RESIDUES AND THEIR DEPTH IN THE MEMBRANE. **Hiroyuki Nakao**, Yuta Sugimoto, Keisuke Ikeda, Minoru Nakano

495-Pos Board B265
CYCLODEXTRIN-MEDIATED LIPID EXCHANGE MONITORED WITH FRET. **Anna Weitzer**, John Katsaras, Frederick A. Heberle

496-Pos Board B266
UNDERSTANDING SPATIOTEMPORAL ASPECTS OF CECROPIN A ATTACK ON SINGLE, LIVE BACTERIA USING TIME-LAPSE FLUORESCENCE MICROSCOPY. **Anurag Agrawal**, James C. Weisshaar

497-Pos Board B267
ROLE OF PORE FORMING TOXINS IN MODULATING THE LIPID DYNAMICS. **Vadhana Varadarajan**

498-Pos Board B268 **INTERNATIONAL TRAVEL AWARDEE**
EFFECT OF HYPOTHERMIA ON THE BIOPHYSICAL PERFORMANCE OF PULMONARY SURFACTANT FROM NEONATES WITH AND WITHOUT LUNG INJURY. **Chiara Autilio**, Mercedes Echaide, Daniele De Luca, Jesús Pérez-Gil

499-Pos Board B269
THE HYDROPHOBIC SURFACTANT PROTEINS REDUCE THE BENDING MODULUS OF PHOSPHOLIPID BILAYERS. Ryan W. Loney, Zimo Yang, **Stephen B. Hall**, Stephanie Tristram-Nagle

500-Pos Board B270
LOSS OF CAROTENOIDS IMPACTS MEMBRANE PROTEIN AND LIPID DISTRIBUTION IN *PANTOEA SP.* YR343. **Sushmitha Vijaya Kumar**, Jennifer Morrell-Falvey

501-Pos Board B271
KV2.1-INDUCED ER/PM JUNCTIONS MODIFY THE CELL SURFACE DIFFUSION LANDSCAPE. **Laura Solé**, Yaping Moshier, Sanaz Sadegh, Patrick Mannion, Diego Krapf, Michael Tamkun

502-Pos Board B272
ROLL TO ROLL PROCESSING FOR LIPID MEMBRANES. **Bethany Reim**

503-Pos Board B273
AN ENHANCED PLATFORM FOR BIOELECTROCHEMICAL SYSTEMS: A NOVEL APPROACH TO CHARACTERIZE LIPID STRUCTURE ON GRAPHENE. **Megan E. Farell**, Maxwell Wetherington, Inseok Chae, Manish Shankla, Seong Kim, Aleksei Aksimentiev, Manish Kumar

504-Pos Board B274
Education Travel Awardee
CHARACTERIZATION OF F2N12S IN CELL MEMBRANES USING TIME-RESOLVED FLUORESCENCE TECHNIQUES. **Donald S. Anderson**, Matthew J. Sydor, Harmen B. Steele, JBA Ross, Holian Andrij

505-Pos Board B275
ADVANCED STED MICROSCOPY OF THE MEMBRANE ORGANIZATION IN ACTIVATING T-CELLS. **Iztok Urbancic**, Erdinc Sezgin, Falk Schneider, Francesco Reina, Christian Eggeling

506-Pos Board B276
STED-FCS REVEALS DIFFUSIONAL HETEROGENEITY OF LIPIDS AND GPI-ANCHORED PROTEINS IN THE PLASMA MEMBRANE AND ACTIN CYTOSKELETON FREE PLASMA MEMBRANE VESICLES. **Falk Schneider**, Dominic Waithe, Mathias Porsmose Clausen, Silvia Galiani, Thomas Koller, Gunes Ozhan, Christian Eggeling, Erdinc Sezgin

507-Pos Board B277
USING LAURDAN AND SPECTRAL PHASOR ANALYSIS TO STUDY ERYTHROCYTES MEMBRANE SOLUBILIZATION. **Susana A. Sanchez**, Vanesa Herlax, M. Pilar Lillo, Catalina Sandoval, Joao Aguilar, German Gunther

508-Pos Board B278
COMPUTATIONAL INSIGHTS INTO FUELS AND CHEMICALS EXTRACTION FROM MICROBIAL BIOREFINERIES. **Josh V. Vermaas**, Gregg T. Beckham, Michael F. Crowley

509-Pos Board B279
INTERACTIONS OF POLY(IONIC LIQUID) NANOPARTICLES WITH GIANT UNILAMELLAR VESICLES. **Eleanor Ewins**, Tom Robinson, Rafael B. Lira, Weiyi Zhang, Jiayin Yuan, Markus Antonietti, Rumiana Dimova

Membrane Structure I (Boards B280–B308)

510-Pos Board B280
HIGH-SPEED FORCE SPECTROSCOPY OF LIPID BILAYER RUPTURE. **Lorena Redondo-Morata**, Felix Rico

511-Pos Board B281
UREA AND TMAO ON LIPID BILAYERS. **Sergio S. Funari**, Bernstorff Sigrid, Joana Valerio

512-Pos Board B282 **EDUCATION TRAVEL AWARDEE**
MEMBRANE ELASTICITY: UNDERSTANDING THE GAUSSIAN CURVATURE MODULUS FROM LIPID TILT THEORY. **M. Mert Terzi**, Markus Deserno

513-Pos Board B283
KINETICS OF MEMBRANE BENDING BY PROTEIN CROWDING. **Gokul Raghunath**, Brian Dyer

514-Pos Board B284
SUPER RESOLUTION IMAGING OF HIGHLY CURVED MEMBRANE STRUCTURES IN GIANT UNILAMELLAR VESICLES ENCAPSULATING POLYMER SOLUTIONS. **Ziliang Zhao**, Debjit Roy, Jan Steinkühler, Tom Robinson, Roland Knorr, Reinhard Lipowsky, Rumiana Dimova

515-Pos Board B285
INTRINSIC CURVATURE EFFECTS OF OXIDIZED LIPIDS ON SPATIAL LIPID ORGANIZATION. **Radha Ranganathan**, Intisar Alshammri

516-Pos Board B286
VITAMIN E BENDS MODEL CELL MEMBRANES TO PROMOTE ITS ANTIOXIDANT FUNCTION. **Andres T. Cavazos**, Morris I. Bank, Michaela E. Bell, Zachary L. Leach, Jacob J. Kinnun, Stephen R. Wassall

517-Pos Board B287
SINGLE-LIPIDS DIFFUSION AND LIPID SORTING AT NANOSCALE CURVATURE SITES. **Xinxin Woodward**, Christopher V. Kelly

518-Pos Board B288
CARDIOLIPIN-INDUCED PHASE SEPARATION IN BIOMIMETIC MITOCHONDRIAL MEMBRANES AND CARDIAC VESICLES IS DEPENDENT ON CARDIOLIPIN CONCENTRATION AND ACYL CHAIN COMPOSITION.
Edward R. Pennington, E. Madison Sullivan, David A. Brown, Saame Raza Shaikh

519-Pos Board B289
IMPACT OF PHOSPHOLIPID ACYL CHAIN LENGTH MISMATCH ON STEROL AFFINITY AND LATERAL SEGREGATION. **Oskar Engberg**, Victor Hautala, Hiroshi Tsuchikawa, Thomas K.m Nyholm, Michio Murata, J.Peter Slotte

520-Pos Board B290 **EDUCATION TRAVEL AWARDEE**
ARE VITAMIN E AND PUFA DRIVEN TOGETHER BY CHOLETEROL? COMPUTER SIMULATION STUDIES. **Samuel W. Canner**, Xiaoling Leng, Fangqiang Zhu, Stephen R. Wassall

521-Pos Board B291
ACCURATE PHASE SEPARATION OF COMPLEX LIPID MIXTURES (DPPC/DOPC/CHOL) WITH A REFINED COARSE GRAINED MARTINI MODEL.
Timothy S. Carpenter, Cesar A. Lopez, Chris Neale, Helgi I. Ingolfsson, Cameron Montour, Sandrasegaram Gnanakaran, Felice C. Lightstone

522-Pos Board B292
LIPID DOMAIN BOUNDARY AS UNIVERSAL ATTRACTOR. Veronika V. Alexandrova, Sergey A. Akimov, **Timur R. Galimzyanov**

523-Pos Board B293
INTERACTIONS BETWEEN STEROLS AND PHOSPHOLIPIDS WITH DIFFERENT HEADGROUPS–INFLUENCE ON LATERAL SEGREGATION. Shisihir Jaikishan, Oskar Engberg, Victor Hautala, J. Peter Slotte,
Thomas K.M. Nyholm

524-Pos Board B294
LIPID DOMAINS AT THE PLASMA MEMBRANE OF RED BLOOD CELLS: ORGANIZATION AND INVOLVEMENT IN DEFORMATION. **Louise Conrard**

525-Pos Board B295
LATERAL PHASE BEHAVIOR OF HUMAN SKIN LIPIDS. Michael J. Counihan, **Shelli L. Frey**

526-Pos Board B296
LIPID BILAYER MODULATION USING DNA ORIGAMI MIMICS OF CLATHRIN. **Vivek Ramakrishna**, Celine Journot, Andrew J. Turberfield, Mark Ian Wallace

527-Pos Board B297
DNA ORIGAMI AS AN EXPERIMENTAL TOOL TO PROBE CRITICAL CASIMIR FORCES IN MEMBRANES. **Anshul V. Puli**, Sarah Veatch

528-Pos Board B298 **INTERNATIONAL TRAVEL AWARDEE**
LOOKING FOR GROUNDBREAKING STRUCTURAL AND FUNCTIONAL FEATURES IN THE LUNG SURFACTANT SYSTEM USING A SURFACE-ACTIVE AGENT PURIFIED FROM HUMAN AMNIOTIC FLUID.
Jose C. Castillo-Sanchez, Nuria Roldan, Begoña García-Álvarez, Emma Batllori-Badia, Alberto Galindo, Antonio Cruz, Jesús Pérez-Gil

529-Pos Board B299
MODELING FORMATION OF CAVEOLAR SUPERSTRUCTURES.
Gonen Golani, Michael M. Kozlov

530-Pos Board B300
CHARACTERISTICS OF BULK ENDOCYTOSIS WITHIN CHROMAFFIN CELLS. **Seth A. Villarreal**, Gianvito Arpino, Wonchul Shin

531-Pos Board B301
MORPHOGENESIS OF SMALL INTESTINAL VILLUS. **Yuki Umemura**, Shigeyuki Komura, Takuma Hoshino

532-Pos Board B302
IMPROVING STABILITY OF TEAR FILM LIPID LAYER VIA CONCERTED ACTION OF TWO DRUG MOLECULES: A BIOPHYSICAL VIEW. Yana Nencheva, Agnieszka Olzynska, Adela Melcrova, Georgi As. Georgiev, Philippe Daull, Jean-Sebastien Garrigue, **Lukasz Cwiklik**

533-Pos Board B303
ARTIFICIAL DIAMIDOPHOSPHOLIPIDS: MONITORING BILAYER PROPERTIES USING MEMBRANE ARRAY TECHNIQUE. **Ekaterina Zaitseva**, Ibrahim Halimeh, Gerhard Baaken, Renate Reiter, Andreas Zumbuehl, Jan Behrends

534-Pos **Board B304**
SUBSTRATE FOR SUPPORTED LIPID BILAYERS AFFECTS DOMAIN MOBILITY AND PHASE BEHAVIOUR. **James A. Goodchild**, Simon D. Connell

535-Pos **Board B305**
FORMATION AND MORPHOLOGY OF SINGLE PHOSPHOLIPID BILAYERS FORMED BY VELOCITY-CONTROLLED DIP-COATING. **Tomas P. Corrales**, Diego Diaz, Rodrigo Catalan, Maria Jose Retamal, Marcelo A. Cisternas, Nicolas Moraga, Marco Soto-Arriaza, Ulrich G. Volkmann

536-Pos **Board B306**
STUDY OF PHOSPHOLIPID BILAYERS SUPPORTED ON CHITOSAN-TITANIUM NITRIDE COATINGS PRODUCED BY PLASMA IMMERSION ION IMPLANTATION (PIII). **Marcelo A. Cisternas**, Maria Jose Retamal, Partha Saikia, Nathalie Casanova, Nicolas Moraga, AMerica Chandia, Alejandra Alvarez, Donovan E. Diaz-Droguett, Fernando Guzman, Stephan Mändl, Darina Manova, Tomas P. Corrales, Ulrich G. Volkmann, Mario Favre, Heman Bhuyan

537-Pos **Board B307**
AFM STUDY OF ELASTIC MODULE OF PHYSICAL-VAPOR-DEPOSITED PHOSPHOLIPID MEMBRANES. **Ulrich G. Volkmann**, Rodrigo Catalan, Maria J. Retamal, Marcelo A. Cisternas, Nicolas Moraga, Diego Diaz, Tomas P. Corrales, Tomas Pérez-Acle, Marco Soto-Arriaza, Patrick Huber

538-Pos **Board B308**
ENHANCED ORDERING IN MONOLAYERS CONTAINING GLYCOSPHINGOLIPIDS: IMPACT OF CARBOHYDRATE STRUCTURE. **Shelli L. Frey**, Erik B. Watkins, Eva Y. Chi, Kathleen D. Cao, Tadeusz Pacuszka, Jaroslaw Majewski, Ka Yee C. Lee

Membrane Receptors and Signal Transduction I (Boards B309–B325.1)

539-Pos **Board B309**
ALLOSTERIC MODULATION AND THERMODYNAMIC CONSTRAINTS IN OCCUPANCY MODELS OF OLIGOMERIC G PROTEIN-COUPLED RECEPTORS. **Gregory D. Conradi Smith**, Richard Hammack

540-Pos **Board B310**
DYNAMIC PALMITOYLATION IS A CRITICAL REGULATOR OF B-ADRENERGIC SIGNALING IN CARDIOMYOCYTES. **Jie Chen**, Askar Akimzhanov, Darren Boehning

541-Pos **Board B311**
SILDENAFIL: A BETA-2 ADRENERGIC RECEPTOR-, PROTEIN KINASE G-, AND PROTEIN KINASE A-DEPENDENT TREATMENT FOR ADVERSE CARDIAC FUNCTION AND EXCITATION-CONTRACTION COUPLING ASSOCIATED WITH DIABETES. **Toni M. West**, Qingtong Wang, Yongming Wang, Federica Barbagallo, Dana Chen, Yang K. Xiang

542-Pos **Board B312**
KINETIC DETAILS OF THE INTERPLAY BETWEEN SODIUM BINDING AND OPIOID RECEPTOR SIGNALING. **Xiaohu Hu**, Yibo Wang, Davide Provasi, Marta Filizola

543-Pos **Board B313**
SIGNALING THROUGH A MU-OPIOID–CANNABINOID CB1 RECEPTOR HETEROMER, A NOVEL ANALGESIC TARGET. **Guoqing Xiang**, Takeharu Kawano, Apostolia Baki, Diomedes Logothetis

544-Pos **Board B314**
VOLTAGE-DEPENDENT ACTIVATION OF M_2 MUSCARINIC RECEPTORS-I_{KACH} BY THE SUPERAGONIST IPEROXO IN CARDIAC MYOCYTES. **Ana L. Lopez-Serrano**, Martin Tristani-Firouzi, Eloy G. Moreno-Galindo, Ricardo A. Navarro-Polanco

545-Pos **Board B315**
G PROTEIN SIGNALING OF CA^{2+}-SENSING RECEPTORS (CASRS) IN CARDIAC MYOCYTES. **Marie-Cecile Kienitz**, Jennifer Schmidt, Gabriele König, Evi Kostenis, Lutz Pott, Andreas Rinne

546-Pos **Board B316**
UNIQUE MOLECULAR DETERMINANTS THAT CONTRIBUTE TO MELANOPSIN'S (OPN4) CAPABILITY TO SUSTAIN LIGHT RESPONSES.
Juan C. Valdez-Lopez, Stephen Petr, Matthew P. Donohue, Veronika Szalai, Phyllis R. Robinson

547-Pos **Board B317**
MECHANISMS OF CHIMERIC ANTIGEN RECEPTOR (CAR) SIGNALING DURING T CELL ACTIVATION. **Xiaolei Su**, Ronald Vale

548-Pos **Board B318**
MONOMERIC TCR-CD3 COMPLEXES DRIVE T-CELL ANTIGEN RECOGNITION. **Mario Brameshuber**, Florian Kellner, Benedikt K. Rossboth, Haisen Ta, Kevin Alge, Eva Sevcsik, Markus Axmann, Nicholas R.J Gascoigne, Simon J. Davis, Hannes Stockinger, Gerhard J. Schuetz, Johannes B. Huppa

549-Pos **Board B319**
CONTRIBUTION OF ADHESION TO EARLY T CELL SIGNALING.
Martin Fölser, Julia Appenroth, Viktoria Motsch, Gerhard J. Schütz

550-Pos **Board B320**
PROBING LIPID INTERACTIONS OF THE T-CELL RECEPTOR COMPLEX: A MICROPATTERNING APPROACH. **Joschka Hellmeier**, Florian Kellner, Gerhard Schuetz, Johannes Huppa, Eva Sevcsik

551-Pos **Board B321**
DYNAMIC INTERACTIONS OF STIMULATED IGE-FCERI RECEPTOR WITH LYN AND SYK KINASES AT THE PLASMA MEMBRANE MEASURED BY IMAGING FLUORESCENCE CORRELATION SPECTROSCOPY. **Nirmalya Bag**, David Holowka, Barbara Baird

552-Pos **Board B322**
TRIGGERING OF THE HIGH-AFFINITY IGE RECEPTOR IN AN AGGREGATION-INDEPENDENT MANNER. **James Felce**, Erdinc Sezgin, Madina Wane, Michael Dustin, Christian Eggeling, Simon Davis

553-Pos **Board B323**
FUNCTIONAL ORGANIZATION OF PLASMA MEMBRANE ADAPTOR PROTEINS IN B CELL RECEPTOR SIGNALING. **Sarah A. Shelby**, Sarah L. Veatch

554-Pos **Board B324** **CID TRAVEL AWARDEE**
DIFFERENTIAL SIGNALING AND CROSS-TALK OF DECTIN-1A AND -1B AFTER ACTIVATION WITH SOLUBLE BETA-GLUCANS. **Eduardo U. Anaya**

555-Pos **Board B325**
CARDIOLIPIN ACTS AS AN AGONIST OR AN ANTAGONIST OF TOLL LIKE RECEPTOR (TLR4). **Jean-Marie Ruysschaert**, Caroline Lonez, Malvina Pizzuto

555.1-Pos **Board B325.1**
G PROTEIN–GPCR INTERACTION STUDIED BY SANS. Olivier Soubias, Jonathan D. Nickels, Alexei Yeliseev, Kirk G. Hines, Walter E. Teague, John Northup, John Katsaras, **Klaus Gawrisch**

Mechanosensation (Boards B326–B354)

556-Pos **Board B326**
MATRIX STIFFNESS CONTRIBUTES TO PATHOLOGICAL ACTIVATION OF CARDIAC FIBROBLASTS. **Tova Christensen**, Kristi Anseth, Leslie Leinwand

557-Pos **Board B327**
DYNAMICS OF STRETCH-DEPENDENT CALCIUM SIGNALING IN HEART. **Humberto C. Joca**, George S.B. Williams, W. Jonathan Lederer, Christopher W. Ward

558-Pos **Board B328**
ROLE OF CALCIUM AND ATPASE ACTIVITY IN SLOW ADAPTATION AND SET POINT REGULATION IN COCHLEAR MECHANOTRANSDUCTION.
Giusy A. Caprara, Anthony W. Peng

559-Pos Board B329
ELECTROPHYSIOLOGICAL CHARACTERIZATION OF MECHANO-ACTIVATED CURRENTS IN HUMAN ENDOTHELIAL CELLS. **Luis O. Romero**, Julio F. Cordero-Morales, Valeria Vásquez

560-Pos Board B330 **CPOW TRAVEL AWARDEE**
ROLE OF PIEZO CHANNELS IN UROTHELIAL CELL MECHANOTRANSDUCTION. **Marianela G. Dalghi**

561-Pos Board B331
PROBING THE MECHANOSENSING MECHANISM OF GPR56 TO UNDERSTAND ADHESION GPCR-RELATED DISEASE PATHOGENESIS. **Kassidy J. Tompkins**

562-Pos Board B332
CYTOSKELETON-ASSOCIATED PROTEINS MODULATE THE TENSION SENSITIVITY OF PIEZO1. **Charles D. Cox**, Navid Bavi, Boris Martinac

563-Pos Board B333
MOLECULAR DYNAMICS STUDY FOR EXPLORING THE FORCE TRANSMISSION PATHWAY IN THE BACTERIAL MECHANOSENSITIVE CHANNEL MSCL. **Yasuyuki Sawada**, Takeshi Nomura, Masahiro Sokabe

564-Pos Board B334
A PROTEIN INTERACTION MECHANISM FOR SUPPRESSING THE MECHANOSENSITIVE PIEZO CHANNELS. **Shaopeng Chi**

565-Pos Board B335
FUNCTIONAL INVESTIGATION OF DYSTROGLYCAN'S PROTEOLYSIS DOMAIN. **Amanda Hayward**

566-Pos Board B336
FULLY AUTOMATED ULTRASOUND-BASED TOUCH ASSAY FOR SMALL MODEL ORGANISMS. **Miriam B. Goodman**, Holger Fehlauer

567-Pos Board B337
A COMPUTATIONAL STUDY TOWARDS ENGINEERING AN MSCL NANOVALVE. **Adam D. Martinac**, Navid Bavi, Omid Bavi, Boris Martinac

568-Pos Board B338
MECHANICAL TENSION SERVES AS A LATE G1 CELL CYCLE CHECKPOINT. **Nash D. Rochman**, Nicolas Perez, Jiaxiang Tao, Sean Sun

569-Pos Board B339
LOAD-DEPENDENT INTERACTION OF SINGLE A- AND A/B-CATENIN COMPLEXES WITH ACTIN. **Marios Sergides**, Claudia Arbore, Francesco Saverio Pavone, Marco Capitanio

570-Pos Board B340
THE ANREP EFFECT: ROLE OF TITIN STRAIN. Younss Ait-Mou, Jody Martin, Marion Greaser, Mengjie Zhang, **Pieter de Tombe**

571-Pos Board B341
DISSECTING THE FAST HYPOOSMOTIC PERMEABILITY RESPONSE IN *E. COLI*. Anthony Schams, Madolyn Britt, Ian Rowe, Ugur Cetiner, Andriy Anishkin, **Sergei Sukharev**

572-Pos Board B342
ULTRASOUND MODULATES PIEZO1-MEDIATED MECHANOTRANSDUCTION IN NEURO2A CELLS. **Wei-Wen Liu**, Pai-Chi Li

573-Pos Board B343
BIOMECHANICS OF HIV AND IMMUNE CELL INTERACTIONS INVESTIGATED USING MAGNETIC TWEEZER FORCE SPECTROSCOPY. **James L. Flewellen**, Pavel Tolar

574-Pos Board B344
MECHANICAL STRESS MODULATES CYTOSOLIC CA^{2+} IN MLO-Y4 OSTEOCYTE-LIKE CELLS. **Sheenah Lynn Bryant**, Elizabeth T. Leung, Daniel R. Prather, Conner Patricelli, Daniel Fologea

575-Pos Board B345
MECHANOSENSATION THROUGH RADICALS IN TENSED COLLAGEN. **Christopher Zapp**, Agnieszka Obarska-Kosinska, Csaba Daday, Reinhard Kappl, Frauke Gräter

576-Pos Board B346
A LEVER-LIKE TRANSDUCTION PATHWAY FOR LONG-DISTANCE CHEMICAL- AND MECHANO-GATING OF THE MECHANOSENSITIVE PIEZO1 CHANNEL. **Yanfeng Wang**, Shaopeng Chi, Qiancheng Zhao, Jianhua Wang, Tingxin Zhang, Jie Geng, Guang Li, Li Wang, Kun Wu, Yu Rao, Liansuo Zu, Wei He, Huifang Guo, Meng-Qiu Dong, Bailong Xiao

577-Pos Board B347 **EDUCATION TRAVEL AWARDEE**
RECOVERY OF EQUILIBRIUM FREE ENERGY FROM NON-EQUILIBRIUM THERMODYNAMICS WITH MECHANOSENSITIVE ION CHANNELS IN *E. COLI*. **Ugur Cetiner**, Oren Raz, Sergei Sukharev, Christopher Jarzynski

578-Pos Board B348
DECIPHERING BINDING CAPABILITIES OF HUMAN ANTIBODIES TO DEFINED PATTERNS OF ANTIGENS. **Björn Högberg**

579-Pos Board B349
DEVELOPMENT OF A BRET-BASED MOLECULAR TENSION SENSOR TO STUDY ALTERED TENSIONS IN DISEASE PATHOGENESIS. **Eric J. Aird**, Kassidy J. Tompkins, Wendy R. Gordon

580-Pos Board B350
USING A FLUCTUATION ANALYSIS OF LIMIT CYCLE OSCILLATIONS IN INNER EAR HAIR BUNDLES AS A NEW TEST OF LOW DIMENSIONAL DYNAMICAL MODELS. **Janaki K. Sheth**

581-Pos Board B351
ACTIVATION OF ENDOGENOUS PIEZO1 CHANNELS BY SHEAR STRESS IN EXCISED MEMBRANE PATCHES. **Jian Shi**, Baptiste Rode, David J. Beech

582-Pos Board B352
STRAINED COLLAGEN RESISTS BACTERIAL COLLAGENASE DEGRADATION. **Karanvir Saini**, Manorama Tiwari, Jerome Irianto, Charlotte Pfeifer, Cory Alvey, Dennis E. Discher

583-Pos Board B353
Education Travel Awardee
LIPID-GEL MODEL OF BIOLOGICAL MEMBRANES. **Zheng Shi**, Zachary T. Graber, Tobias Baumgart, Howard A. Stone, Adam E. Cohen

584-Pos Board B354
CELL TYPE SPECIFIC SPLICING OF PIEZO2 REGULATES MECHANOTRANSDUCTION. Marcin Szczot, Leah Pogorzala, Hans Jürgen Solinski, Mark Hoon, **Alexander T. Chesler**

Intracellular Calcium Channels and Calcium Sparks and Waves I (Boards B355–B374)

585-Pos Board B355
UNDERSTANDING THE MOLECULAR MECHANISM OF CATION PERMEATION IN THE CARDIAC RYANODINE RECEPTOR (RYR2) CHANNEL USING COMPUTATIONAL ELECTROPHYSIOLOGY. **Williams E. Miranda**, Van A. Ngo, S.R. Wayne Chen, Sergei Y. Noskov

586-Pos Board B356
FRET-BASED TRILATERATION APPLIED TO THE MAPPING OF CAM WITHIN THE RYANODINE RECEPTOR. **Bengt Svensson**, Robyn T. Rebbeck, David D. Thomas, Razvan L. Cornea

587-Pos Board B357
GENERATION AND CHARACTERIZATION OF CPVT1 CARDIOMYOCYTES USING HUMAN INDUCED PLURIPOTENT STEM CELLS AND CRISPR/CAS9 GENE EDITING. **Naohiro Yamaguchi**, Xiao-Hua Zhang, Hua Wei, Martin Morad

588-Pos Board B358
THE RYR2^{R420Q} MUTATION TRIGGERS CATECHOLAMINERGIC POLYMORPHIC VENTRICULAR TACHYCARDIA IN MOUSE CARDIOMYOCYTES VIA SR CALCIUM LOADING. **Miguel Fernandez-Tenorio**, Radoslav Janicek, Riccardo Rizzetto, Alexandra Zahradnikova Jr., Yue Yi Wang, Jean-Pierre Benitah, Esther Zorio, Ana M. Gomez, Ernst Niggli

589-Pos Board B359
DUAL ABLATION OF THE RYR2-S2808 AND RYR2-S2814 SITES INCREASES PROPENSITY FOR PRO-ARRHYTHMIC SPONTANEOUS CALCIUM RELEASES. **Duilio Michele Potenza**, Radoslav Janiček, Miguel Fernandez-Tenorio, Hector H. Valdivia, Ernst Niggli

590-Pos Board B360
SEARCH FOR TYPE 2 RYANODINE RECEPTOR INHIBITOR BY MONITORING ENDOPLASMIC RETICULUM CA^{2+}. **Mai Tamura**, Nagomi Kurebayashi, Takashi Murayama, Shuichi Mori, Mari Ishigami-Yuasa, Hiroyuki Kagechika, Junji Suzuki, Kazunori Kanemaru, Masamitsu Iino, Takashi Sakurai

591-Pos Board B361
REGULATION OF STORE CA^{2+} LEVEL IN HEK293 CELLS EXPRESSING TYPE 2 RYANODINE RECEPTOR (RYR2) WITH CPVT MUTATIONS. **Nagomi Kurebayashi**, Takashi Murayama, Ryosaku Ohta, Fumiyoshi Yamashita, Junji Suzuki, Kazunori Kanemaru, Masamitsu Iino, Takashi Sakurai

592-Pos Board B362
THE MECHANISM OF FLECAINIDE ACTION IN CPVT INVOLVES A DIRECT EFFECT ON RYR2. **Dmytro O. Kryshtal**, Daniel J. Blackwell, Nieves Gomez-Hurtado, Suzanne M. Batiste, Jeffrey N. Johnston, Björn C. Knollmann

593-Pos Board B363
NOVEL INHIBITORS OF LEAKY SKELETAL RYANODINE RECEPTOR CALCIUM CHANNELS DISCOVERED VIA FRET-BASED HIGH-THROUGHPUT SCREENING. **Claire E. Haskin**, Robyn T. Rebbeck, Gregory D. Gillispie, David D. Thomas, Razvan L. Cornea

594-Pos Board B364
A FUNCTIONAL SIGNIFICANCE OF AMINO-TERMINAL CYSTEINES OF RYR2. **Roman Nikolaienko**, Elisa Bovo, Daniel Kahn, Aleksey Zima

595-Pos Board B365
HIGH-THROUGHPUT SCREENING YIELDS ALLOSTERIC INHIBITORS OF LEAKY RYRS FOR THERAPEUTIC APPLICATIONS. Robyn T. Rebbeck, Xiaoqiong Dong, Kenneth S. Ginsburg, Daniel P. Singh, Gregory D. Gillispie, David D. Thomas, Bradley S. Launikonis, Donald M. Bers, **Razvan L. Cornea**

596-Pos Board B366
CRISPR/CAS9 CREATED CPVT1 ASSOCIATED RYR2 MUTATIONS RELIABLY REPRODUCES THE CALCIUM SIGNALING ABERRANCY IN HUMAN IPSC-CMS. **Xiaohua Zhang**, Hua Wei, Naohiro Yamaguchi, Martin Morad

597-Pos Board B367
MOLECULAR SCALE VISUALISATION OF VARIABLE CLUSTERING PROPERTIES OF THE CARDIAC RYANODINE RECEPTOR. ID Jayasinghe, AH Clowsley, R Lin, T Lutz, Carl Harrison, EM Green, D Baddeley, L Di Michele, **C Soeller**

598-Pos Board B368
MOLECULES TO MEMBRANES: THE CALCIUM RELEASE UNIT. **Sophia P. Hirakis**, Thomas M. Bartol, Terrence J. Sejnowski, Rommie E. Amaro

599-Pos Board B369
USING STATISTICAL MECHANICS TO UNDERSTAND CALCIUM SPARKS. **Anna V. Maltsev**, Michael D. Stern, Victor A. Maltsev

600-Pos Board B370
A NOVEL COMPUTATIONAL MODEL OF THE RABBIT ATRIAL MYOCYTE OFFERS INSIGHT INTO CALCIUM WAVE PROPAGATION FAILURE. **Marcia R. Vagos**, Jordi Heijman, Hermenegild Arevalo, Mary M. Maleckar, Bernardo Lino de Oliveira, Ulrich Schotten, Joakim Sundnes

601-Pos Board B371
THE MODELING OF CALCIUM DYNAMICS WITHIN THE DYADIC SPACE USING RANDOM WALKS. **Jessica Au**, Zana Coulibaly, Leighton Chen, Daisuke Sato

602-Pos Board B372
MOLECULAR CONTACTS BETWEEN MCU AND ITS REGULATORY MACHINERY. **Charles Phillips**

603-Pos Board B373
THE FUNCTION OF MICU2 IN MITOCHONDRIAL CALCIUM UNIPORT. **Kai-Ting Huang**, Melaine Paillard, Peter Varnai, Gyorgy Hajnoczky

604-Pos Board B374
MICU2 RESTRICTS SPATIAL CROSSTALK BETWEEN $INSP_3R$ AND MCU CHANNELS BY REGULATING THRESHOLD AND GAIN OF MICU1-MEDIATED INHIBITION AND ACTIVATION OF MCU. **Riley Payne**, Henry Hoff, Anne Roskowski, J. Kevin Foskett

Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating I (Boards B375–B397)

605-Pos Board B375
INVESTIGATING CYCLIC DINUCLEOTIDE BINDING TO HCN CHANNELS BY SURFACE PLASMON RESONANCE AND ISOTHERMAL CALORIMETRY. Sebastien Hayoz, Purushottam B. Tiwari, Grzegorz Piszczek, Aykut Üren, **Tinatin I. Brelidze**

606-Pos Board B376
EXAMINING DRUG BINDING IN HCN CHANNELS. **Jeremie Tanguay**, Nazzareno D'avanzo

607-Pos Board B377
MOLECULAR INTERACTIONS THAT CONTRIBUTE TO THE REGULATION OF HCN CHANNELS BY KCNE2. **Yoann Lussier**, Karen Callahan, Rikard Blunck, Nazzareno D'Avanzo

608-Pos Board B378
TOWARDS REVEALING A COOPERATIVE MECHANISM OF CAMP BINDING TO HCN2 CYCLIC NUCLEOTIDE BINDING DOMAINS AT THE SINGLE-MOLECULE LEVEL. **David S. White**, Marcel P. Goldschen-Ohm, Ruohan Zhang, Vadim A. Klenchin, Randall H. Goldsmith, Baron Chanda

609-Pos Board B379
ROLE OF INTERACTIONS BETWEEN TRANSMEMBRANE AND C-TERMINAL REGIONS IN VOLTAGE-DEPENDENT ACTIVATION OF HCN4 CHANNELS. **Dana A. Page**, Kaylee E. Magee, Jessica Li, Edgar C. Young

610-Pos Board B380
ETHANOL INCREASES NEURONAL FIRING BY REGULATING $PI(4,5)P_2$ SENSITIVITY OF M-TYPE K^+ CHANNELS. **Kwon-Woo Kim**, Byung-Chang Suh

611-Pos Board B381
MOLECULAR BASIS OF VOLTAGE ACTIVATION OF AN EPILEPSY-CAUSING MUTATION IN THE S4 OF KCNQ3 CHANNEL. **Rene Barro-Soria**

612-Pos Board B382
USE- AND STATE-DEPENDENT BINDING OF KCNQ CHANNEL OPENERS. **Caroline K. Wang**, Harley T. Kurata, Alice W. Wang

613-Pos Board B383
EFFECT OF CAMP WHEN VARYING THE NUMBER OF KCNE1 SUBUNITS IN THE IKS COMPLEX. **Emely Thompson**, Jodene Eldstrom, Maartje Westhoff, Donald McAfee, David Fedida

614-Pos Board B384
MOLECULAR MECHANISM OF POLYUNSATURATED FATTY ACID ANALOGUES AS KV7.1-CHANNEL MODULATORS. **Sara I. Liin**, Rosamary Ramentol, Rene Barro-Soria, H. Peter Larsson

615-Pos Board B385
MODULATION OF $K_V7.1$ BY NA_VB1 SUBUNIT. Elisa Carrillo-Flores, **Carlos A. Villalba-Galea**

616-Pos Board B386 EDUCATION TRAVEL AWARDEE
COMPREHENSIVE ASSESSMENT OF DISEASE MUTANT FORMS OF THE HUMAN KCNQ1 POTASSIUM CHANNEL. **Hui Huang**, Georg Kuenze, Jarrod Smith, Keenan Taylor, Amanda Duran, Jens Meiler, Carlos Vanoye, Alfred George, Charles Sanders

617-Pos Board B387
A NON-CANONICAL VSD-PORE COUPLING IS RESPONSIBLE FOR THE AO STATE OF KCNQ1 CHANNELS. **Panpan Hou**

618-Pos Board B388
PROPERTIES OF POLYUNSATURATED FATTY ACID TAIL INFLUENCE AFFINITY FOR IKS CHANNEL. **Briana Watkins**, Sara Liin, Peter Larsson

619-Pos Board B389
PROBING THE MOLECULAR MECHANISM OF POLYUNSATURATED FATTY ACID MODULATION OF THE I_{KS} CHANNEL. **Sammy Yazdi**, Sara Liin

620-Pos Board B390
COMBINING POPULATION WHOLE EXOME SEQUENCING AND FUNCTIONAL ANALYSIS TO DETECT LQT1. **Cassandra M. Hartle**, Jonathan Z. Luo, Ann N. Stepanchick, Uyenlinh L. Mirshahi, Dustin N. Hartzel, Kandamurugu Manickam, Michael F. Murray, Tooraj Mirshahi

621-Pos Board B391
MUTATIONS IN KV7.5 CHANNELS ASSOCIATED WITH INTELLECTUAL DISABILITY OR EPILEPTIC ENCEPHALOPATHY. Anna Lehman, **Samrat Thouta**, Grazia M. S. Mancini, Marjon van Slegtenhorst, Sakkubai Naidu, Sonal Desai, Kirsty McWalter, Richard Person, Jill Mwenifumbo, Ramona Salvarinova, Ilaria Guella, Marna B McKenzie, Matthew J. Farrer, Anita Datta, Mary B. Connolly, Michelle Demos, Somayeh Mojard Kalkhoran, Damon Poburko, Jan M. Friedman, Thomas Claydon

622-Pos Board B392
ACTIVATION OF *N*-METHYL-*D*-ASPARTATE RECEPTOR INHIBITS ENKEPHALINERGIC NEURONS IN THE SUPERFICIAL DORSAL HORN OF MOUSE SPINAL CORD. **Eiko Kato**, Yuuichi Hori

623-Pos Board B393
EXOTIC PROPERTIES OF A VOLTAGE GATED PROTON CHANNEL IN THE SNAIL *HELISOMA TRIVOLVIS*. Vladimir V. Cherny, Sarah Thomas, Deri Morgan, Susan ME Smith, **Thomas E. DeCoursey**

624-Pos Board B394
GATING CURRENTS IN HV1 PROTON CHANNELS. Victor De La Rosa, **I. Scott Ramsey**

625-Pos Board B395
RAPID GATING KINETICS OF A VOLTAGE GATED PROTON CHANNEL IN THE SNAIL *HELISOMA TRIVOLVIS*. Sarah A. Thomas, Vladimir V. Cherny, Deri Morgan, Liana Artinian, Vincent L. Rehder, Thomas E. DeCoursey, **Susan M. E. Smith**

626-Pos Board B396
INSIGHT INTO THE ROLE OF HV1 C-TERMINAL DOMAIN IN DIMER STABILIZATION. Panisak Boonamnaj, **Pornthep Sompornpisut**

627-Pos Board B397
ZN^{2+} MODULATES HV1 PROTON CHANNEL GATING VIA CONFORMATIONAL COUPLING TO AN INTRACELLULAR COULOMBIC NETWORK. **Ashley L. Bennett**, Victor De La Rosa, I. Scott Ramsey

Ligand-gated Channels I (Boards B398–B425)

628-Pos Board B398
ACTIVATION AND DESENSITIZATION MECHANISM OF AMPA RECEPTOR-TARP COMPLEX BY CRYO-EM. Shanshuang Chen, **Yan Zhao**, Yuhang Wang, Mrinal Shekhar, Emad Tajkhorshid, Eric Gouaux

630-Pos Board B400
QUANTIFYING KINETIC TRANSITIONS BETWEEN NMDA RECEPTOR GATING MODES. **Gary J. Iacobucci**, Gabriela K. Popescu

629-Pos Board B399
SINGLE MOLECULE FRET STUDIES INTO THE EFFECTS OF SODIUM ON KAINATE RECEPTOR DYNAMICS. **Douglas Litwin**, Sana Shaikh, Vladimir Berka, Vasanthi Jayaraman

631-Pos Board B401
EFFECTS OF T686A MUTATION ON THE STRUCTURAL STABILITY OF THE AMPA RECEPTOR LIGAND-BINDING DOMAIN. **Hiraku Oshima**, Suyong Re, Masayoshi Sakakura, Hideo Takahashi, Yuji Sugita

632-Pos Board B402
SUBUNIT INDEPENDENCE IN AMPA TYPE GLUTAMATE RECEPTORS. **Jelena Baranovic**, Andrew J. R. Plested

633-Pos Board B403
SINGLE-CHANNEL STUDY OF AMPA RECEPTORS RESTRAINED BY AN INTER-SUBUNIT ZINC BRIDGE. **Sebastian Opfermann**, Jelena Baranovic, Andrew J. R. Plested

634-Pos Board B404
FUNCTIONAL VALIDATION OF HETEROMERIC KAINATE RECEPTOR MODELS. Teresa Paramo, Patricia MGE Brown, Maria Musgaard, Derek Bowie, **Philip Biggin**

635-Pos Board B405
ASSEMBLY OF KAINATE AND AMPA RECEPTORS. **Mark L. Mayer**, Huaying Zhao, Suvendu Lomash, Sagar Chittori, Carla Glasser, Peter Schuck

636-Pos Board B406
MEMBRANE LIPID COMPOSITIONS CONTROL DYE-PERMEABLE PORE OF THE P2X7 RECEPTOR. **Akira Karasawa**, Kevin Michalski, Polina Mikhelzon, Toshimitsu Kawate

637-Pos Board B407
CHARACTERIZATION OF HEARING LOSS-RELATED MUTATIONS IN ATP-ACTIVATED ION CHANNELS. **Benjamin I. George**, Mufeng Li, Kenton J. Swartz

638-Pos Board B408
MAGNESIUM MODULATION OF P2X RECEPTOR CHANNELS. **Mufeng Li**, Shai D. Silberberg, Kenton J. Swartz

639-Pos Board B409
ROLE OF THE LEFT FLIPPER DOMAIN IN THE HOMOTRIMERIC ASSEMBLY AND FUNCTION OF P2X RECEPTORS. **Angela Hein**, Achim Kless, Ralf Hausmann, Fritz Markwardt, Günther Schmalzing

640-Pos Board B410
CONFOCAL MICROSCOPY OF SKATE ELECTRORECEPTORS: FLUORESCENT ANTIBODIES USED TO LOCALIZE CAV1.3 AND BK CHANNELS. **William T. Clusin**

641-Pos Board B411
CRYSTAL STRUCTURE OF A MYCOBACTERIAL RCK DOMAIN. **Alexandre G. Vouga**, Katia K. Matychak, Michael E. Rockman, Sebastian Garcia, Sebastian Brauchi, Brad S. Rothberg

642-Pos Board B412
THE ROLE AND DETERMINANTS OF BIPHASIC REGULATION OF SK CHANNELS BY CA^{2+} IN HYPERTROPHIC RAT VENTRICULAR CARDIOMYOCYTES. Radmila Terentyeva, Iuliia Polina, Shanna Hamilton, Kevin R. Murphy, Gideon Koren, **Dmitry Terentyev**

643-Pos Board B413
MOLECULAR BASIS OF THE NUCLEOTIDE-DEPENDENT CONFORMATIONAL CHANGE IN AN RCK DOMAIN. **Celso M. Teixeira-Duarte**, Fátima Fonseca, João H. Morais-Cabral

644-Pos Board B414
A MUTATION IN THE INTRINSIVALLY DISORDERED FRAGMENT OF SK2 CHANNEL CONFERS CA^{2+} HYPERSENSITIVITY. Young Woo Nam, Saba N. Baskoylu, Meng Cui, Razan Orfali, Anne C. Hart, **Miao Zhang**

645-Pos Board B415
ROLE OF ATP SENSITIVE POTASSIUM CHANNEL IN EXERCISE-TRAINING MEDIATED ADAPTATIONS IN VENTRICULAR REPOLARIZATION. **Xinrui Wang**, Robert H. Fitts

646-Pos Board B416
GATING MECHANISM INVESTIGATION IN HOMOTETRAMER CNGA1 ION CHANNEL BY COARSE-GRAINED MOLECULAR DYNAMICS SIMULATION. **Mangesh V. Damre**, Alejandro Giorgetti, Vincent Torre

647-Pos Board B417
FUNCTIONAL AND SPECTROSCOPIC STUDIES OF PROKARYOTIC CYCLIC NUCLEOTIDE-GATED ION CHANNELS. **Eric G.B. Evans**, Jacob L.W. Morgan, Zachary M. James, Stefan Stoll, William N. Zagotta

648-Pos Board B418
FUNCTIONAL CHARACTERIZATION OF THE CYCLIC NUCLEOTIDE-GATED CHANNEL STHK. **Xiaolong Gao**, Philipp A.M. Schmidpeter, Crina M. Nimigean

649-Pos Board B419
QUANTITATIVE PROTEOMIC ANALYSIS OF THE PUTATIVE NAADP-TPC SIGNALING COMPLEX. Jiyuan Zhang, Xin Guan, Qin Li, **Jiusheng Yan**

650-Pos Board B420
CMOS-INTEGRATED ELECTROPHYSIOLOGY AND DATA ANALYSIS BY EXTENDED BETA DISTRIBUTIONS REVEAL NANOSECOND CLOSED STATE FLICKERING OF THE TYPE-1 RYANODINE RECEPTOR. **Peijie Ong**, Andreas J. Hartel, Indra Schröder, M Hunter Giese, Siddharth Shekar, Oliver Clarke, Andrew Marks, Wayne Hendrickson, Kenneth L. Shepard

651-Pos Board B421
COMPARING ION TRANSPORT BETWEEN A CHLORIDE CHANNEL AND A PHOSPHOLIPID SCRAMBLASE IN THE TMEM16 FAMILY. **Dung M. Nguyen**, Louisa S. Chen, Wei-Ping Yu, Tsung-Yu Chen

652-Pos Board B422
TOWARDS THE IDENTIFICATION OF THE NEUROPEPTIDE BINDING SITE OF HYDRA NA^+ CHANNELS (HYNACS). **Axel Schmidt**, Katrin Augustinowski, Marc Christopher Assmann, Stefan Gründer

653-Pos Board B423
INHIBITOR-INDUCED CONFORMATIONAL CHANGES IN ASIC1A. **Camilla Lund**, Christian B. Borg, Timothy Lynagh, Stephan A. Pless

654-Pos Board B424
EVOLUTION OF ACID-SENSING ION CHANNELS. **Timothy Lynagh**, Janne M. Colding, Stephan A. Pless

655-Pos Board B425
PEPTIDE MODULATION OF ACID-SENSING ION CHANNELS. **Christian B. Borg**, Linda M. Haugaard-Kedström, Timothy Lynagh, Kristian Strømgaard, Stephan A. Pless

Ion Channel Regulatory Mechanisms I (Boards B426–B437)

656-Pos Board B426
INTRAGENIC RESCUE OF THE FUNCTION OF LONG QT SYNDROME-CAUSING HERG MUTANT CHANNELS. **Jordan H. Davis**, Jun Guo, Shetuan Zhang

657-Pos Board B427
REGULATION OF HERG C-TERMINAL ISOFORM EXPRESSION BY *KCNH2* INTRONIC ELEMENTS. **Matthew R. Stump**, Sequoyah N. Tate, Rachel T. Nguyen, Anastasiya V. Goldys-Olson, Qiuming Gong, Zhengfeng Zhou

658-Pos Board B428
DIFFERENTIAL REGULATION OF HERG CURRENT AND EXPRESSION BY ACTIVATION OF PROTEIN KINASE C. **Morgan Sutherland-Deveen**, Shetuan Zhang

659-Pos Board B429
THE ROLE OF GLYCOSYLATION IN HERG CHANNEL STABILITY AND SUSCEPTIBILITY TO EXTRACELLULAR PROTEASES. **Shawn M. Lamothe**, Maggie Hulbert, Jun Guo, Wentao Li, Tonghua Yang, Shetuan Zhang

660-Pos Board B430 **EDUCATION TRAVEL AWARDEE**
INVESTIGATING CAMP-MEDIATED PROTEIN-PROTEIN INTERACTIONS AS MODULATORS OF HERG AND K_VLQT1 PLASMA MEMBRANE EXPRESSION. **Laurel F. Kinman**, Louise E. O. Darling

661-Pos Board B431
REGULATION OF BK CHANNEL AUXILIARY GAMMA SUBUNITS BY N-GLYCOSYLATION. Qin Li, Jamie Smith, Karen Yen, **Jiusheng Yan**

662-Pos Board B432
HYDROGEN SULFIDE REGULATES THE ACTIVITY OF MITOCHONDRIAL LARGE CONDUCTANCE CALCIUM ACTIVATED POTASSIUM CHANNEL ($MITOBK_{CA}$). **Agnieszka Walewska**, Piotr Koprowski, Adam Szewczyk

663-Pos Board B433
B2 IS NOT REQUIRED FOR DAYTIME ACTIVATION OF BK CURRENTS BY L-TYPE CALCIUM CHANNELS. Joshua Whitt, Jenna Harvey, **Andrea Meredith**

664-Pos Board B434
BK CHANNELS ARE ACTIVATED BY DISTINCT CALCIUM SOURCES DURING DAY AND NIGHT IN THE CIRCADIAN CLOCK. Joshua Whitt, Beth McNally, Jenna Harvey, **Andrea Meredith**

665-Pos Board B435
ION CONDUCTANCE OF ORAI1 CHANNEL SELECTIVITY-FILTER HETERODIMERS. **Xiangyu Cai**, Yandong Zhou, Robert M. Nwokonko, Natalia A. Loktionova, Donald L. Gill

666-Pos Board B436
PLASMA MEMBRANE ORAI1 AND SEPTIN ORGANIZATION DURING CALCIUM SIGNALING. **Zachary Katz**, Chen Zhang, Ariel Quintana, Bjorn Lillemeier, Patrick G. Hogan

667-Pos Board B437
A MOLECULAR MECHANISM FOR ORAI1 CHANNEL ACTIVATION BY STIM1. **Raz Palty**

Other Channels I (Boards B438–B449)

668-Pos Board B438
INFERIOR OLIVARY TMEM16B MEDIATES CEREBELLAR MOTOR LEARNING. Yang Zhang, Zhushan Zhang, Shaohua Xiao, Trieu Le, Son Le, Lily Jan, Jason Tien, **Huanghe Yang**

669-Pos Board B439
NONEQUILIBRIUM MOLECULAR DYNAMICS (MD) SIMULATIONS OF MULTI-ION PERMEATION IN KCSA. **Robert A. Farley**, Sarah Holzmann, Cameron Kopp, Yi Shi, Yibo Wang, Sergei Noskov, Van A. Ngo

670-Pos Board B440
PERMEATION OF ANTIBIOTICS ACROSS PORINS. **Mathias Winterhalter**, Satya Prathysha Bhamidimarri, Ishan Ghai, Jiajun Wang

671-Pos Board B441
THE RESIDUES IN THE AMINO TERMINAL AND FIRST EXTRACELLULAR DOMAINS AND INTRACELLULAR MAGNESIUM INFLUENCE CX50 UNITARY GAP JUNCTION CHANNEL CONDUCTANCE. Mary Grace Tejada, Swathy Sudhakar, Hiroshi Aoyama, **Donglin Bai**

672-Pos Board B442
INVESTIGATION OF ANION SELECTIVITY OF CLC-K CHANNELS. Laura Lagostena, Michael Pusch, **Alessandra Picollo**

673-Pos Board B443 EDUCATION TRAVEL AWARDEE
IONIC PERMEATION AND THE NATURE OF ION SELECTIVITY IN CLAUDIN PARACELLULAR CHANNELS. **Priyanka Samanta**, Yitang Wang, Shadi Fuladi, Jinjing Zou, Le Shen, Christopher Weber, Fatemeh Khalili-Araghi

674-Pos Board B444
BACTERIAL PORINS AS ELECTROSTATIC NANOSIEVES: EXPLORING TRANSPORT RULES OF SMALL POLAR MOLECULES. Harsha Bajaj, Silvia Acosta Gutierrez, Igor Bodrenko, Giuliano Malloci, Mariano Andrea Scorciapino, Mathias Winterhalter, **Matteo Ceccarelli**

675-Pos Board B445 EDUCATION TRAVEL AWARDEE
MECHANISM OF PH GATING IN CX26 GAP JUNCTION CHANNELS REVEALED BY CRYOEM, CROSSLINKING AND HDX. **Maciej Jagielnicki**, Ali Khan, William E. McIntire, Michael D. Purdy, Venkat Dharmarajan, Patrick R. Griffin, Mark Yeager

676-Pos Board B446
THE EFFECT OF BARREL GEOMETRY ON ION CONDUCTION THROUGH *E. COLI* OMPX. **Curtis Balusek**, Dirk Linke, James C. Gumbart

677-Pos Board B447
A NEWLY AVAILABLE TOOL FOR FUNCTIONAL ANNOTATION OF ION CHANNEL STRUCTURES BASED ON MOLECULAR DYNAMICS SIMULATIONS. **Gianni Klesse**, Shanlin Rao, Phillip J. Stansfeld, Mark S. P. Sansom, Stephen J. Tucker

678-Pos Board B448
HYDROPHOBIC GATING: EXAMINATION OF RECENT ION CHANNEL STRUCTURES. **Shanlin Rao**, Gianni Klesse, Stephen J. Tucker, Mark S.P. Sansom

679-Pos Board B449
CONFORMATIONAL LANDSCAPE OF SUBSTRATE SPECIFICITY IN THE FRUCTOSE TRANSPORTER GLUT5 DETERMINED VIA MBAR MOLECULAR DYNAMICS. **Trevor Gokey**, Jesi Lee, Anton B. Guliaev

Skeletal Muscle Mechanics, Structure, and Regulation I (Boards B450–B463)

680-Pos Board B450
EVIDENCE FOR ACTIN FILAMENT STRUCTURAL CHANGES AFTER ACTIVE SHORTENING IN SKINNED MUSCLE BUNDLES. **Venus Joumaa**, Ian Curtis Smith, Atsuki Fakutani, Tim Leonard, Weikang Ma, Thomas Irving, Walter Herzog

681-Pos Board B451
RESONANT REFLECTION SPECTROSCOPY AND OPTICAL INTERFEROMETRY TO MEASURE SARCOMERE STRUCTURE IN MUSCLE. Kevin W. Young, Bill P.-P. Kuo, Shawn M. O'Connor, Stojan Radic, **Richard L. Lieber**

682-Pos Board B452
RESIDUAL FORCE ENHANCEMENT IS ATTENUATED BY SHORTENING IN A MAGNITUDE-DEPENDENT MANNER. **Atsuki Fukutani**, Walter Herzog

683-Pos Board B453
THE NONLINEAR MECHANICAL PROPERTIES OF TITIN MODULATE STRIATED MUSCLE CONTRACTION EFFICIENCY. **Joseph D. Powers**, C. David Williams, Michael Regnier, Thomas L. Daniel

684-Pos Board B454
TROPOMYOSIN TRANSLOCATION ON F-ACTIN REVEALED BY MOLECULAR DYNAMICS SIMULATIONS. **Farooq A. Kiani**, Michael J. Rynkiewicz, Stefan Fischer, William Lehman

685-Pos Board B455
A NOVEL FLNC FRAMESHIFT AND AN OBSCN VARIANT IN A FAMILY WITH DISTAL MUSCULAR DISTROPHY. **Daniela Rossi**, Johanna Palmio, Anni Evilä, Stefania Lorenzini, Galli Lucia, Virginia Barone, Tracy A. Caldwell, Rachel A. Polike, Aldkheil Esraa, Berndsen E. Christopher, Nathan T. Wright, Peter Hackmann, Bruno Eymard, Bjarne Udd, Vincenzo Sorrentino

686-Pos Board B456
IS THIN FILAMENT MOVEMENT SWITCHED ON AND OFF BY A THERMODYNAMIC PROCESS ALONE. **Henry G. Zot**, Bryant Chase, Javier E. Hasbun, Jose R. Pinto

687-Pos Board B457
MAPPING ALLOSTERIC PATHWAYS IN THE MYOSIN MOTOR DOMAIN VIA THE W-HELIX/TRANSDUCER REGION LEADING TO FORCE PRODUCTION. **Peter Franz**, Wiebke Ewert, Matthias Preller, Georgios Tsiavaliaris

688-Pos Board B458
SARCOMERE BREATHING: DOES FLOW WITHIN CONTRACTING MYOFIBRILS INFLUENCE SUBSTRATE DELIVERY? **Julie A. Cass**, Anette L. Hosoi, Tom L. Daniel

689-Pos Board B459
MYBP-C PHOSPHORYLATION ACCELERATES SARCOMERE SHORTENING AS THIN FILAMENTS SLIDE THROUGH THE C-ZONE. **Joel C. Robinett**, Laurin M. Hanft, Kerry S. McDonald

690-Pos Board B460
THE SKELETAL MUSCLE MOLECULAR CLOCK REGULATES TITIN SPLICING AND PROTEIN EXPRESSION. **Lance A. Riley**, Joseph R. Mijares, Xiping Zhang, Karyn A. Esser

691-Pos Board B461
3-D STRUCTURE OF Z-DISKS ISOLATED FROM THE FLIGHT MUSCLE OF LETHOCERUS INDICUS. **Fatemeh A. Yeganeh**, Corrine Summerill, Zhongjun Hu, Hamidreza Rahmani, Dianne W. Taylor, Kenneth A. Taylor

692-Pos Board B462
ROLE OF THICK FILAMENT INACTIVATION DURING ISOTONIC SHORTENING IN STRIATED MUSCLE. **Kerry S. McDonald**, Kenneth S. Campbell

693-Pos Board B463
SEX-RELATED DIFFERENCES IN SARCOMERIC PROTEIN EXPRESSION IN GUINEA PIG MASTICATORY MUSCLES. **Peter J. Reiser**, Natalya Belevych, Kelly Doan, Jarid R. Jones, Suarav Kadatane

Cardiac Muscle Regulation I (Boards B464–B478)

694-Pos Board B464
CA^{2+}-INDUCED MOVEMENT OF TROPOMYOSIN ON NATIVE CARDIAC THIN FILAMENTS REVEALED BY CRYOELECTRON MICROSCOPY. Cristina Risi, Betty Belknap, David H. Heeley, Howard D. White, Gunnar Schröder, **Vitold E. Galkin**

695-Pos Board B465
SUPER-STABLE PHOSPHORYLATION DEPENDENT INTRAMOLECULAR INTERACTIONS REGULATE THE STRUCTURE AND FUNCTION OF MYBP-C. Sheema Rahmanseresht, Arthur J. Michalek, James Gulick, Jeffrey Robbins, David M. Warshaw, **Michael J. Previs**

696-Pos Board B466
EFFECT OF A UNIQUE POLYMOPHISM IN TROPOMYOSIN-BINDING SITE 1 OF TOAD SLOW SKELETAL MUSCLE TROPONIN T ON CARDIAC FUNCTION. **Hanzhong Feng**, Shirin Akhter, Hui Wang, Jian-Ping Jin

697-Pos Board B467
HYPERTROPHIC CARDIOMYOPATHY MUTATIONS DISRUPT HUMAN BETA CARDIAC MYOSIN INTRAMOLECULAR INTERACTIONS LEADING TO INCREASED MYOSIN ACTIVITY. **Arjun S. Adhikari**, Darshan V. Trivedi, Saswata S. Sarkar, Kathleen M. Ruppel, Spudich A. James

698-Pos Board B468
DETECTION OF THE SUPER-RELAXED STATE IN CARDIAC HEAVY MEROMYOSIN. **John A. Rohde**, Lien Phung, David D. Thomas, Joseph M. Muretta

699-Pos Board B469
SIGNALING PATHWAYS AFFECTED IN CARDIAC CELLS BY IBUPROFEN. **Shuchita Tiwari**, Aldrin Gomes

700-Pos Board B470
SUPPRESSING DETYROSINATED MICROTUBULES IMPROVES MY-CUTE FUNCTION IN HUMAN HEART FAILURE. **Christina Yingxian Chen**, Matthew A. Caporizzo, Kenneth Bedi, Michael P. Morley, Kenneth B. Margulies, Benjamin L. Prosser

701-Pos Board B471
DISSECTING THE MOLECULAR MECHANISM FOR FAMILIAL CARDIOMYOPATHIES. **Sarah R. Clippinger**, Lina Greenberg, Michael J. Greenberg

702-Pos Board B472
THE EPAC2 INHIBITOR ESI-05 PROLONGS THE ACTION POTENTIAL AND INCREASES SUSCEPTIBILITY TO EAD ARRHYTHMIAS. **Hannah M. Kirton**, Moza Al-Owais, Chris Peers, Derek S. Steele

703-Pos Board B473
RELATION BETWEEN VOLUNTARY EXERCISE FREQUENCY AND CARDIAC FUNCTION IN DILATED CARDIOMYOPATHY MODEL MICE. **Masami Sugihara**, Ryo Kakigi, Takashi Murayama, Takashi Miida, Takashi Sakurai, Sachio Morimoto, Nagomi Kurebayashi

704-Pos Board B474
THERAPEUTIC EFFECTS OF GHRELIN AND DES-ACYL GHRELIN ON DOXORUBICIN-INDUCED CARDIOTOXICITY. **Miki Nonaka**, Nagomi Kurebayashi, Takashi Murayama, Masami Sugihara, Hiroshi Hosoda, Shosei Kishida, Kenji Kangawa, Takashi Sakurai, Yasuhito Uezono

705-Pos Board B475
ROLE OF ELECTROSTATIC INTERACTIONS IN THE ISOFORM-SPECIFIC RATE OF ADP RELEASE FROM HUMAN CARDIAC MYOSIN. **Akhil Gargey**, Jinghua Ge, Yaroslav Tkachev, Yuri Nesmelov

706-Pos Board B476
Education Travel Awardee
CARDIOMYOPATHY-LINKED MUTATION K15N IN TROPOMYOSIN ALTERS CALCIUM-DEPENDENT REGULATION OF RECONSTITUTED CARDIAC THIN FILAMENTS. **Thu N. Ly**, William Schlecht, Mert Colpan, Wen-Ji Dong, Alla S. Kostyukova

707-Pos Board B477
VERY-LOW-DENSITY LIPOPROTEIN OF METABOLIC SYNDROME SUPPRESSES STORE-OPERATED CALCIUM ENTRY THROUGH MODULATIONS OF STIM1 IN HL-1 ATRIAL MYOCYTES. **Hsiang-Chun Lee**, Yi-Lin Shiou, I-Chieh Huang

708-Pos Board B478
A MOLECULAR APPROACH TO UNDERSTAND THE SUPER-RELAXED STATE OF MYOSIN OBSERVED IN CARDIAC MUSCLE. **Saswata S. Sarkar**, Darshan V. Trivedi, Makenna M. Morck, Arjun S. Adhikari, Kathleen M. Ruppel, James A. Spudich

Actin Structure, Dynamics, and Associated Proteins (Boards B479–B501)

709-Pos Board B479
INSIGHTS INTO THE COOPERATIVE NATURE OF ATP HYDROLYSIS IN ACTIN FILAMENTS. **Harshwardhan H. Katkar**, Aram Davtyan, Aleksander E. P. Durumeric, Glen M. Hocky, Anthony Schramm, Enrique M. De La Cruz, Gregory A. Voth

711-Pos Board B481
FUNCTIONS AND DYNAMICS OF ACTIN WAVES. **Simone Mortal**, Federico Iseppon, Andrea Perissinotto, Elisa D'Este, Dan Cojoc, Luisa M. R. Napolitano, Vincent Torre

710-Pos Board B480
NUCLEOTIDE AND POLYMERIZATION EFFECTS ON THE STRUCTURE AND DYNAMICS OF ACTIN. **Lauren Jepsen**, David Sept

712-Pos Board B482
THE MECHANOSENSITIVITY OF ACTIN BUNDLES. **Emiko Suzuki**, Antoine Jégou, Guillaume Romet-Lemonne

713-Pos Board B483
ELECTROPHORETIC CYTOMETRY ELUCIDATES STRESS-INDUCED ACTIN CYTOSKELETAL REORGANIZATION. **Julea Vlassakis**, Ryo Higuchi-Sanabria, Andrew Dillin, AMY E. Herr

714-Pos Board B484
CYTOSKELETAL REMODELING DURING OXIDATIVE AND THERMAL STRESS. **Federico Sesti**, Rahul Patel

715-Pos Board B485
EFFECTS OF MECHANICAL STRESS ON PERIODONTAL LIGAMENT. **Ayano Fujita**, Masatoshi Morimatsu, Masayoshi Nishiyama, Shogo Takashiba, Keiji Naruse

716-Pos Board B486
MODELING OF ACTOMYOSIN NETWORKS WITH A MOLECULAR UNDERPINNING OF CROSS-LINKER PROTEINS. **James Liman**, Yossi Eliaz, Herbert Levine, Margaret S. Cheung

717-Pos Board B487
VISUALIZING DIRECT INTERACTIONS IN THE MECHANOBIOME. **Priyanka Kothari**, Vasudha Srivastava, Vasudha Aggarwal, Irina Tchernyshyov, Jennifer Van Eyk, Taekjip Ha, Douglas N. Robinson

718-Pos Board B488
PKC PHOSPHORYLATION AND MU-CALPAIN TRUNCATION OF THE C-TERMINAL END SEGMENT OF SM22ALPHA REGULATES ITS F-ACTIN BINDING AND MECHANICAL TENSION MODULATED DEGRADATION. **Hui Wang**, M. Moazzem Hossain, Jian-Ping Jin

719-Pos Board B489
MODELING PULLING FORCE GENERATION BY ENSEMBLES OF POLYMERIZING ACTIN FILAMENTS. **Fowad Motahari**, A. E. Carlsson

720-Pos Board B490
FORMIN'S PROCESSIVITY UNDER APPLIED FORCE. **LuYan Cao**, Mikaël Kerleau, Antoine Jégou, Guillaume Romet-Lemonne

721-Pos Board B491
MDIA1 SENSES BOTH FORCE AND TORQUE DURING F-ACTIN FILAMENT POLYMERISATION. **Miao Yu**, Xin Yuan, Michael Sheetz, Alexander Bershadsky, Jie Yan

722-Pos Board B492
COMPETITION AMONG MULTIPLE PATHWAYS FOR SUBUNIT ADDITION IN FORMIN-MEDIATED ACTIN FILAMENT ELONGATION. Mark E. Zweifel, **Naomi Courtemanche**

723-Pos Board B493
MULTISCALE MODEL OF THE FORMIN HOMOLOGY 1 DOMAIN ILLUSTRATES ITS ROLE IN REGULATION OF ACTIN POLYMERIZATION. **Brandon G. Horan**, Gül Zerze, Gregory L. Dignon, Young C. Kim, Dimitrios Vavylonis, Jeetain Mittal

724-Pos Board B494
THE *DROSOPHILA* FORMIN FHOD NUCLEATES ACTIN FILAMENTS. **Aanand A. Patel**, Zeynep A. Oztug Durer, Aaron P. van Loon, Kathryn V. Bremer, Margot E. Quinlan

725-Pos Board B495
COFILIN INDUCES A LOCAL CHANGE IN THE TWIST OF ACTIN FILAMENTS. **Andrew R. Huehn**, Wenxiang Cao, W. Austin Elam, Enrique De La Cruz, Charles V. Sindelar

726-Pos Board B496
MECHANOTRANSMISSION AND MECHANOSENSING OF HUMAN ALPHA-ACTININ 1. **Shimin Le**, Xian Hu, Mingxi Yao, Hu Chen, Michael P. Sheetz, Jie Yan

727-Pos Board B497 EDUCATION TRAVEL AWARDEE
COMPUTATIONAL MODELING OF ENA/VASP INTERACTING WITH ACTIN FILAMENT TO UNDERSTAND ITS PROCESSIVITY. **Fikret Aydin**, Aleksander Durumeric, Harshwardhan Katkar, Gregory A. Voth

728-Pos Board B498
Education Travel Awardee
BINDING OF THE N2A REGION OF TITIN TO ACTIN FILAMENTS. **Christopher M. Tsiros**, Humra Athar, Matthew Gage

729-Pos Board B499
STOCHASTIC SIMULATIONS OF TROPOMYOSIN BINDING AND DIFFUSION ON FILAMENTOUS ACTIN. **Mikkel H. Jensen**, Ashley Luiz, Hai Tran

730-Pos Board B500
C1 IG-DOMAIN OF MYOSIN BINDING PROTEIN-C ACTIVATES CARDIAC THIN FILAMENT BY MEANS OF THETHERING TROPOMYOSIN TO THE SUBDOMAIN-1 OF ACTIN. **Cristina Risi**, Betty Belknap, Tyler Glendrange, Samantha Harris, Howard D. White, Gunnar Schröder, Vitold E. Galkin

731-Pos Board B501
STRUCTURAL BASIS FOR HIGH-AFFINITY ACTIN BINDING REVEALED BY A B-III-SPECTRIN SCA5 MISSENSE MUTATION. **Michael E. Fealey**, Adam W. Avery, Fengbin Wang, Albina Orlova, Andrew R. Thompson, Edward H. Egelman, Thomas S. Hays, David D. Thomas

Membrane Pumps, Transporters, and Exchangers I (Boards B502–B525)

732-Pos Board B502
THERMAL EQUILIBRIUM AND ENERGY CONVERSION OF A NEW PHOTORECEPTOR WITH TWO CHROMOPHORES AS STUDIED BY *IN SITU* SPECTROSCOPY. Xiaoyan Ding, Chao Sun, Haolin Cui, Yujiao Gao, Juan Wang, Yanan Yang, **Xin Zhao**

733-Pos Board B503
MEASURING TRANSPORT KINETICS OF LIGHT DRIVEN MEMBRANE PROTEIN, HALORHODOPSIN. Hasin M. Feroz, Bryan Ferlez, Cecile Lefoulon, Hossein Mohammadiarani, Tingwei Rei, Carol S. Baker, Peter J. Butler, Jonas Hühn, Cheryl A. Kerfeld, Nigel J. Burroughs, Harish Vashisth, Wolfgang Parak, Mike Blatt, John Golbeck, **Manish Kumar**

734-Pos Board B504
THE ELUSIVE PROTON IN THE GASTRIC PROTON POTASSIUM ATPASE. Vikas Dubey, Kazuhiro Abe, Ilia Solov'yov, **Himanshu Khandelia**

735-Pos Board B505
PROPERTIES OF OSCILLATING ELECTRICAL PULSE INDUCED NA/K PUMP CURRENT ON SINGLE FROG SKELETAL MUSCLE. **Pengfei Liang**, Wei Chen

736-Pos Board B506
CONTRIBUTION OF THE HYDROXYL GROUP AND PHENOL RING OF TYROSINE 780 OF THE ALPHA-SUBUNIT TO NA^+ BINDING BY THE NA/K PUMP. **Kerri Spontarelli**, Daniel Infield, Chris A. Ahern, Pablo Artigas

737-Pos Board B507
BETA-DEPENDENT MODULATION OF NA^+ BINDING AND RELEASE OF THE ALPHA-3 NA^+K^+PUMP. **Cristina Moreno Vadillo**, Miguel Holmgren

738-Pos Board B508
CRYSTAL STRUCTURES OF SERCA2A AND SERCA2B. **Haruo Ogawa**, Yoshiki Kabashima, Rie Nakajima, Chikashi Toyoshima

739-Pos Board B509
DISCOVERY OF SERCA2A/PLB ACTIVATORS AND INHIBITORS BY STRUCTURE-BASED HIGH-THROUGHPUT SCREENING USING LIVE CELL FRET BIOSENSORS. **Daniel R. Stroik**, Samantha L. Yuen, Kevyn A. Janicek, Tory M. Schaaf, Razvan L. Cornea, David D. Thomas

740-Pos Board B510
BINDING AFFINITY OF SERCA REGULATORY COMPLEXES QUANTIFIED BY STEERED MOLECULAR DYNAMICS SIMULATIONS. **Nikolai Smolin**, Seth L. Robia

741-Pos Board B511
THE ALLOSTERIC COUPLING OF THE CYTOPLASMIC PHOSPHORYLATION AND TRANSMEMBRANE DOMAIN DEOCCLUSION IN THE CA^{2+} SERCA PUMP ELUCIDATED BY FREE ENERGY SIMULATIONS. **Huan Rui**, Avisek Das, Benoit Roux

742-Pos Board B512
IS ATP HYDROLYSIS THE POWER STROKE IN ABC TRANSPORTERS? **Hendrik Göddeke**, Marten Prieß, Gerrit Groenhof, Lars Schäfer

743-Pos Board B513
MECHANISM OF LARGE-SCALE ALTERNATING ACCESS CONFORMATIONAL TRANSITION IN THE ABC EXPORTER TM287/288. Hendrik Göddeke, Mikko Karttunen, **Lars V. Schäfer**

744-Pos Board B514
LIPID-DEPENDENT ALTERNATING ACCESS MECHANISM IN ABC EXPORTERS REVEALED USING MICROSECOND-LEVEL MOLECULAR DYNAMICS SIMULATIONS. **Mahmoud Moradi**, Jeevapani Hettige

745-Pos Board B515
STUDY OF CONFORMATIONAL TRANSITION OF A PROTEIN SECRETION ABC TRANSPORTER USING MOLECULAR DYNAMIC . **Ahmad Raeisi Najafi**, Reza Dastvan, Hassane S. Mchaourab, Emad Tajkhorshid

746-Pos Board B516
LIPID BINDING AND LIPID-UPTAKE IN P-GLYCOPROTEIN: COMPARISON OF THE INWARD- AND OUTWARD-FACING CONFORMATION. **Estefania Barreto-Ojeda**, Abigael Gritter, Valentina Corradi, Peter Tieleman

747-Pos Board B517
LIPIDS AND IONS TRAVERSE THE MEMBRANE BY THE SAME PHYSICAL PATHWAY IN THE NHTMEM16 SCRAMBLASE. **Tao Jiang**, Kuai Yu, H Criss Hartzell, Emad Tajkhorshid

748-Pos Board B518
MECHANISMS OF AP PROLONGATION AND TRIGGERED ACTIVITY IN A TBX5 MODEL OF ATRIAL FIBRILLATION. Leonid Tyan, Wenli Dai, Rajiv Nadadur, Yitang Wang, Stefan Mazurek, Jenna Bekeny, Kaitlyn Shen, Margaret Gadek, Brigitte Laforest, Francisco Alvarado, Hector Valdivia, Michael Broman, Le Shen, Ivan Moskowitz, **Christopher Weber**

749-Pos Board B519
ANALYZING THE EFFECTS OF MEMBRANE LIPID TYPE ON TRANSMEMBRANE PROTEINS (AHL AND 5-HT3) USING MOLECULAR DYNAMICS SIMULATIONS. **Nicholas B. Guros**, Jeffery B. Klauda, Arvind Balijepalli

750-Pos Board B520
DESMOPRESSIN CAUSES DIFFERENT EFFECTS ON WATER AND UREA PERMEABILITY OF PRINCIPAL CELLS IN OMCD AND IMCD. **Evgeniy I. Solenov**

751-Pos Board B521
DROPLET INTERFACE BILAYERS ON A PETRI DISH–FORMATION METHODS AND CHARACTERIZATION. Sanhita Dixit, Alexandra Pincus, Bin Guo, **Gregory W. Faris**

752-Pos Board B522
ANION-TRANSPORT MECHANISM OF A
TRIAZOLE-BEARING DERIVATIVE OF PRODIGIOSINE. Claudia Cossu, Michele Fiore, Valeria Capurro, Emanuela Caci, Roberto Quesada, **Oscar Moran**

753-Pos Board B523
STRUCTURAL EVENTS IN A BACTERIAL UNIPORTER LEADING TO TRANSLOCATION OF GLUCOSE INSIDE THE CYTOSOL. **Indrani Bera**, Jeffery B. Klauda

754-Pos Board B524
STRUCTURAL DETERMINANTS IN THE IF-OF TRANSITION IN HUMAN GLUCOSE TRANSPORTERS. **Mrinal Shekhar**, Emad Tajkhorshid

755-Pos Board B525
TRANSPORT OF LIGNIN-BREAKDOWN PRODUCTS BY GENETICALLY ENGINEERED NON-LIGNOLYTIC BACTERIA AND FUNGI.
Meghan C. Barnhart-Dailey, Dulce Hayes, Dongmei Ye, Danae Maes, Leah Appelhans, Michael Kent, Jerilyn Timlin

Genetic Regulatory Systems (Boards B526–B535)

756-Pos Board B526
EPIGENETIC REGULATIONS BY SET-DOMAIN CONTAINING PROTEINS IN FISSION YEAST IDENTIFICATION OF SET7, A NOVEL & FIRST HISTONE METHYLTRANSFERASE TARGETING H3K37. **Jihyeon Kim**

757-Pos Board B527
ABSOLUTE QUANTIFICATION REVEALS GROWTH AND NUTRIENT-DEPENDENT CONTROL OF G1/S TRANSCRIPTION FACTOR ABUNDANCE AS A DETERMINANT OF START. **Sylvain Tollis**, Savanna Dorsey, Michael D. Tyers, Catherine A. Royer

758-Pos Board B528
THE ROLE OF MRNA LOCALIZATION IN MEMBRANE PROTEIN TRAFFICKING SPECIFICITY. **Shankar Mukherji**

759-Pos Board B529
ABSOLUTE QUANTIFICATION OF G1/S START NETWORK MACHINERY DEMONSTRATES NUTRIENT AND GROWTH DEPENDENT TRANSCRIPTION FACTOR COMPLEXES AFFECT CLN1/2 EXPRESSION DIFFERENTIALLY.
Savanna B. Dorsey, Sylvain Tollis, Michael Cook, Jing Cheng, Labe Black, Stephen Notley, Michael D. Tyers, Catherine A. Royer

760-Pos Board B530
A SYSTEMATIC AND SCALABLE APPROACH FOR DISSECTING THE MOLECULAR MECHANISMS OF TRANSCRIPTIONAL REGULATION IN BACTERIA.
Nathan M. Belliveau, Stephanie L. Barnes, William T. Ireland, Suzannah M. Beeler, Justin B. Kinney, Rob Phillips

761-Pos Board B531
EFFECTS OF GENE DUPLICATION ON THE NON-EQUILIBRIUM DYNAMICS OF PROBABILITY MASS IN TOGGLE-SWITCH: CELLULAR STATES, SOURCES AND SINKS, OSCILLATIONS. **Anna Terebus**, Jie Liang

762-Pos Board B532
USING GREEN FLUORESCENCE PROTEIN AS PROBE TO SCREEN COMPOUND RESCUING NON-SENSE MUTATION OF THE TUMOR SUPPRESSOR P53 GENE. **Jingjing Zhou**, Zhengding Su

763-Pos Board B533
PRESSURE INDUCED SOS RESPONSE IN *ESCHERICHIA COLI* INVOLVES MRR RESTRICTION ENDONUCLEASE DISSOCIATION. **Anais Bourges**, Oscar E. Torres M., Anirban Ghosh, Wubishet Tadesse, Gilles Labesse, Nathalie Declerck, Abram Aertsen, Catherine Royer

764-Pos Board B534
STOCHASTIC MODELING OF SINGLE RNA TRANSLATION DYNAMICS.
Luis U. Aguilera, Tatsuya Morisaki, Timothy J. Stasevich, Brian Munsky

765-Pos Board B535
STOCHASTICITY PROMOTES SYNCHRONIZED GENE EXPRESSION BETWEEN CELLS IN SOMITE SEGMENTATION. **Hikaru Nozoe**, Tatsuya Yamada, Yuichi Sakumura, Yasumasa Bessho, Kazushi Ikeda

Neuroscience (Boards B536–B561)

766-Pos Board B536
MOLECULAR MECHANISMS OF SYNAPTIC VESICLE PRIMING BY MUNC13 AND MUNC18. **Ying Lai**, Axel T. Brunger

767-Pos Board B537
MOBILE CALCIUM CHANNELS CONTRIBUTE TO VARIABILITY OF PRESYNAPTIC TRANSMITTER RELEASE. **Martin Heine**, Jennifer Heck, Pierre Parutto, Anna Ciuraszkiewicz, Arthur Bikbaev, Romy Freund, Anna Fejtova, David Holcman

768-Pos Board B538
NOVEL IGLUSNFR VARIANTS OPTIMISED FOR RAPID GLUTAMATE IMAGING. **Nordine Helassa**, Celine Dürst, Catherine Coates, Urwa Arif, Christian Schulze, Simon Wiegert, Michael Greeves, Thomas Oertner, Katalin Török

769-Pos Board B539
DIFFUSION-LIMITED GLUTAMATE BINDING TO GLUBP IS REVEALED BY NOVEL FLUORESCENT PROBE. **Catherine Coates**, Nordine Helassa, Katalin Török

770-Pos Board B540
SINGLE MOLECULE TRANSLATION IMAGING OF LOCAL PROTEIN SYNTHESIS AND RNA DOCKING REVEALS THE REGULATION OF SITE SPECIFIC AXON REMODELING IN VIVO. **Clemens F. Kaminski**, Hovy Ho-Wai Wong, Florian Strohl, Julie Quiaojin Lin, Christine E. Holt

771-Pos Board B541
PHYSIOCHEMICAL PRINCIPLES OF AMPAR INSERTION IN DENDRITIC SPINES. **Miriam Bell**, Daniel Tartakovsky, Padmini Rangamani

772-Pos Board B542
ILLUMINATING POST-SYNAPTIC SCAFFOLDING AND KINASE REGULATION MECHANISMS OF PYK2 BY HYDROGEN/DEUTERIUM EXCHANGE MASS SPECTROMETRY. **Eric S. Underbakke**, Hanna Wokpetah

773-Pos Board B543
MECHANOCHEMISTRY OF CALCIUM INDUCED NEURITE RETRACTION AND RUPTURE. **Katherine Pearce**, Miriam Bell, Padmini Rangamani, Suzanne Scarlata

774-Pos Board B544 **CID TRAVEL AWARDEE**
STRUCTURAL STUDIES OF C1QL-MEDIATED COMPLEXES. **Perla Arianna Peña Palomino**, Susanne Ressl

775-Pos Board B545
FAMILY-WIDE BIOPHYSICAL ANALYSIS OF DPR-DIP INTERACTIONS. **Filip Cosmanescu**, Phinikoula S. Katsamba, Alina P. Sergeeva, Goran Ahlsen, Saurabh Patel, Joshua Brewer, Liming Tan, Shuwa Xu, Qi Xiao, S. Lawrence Zipursky, Barry Honig, Lawrence Shapiro

776-Pos Board B546
INCREASE IN ACTIVITY OF L-TYPE CALCIUM CHANNEL $CA_V1.2$ BY AMYLOID BETA PEPTIDE 1-42 (AB42) VIA BETA 2 ADRENERGIC RECEPTOR (B2AR) SIGNALING. **Boram Lee**, Jennifer L. Price, Johannes W. Hell

777-Pos Board B547
REDUCED COOPERATIVITY OF VOLTAGE-GATED SODIUM CHANNELS IN THE HIPPOCAMPAL INTERNEURONS OF AGED MOUSE MODEL OF ALZHEIMER'S DISEASE. **Carlos M. Perez**, Ghanim Ullah

778-Pos Board B548
PREFRONTAL CORTICAL NEURONS ARE RECRUITED AS SECONDARY ASSOCIATIVE MEMORY CELLS FOR ASSOCIATIVE MEMORY AND COGNITION. **Jin-Hui Wang**, Jing Feng, Huajuan Xiao, Wei Lu

779-Pos Board B549
BRAIN INTERSTITIAL MATRIX HYDRATION INVERSELY CORRELATES WITH NEURONAL EXCITABILITY. Anirudh Vashisht, Michael Morykwas, Ashok Hegde, Louis Argenta, **Maria P. McGee**

780-Pos Board B550
PROTECTIVE ROLE OF OLESOXIME IN ALPHA-SYNUCLEIN-INDUCED MITOCHONDRIAL DYSFUNCTION. **Amandine M.f. Rovini**, Maria Queralt-Martin, Philip Gurnev, Sergey M. Bezrukov, Tatiana K. Rostovtseva

781-Pos Board B551
PATCH-SEQ PROVIDES INSIGHT INTO THE ETIOLOGY OF HYPEREXCITABLE NEURONS IN PATIENTS WITH TEMPORAL LOBE EPILEPSY. **Victoria Wolseley**, Tade Souaiaia, Robert Chow

782-Pos Board B552
ELECTROPHYSIOLOGICAL ALTERATION OF GENE EXPRESSION IN HUMAN EMBRYONIC BRAIN NEURONS USING SINGLE CELL RNA SEQ. **Jae Mun Kim**

783-Pos Board B553
INFORMATION PROCESSING MECHANISM UNDERLYING A PERCEPTUAL CHANGE BY A NEUROGLOBIN. **Shigekazu Oda**, Yu Toyoshima, Mario de Bono

784-Pos Board B554
GABAERGIC INNERVATION OF THE SALIVARY GLAND. **Joseph S. Lee**, David R. Giovannucci

785-Pos Board B555
FOCUSING ON THE MITOCHONDRIAL EXPRESSION OF TSPO AS A MARKER AND PROMOTER OF NEUROINFLAMMATION. **Aarti Singh**, Kenneth Smith, Michelangelo Campanella

786-Pos Board B556
DYNAMIC REGULATION OF P2X7 RECEPTORS IN HUMAN MICROGLIA BY BACTERIAL PHAGOCYTOSIS. **Laura Janks**, Ligia Subitioni Antonio, Jeroen R. Coppens, Terrance M. Egan

787-Pos Board B557
THE MAGNETOCALORIC EFFECT AS A MECHANISM FOR NATURAL MAGNETOSENSATION. **A. Martin Bell**, Jacob T. Robinson

788-Pos Board B558
CHARACTERIZATION OF DEGT-1: A DEG/ENAC/ASIC ION CHANNEL SUBUNIT INVOLVED IN TOUCH SENSATION. **Sylvia Fechner**, Frederic Loizeau, Adam L. Nekimken, Isabel D'Alessandro, Beth L. Pruitt, Miriam B. Goodman

789-Pos Board B559
SINGLE MOLECULE COLOCALIZATION ANALYSIS OF TRPV1 INTERACTIONS IN UNROOFED HEK293T/17 CELLS. **Eric Senning**, Sharona E. Gordon

790-Pos Board B560
SYNTHETIC PEPTIDES DERIED FROM SPIDER TOXIN, GSMTX4, REDUCE MECHANICAL AND NEUROPATHIC PAIN. Shao-Xi Ke, Ping Dong, Zhi-Gang Zhong, Jie Xu, Yan-Hong Xing, Kai-Qin Chen, Mingxi Tang, Zhe Zhang, **Qiongyao Tang**

791-Pos Board B561
NAV, ACHR AND NA/K PUMP DENSITIES AS A FUNCTION OF EOD FREQUENCY: PREDICTIONS FOR AND OBSERVATIONS FROM THE WEAKLY ELECTRIC FISH *EIGENMANNIA*. **Bela Joos**, Yue Ban, John E. Lewis, Michael R. Markham, Catherine E. Morris

EPR and NMR: Spectroscopy and Imaging (Boards B562–B574)

792-Pos Board B562
WHOLE CELL 13C SOLID-STATE NMR OF A FULLY LABELLED MICROORGANISM: HOW FAR CAN WE GO? **Alexandre Arnold**, Jean-Philippe Bourgouin, Bertrand Génard, Dror Warschawski, Francesca Zito, Réjean Tremblay, Isabelle Marcotte

793-Pos Board B563
DISCOVERY OF PHOSPHOETHANOLAMINE CELLULOSE AND THE GENETIC BASIS FOR ITS BIOSYNTHESIS IN *E. COLI* BIOFILMS. **Wiriya Thongsomboon**, Alexandra Possling, Regine Hengge, Lynette Cegelski

794-Pos Board B564
DISSECTING THE BACTERIAL CELL WALL WITH SOLID-STATE NMR. **Joseph A. Romaniuk**, Lynette Cegelski

795-Pos Board B565
LASER-ASSISTED NMR IN THE PRESENCE OF A CRYOGENIC PROBE ENABLES MULTIDIMENSIONAL DATA COLLECTION ON AMINO ACIDS AND PROTEINS AT UNPRECEDENTED SENSITIVITY. **Miranda Mecha**, Yusuke Okuno, Hanming Yang, Silvia Cavagnero

796-Pos Board B566
IDENTIFYING THE OPTIMAL LEVEL OF REGULARIZATION IN DEER DATA ANALYSIS. **Thomas H. Edwards**, Stefan Stoll

797-Pos Board B567 **EDUCATION TRAVEL AWARDEE**
METHODOLOGICAL DEVELOPMENT TO STUDY LIPID MEMBRANES OF INTACT BACTERIA AND MICROALGAE BY ^2H SOLID-STATE NMR. **Jean-Philippe Bourgouin**, Alexandre Poulhazan, Francesca Zito, Alexandre A. Arnold, Dror E. Warschawski, Isabelle Marcotte

798-Pos Board B568
ANTIFREEZE-MECHANISTIC STUDY THROUGH VT-EPR SPECTRAL ANALYSIS AND ICE GROWTH INHIBITION OF SPIN LABELED ICE BINDING PROTEINS. **Adiel Perez**, Antonia Flores, Justin Quon, Yong Ba

799-Pos Board B569
PROBING THE CALCIUM-DEPENDENT STRUCTURAL STATES OF CALMODULIN-RYR USING BIFUNCTIONAL SPIN LABELS AND DEER. **Cheng Her**, Andrew R. Thompson, Christine B. Karim, David D. Thomas

800-Pos Board B570
DESIGN AND NMR STRUCTURAL STUDIES OF NEW ANTIMICROBIAL PEPTIDES WITH HIGHER ACTIVITY. **Yongae Kim**, Ji-Sun Kim, Ji-Ho Jeong

801-Pos Board B571
TRAJECTORY-BASED SIMULATIONS OF ELECTRON PARAMAGNETIC RESONANCE SPECTRA. **Peter Martin**, Stefan Stoll, David Thomas

802-Pos Board B572
PROTEIN-PROTEIN INTERACTIONS OF CO-RECONSTITUTED SERCA, PLB AND DWORF INVESTIGATED BY ELECTRON PARAMAGNETIC RESONANCE. **Mark D. Rustad**, Peter D. Martin, Daniel R. Stroik, Christine B. Karim, David D. Thomas

803-Pos Board B573
EXPLORATION OF EUKARYOTIC CELLS AND ORGANELLE NMR SIGNATURES. **Sabrina H. Werby**, Lynette Cegelski

804-Pos Board B574
CHARACTERIZATION OF LIGAND- AND ION-DEPENDENT DYNAMICS OF *F. NUCLEATUM* GLYCINE RIBOSWITCH APTAMER II VIA SITE-DIRECTED SPIN LABELING EPR. **Michelle Ehrenberger**

Electron Microscopy (Boards B575–B598)

805-Pos Board B575
EFFECTS OF CRYO-EM FREEZING ON THE STRUCTURAL ENSEMBLE. **Lars V. Bock**, Helmut Grubmüller

806-Pos Board B576
LASER-BASED ZERNIKE PLATE FOR PHASE CONTRAST TRANSMISSION ELECTRON MICROSCOPY. **Osip Schwartz**, Jeremy J. Axelrod, Robert M. Glaeser, Holger Müller

807-Pos Board B577
DUAL-ENERGY SERIAL BLOCK FACE SEM IMAGING OF BIOLOGICAL STRUCTURES AT NEAR ISOTROPIC SPATIAL RESOLUTION. **Qianping He**, David C. Joy, Guofeng Zhang, Richard D. Leapman

808-Pos Board B578
HUMAN AND BACTERIAL CTP SYNTHASE FILAMENT STRUCTURE AND FUNCTION DIVERGE. **Eric M. Lynch**, Derrick R. Hicks, Matthew Shepherd, James A. Endrizzi, Allison Maker, Jesse M. Hansen, Rachael M. Barry, Zemer Gitai, Enoch P. Baldwin, Justin M. Kollman

809-Pos Board B579
STRUCTURAL STUDIES OF ALPHA-SYNUCLEIN AMYLOID FILAMENTS. **Guilherme A. P. de Oliveira**, Weili Zheng, Edward H. Egelman

810-Pos Board B580
FULLY AUTOMATED CORRELATION-BASED REFINEMENT OF ATOMIC MODELS INTO HIGH RESOLUTION CRYO-EM DENSITY MAPS. **Andrea C. Vaiana**, Maxim Igaev, Carsten Kutzner, Helmut Grubmueller

811-Pos Board B581
TITLE–'FIXING' THE GATEWAY BETWEEN ELECTRON MICROSCOPY AND BSL3 VIRUSES. **Amar D. Parvate**, Evan Willaims, Colleen B. Jonsson, Jason K. Lanman

812-Pos Board B582
PH-GATING OF GAP JUNCTION CHANNELS: VISUALIZATION OF A "BALL-AND-CHAIN" BY CRYOEM. **Ali K. Khan**, Maciej J. Jagielnicki, Michael D. Purdy, Mark Yeager

813-Pos Board B583
RELIABILITY OF ELECTRON MICROSCOPY ATOMIC MODEL REFINEMENT. **Lyman Monroe**, Genki Terashi, Daisuke Kihara

814-Pos Board B584
CRYO-ELECTRON MICROSCOPY OF A POLYHEDRAL VIRUS INFECTING HYPERTHERMOPHILIC ARCHAEA. **Fengbin Wang**, Ying Liu, Thomas Edwards, Ulrich Baxa, Mart Krupovic, David Prangishvili, Edward H. Egelman

815-Pos Board B585
STRUCTURAL INSIGHTS INTO THE REGULATION MECHANISM OF HSP90 BY CO-CHAPERONE AHA1. **Yanxin Liu**, David A. Agard

816-Pos Board B586
RAPID SCREENING OF FABS FROM PHAGE DISPLAY LIBRARIES FOR STRUCTURAL STUDIES. **Evan Green**, Natalia Sevillano, Nancy Li, Yifan Cheng, Charles Craik

817-Pos Board B587
A NOVEL FILAMENTOUS VIRUS INFECTS HYPERTHERMOPHILIC ACIDOPHILES THAT LIVE IN NEARLY BOILING ACID. **Tomasz Osinski**, Fengbin Wang, Ying Liu, Mart Krupovic, David Prangishvili, Edward H. Egelman

818-Pos Board B588
ULTRASTRUCTURAL STUDY OF KERATINOCYTES AND MELANOCYTES IN SEBORRHEIC KERATOSIS. Seulgi Noh, Hyosun Choi, Il Whan Kim, **Ji Young Mun**

819-Pos Board B589
STREPTAVIDIN AFFINITY GRIDS FOR CRYO-EM. **Robert M. Glaeser**, Bong-Gyoon Han, Zoe Watson, Fred Ward, Jamie H. D. Cate

820-Pos Board B590
NOVEL METHODS FOR BIODISTRIBUTION ANALYSIS OF MAGNETIC NANOPARTICLES IN VIVO. **Alicia Cascella**, Ali Hadjikhani, Joseph Favata, Sina Shahbazmohamadi

821-Pos Board B591
HIGH RESOLUTION CRYO-EM STRUCTURE OF A HIV NEF-INHIBITED AP-1 CLATHRIN ADAPTOR COMPLEX. **Kyle L. Morris**, Cosmo Buffalo, Xuefeng Ren, James H. Hurley

822-Pos Board B592
STANDARDIZING THE FOCUSED ION BEAM-SEM WORKFLOW AS A TOOL FOR VERSATILE IMAGING OF CELLULAR STRUCTURES. **Ashleigh M. Raczkowski**, Edward T. Eng, William J. Rice, Sargis Dallakyan, Carl Negro, Laura Y. Kim, Kelsey D. Jordan, Bridget Carragher, Clinton S. Potter

823-Pos Board B593
STRUCTURE DETERMINATION OF AMYLOID-B FIBRILS BY CRYO-EM. **Carla T. Schenk**

824-Pos Board B594
ACCOUNTING FOR MICROTUBULE DISTORTIONS IN CRYO-EM STRUCTURES USING PATCH REFINEMENTS. **Garrett Debs**, Xueqi Liu, Hyo Keun Cha, Charles Sindelar

825-Pos Board B595
PUSHING SIZE AND RESOLUTION LIMITS OF SINGLE PARTICLE CRYO-EM AT 200 KEV. **Mengyu Wu**, Mark A. Herzik, Jr., Gabriel C. Lander

826-Pos Board B596
CRYO-EM STUDIES ON THE MECHANISM AND INHIBITION OF TARGET DNA BINDING IN THE TYPE I-F CSY SURVEILLANCE COMPLEX. **Edward T. Eng**, Hui Yang, Ashleigh M. Raczkowski, Dinshaw Patel, Clint S. Potter, Bridget Carragher

827-Pos Board B597
ELECTRON TOMOGRAPHY TO VISUALIZE INDIVIDUAL IGM AND IGG MOLECULE USING CRYO-EM. **Takeshi Mise**, Ayumi Maegawa, Ruby May Andales, Ulf Skoglund, Akira Kamei

828-Pos Board B598
3D-STRUCTUAL MODELING OF MYOGENIC DIFFERENTIATION OF C2C12 MYOBLASTS BY ADVANCED ELECTRON MICROSCOPY AND LIGHT MICROSCOPY. Takako M. Ichinose, Sei Saitoh, **Atsuko H. Iwane**

Optical Microscopy and Superresolution Imaging: Novel Approaches and Analysis I (Boards B599–B613)

829-Pos Board B599
NON RADIATIVE EXCITATION FLUORESCENCE MICROSCOPY: A NEW METHOD FOR STUDYING MEMBRANE ADHESION AT THE NANOSCALE. Lina Riachy, Dali El Arawi, Rodolphe Jaffiol, **Cyrille Vézy**

830-Pos Board B600
EVALUATING THE PERMEABILITY ACROSS THE ACTIN-BASED COMPARTMENT BARRIER IN THE PLASMA MEMBRANE FROM SINGLE-MOLECULE TRAJECTORIES. **Alexey Yudin**, Takahiro K. Fujiwara, Taka A. Tsunoyama, Akihiro Kusumi

831-Pos Board B601
MEMBRANE TOPOGRAPHY CAN CAUSE APPARENT CLUSTERING–IDENTIFICATION AND DIFFERENTIATION FROM GENUINE CLUSTERING. **Ingela Parmryd**, Jeremy Adler, Kristoffer Bernhem

832-Pos Board B602
`FORBIDDEN´ STATES BOOST FLUORESCENCE RESONANCE ENERGY TRANSFER (FRET) STUDIES OF MEMBRANE RECEPTORS IN LIVE CELLS. Benjamin Schreiber, Michael Kauk, Hannah Heil, Carsten Hoffmann, **Katrin G. Heinze**

833-Pos Board B603
DETECTION OF SMALL MOLECULAR COMPLEXES AT THE PLASMA MEMBRANE VIA TEMPORAL ACCUMULATION ANALYSIS. Florian Baumgart, Andreas M. Arnold, **Gerhard J. Schütz**

834-Pos Board B604
DETERMINATIONS OF ORIENTATION OF MEMBRANE-ASSOCIATED FLUORESCENT MOLECULES MADE TRIVIALLY SIMPLE. **Josef Lazar**, Olga Rybakova, Stepan Timr

835-Pos Board B605
ELUCIDATING INVISIBLE BARRIERS AND OBSTACLES TO MOLECULAR DIFFUSION IN LIVE CELLS BY THE SPATIAL PAIR-CORRELATION FUNCTION: A CONNECTIVITY VIEW OF THE CELL. **Leonel S. Malacrida**, Per Niklas Hedde, Suman Ranjit, Francesco Cardarelli, Enrico Gratton

836-Pos Board B606
ADAPTIVE PRECISION REAL-TIME 3D SINGLE PARTICLE TRACKING MICROSCOPY. **Shangguo Hou**, Kevin Welsher

837-Pos Board B607
REAL-TIME OPTICAL MANIPULATION OF CARDIAC CONDUCTION IN INTACT HEARTS. Emilia Margoni, Samantha Cannazzaro, Claudia Crocini, Cecilia Ferrantini, Raffaele Coppini, Ping Yan, Leslie M. Loew, Marina Campione, Leonardo Bocchi, Danilo Giulietti, Elisabetta Cerbai, Corrado Poggesi, Gil Bub, Francesco S. Pavone, **Leonardo Sacconi**

838-Pos Board B608
SPECTRAL RESOLUTION IN FLUORESCENCE MICROSCOPY IN STRONGLY SCATTERING MEDIA. **Enrico Gratton**, Alexander Dvornikov

839-Pos Board B609
OVERCOMING BLINKING ARTIFACTS IN NANOCLUSTER DETECTION WITH TWO COLOR STORM. **Andreas M. Arnold**, Florian Baumgart, Magdalena Schneider, Gerhard J. Schütz

840-Pos Board B610
SPONTANEOUSLY BLINKING DYES FOR LOCALIZATION MICROSCOPY: SIMPLIFIED SYNTHESIS AND SINGLE-MOLECULE CHARACTERIZATION. **Patrick J. Macdonald**, Richard A. Haack, Susan Gayda, Sergey Y. Tetin

841-Pos Board B611
MONITORING THE LIVE-CELL OLIGOMERIZATION STATE OF FREE AND CHROMATIN BOUND TRANSCRIPTION FACTORS BY RESAMPLED NUMBER AND BRIGHTNESS (RNB). **Eugenia Cammarota**, Alessia Loffreda, Moreno Zamai, Valeria R. Caiolfa, Carlo Tacchetti, Davide Mazza

842-Pos Board B612
CHARACTERIZATION OF MALARIA DETECTION BASED ON THIRD HARMONIC GENERATION IMAGING OF HEMOZOIN. **Alexei Kazarine**, Fadi Baakdah, Wellington Oyibo, Elias Georges, Paul William Wiseman

843-Pos Board B613
MULTICOMPONENT ANALYSIS OF PHASOR PLOT TO DECIPHER CHANGES IN METABOLIC TRAJECTORY OF BIOLOGICAL SYSTEMS. **Suman Ranjit**, Alexander Dvornikov, Moshe Levi, Enrico Gratton

Single-Molecule Spectroscopy I (Boards B614–B627)

844-Pos Board B614
COMPARISON OF ORGANIC BLUE/RED DYE FRET PAIRS VIA ENSEMBLE AND SINGLE-MOLECULE FRET SPECTROSCOPY. **Niels Vandenberk**

845-Pos Board B615
CONFORMATIONAL DYNAMICS OF A SINGLE HSP90 MOLECULE MONITORED FOR 24HRS AT VIDEO RATE. **Carsten Sönnichsen**, Weixiang Ye, Laura Tüting, Sirin Celicsoy, Rubén Ahijado-Guzmán, Markus Götz, Thorsten Hugel

846-Pos Board B616
CHEMO-MECHANICAL COUPLING OF ROTARY MOLECULAR MOTOR *ENTEROCOCCUS HIRAE* V_1-ATPASE AS REVEALED BY SINGLE-MOLECULE ANALYSIS. Tatsuya Iida, Yoshihiro Minagawa, Hiroshi Ueno, Fumihiro Kawai, Takeshi Murata, **Ryota Iino**

847-Pos Board B617
DIRECT OBSERVATION AND QUANTIFICATION OF PROTEIN DYNAMICS ON NEGATIVELY-SUPERCOILED DNA. **Graeme A. King**, Federica Burla, Erwin J. G. Peterman, Gijs J. L. Wuite

848-Pos Board B618
TESTING KINETIC IDENTITIES USING MEASUREMENTS OF TRANSITION PATHS IN SINGLE-MOLECULE FOLDING TRAJECTORIES. **Noel Q. Hoffer**, Krishna Neupane, Michael T. Woodside

849-Pos Board B619
CRYOGENIC DISSECTION OF THE PHYCOBILISOME'S ELECTRONIC STRUCTURE. **Peter D. Dahlberg**, Allison H. Squires, Annina M. Sartor, Haijun Liu, Robert E. Blankenship, W.E. Moerner

850-Pos Board B620
TWO PHOTON EXCITATION SPECTROSCOPY OF GOLD NANORODS FOR BIO-SENSING. **Redmar C. Vlieg**, Chris L. W. Kettenis, John van Noort

851-Pos Board B621
WIDE-FIELD MONITORING OF SINGLE FLUORESCENT MOLECULES AND NANOPARTICLES WITHOUT IMMOBILIZATION. **Barak Gilboa**, Bo Jing, Maabur Sow, Tao Ju Cui, Anne Plochowietz, Achillefs N. Kapanidis

852-Pos Board B622
MINIMIZING ATP DEPLETION BY OXYGEN SCAVENGERS FOR SINGLE-MOLECULE FLUORESCENCE IMAGING IN LIVE CELLS. **Seung-Ryoung Jung**, Yi Deng, Christopher Kushmerick, Charles L. Asbury, Bertil Hille, Duk-Su Koh

853-Pos Board B623
PULSED LABELLING OF ENDOGENOUS P53 TO DISSECT THE ROLE OF ITS OLIGOMERIZATION AND BINDING IN STRESS RESPONSES. Alessia Loffreda, Eugenia Cammarota, Emanuela Jacchetti, Serena Capozi, Samuel Zambrano, Edouard Bertrand, Marco E. Bianchi, Carlo Tacchetti, **Davide Mazza**

854-Pos Board B624
DECIPHERING THE ROLE OF ATPASE DOMAINS OF CLPA USING SINGLE-MOLECULE OPTICAL TWEEZERS. **Hema Chandra Kotamarthi**, Robert Sauer, Tania Baker

855-Pos Board B625
MEASURING OLIGONUCLEOTIDE HYBRIDIZATION KINETICS IN SOLUTION USING A TIME-RESOLVED 3D SINGLE-MOLECULE TRACKING TECHNIQUE. **Yuan-I Chen**, Cong Liu, Stephanie Phillion, Tim Yeh

856-Pos Board B626
TO FLASH OR NOT TO FLASH? CHARACTERIZATION OF FLUORESCEIN ARSENICAL HAIRPIN (FLASH) AS A PROBE FOR SINGLE-MOLECULE FLUORESCENCE SPECTROSCOPY. **Dennis D. Fernandes**, Jasbir Bamrah, Senthilkumar Kailasam, Gregory-Neal W. Gomes, Yuchong Li, Hans-Joachim Wieden, Claudiu C. Gradinaru

857-Pos Board B627
PRECISE MEASUREMENT OF SINGLE-MOLECULE ROTATIONAL DIFFUSIVITY IN SOLUTION. **Hsiang-Yu Yang**, W. E. Moerner

Optical Spectroscopy: CD, UV-VIS, Vibrational, Fluorescence (Boards B628–B650)

858-Pos Board B628
MEASURING STRUCTURE AND DISORDER OF (CY3)2 DIMER LABELED DNA FORK-JUNCTIONS USING TWO-DIMENSIONAL FLUORESCENCE SPECTROSCOPY (2DFS). **Amr Tamimi**, Dylan J. Heussman, Loni M. Kringle, Peter H. von Hippel, Andrew H. Marcus

859-Pos Board B629
PHOTOPHYSICAL BEHAVIOR OF MNEONGREEN, AN EVOLUTIONARY DISTANT GREEN FLUORESCENT PROTEIN. Frederik Steiert, Eugene P. Petrov, Petra Schwille, **Thomas Weidemann**

860-Pos Board B630
RED-SHIFTED FLUORESCENT PROTEINS IMPROVE FRET BIOSENSORS FOR HIGH-THROUGHPUT FLUORESCENCE LIFETIME SCREENING. **Tory Schaaf**, Ang Li, Benjamin Grant, Prachi Bawaskar, Evan Kleinboehl, Ji Li, Gregory Gillispie, David Thomas

861-Pos Board B631
FRET BASED DETECTION OF MMP-9. **Sunil Ajit Shah**, Wlodek Mandeki, Ji Li, Zygmunt Gryczynski, Julian Borejdo, Ignacy Gryczynski, Rafal Fudala

862-Pos Board B632
DIRECTIONALITY OF TWO-PHOTON EXCITATION IN REPRESENTATIVE FLUORESCENT PROTEINS. **Olga Rybakova**, Stepan Timr, Josef Lazar

863-Pos Board B633
HOMOFRET ASSAY FOR DETECTING MICROTUBULE FORMATION BELOW THE DIFFRACTION LIMIT OF LIGHT. Joy Suh, Joseph Beggs, Malena Maxwell, Francesca Varias, **Keisuke Hasegawa**

864-Pos Board B634
MONITORING NATIVE AND AGGREGATE STRUCTURE OF AMINO ACIDS AND HUMAN INSULIN WITH BLUE AUTOFLUORESCENCE.
Nathan Cumberbatch, Jillian Madine, Heike Arnolds

865-Pos Board B635
CONCURRENT HOMO- AND HETERO-FRET MEASUREMENTS ENHANCE STUDIES OF PROTEIN INTERACTIONS AND ENABLE DEVELOPMENT OF DUAL BIOSENSORS. **Tuan A. Nguyen**, Grace Taumoefolau, Youngchan Kim, Henry L. Puhl III, Steven S. Vogel

866-Pos Board B636
USING SPECTRAL PHASOR ANALYSIS OF UV-EXCITED AUTOFLUORESCENCE TO REVEAL SMALL DIFFERENCES BETWEEN CHEMICALLY-INDUCED MITOCHONDRIAL RESPONSES. Chong Kai Wong, Nazar Al Aayedi, Madhu Gaire, Martin Heidelman, **Paul Urayama**

867-Pos Board B637
MODULATIONS OF CA^{2+} SENSITIZERS AND PHOSPHORYLATION OF CTNT IN DYNAMIC EQUILIBRIUM OF CTNC N-DOMAIN. William Schlecht, **Wen-Ji Dong**

868-Pos Board B638
SEDIMENTATION BOUNDARY STRUCTURE OF MULTI-COMPONENT SOLUTIONS WITH RAPIDLY REVERSIBLE INTERACTIONS. **Peter Schuck**, Sumit K. Chaturvedi, Huaying Zhao

869-Pos Board B639
ACCURATE CD SPECTRUM PREDICTIONS WITH SESCA: INCLUDING PROTEIN FLEXIBILITY AND SIDE CHAINS. **Gabor Nagy**

870-Pos Board B640
SEGMENTAL ^{13}C-LABELING FOR RAMAN STUDIES OF A-SYNUCLEIN AMYLOID STRUCTURE IN CELLS. **Jessica D. Flynn**, Zhiping Jiang, Shannon M. Lacy, Jennifer C. Lee

871-Pos Board B641
SINGLE-SHOT MICROSECOND-RESOLVED SPECTROSCOPY OF THE BACTERIORHODOPSIN PHOTOCYCLE WITH QUANTUM CASCADE LASER FREQUENCY COMBS. Markus Geiser, Jessica L. Klocke, Markus Mangold, Pitt Allmendinger, Andreas Hugi, Pierre Jouy, **Balint Horvath**, Jerome Faist, Tilman Kottke

872-Pos Board B642
USING SURFACE ENHANCED RAMAN SPECTROSCOPY TO PROBE SINGLE-CELL NF-KB DYNAMICS DURING TNF-A STIMULATION. **Mamadi M.s Colley**

873-Pos Board B643
PROBING PROTEASE ACTIVE SITES WITH VIBRATIONAL REPORTERS. **Meiqi Luo**, Christopher N. Eaton, Christine M. Phillips-Piro, Edward E. Fenlon, Scott H. Brewer

874-Pos Board B644
STUDY OF REDOX PROCESS OF CYTOCHROME C IN YEAST UNDER COLD PLASMA IRRADIATION THROUGH RAMAN MICRO-SPECTROSCOPY. Zhu Chen, Jinghua Liu, **Qing Huang**

875-Pos Board B645
PROTEIN FOLD RECOGNITION BY CIRCULAR DICHROISM SPECTROSCOPY. **András Micsonai**, Frank Wien, Judit Kun, Henrietta Vadászi, Matthieu Réfrégiers, József Kardos

876-Pos Board B646
A COARSE-GRAINED MODEL OF CIRCULAR DICHROISM OF PROTEINS. **Mauricio D. Carbajal-Tinoco**, Carmen G. Granados-Ramírez, Claudia G. Benítez-Cardoza

877-Pos Board B647
PROBING LOCAL PROTEIN ENVIRONMENTS WITH A VIBRATIONAL REPORTER UNNATURAL AMINO ACID. **Gwendolyn Fowler**, Caroline Kearney, Trexler Hirn, Lukasz Olenginski, Daniyal Tariq, Christine M. Phillips-Piro, Scott H. Brewer

878-Pos Board B648
MICRO- AND NANOSTRUCTURED SURFACE ARCHITECTURES FOR LABEL-FREE INTERROGATION OF PROTEIN STRUCTURE AND FUNCTION. **Julia Flesch**, Tabea Brodöl, Maximilian Bettenhausen, Marcin Kazmierczak, Subhajit Guha, Changjiang You, Bernd Witzigmann, Thomas Schroeder, Jacob Piehler

879-Pos Board B649
PROBING LOCAL SOLVATION ENVIRONMENTS IN H-NOX PROTEINS USING 4-CYANO-L-PHENYLALANINE. **Trexler D. Hirn**, Caroline Kearney, Gwendolyn D. Fowler, Lukasz T. Olenginski, Daniyal Tariq, Scott H. Brewer, Christine M. Phillips-Piro

880-Pos Board B650
EFFECT UV- AND GAMMA RADIATION ON HUMAN HAIR. Ervin Palma, **Yuri V. Griko**

Bioengineering I (Boards B651–B671)

881-Pos Board B651
MASKLESS QUANTITATIVE MULTI-PROTEIN PHOTOPATTERNING TO ORCHESTRATE CELLULAR MICROENVIRONMENT. **Pierre-Olivier Strale**, Louise Bonnemay, Nadia Ziane, Matthieu Opitz, Josselin Ruaudel

882-Pos Board B652
ELECTRONIC TONGUE DEVELOPMENT USING DIELECTRIC SPECTROSCOPY. **Christopher E. Bassey**, Mary C. Bassey

883-Pos Board B653
MINIBRAINS ON CHIP FOR NEUROLOGICAL DISORDER INVESTIGATION. **SoonGweon Hong**, Minsun Song, Philip Lee, Luke P. Lee

884-Pos Board B654
ULTRAFAST PHOTONIC PCR-BASED PRECISION MOLECULAR DIAGNOSTICS FOR DENGUE. **Jonghwan Lee**, SoonGweon Hong, Luke P. Lee

885-Pos Board B655
A HANDHELD OPTICAL COHERENCE TOMOGRAPHY SYSTEM FOR COSMETIC MEDICINE RESEARCH. **Chih-Ming Cheng**, Yu-Fen Chang, Hung-Chih Chiang, Chir-Weei Chang

886-Pos Board B656
MAGNETOMOTIVE OPTICAL COHERENCE TOMOGRAPHY AS NEW METHOD FOR ENDOGENOUS MAGNETITE DETECTION. **Jessica Barrick**, Amy L. Oldenburg, Kenneth J. Lohmann, David A. Ernst

887-Pos Board B657
A BLOOD BRAIN BARRIER BIOMIMETIC PLATFORM TO STUDY THE USE OF ELECTROMAGNETIC FORCE ON SUPERPARAMAGNETIC NANOPARTICLES FOR DRUG DELIVERY PURPOSES. **Reema Rahman**

888-Pos Board B658
INTERACTIONS OF ENGINEERED SILICA NANOPARTICLES WITH LIPID MONOLAYERS AND BILAYERS. Ali Asghari Adib, **Saeed Nazemidashtarjandi**, Alexander Kelly, Adelaide Kruse, Katherine Cimatu, Allan David, Amir Farnoud

889-Pos Board B659
THE ROLE OF MEMBRANE ASYMMETRY IN NANOPARTICLE-INDUCED PLASMA MEMBRANE DAMAGE. **Saeed Nazemidashtarjandi**, Alexander Kelly, Allan David, Amir Farnoud

890-Pos Board B660
BIOMIMETIC AQUAPORIN MEMBRANE FABRICATION USING ELECTROKINETIC INTERACTIONS. **Ahmed Fuwad**, Hyunil Ryu, Sun Min Kim, Tae Joon Jeon

891-Pos Board B661
LAURDAN IMAGING AND SPECTRAL PHASOR ANALYSIS REVEALS INCREASED MEMBRANE FLUIDITY IN HUNTINGTON DISEASE. **Sara Sameni**

892-Pos Board B662 **EDUCATION TRAVEL AWARDEE**
INVESTIGATION OF STABILITY AND DYNAMICS OF GEL-ENCAPSULATED BACTERIORHODOPSIN. **Kaitlin E. Johnson**, Sukriti Gakhar, Subhash H. Risbud, Marjorie L. Longo

893-Pos Board B663
GENETIC CODE EXPANSION IN *RHODOBACTER SPHAEROIDES* TO INCORPORATE NON-CANONICAL AMINO ACIDS INTO PHOTOSYNTHETIC REACTION CENTERS. **Jared B. Weaver**, Steven G. Boxer

894-Pos Board B664
PHOTOACTIVE SPLIT GREEN FLUORESCENT PROTEIN: ENGINEERING A NEW OPTOGENETIC AND IMAGING SYSTEM. **Matthew G. Romei**, Chelsea K. Longwell, Jennifer R. Cochran, Steven G. Boxer

895-Pos Board B665
ENGINEERING A CYTOCHROME WITH TUNABLE BANDGAP POTENTIALS. **Coleman Swaim**, P. Raj Pokkuluri, Oleksandr Kokhan

896-Pos Board B666
PHOTO REGULATION OF SMALL G-PROTEIN RAS USING PHOTOCHROMIC PEPTIDE. **Masahiro Kuboyama**, Nobuyuki Nishibe, Kazuo Fujiwara, Kazunori Kondo, Shinsaku Maruta

897-Pos Board B667
PHOTO CONTROL OF SMALL G PROTEIN RAS USING THE SYNTHETIC PEPTIDE MODIFIED WITH WATER SOLUBLE AZOBENZENE. **Nobuyuki Nishibe**, Masahiro Kuboyama, Kenichi Taii, Toshio Nagashima, Toshio Yamazaki, Shinsaku Maruta

898-Pos Board B668
CONFORMATIONAL CHANGE OF HVR DOMAIN OF SMALL GTPASE RAS REFLECTING PHYSIOLOGICAL FUNCTION. **Takashi Hashimoto**, Nobuhisa Umeki, Yasunobu Sugimoto, Shinsaku Maruta

899-Pos Board B669
UTILIZATION OF SINGLE-CHAIN ANTIBODY FOR DRUG DISCOVERY APPLICATION. **Hiroaki Matsukawa**, Shinji Kakuda, Asaka Kikuchi, Takashi Yamamoto

900-Pos Board B670
DEVELOPMENT OF NOVEL PROTEIN-CAPTURE REAGENTS AGAINST EPIDERMAL GROWTH FACTOR AS POTENTIAL ANTICANCER AGENTS. **Hariharan Parameswaran**, Sangama Vemulapally, Claudia Santillan, Tyler Helten, Elena Tikhonova, Manuel Ramos, Tong-Chuan He, Lan GUAN

901-Pos Board B671
POST-TRANSLATIONAL CONTROL OF SYNTHETIC NOTCH RECEPTORS AND LIGANDS. **Jeffrey B. McMahan**, John T. Ngo

Micro- and Nanotechnology I (Boards B672–B693)

902-Pos Board B672 **EDUCATION TRAVEL AWARDEE**
NANOPORE FABRICATION IN ULTRATHIN HFO_2 MEMBRANES FOR NANOPORE-BASED DNA SEQUENCING. **Yinghua Qiu**, Christopher Arcadia, Mohammad Amin Alibakhshi, Jacob Rosenstein, Meni Wanunu

903-Pos Board B673
TOWARDS HIGH ACCURACY DE NOVO NANOPORE SEQUENCING. **Matthew T. Noakes**, Henry Brinkerhoff, Andrew H. Laszlo, Ian M. Derrington, Kyle W. Langford, Jonathan W. Mount, Jasmine Bowman, Kenji M. Doering, Benjamin I. Tickman, Hugh H. Higinbotham, Katherine S. Baker, Jens H. Gundlach

904-Pos Board B674
CONTROLLING THE CONFORMATION OF DOUBLE-STRANDED DNA DURING TRANSLOCATION THROUGH A GLASS NANOCAPILLARY. **Niklas Ermann**, Nikita Hanikel, Ulrich F. Keyser

905-Pos Board B675
SLOWING DOWN DNA TRANSLOCATION SPEED THOROUGH A NANOPORE BY A NANOFIBRE MESHED LAYER. **Daming Zhou**, Yue Zhao, Enling Tian, Deqiang Wang

906-Pos Board B676
DETECTION AND DIFFERENTIATION OF CYTOSINE AND METHYLATED CYTOSINE IN LICL USING BIOLOGICAL NANOPORE. **Trang A. Vu**, Shanna-Leigh Davidson, Julia Borgesi, Joanna Soyring, Melissa D'Alia, Jiwook Shim

907-Pos Board B677
LARGE SCALE PARALLEL DNA DETECTION BY 2D SOLID-STATE MULTI-PORE SYSTEM. **Nagendra Bala Murali Athreya**, Aditya Sarathy, Jean-Pierre Leburton

908-Pos Board B678
TRANSVERSE DETECTION OF DNA IN A MOS_2 NANOPORE. **Michael Graf**, Ke Liu, Aditya Sarathy, Jean-Pierre Leburton, Aleksandra Radenovic

909-Pos Board B679
SENSITIVE DETECTION AND IDENTIFICATION OF NUCLEIC ACID NANOPARTICLES IN SOLID-STATE NANOPORES. **Mohammad Amin Alibakhshi**, Justin R. Halman, James Wilson, Aleksei Aksimentiev, Kirill A. Afonin, Meni Wanunu

910-Pos Board B680
MUITILPE NANOPORES FABRICATION IN A SIN_x MEMBRANE VIA CONTROLLED BREAKDOWN. **Yunlong Wang**, Cuifeng Ying, Wenyuan Zhou, Zhibo Liu, Jianguo Tian

911-Pos Board B681
SLOWED DOWN DOUBLE-STRANDED DNA TRANSPORT THROUGH SOLID-STATE NANOPORES BY USING A LITHIUM CHLORIDE CONCENTRATION GRADIENT. **Julian Bello**, Maksudul Mowla, Nicholas Troise, Jiwook Shim

912-Pos Board B682
HIGH THROUGHPUT CHARACTERIZATION OF DIELECTRIC BREAKDOWN NANOPORE SENSORS IN A MENISCUS CONTACT PLATFORM. **Christopher E. Arcadia**, Rukshan T. Perera, Jacob K. Rosenstein

913-Pos Board B683
AMYLOID FIBRIL ANALYSIS USING SINGLE NANOPORE. Nicoletta Giamblanco, Diego Coglitore, Tianji Ma, Pierre Eugene Coulon, Emmanuel Balanzat, Mikhael Bechelany, Jean-Marc Janot, **Sebastien Balme**

914-Pos Board B684
NANOPORE-BASED, MULTI-PARAMETRIC CHARACTERIZATION OF SINGLE, UNLABELED PROTEINS IN SOLUTION. **Jared Houghtaling**, Olivia M. Eggenberger, Cuifeng Ying, Michael Mayer

915-Pos Board B685
OFF-AXIS EFFECT ON THE DETERMINATION OF NANOPARTICLE VOLUME AND SHAPE BY RESISTIVE-PULSE BASED NANOPORE SENSING. **Cuifeng Ying**, Jared Houghtaling, Michael Mayer

916-Pos Board B686
TRANSLOCATION OF SEQUENCE-CONTROLLED SYNTHETIC POLYMERS THROUGH BIOLOGICAL NANOPORES. **Mordjane Boukhet**, Niklas F. König, Abdelaziz Al Ouahabi, Gerhard Baaken, Jean-François Lutz, Jan C. Behrends

917-Pos Board B687
ANALYTE PROPERTIES DETERMINING THE POSITION AND SPACING OF MAXIMA IN RESIDUAL CURRENT SPECTRA OBTAINED BY SINGLE MOLECULE NANOPORE ANALYSIS OF POLYMER SAMPLES. Monasadat Talarimoghari, Gerhard Baaken, **Jan C. Behrends**

918-Pos Board B688
DIRECT MEASUREMENTS OF THE SIZE AND CORRELATIONS BETWEEN SINGLE IONS IMPELLED THROUGH A SUB-NANOMETER-DIAMETER PORE. **Gregory Timp**

919-Pos Board B689
BROADBAND AMPLIFIER FOR NANOPORE-BASED BIOMOLECULAR ANALYSIS. **Frank Tsang**, Michael Goryll

920-Pos Board B690
MEMBRANE ARRAYS FOR SINGLE-CHANNEL RECORDINGS. Ekaterina Zaitseva, Sönke Petersen, Juan Del Rio Martinez, Ibrahim Halimeh, Jan C. Behrends, **Gerhard Baaken**

921-Pos Board B691
IONIC TRANSPORT THROUGH 1.5 NM DIAMETER CARBON NANOTUBE PORINS. **Yun-Chiao Yao**, Robert Henley, Ramya Tunuguntla, Meni Wanunu, Aleksandr Noy

922-Pos Board B692
CARBON NANOTUBE PORINS: A VERSATILE SYNTHETIC BIOMIMETIC MEMBRANE CHANNEL PLATFORM. **Aleksandr Noy**

923-Pos Board B693
ENHANCED FLUIDIC TRANSPORT THROUGH CNT MEMBRANE BASED PLATFORMS. **Steven F. Buchsbaum**, Eric Meshot, Owen Chiatai Chen, Anh Pham, Shirui Guo, Ngoc Bui, Viktor Rozsa, Francesco Fornasiero

Biophysics Education (Boards B694–B701)

924-Pos Board B694
A PROGRAMMING TOOLKIT FOR AUTOMATING BIOPHYSICS EXPERIMENTS WITH MICROORGANISM SWARMS. **Peter Washington**, Karina Samuel-Gama, Ingmar Riedel-Kruse

925-Pos Board B695
"EATING DNA" A WAY TO MOTIVATE GIRLS TO GET INTO BIOPHYSICS. Yuly E. Sánchez, Maria Helena Ramirez, **Elsa J. Gomez**

926-Pos Board B696
EXCITABLE MEMBRANE, ION CHANNEL, ELECTROSTATICS: A HISTORICAL SKETCH. **H. Richard Leuchtag**

927-Pos Board B697
USE OF INTERACTIVE GRAPHICAL TOOLS TO DEMONSTRATE CHANGES IN TIME-RESOLVED FLUORESCENCE INTENSITY DECAYS. Sarthak Arora, **Rajaram Swaminathan**

928-Pos Board B698
USING COMPUTATIONAL AND WET-LAB METHODS TO DETERMINE ENZYME FUNCTION IN AN UNDERGRADUATE BIOCHEMISTRY LAB COURSE. **Julia R. Koeppe**, Webe C. Kadima, Rebecca Roberts, Paul A. Craig

929-Pos Board B699
CHARMM-GUI LECTURE SERIES ON MOLECULAR MODELING AND SIMULATION. **Nathan R. Kern**, Jumin Lee, Morgan Fine-Morris, Jeffery B. Klauda, Krzysztof Kuczera, Patrick Fleming, Wonpil Im

930-Pos Board B700
IN SILICO STRUCTURAL STUDIES OF A TRIPEPTIDE BUILDING BLOCK. **Subhasish Chatterjee**, Katherine Liu

931-Pos Board B701
VIRTUAL REALITY ENVIRONMENT TO VISUALIZE AND MANIPULATE MOLECULAR STRUCTURES. Jordan McGraw, Wei Zhang, Amanda D. Luginbuhl, George Takahashi, Roy F. Tasker, **Gaurav Chopra**

Student Research Achievement Award (SRAA) Poster Competition

These posters will be displayed for judging on Sunday, February 18, 6:00 PM–9:00 PM, in the SRAA poster board area marked S1–S188, in the Exhibit Hall. S board numbers before each title indicate where the posters will be assigned during the Sunday evening competition.

The posters will also be presented during the regular daily sessions as programmed below. Note that only the applicant's name is listed. Please refer to the full abstract for all authors. **Please also note that only applicants and judges will be allowed in S poster area on Sunday evening.**

Bioenergetics

Board S1
MIMICKING NATURAL PHOTOSYNTHESIS: CHARGE TRANSFER IN PPCA-RU(BPY)$_3$ COMPLEXES.
Daniel Marzolf (2576-Pos, B592)

Board S2
BCL-2 OR BCL-XL OVEREXPRESSSION AFFECTS BOTH LACTIC FERMENTATION AND MITOCHONDRIAL METABOLISM IN GROWING PRO-LYMPHOCYTES.
Catalina Olea (1666-Pos, B57)

Board S3
REGULATION OF ATP PRODUCTION BY MITOCHONDRIAL CALCIUM SIGNALS IN HEART
Andrew Wescott (2309-Pos, B325)

Board S4
MICROSCOPIC VIEW OF THE OUTWARD- TO INWARD-FACING TRANSITION PATHWAY OF THE HUMAN DOPAMINE TRANSPORTER.
Zhiyu Zhao (1214-Pos, B123)

Bioengineering

Board S5
MAGNETOMOTIVE OPTICAL COHERENCE TOMOGRAPHY AS NEW METHOD FOR ENDOGENOUS MAGNETITE DETECTION.
Jessica Barrick (886-Pos, B656)

Board S6
STUDYING VARIATIONS IN CEACAM1 NANOSCALE ORGANIZATION, STRUCTURE, AND DYNAMICS.
Amine Driouchi (2653-Pos, B669)

Board S7
HIGH SELECTIVITY AND SENSITIVITY OF OLIGOMERIC P-PHENYLENE ETHYNYLENES FOR DETECTING AMYLOID PROTEINS IN-VITRO.
Adeline Fanni (1770-Pos, B679)

Board S8
MIMICKING MICROBIAL RHODOPSIN ISOMERIZATION.
Alireza Ghanbarpour (2856-Pos, B64)

Board S9
CELL-PENETRATING PEPTIDE FOR TRANSCELLULAR TRANSPORT: THE EFFECT OF PHYSICO-CHEMICAL PROPERTIES ON PERMEABILITY.
Alexander Komin (1347-Pos, B256)

Board S10
COMPUTATIONAL ANALYSIS OF DNA HOMOLOGOUS RECOMBINATION PATHWAY IN A FOLDBACK INTERCOIL STRUCTURE.
Byung Ho Lee (432-Pos, B202)

Board S11
EFFECT OF EPITHELIAL-MESENCHYMAL TRANSITION ON EGFR DYNAMICS REVEALED BY SINGLE-PARTICLE TRACKING.
Yen-Liang Liu (2643-Pos, B659)

Board S12
CLASSIFICATION OF ALLOSTERY IN PROTEINS: A DEEP LEARNING APPROACH.
Girik Malik (2087-Pos, B103)

Board S13
MICROTUBULE TRANSPORT ON 3D BIOCOMPATIBLE NANOSTRUCTURES.
Haneen Martinez (1798-Pos, B707)

Board S14
THE ROLE OF MEMBRANE ASYMMETRY IN NANOPARTICLE-INDUCED PLASMA MEMBRANE DAMAGE.
Saeed Nazemidashtarjandi (889-Pos, B659)

Board S15
TOWARDS REAL-TIME HOLOGRAPHIC THREE-DIMENSIONAL IMAGING WITH MACHINE LEARNING.
Lindsey Peng (3377-Pos, B585)

Board S16
BIO-FUNCTIONALIZED CORE-SHELL MICROPARTICLES FOR HIGH FORCE OPTICAL TRAPPING.
Dana Reinemann (1744-Pos, B653)

Board S17
PATHOGENIC MECHANISMS OF THE CARDIOMYOPATHY-ASSOCIATED ALPHA-TROPOMYOSIN VARIANT E192K AS REVEALED BY MULTISCALE MODELING AND EXPERIMENTS.
Lorenzo Sewanan (2446-Pos, B462)

Board S18
DESIGN OF A MULTIPARAMETER ISLET-ON-A-CHIP DEVICE TO MEASURE THE FUNCTIONAL VARIABILITY OF INDIVIDUAL PANCREATIC ISLETS
Romario Regeenes (3417-Pos, B625)

Board S19
GENERALIZED LANGEVIN DYNAMICS FOR STEALTH NANOPARTICLE ADHESION TO MEMBRANE SURFACE.
Yu-Wen Wu (3427-Pos, B635)

Board S20
BIOMECHANICAL CHARACTERIZATION OF FIBROBLAST-POPULATED COLLAGEN TISSUE MODELS.
Zheng Yie Yap (1801-Pos, B710)

Biological Fluorescence

Board S21
PREDICTING SPECTRAL PROPERTIES OF POLARITY SENSITIVE DYES WITH QM/MM SIMULATION.
Swapnil Baral (1372-Pos, B281)

Board S22
DECIPHERING THE ROLE OF BACTERIAL ELECTROPHYSIOLOGY IN MECHANOSENSATION.
Giancarlo Bruni (1736-Pos, B645)

Board S23
SIMULTANEOUS IMAGING OF APOLLO-NADP$^+$ AND FUCCI TO CORRELATE BETA-CELL NADPH/NADP$^+$ REDOX STATE TO THE CELL CYCLE.
Huntley Chang (1774-Pos, B683)

Board S24
MULTICOLOR SPATIAL INTENSITY DISTRIBUTION ANALYSIS OF LASER SCANNING MICROSCOPY IMAGES TO STUDY DOPAMINE RECEPTOR DYNAMICS.
Daniel Foust (1712-Pos, B621)

Board S25
STUDYING LIPID DYNAMICS DUE TO LISTERIOLYSIN O BINDING AND PORE FORMATION ON ARTIFICIAL PHOSPHOLIPID MEMBRANE SYSTEMS.
Ilanila Ilangumaran Ponmalar (1327-Pos, B236)

Board S26
TB AND NOODLETREE: VERIFYING FUNCTIONALITY OF A SPECIALLY TRANSDUCED M. *TUBERCULOSIS* TOXIN THROUGH A VIRAL CARRIER.
Britt Int-Hout (3300-Pos, B508)

Board S27
MODELING THE ROTATIONAL DYNAMICS OF NOVEL HETERO-FRET PROBES AS MEASURED USING TIME-RESOLVED ANISOTROPY.
Ryan Leighton (1692-Pos, B601)

Board S28
FLUORESCENCE LIFETIME TRAJECTORY OF THE MOUSE PRE-IMPLANTATION EMBRYO PREDICTS ITS VIABILITY.
Ning Ma (1733-Pos, B642)

Board S29
PHENYLENE ETHYNYLENE BASED SENSORS FOR THE SELECTIVE DETECTION OF TAU PATHOLOGY.
Florencia Monge (1768-Pos, B677)

Board S30
ELECTROSTATIC INTERACTIONS AT THE DIMER INTERFACE STABILIZE THE *E. COLI β* SLIDING CLAMP.
Anirban Purohit (1108-Pos, B17)

Board S31
SPATIAL DISTRIBUTION OF H-NS IN E.COLI UNDER ENVIRONMENTAL STRESS.
Nafiseh Rafiei (2655-Pos, B671)

Board S32
CAN β-CYCLODEXTRIN ENCAPSULATED POLYPHENOLS COMBAT OXIDATIVE STRESS? A CASE STUDY WITH RIBONUCLEASE A PROTEIN.
Pritam Roy (1987-Pos, B3)

Board S33
$PM_{2.5}$ EXPOSURE AND ROS PRODUCTION IN NR8383 RAT ALVEOLAR MACROPHAGES.
Anthony Waterston (1658-Pos, B567)

Biopolymers in vivo

Board S34
TEASING APART THE ROLE OF THE RIBOSOME AND MOLECULAR CHAPERONES IN CELLULAR PROTEIN FOLDING.
Rayna Addabbo (2044-Pos, B60)

Board S35
DNA-BENDING NON-HISTONE PROTEINS CAN MAKE CHROMATIN IRREGULAR AND MORE COMPACT.
Gaurav Bajpai (1292-Pos, B201)

Board S36
A MECHANISM OF COHESIN-DEPENDENT LOOP EXTRUSION ORGANIZES MAMMALIAN CHROMATIN STRUCTURE IN THE DEVELOPING EMBRYO.
Hugo Brandão (1286-Pos, B195)

Board S37
HOW ZIKA SUSTAINS HIGH TEMPERATURES: INSIGHTS FROM ATOMIC SIMULATIONS.
Pindi Chinmai (1669-Pos, B578)

Board S38
INSIGHTS INTO THE BALANCE BETWEEN FOLDING AND AGGREGATION DURING A PROTEIN'S LIFE.
Matthew Dalphin (2930-Pos, B138)

Board S39
NASCENT PROTEINS INTERACT WITH KEY REGIONS OF THE OUTER SURFACE OF THE RIBOSOME.
Andrew Fuchs (2950-Pos, B158)

Board S40
SOD1 FOLDING MODULATION IN THE CROWDED CELL.
David Gnutt (274-Pos, B44)

Board S41
CELL-SPACE CONFINEMENT EFFECTS ON MIN PROTEIN WAVES INSIDE MICRODROPLETS.
Shunshi Kohyama (2279-Pos, B295)

Cryo-EM

Board S42
POLYCATIONIC SURFACTANTS AS SIRNA CARRIERS FOR GENE THERAPY.
Weronika Andrzejewska (2170-Pos, B186)

Board S43
GAMER 2.0: SOFTWARE TOOLKIT FOR ADAPTIVE MESH GENERATION FROM STRUCTURAL BIOLOGICAL DATASETS.
Christopher Lee (1705-Pos, B614)

Board S44
NOVEL MECHANISM OF CHANNEL GATING BY A RING OF RCK DOMAINS
Hanzhi Zhang (1197-Pos, B106)

Board S45
PUSHING SIZE AND RESOLUTION LIMITS OF SINGLE PARTICLE CRYO-EM AT 200 KEV.
Mengyu Wu (825-Pos, B595)

Exocytosis & Endocytosis

Board S46
THE INTERPLAY BETWEEN FGF23- AND ANGIOTENSIN II- MEDIATED CALCIUM SIGNALING IN CARDIAC HYPERTROPHY.
Ketaki Mhatre (2313-Pos, B329)

Board S47
CONFORMATIONAL CHANGES OF SNAP-25 DUE TO ENVIRONMENTAL CONDITIONS.
Ani Nichol (1417-Pos, B326)

Board S48
MEMBRANE ELASTICITY: UNDERSTANDING THE GAUSSIAN CURVATURE MODULUS FROM LIPID TILT THEORY.
M. Mert Terzi (512-Pos, B282)

Intrinsically Disordered Proteins

Board S49
MAGIC ANGLE SPINNING SOLID STATE NMR STUDIES OF OXIDIZED APOLIPOPROTEIN A-I AGGREGATES.
Jennifer Boatz (2815-Pos, B23)

Board S50
STRUCTURE AND CONFORMATIONAL DYNAMICS OF THE SPLICING FACTOR HNRNP H.
Liang-Yuan Chiu (1110-Pos, B19)

Board S51
SEQUENCE-ENCODED CHARGE PATTERNING OF THE INTRINSICALLY DISORDERED TAIL OF FTSZ IMPACTS POLYMERIZATION AND BACTERIAL CELL DIVISION.
Megan Cohan (2926-Pos, B134)

Board S52
PROTON-INDUCED SWITCHING OF AN INTRINSICALLY DISORDERED DOMAIN OF A MELANOSOMAL PROTEIN INTO A POLYMORPHIC FUNCTIONAL AMYLOID.
Priyanka Dogra (2928-Pos, B136)

Board S53
IDENTIFICATION OF SEGMENTS IN VARIABLE DOMAINS OF IG LIGHT CHAINS THAT DRIVE FORMATION OF AMYLOID FIBRILS.
Shannon Esswein (2878-Pos, B86)

Board S55
MANIPULATION OF TAU OLIGOMERIZATION AND AGGREGATION CHARACTERIZED BY TIME-RESOLVED FRET.
Chih Hung Lo (2906-Pos, B114)

Board S56
CONFORMATIONAL EFFECTS OF VARIOUS HYDROPHOBIC-TO-HYDROPHOBIC SUBSTITUTION LOCATED AT THE MIDPOINT OF THE INTRINSICALLY DISORDERED REGION OF PROBDNF.
Ruchi Lohia (2929-Pos, B137)

Board S57
DYNAMICS BASED DRUG DESIGN FOR INTRINSICALLY DISORDERED PROTEINS.
Barun Maity (2925-Pos, B133)

Board S58
FAST, ACCURATE PH DEPENDENT ALCHEMICAL FREE ENERGY CALCULATIONS TOWARDS RATIONAL DRUG DESIGN.
Daniel Mermelstein (1702-Pos, B611)

Board S59
RESURRECTING A DESICCATION-INACTIVATED ENZYME.
Samantha Piszkiewicz (2883-Pos, B91)

Board S60
ALLOSTERIC EFFECT OF *E. COLI* SSB C-TERMINAL TAILS ON RecOR BINDING TO DNA.
Min Kyung Shinn (2184-Pos, B200)

Board S61
UNDERSTANDING THE STRUCTURAL BASIS OF RECOGNITION BETWEEN PLASMODIUM FALCIPARUM AND HUMAN SUMOYLATION MACHINERY.
Jai Singh (1104-Pos, B13)

Board S62
PROTEIN DYNAMICS UNDERLIE CRE-*LOXP* DNA RECOMBINATION.
Aparna Unnikrishnan (334-Pos, B104)

Board S63
ZINC AVAILABILITY-DEPENDENT UNFOLDING OF LOZ1 ZINC FINGER.
Vibhuti Wadhwa (2003-Pos, B19)

Mechanobiology

Board S64
DESMOPLAKIN AC MUTATIONS' AFFECT ON STRUCTURE AND STABILITY OF ITS NH_2-TERMINUS.
Taylor Albertelli (250-Pos, B20)

Board S65
MECHANOCHEMICAL MODELING AS AN EXPLORATIVE TOOL TO STUDY TISSUE MORPHOGENESIS.
Francesco Atzeni (1597-Pos, B506)

Board S66
RECOVERY OF EQUILIBRIUM FREE ENERGY FROM NON-EQUILIBRIUM THERMODYNAMICS WITH MECHANOSENSITIVE ION CHANNELS IN *E. COLI*.
Ugur Cetiner (577-Pos, B347)

Board S67
MINIMAL INGREDIENTS FOR COUPLED SPINDLE ASSEMBLY AND CHROMOSOME BI-ORIENTATION IN A COMPUTATIONAL MODEL OF FISSION YEAST MITOSIS.
Christopher Edelmaier (3220-Pos, B428)

Board S68
MULTI-CELLULAR MODELLING OF CELLULAR MECHANISMS GIVES INSIGHTS ON THE MAINTENANCE OF EPIDERMAL TISSUE STRUCTURE.
Claire Miller (3364-Pos, B572)

Board S69
RESOLVING THE MECHANISM OF ADHESION MEDIATED BY A NON-CLUSTERED DELTA-1 PROTOCADHERIN.
Debadrita Modak (2002-Pos, B18)

Board S70
LOCATION OF HYPERTROPHIC CARDIOMYOPATHY-CAUSING TROPONIN T MUTATIONS DETERMINES DEGREE OF MYOFILAMENT DYSFUNCTION.
Maike Schuldt (1557-Pos, B466)

Board S71
A LEVER-LIKE TRANSDUCTION PATHWAY FOR LONG-DISTANCE CHEMICAL- AND MECHANO-GATING OF THE MECHANOSENSITIVE PIEZO1 CHANNEL.
Yanfeng Wang (576-Pos, B346)

Board S72
EXPERIMENTAL AND COMPUTATIONAL STUDIES OF OBSCURIN'S FLEXIBILITY.
Jake Whitley (2013-Pos, B29)

Membrane Biophysics

Board S73
MULTISCALE SIMULATIONS OF MEMBRANE RECOGNITION BY LIPID KINASES.
Sarah-Beth Amos (3042-Pos, B250)

Board S74
LIPID BINDING AND LIPID-UPTAKE IN P-GLYCOPROTEIN: COMPARISON OF THE INWARD- AND OUTWARD-FACING CONFORMATION.
Estefania Barreto-Ojeda (746-Pos, B516)

Board S75
INVESTIGATING A DOMAIN I HYPOKALEMIC PERIODIC PARALYSIS MUTATION IN HNAV1.4: A COMPUTATIONAL APPROACH.
Landon Bayless-Edwards (3133-Pos, B341)

Board S76
STRUCTURAL STUDIES OF MAGNESIUM TRANSPORTER CNNM.
Yu Chen (2823-Pos, B31)

Board S77
PHYSIOLOGICAL TRADEOFFS OF TTX RESISTANCE IN $NA_V1.4$: WHOLE CELL ELECTROPHYSIOLOGY AND TISSUE MYOGRAPHY REVEAL REDUCED TETRODOTOXICITY AT THE COST OF CHANNEL FUNCTION.
Robert del Carlo (3132-Pos, B340)

Board S78
ROLE OF AN INTRASUBUNIT CA^{2+} BRIDGE DEPENDENT ACTIVATION OF BK CHANNELS.
Alberto Gonzalez-Hernandez (2370-Pos, B386)

Board S79
INVESTIGATING THE INTERACTIONS BETWEEN VEGFR2 AND EGFR.
Hana Grubb (2291-Pos, B307)

Board S80
FUNCTIONAL CHARACTERIZATION OF NOVEL PHOTO-SWITCHABLE NEUROMUSCULAR BLOCKERS.
Clara Herrera-Arozamena (1490-Pos, B399)

Board S81
FLEXIBILITY OF A TRANSMEMBRANE HELIX UNDERLIES DRAMATIC REVERSAL OF NET ANESTHETIC EFFECTS IN A PENTAMERIC LIGAND-GATED ION CHANNEL.
Stephanie Heusser (2414-Pos, B430)

Board S82
OPTIMAL DESIGN OF AN AQUAPORIN LIPID MEMBRANE SYSTEM USING MOLECULAR DYNAMICS SIMULATION.
Hyunki Kim (3028-Pos, B236)

Board S83
EXPLORING A NOVEL OLIGOMERIZATION MECHANISM OF THERMOSTABLE DIRECT HEMOLYSIN, A PORE-FORMING PROTEIN.
Nidhi Kundu (1986-Pos, B2)

Board S84
SYNTHETIC BATRACHOTOXIN DERIVATIVES AS MOLECULAR PROBES OF VOLTAGE-GATED SODIUM ION CHANNEL FUNCTION.
Timothy MacKenzie (3137-Pos, B345)

Board S85
IDENTIFICATION OF POTENT AND SELECTIVE INHIBITORS TO INVESTIGATE THE ROLE OF EPITHELIAL SODIUM CHANNELS IN NEURODEGENERATION.
Victoria Miller (3364-Pos, B572)

Board S86
STRUCTURAL AND ENERGETIC DETAILS OF THE BINDING OF PTEN TO PHOSPHATIDYLINOSITOL PHOSPHATE-CONTAINING MEMBRANES THROUGH MOLECULAR SIMULATIONS.
Fiona Naughton (1396-Pos, B305)

Board S87
HEAT SENSITIVE GATING MECHANISM OF TRPV1 CHANNEL REVEALED BY MOLECULAR DYNAMICS SIMULATION.
Soon Woo Park (2377-Pos, B393)

Board S88
INTERACTION SITES OF SEROTONIN TYPE 3A INTRACELLULAR DOMAIN ($5\text{-}HT_{3A}$-ICD) WITH CHAPERON PROTEIN RIC-3.
Elham Pirayesh (1497-Pos, B406)

Board S89
RATIONAL DESIGN OF AGO-ALLOSTERIC SMALL MOLECULE OF GLP-1R.
Tejashree Redij (286-Pos, B56)

Board S90
DEVELOPMENT AND APPLICATION OF A PEPTIDE INHIBITOR-BOUND QUANTUM DOT TARGETING THE VOLTAGE-GATED POTASSIUM CHANNEL KV1.3 IN THE OLFACTORY BULB.
Austin Schwartz (1545-Pos, B454)

Board S91
EFFECTS OF $5\text{-}HT_{3A}$ INTRACELLULAR DOMAIN MODIFICATIONS ON OLIGOMERIZATION.
Antonia Stuebler (1496-Pos, B405)

Board S92
CALCIUM-DEPENDENT REGULATION OF POTASSIUM CHANNELS IN CARDIAC ELECTROPHYSIOLOGY: A COMPUTATIONAL STUDY.
Henry Sutanto (2340-Pos, B356)

Board S93
TOWARDS REVEALING A COOPERATIVE MECHANISM OF CAMP BINDING TO HCN2 CYCLIC NUCLEOTIDE BINDING DOMAINS AT THE SINGLE-MOLECULE LEVEL.
David White (608-Pos, B378)

Board S94
MOLECULAR BASIS OF MEXILETINE RESPONSE VARIABILITY IN SODIUM CHANNELS WITH LONG QT MUTATIONS.
Wandi Zhu (3153-Pos, B361)

Membrane Structure & Assembly

Board S95
MECHANISM OF TRK RECEPTOR DIMERIZATION AND ACTIVATION.
Fozia Ahmed (2288-Pos, B304)

Board S96
LATERAL DISTRIBUTION AND MOBILITY OF TRANSMEMBRANE PROTEINS IN PLASMA MEMBRANE VESICLES.
Guillermo Moreno-Pescador (2976-Pos, B184)

Board S97
A COMBINED COMPUTATIONAL AND EXPERIMENTAL STUDY TO INVESTIGATE THE ROLE OF COQ9 IN PROMOTING COQ BIOSYNTHESIS.
Deniz Aydin (2282-Pos, B298)

Board S98
MOLECULAR DYNAMICS SIMULATIONS REVEAL THE ROLE OF MEMBRANE CHOLESTEROL DURING PORE FORMING PATHWAY OF CYTOLYSIN A.
Amit Behera (1200-Pos, B109)

Board S99
STRUCTURE OF A PHOSPHATIDYLINOSITOL-PHOSPHATE SYNTHASE FROM MYCOBACTERIA.
Meagan Belcher Dufrisne (1187-Pos, B96)

Board S100
METHODOLOGICAL DEVELOPMENT TO STUDY LIPID MEMBRANES OF INTACT BACTERIA AND MICROALGAE BY ^{2}H SOLID-STATE NMR.
Jean-Philippe Bourgouin (797-Pos, B567)

Board S101
EVOLUTIONARY VARIATIONS IN HLH DOMAIN MODULATE THE FAST INACTIVATION PHASE IN CALCIUM SELECTIVE TRP CHANNELS.
Lisandra Flores Aldama (2395-Pos, B411)

Board S102
SUBSTRATE FOR SUPPORTED LIPID BILAYERS AFFECTS DOMAIN MOBILITY AND PHASE BEHAVIOUR.
James Goodchild (534-Pos, B304)

Board S103
EBOLA VIRUS DELTA-PEPTIDE ACTS AS AN ENTEROTOXIC VIROPORIN IN VIVO.
Shantanu Guha (1336-Pos, B245)

Board S104
LIPID LATERAL ORDERING OF RAFT DOMAINS DEFINED BY HIGH-FIELD EPR.
Zahra Hayati (2977-Pos, B185)

Board S105
THE MEMBRANE MATTERS: SENSITIVITY OF TIM PROTEINS TO BULK MEMBRANE PROPERTIES IN BINDING PHOSPHATIDYLSERINE.
Daniel Kerr (1401-Pos, B310)

Board S106
MEMBRANE CHOLESTEROL REDUCES POLYMYXIN B NEPHROTOXICITY IN RENAL MEMBRANE ANALOGUES.
Adree Khondker (2237-Pos, B253)

Board S107
ANALYZING THE EFFECTS OF PLACING CENTRAL ARGININE RESIDUES WITHIN A HIGHLY DYNAMIC TRANSMEMBRANE ALPHA-HELIX.
Matthew McKay (3036-Pos, B244)

Board S108
UNDERSTANDING THE PORE-FORMING MECHANISM OF PEPTIDES DERIVED FROM THE N-TERMINUS OF STICHOLYSIN.
Haydee Mesa Galloso (1328-Pos, B237)

Board S109
EFFECT OF PEG, LIPID COMPOSITION AND FORMULATION ON VESICLE LAMELLARITY: A SMALL ANGLE NEUTRON SCATTERING STUDY.
Valeria Nele (1376-Pos, B285)

Board S110
LATERAL DIFFUSIVITY OF CHOLESTEROL DEPENDS ON ITS SPATIAL ARRANGEMENT IN LIPID MEMBRANES.
Younghoon Oh (493-Pos, B263)

Board S111
CHOLESTEROL CHEMICAL POTENTIAL IN MIXED PHOSPHATIDYLCHOLINE/CHOLESTEROL BILAYER: MODEL PREDICTIONS AND COMPUTER SIMULATIONS.
Nihit Pokhrel (2983-Pos, B191)

Board S112
LIPID BILAYER MODULATION USING DNA ORIGAMI MIMICS OF CLATHRIN.
Vivek Ramakrishna (526-Pos, B296)

Board S113
REVERSIBLE SEPARATION OF LIVING, UNPERTURBED CELL MEMBRANES INTO LIQUID PHASES.
Glennis Rayermann (2235-Pos, B251)

Board S114
STRUCTURE AND FUNCTION OF MAMMALIAN STEAROYL-COA DESATURASE.
Jiemin Shen (2109-Pos, B125)

Board S115
ASSEMBLY OF CELLULAR ENVELOPES - A STEP TOWARD CELL-SCALE SIMULATIONS.
Eric Shinn (2184-Pos, B200)

Board S116
LIPID INTERDIGITATION PROMOTES THERMAL STABILIZATION OF LIPID POLYMORPHISMS INDUCED BY SURFACTANT PEPTIDE B_{1-25}.
Nhi Tran (2252-Pos, B268)

Board S117
MECHANISM OF CATALYSIS AND INHIBITION IN DGAT1.
Lie Wang (2096-Pos, B112)

Molecular Biophysics

Board S118
RING OPENING MECHANISM OF EPOXIDE INHIBITORS IN ASPARTATE PROTEASES: A QM/MM STUDY.
Mohd Ahsan (2600-Pos, B616)

Board S119
TOWARDS BIOMIMETIC PHOSPHATE RECOVERY: MOLECULAR DYNAMICS SIMULATIONS OF PHOSPHATE BINDING PROTEINS.
Sigurd Truelsen (297-Pos, B67)

Board S120
BIOACTIVE 3D STRUCTURE OF PHENYLALANINE AMMONIA-LYASE REVEAL KEY INSIGHTS INTO LIGAND BINDING DYNAMICS.
Zsofia Bata (2001-Pos, B17)

Board S121
ROLES OF UPSTREAM PROMOTER DNA IN BACTERIAL TRANSCRIPTION INITIATION.
Munish CHHABRA (1238-Pos, B147)

Board S122
SPECIFIC INTERACTIONS OF PROTEIN-PROTEIN INTERACTION BETWEEN HUMAN PROGRAMMED DEATH 1 (PD-1) AND ITS LIGAND 1 (PD-L1) WITH AB INITIO FRAGMENT MOLECULAR ORBITAL METHOD.
Jung Ho Chun (2091-Pos, B107)

Board S123
COMPUTATIONAL AND EXPERIMENTAL INVESTIGATION OF TROPOMYOSIN D230N AND S215L MUTATION SPECIFIC CORRELATES TO DISEASE.
Andrea Deranek (2463-Pos, B479)

Board S124
UNDERSTANDING THE ASSEMBLY AND DISASSEMBLY KINETICS OF *STREPTOCOCCUS PNEUMONIAE* FtsZ.
Hemendra Dhaked (332-Pos, B102)

Board S125
DYNAMICS OF TERNARY REDOX COMPLEX INFLUENCING CYTOCHROME P450 METABOLON: AN NMR STUDY.
Katherine Gentry (2103-Pos, B119)

Board S126
CO-TRANSLATIONAL TARGETING BY SIGNAL RECOGNITION PARTICLE ACTIVATES ONLY AFTER CYTOSOLIC EXPOSURE OF SIGNAL SEQUENCE.
Hao Hsuan Hsieh (356-Pos, B126)

Board S127
STUDY OF POLYELECTROLYTE-SMALL MOLECULE DRUG BINDING WITH WORMLIKE CHAIN MODEL.
Merina Jahan (1709-Pos, B618)

Board S128
INVESTIGATING THE MECHANISM OF DNA RECOGNITION BY A CRISPR-CAS12A NUCLEASE.
Wei Jiang (1259-Pos, B168)

Board S129
INVESTIGATION OF THE MOLECULAR MECHANISMS WHICH RESULT IN AMINOGLYCOSIDE NUCLEOTIDYLTRANSFERASE 4' (ANT4) VARIANTS WITH DIFFERENT LEVELS OF THERMOSTABILITY.
Seda Kocaman (271-Pos, B41)

Board S130
INFLUENZA VIRAL ENVELOPE SIMULATION REVEALS NOVEL DRUGGABLE POCKETS ON SURFACE GLYCOPROTEINS.
Sarah Kochanek (1689-Pos, B598)

Board S131
HOMOLOGY MODELING AND STRUCTURAL ANALYSIS OF S. CEREVISIAE MSH4 AND MSH5 PROVIDE INSIGHT INTO DNA BINDING AND SPECIFICITY.
Sudipta Lahiri (434-Pos, B204)

Board S132
OLIGOMERIZATION AND NUCLEAR SHUTTLING DYNAMICS OF VIRAL PROTEINS STUDIED BY QUANTITATIVE MOLECULAR BRIGHTNESS ANALYSIS USING FLUORESCENCE CORRELATION SPECTROSCOPY.
Madlen Luckner (1734-Pos, B643)

Board S133
STRUCTURE-ACTIVITY RELATIONSHIP AND CHARACTERIZATION OF NOVEL INFLUENZA INHIBITORS.
Gregory Mohl (2072-Pos, B88)

Board S134
UNDERSTANDING GRP1 PH DOMAIN-LIPID INTERACTION USING AN ACCELERATED MEMBRANE MODELUNDERSTANDING GRP1 PH DOMAIN-LIPID INTERACTION USING AN ACCELERATED MEMBRANE MODEL.
Shashank Pant (1386-Pos, B295)

Board S135
CRYSTAL STRUCTURE OF A BACTERIAL ABC HEME EXPORTER IN THE APO FORM.
Md. Mahfuzur Rahman (2098-Pos, B114)

Board S136
RAPID FOLDING OF TRP-CAGE IN IONIC LIQUID: IMPLICATIONS IN PROTEIN RENATURATIONS.
Mohammad Rahman (2596-Pos, B612)

Board S137
PREFERENTIAL BINDING OF FLAVONOIDS WITH BOVINE SERUM ALBUMIN: *IN-SILICO* AND SPECTROSCOPIC INSIGHT INTO CYTOTOXIC COMPETENCE.
Bhumika Ray (289-Pos, B59)

Board S138
CHOLESTEROL PROMOTES CYTOLYSIN A ACTIVITY BY STABILIZING THEINTERMEDIATES DURING PORE FORMATION.
Pradeep Sathyanarayana (3389-Pos, B597)

Board S139
STRUCTURAL BASIS OF AN ESSENTIAL INTERACTION BETWEEN DNAG AND DNAB IN *MYCOBACTERIAL TUBERCULOSIS*.
Dhakaram Sharma (1105-Pos, B14)

Board S140
BIOPHYSICAL CHARACTERIZATION OF INTERACTIONS OF HEPARIN WITH HIV-1 TAT PEPTIDE 47-57 AND ITS PERTURBATION BY CATIONIC SMALL MOLECULE.
Neha Tiwari (2062-Pos, B78)

Board S141
AMYLOID BETA PEPTIDE AGGREGATION PROCESS IN THE PRESENCE OF SUGAR-BASED SURFACTANTS- CONFORMATIONAL AND STRUCTURAL STUDIES.
Michalina Wilkowska (1111-Pos, B20)

Board S142
INFLUENCE OF BENDING OF MICROVILLI ON LEUKOCYTE ROLLING ADHESION IN SHEAR FLOW - A SIMULATION STUDY.
Tai-Hsien Wu (1621-Pos, B530)

Board S143
GEOMETRY MATTERS FOR CARGOS NAVIGATING 3D MICROTUBULE INTERSECTIONS.
Matthew Bovyn (3254-Pos, B462)

Board S144
ENHANCED STABILITY OF KINESIN-1 AS A FUNCTION OF TEMPERATURE.
Katelyn Chase (2518-Pos, B534)

Board S145
REDUCED MOTILITY OF SWIMMING ALGAL CELLS AT INCREASED MEDIUM VISCOSITY.
Kara Clark (1620-Pos, B529)

Board S146
DISSECTING THE MOLECULAR MECHANISM FOR FAMILIAL CARDIOMYOPATHIES.
Sarah Clippinger (701-Pos, B471)

Board S147
AGE-DEPENDENT CATASTROPHES AND MACROSCOPIC SWITCHING TRANSITION IN DYNAMIC MICROTUBULES.
Aparna J S (2491-Pos, B507)

Board S148
A COMBRETASTATIN ANALOGUE C12 BINDS TO COLCHICINE SITE IN TUBULIN, INHIBITS SPINDLE MICROTUBULE DYNAMICS, ACTIVATES MITOTIC CHECKPOINT AND INDUCES APOPTOSIS IN CANCER CELLS.
Anuradha Kumari (2053-Pos, B69)

Board S149
A CHARACTERISTIC EXTRACELLULAR LOOP OF PRESTIN MODULATES ITS VOLTAGE OPERATING POINT.
Makoto Kuwabara (2350-Pos, B366)

Board S150
NOVEL KINESIN-3 MOTOR BEHAVIOR IS REGULATED BY TAU.
Dominique Lessard (2522-Pos, B538)

Board S151
A FLUID MEMBRANE ENHANCES THE VELOCITY OF CARGO TRANSPORT BY SMALL TEAMS OF KINESIN-1.
Qiaochu Li (2513-Pos, B529)

Board S152
SUBSTRATE MOBILITY PRODUCES VELOCITY TIME DEPENDENCE IN MICROTUBULE GLIDING.
Joseph Lopes (3205-Pos, B413)

Board S153
N-TERMINAL INSERTS IMPACT THE GLOBAL CONFORMATION OF TAU AND THE TAU-TUBULIN COMPLEX.
Kristen McKibben (2507-Pos, B523)

Board S154
ORGANIZATION AND DYNAMICS OF GLIDING FLEXIBLE FILAMENTS.
Jeffrey Moore (3223-Pos, B431)

Board S155
ATOMIC FORCE SIMULATIONS REVEAL THAT THE LEADING HEAD OF KINESIN DIMERS GENERATES THE CARGO MOVING FORCE.
Alicia Pan (2519-Pos, B535)

Board S156
MICROTUBULE STRUCTURAL STATE RECOGNITION BY END BINDING PROTEIN 1.
Taylor Reid (2502-Pos, B518)

Board S157
THE FORCE-DEPENDENT ACTIVITY OF MULTIPLE MYOSIN VI MONOMERS.
Ellen Rumley (1591-Pos, B500)

Board S158
IMPACT OF DILATED CARDIOMYOPATHY MUTATION AND SMALL MOLECULE REGULATOR ON HUMAN BETA-CARDIAC MYOSIN.
Wanjian Tang (2449-Pos, B465)

Board S159
BIOENGINEERING AND CHARACTERIZATION OF TROPONIN PEPTIDES FOR USE AS THERAPEUTIC REAGENTS TO MODULATE MUSCLE CONTRACTILITY.
Sienna Wong (3109-Pos, B317)

Board S160
SINGLE MOLECULE, OPTICAL TRAPPING STUDIES OF OMECAMTIV MERCARBIL ON HUMAN CARDIAC MYOSIN'S FORCE PRODUCTION.
Michael Woody (1577-Pos, B486)

Nanoscale Biophysics

Board S161
UNDERSTANDING AN RNA HELIX-JUNCTION-HELIX CONSTRUCT BY SAXS REFINEMENT OF MD MODELS.
Yen-Lin Chen (2144-Pos, B160)

Board S162
MEASURING OLIGONUCLEOTIDE HYBRIDIZATION KINETICS IN SOLUTION USING A TIME-RESOLVED 3D SINGLE-MOLECULE TRACKING TECHNIQUE.
Yuan-I Chen (855-Pos, B625)

Board S163
STUDY OF TUMOR CELLULAR DAMAGE INDUCED BY PHOTOSENSITIZING MOLECULES.
Marco Cozzolino (2647-Pos, B663)

Board S164
INVESTIGATION OF STABILITY AND DYNAMICS OF GEL-ENCAPSULATED BACTERIORHODOPSIN.
Kaitlin Johnson (892-Pos, B662)

Board S165
LATERAL MAGNETIC TWEEZERS TO STUDY DNA:PROTEIN INTERACTIONS.
Julene Madariaga-Marcos (464-Pos, B234)

Board S166
NEW INSIGHTS INTO THE DYNAMICS AND ENERGETICS OF PHAGE T4 INJECTION MACHINERAY USING A CONTINUUM MODEL.
Ameneh Maghsoodi (3415-Pos, B623)

Board S167
LASER-ASSISTED NMR IN THE PRESENCE OF A CRYOGENIC PROBE ENABLES MULTIDIMENSIONAL DATA COLLECTION ON AMINO ACIDS AND PROTEINS AT UNPRECEDENTED SENSITIVITY.
Miranda Mecha (795-Pos, B565)

Board S168
GROWTH PHASE DEPENDENT EFFECTS ON SPATIAL DISTRIBUTION OF *E. COLI* CHROMOSOMES AND RIBOSOMES.
Sonisilpa Mohapatra (2947-Pos, B155)

Board S169
A NANOFLUIDIC DEVICE FOR REAL-TIME VISUALIZATION OF DNA-PROTEIN INTERACTIONS ON THE SINGLE DNA MOLECULE LEVEL.
Robin Öz (460-Pos, B230

Board S170
FLIM-FRET OF CHROMATIN IN LIVE CELLS USING TWO DNA-BINDING DYES.
Simone Pelicci (2633-Pos, B649)

Board S171
PH SENSITIVE CONFORMATIONAL CHANGES RESPONSIBLE FOR THE ANOMALOUS BEHAVIOR OF IONIZABLE RESIDUES IN THE HYDROPHOBIC INTERIOR OF SNASE.
Ankita Sarkar (258-Pos, B28)

Board S172
QUANTITATIVE SUPER-RESOLUTION MICROSCOPY OF PROTEINS AT THE SYNAPTIC LEVEL.
Silvia Scalisi (2668-Pos, B684)

Board S173
FREE-STANDING LIPID BILAYERS: A VERSATILE PLATFORM FOR THE MECHANISTIC STUDIES OF VOLTAGE SENSITIVE DYES AND MEMBRANE ION TRANSPORT.
Maria Tsemperouli (489-Pos, B259)

Board S174
ACCURATE REFOLDING OF EXPERIMENTALLY DETERMINED PROTEIN MECHANICAL UNFOLDING INTERMEDIATES VIA ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS.
David Wang (2599-Pos, B615)

Board S175
IONIC TRANSPORT THROUGH 1.5 NM DIAMETER CARBON NANOTUBE PORINS.
Yun-Chiao Yao (921-Pos, B691)

Permeation & Transport

Board S176
UNDERSTANDING SPATIOTEMPORAL ASPECTS OF CECROPIN A ATTACK ON SINGLE, LIVE BACTERIA USING TIME-LAPSE FLUORESCENCE MICROSCOPY.
Anurag Agrawal (496-Pos, B266)

Board S177
MOLECULAR SIMULATIONS OF LIPID ELECTROPORE FORMATION AND PORE-MEDIATED CALCIUM TRANSPORT WITH AN IMPROVED CA^{2+} MODEL.
Federica Castellani (2609-Pos, B625)

Board S178
ALTERNATIVE BINDING MODE OF FULL AND PARTIAL AGONISTS IN A PENTAMERIC LIGAND-GATED ION CHANNEL STABILISES LOOP C IN AN OPEN CONFORMATION.
Marc Dämgen (1488-Pos, B397)

Board S179
BIOMIMETIC AQUAPORIN MEMBRANE FABRICATION USING ELECTROKINETIC INTERACTIONS.
Ahmed Fuwad (890-Pos, B660)

Board S180
SIMULATING THE PERMEATION OF FOSFOMYCIN FROM THE EXTRACELLULAR SPACE TO THE SITE OF ACTION IN GRAM-NEGATIVE BACTERIA.
Vinaya Kumar Golla (2437-Pos, B453)

Board S181
ANTIBIOTIC PERMEATION ACROSS THE BACTERIAL OUTER MEMBRANE PORIN.
Nandan Haloi (1135-Pos, B44)

Board S182
AGONIST-SPECIFIC PHARMACOLOGICAL EFFECTS OF CMPI AND NS9283 AT (α4)3(β2)2 NEURONAL NICOTINIC. ACETYLCHOLINE RECEPTORS.
Kemburli Munoz (1484-Pos, B393)

Board S183
INTERPLAY OF CRAC CHANNELS WITH CA^{2+} ACTIVATED K^+ CHANNELS.
Adela Krizova (1436-Pos, B345)

Board S184
PROPERTIES OF OSCILLATING ELECTRICAL PULSE INDUCED NA/K PUMP CURRENT ON SINGLE FROG SKELETAL MUSCLE.
Pengfei Liang (735-Pos, B505)

Board S185
REGULATION OF MAMMALIAN LARGE NEUTRAL AMINO ACID TRANSPORTER LAT1 BY ITS PARTNER CD98.
Qingnan Liang (1635-Pos, B544)

Board S186
UNDERSTANDING THE MOLECULAR MECHANISM OF CATION PERMEATION IN THE CARDIAC RYANODINE RECEPTOR (RYR2) CHANNEL USING COMPUTATIONAL ELECTROPHYSIOLOGY.
Williams Miranda (585-Pos, B355)

Board S187
CRYSTAL STRUCTURE OF AN EIIC TRAPPED IN AN INWARD-FACING CONFORMATION.
Zhenning Ren (1653-Pos, B562)

Board S188
DISSECTING THE THERMODYNAMICS OF TRANSPORT OF A SODIUM-CALCIUM EXCHANGER.
Irina Shlosman (1643-Pos, B552)

Monday, February 19, 2018

Daily Program Summary

All rooms are located in the *Moscone Center* unless noted otherwise.

7:30 AM-8:30 AM	**Graduate Student Breakfast**	**North, Lower Lobby, Room 20/21**
7:30 AM-5:00 PM	**Registration/Exhibitor Registration**	**South Lobby**
8:00 AM-10:00 PM	**Poster Viewing**	**Exhibit Hall ABC**
8:15 AM-10:15 AM	**Symposium: Fibril Assembly and Structure: Progress and Challenges** **Co-Chairs** *Robert Griffin, MIT* *Joan Emma-Shea, University of California, Santa Barbara* HIGH RESOLUTION STRUCTURE DETERMINATION OF AMYLOID FIBRILS. *Robert G. Griffin* AGGREGATION OF THE TAU PROTEIN: INSIGHTS FROM ATOMISTIC AND MESOSCALE SIMULATIONS. *Joan-Emma Shea* HIGH RESOLUTION FIBRIL STRUCTURE OF AMYLOID-β(1-42) BY CRYOELECTRON MICROSCOPY. *Dieter Willbold* FIBRIL FORMATION BY AMYLOID-BETA AND BY LOW-COMPLEXITY SEQUENCES: INSIGHTS FROM SOLID STATE NMR. *Robert Tycko*	**North, Lower Lobby, Room 24**
8:15 AM-10:15 AM	**Symposium: Biophysics of Lipid-modified GTPases** **Co-Chairs** *Sharon Campbell, University of North Carolina* *Roland Winter, Technical University of Dortmund, Germany* RAS-MEMBRANE INTERACTIONS AND THEIR MODULATION BY EFFECTOR PROTEINS. *Roland Winter* ALLOSTERIC REGULATION OF SMALL GTPASES ON MEMBRANES. *Jacqueline Cherfils* LIPID BINDING SPECIFICITY OF THE KRAS MEMBRANE ANCHOR. *John F. Hancock* ROLE OF THE MEMBRANE IN EXCHANGE FACTOR - MEDIATED REGULATION OF RAP1B IN PLATELET ACTIVATION. *Sharon L. Campbell*	**North, Lower Lobby, Room 25**
8:15 AM-10:15 AM	**Platform: Optical Microscopy and Superresolution Imaging: Methods II**	**South, Level Two, Room 207/208**
8:15 AM-10:15 AM	**Platform: Membrane Pumps, Transporters, and Exchangers**	**South, Level Two, Room 215/216**
8:15 AM-10:15 AM	**Platform: Protein Structure and Conformation II**	**Esplanade, Room 153**
8:15 AM-10:15 AM	**Platform: Bioengineering and Biomaterials**	**Esplanade, Room 154**
8:15 AM-10:15 AM	**Platform: Protein-Nucleic Acid Interactions**	**Esplanade, Room 155**
8:15 AM-10:15 AM	**Platform: Microtubules and Associated Motors**	**Esplanade, Room 156**
8:30 AM-10:00 AM	**Exhibitor Presentation: TA Instruments – Waters LLC** **Characterizing Biopharmaceuticals for Stability and Affinity**	**Exhibit Hall, Room 6**
8:30 AM-10:30 AM	**CPOW Committee Meeting**	**South, Level Three, Room 306**
9:30 AM-11:00 AM	**Exhibitor Presentation: Bruker Corporation** **The Latest in Mechanobiology Research with AFM**	**Exhibit Hall, Room 5**
10:00 AM-11:00 AM	**Career Development Center Workshop:** **Demystifying the Academic Job Search II: Preparing your Written Application Materials: CV, Cover Letter, and Research Statement**	**South, Lower Level, Room 2**
10:00 AM-5:00 PM	**Exhibits**	**Exhibit Hall ABC**
10:15 AM-11:00 AM	**Coffee Break**	**Exhibit Hall ABC**
10:15 AM-11:15 AM	**New Member Welcome Coffee**	**North, Lower Lobby, Room 20/21**
10:30 AM-12:00 PM	**Exhibitor Presentation: Dynamic Biosensors GmbH** **Biophysical Analysis of Molecular Interactions with the switchSENSE Biosensor**	**Exhibit Hall, Room 6**

10:45 AM-12:45 PM	**Symposium: Synaptic Vesicle Fusion and Retrieval** **Co-Chairs** *Axel Brunger, Stanford University* *Diasynou Fioravante, University of California, Davis* MOLECULAR MECHANISMS OF SYNAPTIC VESICLE PRIMING. *Axel Brunger* TRANSLATING NEURONAL ACTIVITY AT THE SYNAPSE: THE ROLE OF THE PROTEIN KINASE C CASCADE IN SHORT-TERM PLASTICITY. *Diasynou Fioravante* TRANS-SYNAPTIC PROTEIN ORGANIZATION ALIGNING VESICLE FUSION WITH RECEPTORS. *Thomas Blanpied* VISUALIZING MEMBRANE STRUCTURAL REMODELING DURING FUSION AND FISSION IN LIVE CELLS. *Ling-Gang Wu*	**North, Lower Lobby, Room 24**
10:45 AM-12:45 PM	**Symposium: Cardiac Contractility** **Co-Chairs** *Livia Hool, University of Western Australia* *University of Alberta, Canada* ELUCIDATING THE MOLECULAR MECHANISMS FOR ACTIVATION OF THE L-TYPE CALCIUM CHANNEL IN THE FIGHT OR FLIGHT RESPONSE. *Livia C. Hool* IS THE HEART DRUGGABLE? DEVELOPMENT OF A CALCIUM SENSITIZER. *Brian Sykes* SPECTROSCOPIC PROBES OF CARDIAC CONTRACTILITY AND THERAPEUTIC DISCOVERY. *David Dale Thomas* POST-TRANSLATIONAL MODIFICATION SIGNALING AND BIOELECTRICAL, BIOPHYSICAL AND BIOENERGETIC PACEMAKER FUNCTION. *Yael Yaniv*	**North, Lower Lobby, Room 25**
10:45 AM-12:45 PM	**Symposium: Future of Biophysics** **Co-Chairs** *Anne Kenworthy, Vanderbilt University, School of Medicine* *Francesa Marassi, Sanford Burnham Prebys Medical Discovery Institute* THE INVISIBLE DANCE OF CRISPR-CAS9. *Giulia Palermo* CONFORMATIONAL AND FUNCTIONAL FLEXIBILITY OF THE MOLECULAR CHAPERONE BIP. *Anastasia Zhuravleva* PUSHING THE ENVELOPE: TOWARD A NANOSCALE MODEL OF HIV-1 ASSEMBLY. *Schuyler Van Engelenburg* NEW STRUCTURE-ACTIVITY PARADIGMS FOR AMYLOIDS FROM PATHOGENIC MICROBES. *Meytal Landau*	**South, Level Two, Room 207/208**
10:45 AM-12:45 PM	**Platform: Protein-Lipid Interactions II**	**South, Level Two, Room 215/216**
10:45 AM-12:45 PM	**Platform: Protein Folding, Stability, and Evolution**	**Esplanade, Room 153**
10:45 AM-12:45 PM	**Platform: Membrane Receptors and Signal Transduction**	**Esplanade, Room 154**
10:45 AM-12:45 PM	**Platform: Ion Channels, Pharmacology, and Disease**	**Esplanade, Room 155**
10:45 AM-12:45 PM	**Platform: Systems Biophysics**	**Esplanade, Room 156**
11:30 AM-12:30 PM	**Career Development Center Workshop:** **Networking for Nerds: How to Create Your Dream Career**	**South, Lower Level, Room 2**
11:30 AM-1:00 PM	**Exhibitor Presentation: Asylum Research, an Oxford Instruments Company** **High Resolution and High Speed Imaging Innovations and Advancements for Visualizing Dynamic Processes at the Nanoscale**	**Exhibit Hall, Room 5**
12:30 PM-2:00 PM	**Exhibitor Presentation: Nanion Technologies GmbH** **Part One: Ion Channel Analysis – Today's Contemporary Systems for Safety and Efficacy Screening**	**Exhibit Hall, Room 6**
1:00 PM-2:30 PM	**Industry Panel: Avenues to Industry**	**South, Level Three, Room 307/308**
1:30 PM-3:00 PM	**Biophysics 101: Mechanobiology**	**Esplanade, Room 153**
1:30 PM-3:00 PM	**Exhibitor Presentation: Journal of General Physiology** ***Journal of General Physiology*: Celebrating 100 Years**	**Exhibit Hall, Room 5**
1:30 PM-3:00 PM	**NSF Funding 101**	**Esplanade, Room 157**
1:45 PM-3:00 PM	**Snack Break**	**Exhibit Hall ABC**
1:45 PM-3:45 PM	**Poster Presentations and Late Posters**	**Exhibit Hall ABC**
2:15 PM-3:45 PM	**Data Visualization**	**Esplanade, Room 151**
2:30 PM-3:30 PM	**Career Development Center Workshop: Nailing the Job Talk, or Erudition Ain't Enough**	**South, Lower Level, Room 2**
2:30 PM-4:00 PM	**Speed Networking**	**Esplanade Rotunda**
2:30 PM-4:00 PM	**How to Project Your Best Self: Confidence Matters Just as Much as Competence**	**North, Lower Lobby, Room 20/21**

2:30 PM-4:00 PM	**Exhibitor Presentation: Nanion Technologies GmbH** **Part Two: Paving the Way for In Depth Pore-, Ion Channel- and Electrogenic Transporter Analysis**	**Exhibit Hall, Room 6**
3:30 PM-5:00 PM	**Exhibitor Presentation: KinTek Corporation** **Using KinTek Explorer Software to Understand Kinetics and Rigorously Fit Data**	**Exhibit Hall, Room 5**
3:30 PM-5:30 PM	**Membership Committee Meeting**	**South, Level Three, Room 306**
4:00 PM-5:00 PM	**Career Development Center Workshop:** **Careers in Entrepreneurship (Spoiler Alert: There's more here than launching your own start-up!)**	**South, Lower Level, Room 2**
4:00 PM-6:00 PM	**Symposium: Energy Transduction** **Co-Chairs** *Susan Buchanan, NIH* *Krysztof Palczewski, Case Western University* STRUCTURAL INSIGHT INTO THE ROLE OF THE TON COMPLEX IN ENERGY TRANSDUCTION. *Susan K. Buchanan* DISSOCIATION OF THE HETEROTRIMERIC G PROTEIN COMPLEX BY NANOBODIES: POTENTIAL USES IN THE MODULATION OF DIVERSE GPCR SIGNALING. *Krzysztof Palczewski* WATER OXIDATION REACTION IN PHOTOSYSTEM II STUDIES WITH XFELS. *Junko Yano* EFFICIENT ENERGY TRANSDUCTION IN RESPIRATORY COMPLEXES AND SUPERCOMPLEXES. *Carola Hunte*	**North, Lower Lobby, Room 24**
4:00 PM-6:00 PM	**Symposium: Protein Structure and Dynamics in the Lipid Bilayer Membrane** **Co-Chairs** *Timothy Cross, Florida State University* *Song-I Han, University of California, Santa Barbara* FUNCTIONAL CONSEQUENCES OF MEMBRANE PROTEIN OLIGOMERIZATION. *Song-I Han* A (PASSIVE TO ACTIVE) CHASER: NMR AND MD OF MEMBRANE PROTEINS. *Wonpil Im* DECIPHERING TRANSPORT MECHANISMS OF BACTERIAL EFFLUX PUMPS USING NMR SPECTROSCOPY. *Nathaniel Traaseth* UNIQUE INSIGHTS INTO THE STRUCTURAL AND FUNCTIONAL BIOLOGY OF MEMBRANE PROTEINS FROM SOLID STATE NMR SPECTROSCOPY. *Timothy Cross*	**North, Lower Lobby, Room 25**
4:00 PM-6:00 PM	**Platform: Molecular Dynamics I**	**South, Level Two, Room 207/208**
4:00 PM-6:00 PM	**Platform: Protein Dynamics and Allostery I**	**South, Level Two, Room 215/216**
4:00 PM-6:00 PM	**Platform: Muscle and Motors Biophysics**	**Esplanade, Room 153**
4:00 PM-6:00 PM	**Platform: Calcium Channels and Signaling**	**Esplanade, Room 154**
4:00 PM-6:00 PM	**Platform: RNA Structure and Dynamics**	**Esplanade, Room 155**
4:00 PM-6:00 PM	**Platform: Micro- and Nanotechnology**	**Esplanade, Room 156**
4:30 PM-6:00 PM	**Exhibitor Presentation: Bruker Corporation** **Harnessing the Power of Superresolution Single Molecule Localization Microscopy with the Vutura 352: Labeling and Imaging Strategies**	**Exhibit Hall, Room 6**
5:30 PM-7:00 PM	**Exhibitor Presentation: Sutter Instrument** **Scientists Empowering Scientists**	**Exhibit Hall, Room 5**
5:30 PM-5:45 PM	**Dinner Meet-Ups**	**South Lobby, Society Booth**
8:00 PM-9:00 PM	**Awards and 2018 Biophysical Society Lecture**	**North, Lower Lobby, Room 24/25**
9:30 PM-12:00 AM	**Reception and Dance**	**Marriott Marquis, Yerba Buena Ballroom**
9:30 PM-12:00 AM	**Reception and Quiet Room**	**Marriott Marquis, Golden Gate A**

Monday, February 19

Graduate Student Breakfast

7:30 AM–8:30 AM, NORTH, LOWER LOBBY, ROOM 20/21

Support contributed by the Burroughs Wellcome Fund.

This breakfast presents an opportunity for graduate student Annual Meeting attendees to meet and discuss the issues they face in their current career stage. Limited to the first 100 attendees.

Panelist
Ola Elenitoba-Johnson, Zymergen, Inc.

Registration/Exhibitor Registration

7:30 AM–5:00 PM, SOUTH LOBBY

Poster Viewing

8:00 AM–10:00 PM, EXHIBIT HALL ABC

Symposium
Fibril Assembly and Structure: Progress and Challenges

8:15 AM–10:15 AM, NORTH, LOWER LOBBY, ROOM 24

Co-Chairs
Robert Griffin, MIT
Joan Emma Shea, University of California, Santa Barbara

932-Symp **8:15 AM**
HIGH RESOLUTION STRUCTURE DETERMINATION OF AMYLOID FIBRILS. **Robert G. Griffin**

933-Symp **8:45 AM**
AGGREGATION OF THE TAU PROTEIN: INSIGHTS FROM ATOMISTIC AND MESOSCALE SIMULATIONS. **Joan-Emma Shea**

934-Symp **9:15 AM**
HIGH RESOLUTION FIBRIL STRUCTURE OF AMYLOID-B(1-42) BY CRYO-ELECTRON MICROSCOPY. **Dieter Willbold**

935-Symp **9:45 AM**
FIBRIL FORMATION BY AMYLOID-BETA AND BY LOW-COMPLEXITY SEQUENCES: INSIGHTS FROM SOLID STATE NMR. **Robert Tycko**

Symposium
Biophysics of Lipid-modified GTPases

8:15 AM–10:15 AM, NORTH, LOWER LOBBY, ROOM 25

Co-Chairs
Sharon Campbell, University of North Carolina
Roland Winter, Technical University of Dortmund, Germany

936-Symp **8:15 AM**
RAS-MEMBRANE INTERACTIONS AND THEIR MODULATION BY EFFECTOR PROTEINS. **Roland Winter**

937-Symp **8:45 AM**
ALLOSTERIC REGULATION OF SMALL GTPASES ON MEMBRANES. **Jacqueline Cherfils**

938-Symp **9:15 AM**
LIPID BINDING SPECIFICITY OF THE KRAS MEMBRANE ANCHOR. **John F. Hancock**

939-Symp **9:45 AM**
ROLE OF THE MEMBRANE IN EXCHANGE FACTOR - MEDIATED REGULATION OF RAP1B IN PLATELET ACTIVATION. **Sharon L. Campbell**

Platform
Optical Microscopy and Superresolution Imaging: Methods II

8:15 AM–10:15 AM, SOUTH, LEVEL TWO, ROOM 207/208

Co-Chairs
Keith Lidke, University of New Mexico
Marie-Pierre Valignat, French National Institute of Health and Medical Research, France

940-Plat **8:15 AM**
OPTICAL IMAGING AND LABELLING OF INDIVIDUAL BIOMOLECULES IN DENSE CLUSTERS. **Mingjie Dai**, Ninning Liu, Ralf Jungmann, Peng Yin

941-Plat **8:30 AM**
MEASURING 3D FORCES DURING CAPILLARY NETWORK REMODELLING. **Dobryna Zalvidea**

942-Plat **8:45 AM**
VARIABLE-ANGLE TOTAL INTERNAL REFLECTION FLUORESCENCE MICROSCOPY: TOWARDS A NEW WAY TO PROBE SINGLE CELL ADHESION STRENGTH. Dalia El Arawi, Cyrille Vézy, **Rodolphe Jaffiol**

943-Plat **9:00 AM**
BIOMOLECULAR INTERACTION STUDIES USING SEEC TECHNOLOGY. **Marie-Pierre Valignat**

944-Plat **9:15 AM**
STRATEGIES FOR HIGH-CONTENT LIGHT SHEET MICROSCOPY. **Aaron Au**, Christopher MJ McFaul, Christopher M. Yip

945-Plat **9:30 AM**
SIDESPIM–A FLEXIBLE MULTIPURPOSE PLATFORM FOR LIGHT SHEET MICROSCOPY. **Per Niklas Hedde**, Leonel Malacrida, Siavash Ahrar, Albert Siryaporn, Enrico Gratton

946-Plat **9:45 AM** **INTERNATIONAL TRAVEL AWARDEE**
QUANTITATIVE SUPERRESOLUTION MICROSCOPY USING DNA ORIGAMI. **Francesca Cella Zanacchi**, Raffaella Magrassi, Alberto Diaspro, Carlo Manzo, Nathan D. Derr, Melike Lakadamyali

947-Plat **10:00 AM**
HIGH THROUGHPUT AUTOMATED MULTI TARGET SUPERRESOLUTION IMAGING. **Farzin Farzam**, Sheng Liu, Cedric Cleyrat, Keith A. Lidke

Platform
Membrane Pumps, Transporters, and Exchangers

8:15 AM–10:15 AM, SOUTH, LEVEL TWO, ROOM 215/216

Co-Chairs
Joseph Mindell, NIH
David Stokes, New York University School of Medicine

948-Plat **8:15 AM**
IS THE TON TRANSPORT SYSTEM A ROTARY ELECTROMOTOR? **Wenchang Zhou**, José Faraldo-Gómez

949-Plat **8:30 AM**
DEPICTING THE TRANSLOCATION PROCESS OF THE PROTEIN ANTIBIOTIC COLICIN E9 THROUGH OMPF. **Patrice Rassam**, Nicholas Housden, Colin Kleanthous

950-Plat **8:45 AM**
ELECTROPHYSIOLOGICAL CHARACTERIZATION OF A DISEASE-CAUSING MUTATION IN HUMAN CLC-7. **Alissa J. Becerril**, Joseph A. Mindell

951-Plat 9:00 AM
HOW GLUT1 TRANSPORTER ACCOMPANIES GLUCOSE ALONG TRANSPORT: A DETAILED ATOMISTIC VIEW OF THE MECHANISM. Matthieu Ng Fuk Chong, Lylia Challali, Sonia Abbar, **Catherine Etchebest**

952-Plat 9:15 AM
DISSECTING STEPS IN ATP-DRIVEN PROTEIN TRANSLOCATION THROUGH THE SECY TRANSLOCON ON SINGLE MOLECULE LEVEL. **Tomas Fessl**

953-Plat 9:30 AM
FUNCTIONAL AND STRUCTURAL STUDIES OF INTERPLAY BETWEEN AN ABC TRANSPORTER AND ITS SURROUNDING MEMBRANE ENVIRONMENT. **Su-Jin Paik**, Alicia Damm, John Manzi, Maxime Dahan, Patricia Bassereau, Emmanuel Margeat, Daniel Levy

954-Plat 9:45 AM EDUCATION TRAVEL AWARDEE
ELECTROPHYSIOLOGICAL CHARACTERIZATION OF HYPERALDOSTERONISM-ASSOCIATED NA/K PUMP MUTATIONS. **Dylan J. Meyer**, Craig Gatto, Pablo Artigas

955-Plat 10:00 AM
MECHANISTIC STUDIES OF THE KDP POTASSIUM TRANSPORT COMPLEX. **Marie E. Sweet**, Paula Upla, Xihui Zhang, Bjørn P. Pedersen, David L. Stokes

Platform
Protein Structure and Conformation II

8:15 AM–10:15 AM, ESPLANADE, ROOM 153

Co-Chairs
Jeliazko Jeliazkov, Johns Hopkins University
Lauren Porter, HHMI

956-Plat 8:15 AM
ANALYSIS OF PROTEIN SEQUENCE AND STRUCTURAL CONSEQUENCES OF AMINO ACID VARIANTS ASSOCIATED WITH AUTOIMMUNE INFLAMMATORY BOWEL DISEASE. Chang Chen, **Constance Jeffery**

957-Plat 8:30 AM
EVOLUTION OF CDR H3 FLEXIBILITY AT AN IMMUNOMIC SCALE. **Jeliazko R. Jeliazkov**, Adnan Slojka, Daisuke Kuroda, Nobuyuki Tsutchimura, Kouhei Tsumoto, Naoki Katoh, Jeffrey J. Gray

958-Plat 8:45 AM
ANALYZING THE STRUCTURE AND SYMMETRY OF MEMBRANE PROTEINS THROUGH THE SYSTEMATIC ONLINE DATABASE ENCOMPASS. **Edoardo Sarti**, Antoniya Aleksandrova, Lucy R. Forrest

959-Plat 9:00 AM
INACTIVATION MECHANISM OF PROTEIN KINASE A REVEALED BY MARKOV MODEL. **Yingjie Wang**, Jonggul Kim, Cristina Olivieri, Jiali Gao, Gianluigi Veglia

960-Plat 9:15 AM
DYNAMICS AND INTERACTIONS OF PROTEINS AND METABOLITES IN CELLULAR CROWDING ENVIRONMENTS: ALL-ATOM MOLECULAR DYNAMICS STUDY OF PROTEINS AND METABOLITES IN CELLULAR CROWDING ENVIRONMENTS: ALL-ATOM MOLECULAR DYNAMICS STUDY. **Isseki Yu**, Takaharu Mori, Tadashi Ando, Ryuhei Harada, Jaewoon Jung, Yuji Sugita, Michael Feig

961-Plat 9:30 AM
PROTEIN FOLD SWITCHING IS WIDESPREAD. **Lauren Porter**, Loren Looger

962-Plat 9:45 AM
AUTOMATIC BUILDING OF PROTEIN ATOMIC MODELS FROM CRYO-EM MAPS. **Guillaume Bouvier**, Benjamin Bardiaux, Michael Nilges

963-Plat 10:00 AM
QUANTITATIVE CHARACTERIZATION OF THE CONFORMATIONAL DYNAMICS OF THE UNBOUND LIPASE-SPECIFIC FOLDASE LIF BY MD SIMULATIONS AND FLUORESCENCE SPECTROSCOPY. **Neha Verma**, Jakub Kubiak, Peter Dollinger, Filip Kovacic, Holger Gohlke, Claus Seidel, Karl-Erich Jaeger

Platform
Bioengineering and Biomaterials

8:15 AM–10:15 AM, ESPLANADE, ROOM 154

Co-Chairs
Meagan Small, University of Maryland, Baltimore
Christine Selhuber-Unkel, University of Kiel, Germany

964-Plat 8:15 AM
TAILORED MULTIVALENT BIOMOLECULES FOR AN OPTIMAL INTERACTION WITH INFLUENZA A VIRUS HEMAGGLUTININ–FROM *IN SILICO* MODELING TO *IN VIVO* VIRAL INFECTION INHIBITION. **Daniel Lauster**, Victor Bandlow, Susanne Liese, Kai Ludwig, Marlena Stadtmüller, Simon Klenk, Sandra Sänger, Christoph Böttcher, Thorsten Wolff, Christian Hackenberger, Oliver Seitz, Roland Netz, Andreas Herrmann

965-Plat 8:30 AM
IMPARTING NONNATIVE GOLD BINDING FUNCTIONALITY BY BIOENGINEERING BACTERIAL FIMBRIAL TIP PROTEIN FIMH WITH GOLD BINDING PEPTIDES. **Meagan C. Small**, Jessica L. Terrell, Dimitra N. Stratis-Cullum, Margaret M. Hurley

966-Plat 8:45 AM
HIGH THROUGHPUT ELECTROPORATION SYSTEM FOR BIO-MOLECULE DELIVERY INTO ZEBRAFISH FOLLICLE. **Tayyebeh Saberbaghi**, Ebrahim Ghafar-zadeh, Chun Peng

967-Plat 9:00 AM
DEFORMABILITY OF INDIVIDUAL CELLS PROBED BY ELECTRICAL AND OPTICAL SIGNALS. **Zuzanna S. Siwy**, Preston Hinkle, Trisha M. Westerhof, Yinghua Qiu, David J. Mallin, Matthew L. Wallace, Chih-Yuan Lin, Edward L. Nelson, Peter Taborek

968-Plat 9:15 AM
FLUORESCENT NANOSENSORS FOR TWO-PHOTON INFRARED IMAGING OF DOPAMINE RELEASE IN BRAIN TISSUE. **Jackson T. Del Bonis-O'Donnell**, Ralph Page, Abraham Beyene, Eric Tindall, Ian McFarlane, Markita Landry

969-Plat 9:30 AM
INTERCONNECTED MICROCHANNELS IN HYDROGELS TO CONTROL CELL ADHESION AND MECHANOTRANSDUCTION. Mohammadreza Taale, Christine Arndt, **Christine Selhuber-Unkel**

970-Plat 9:45 AM
AN EEL-INSPIRED ARTIFICIAL ELECTRIC ORGAN: 110 VOLTS FROM WATER AND SALT. **Anirvan Guha**, Thomas B. H. Schroeder, Aaron Lamoureux, Gloria VanRenterghem, David Sept, Max Shtein, Jerry Yang, Michael Mayer

971-Plat 10:00 AM
WET ADHESIVE NANOMATERIALS INSPIRED BY THE BARNACLE ADHESIVE. **Christopher R. So**, Elizabeth Yates, Luis Estrella, Ashley Schenck, Catherine Yip, Kathryn J. Wahl

Platform
Protein-Nucleic Acid Interactions

8:15 AM–10:15 AM, ESPLANADE, ROOM 155

Co-Chairs
Kalli Kappel, Stanford University
Polly Fordyce, Stanford University

972-Plat 8:15 AM
NANOPORE TWEEZERS REVEAL DETAILED RNA POLYMERASE DYNAMICS AT A SEQUENCE-SPECIFIC PAUSE ELEMENT. **Ian C. Nova**, Abhishek Mazumder, Jonathan M. Craig, Andrew H. Laszlo, Ian M. Derrington, Matthew T. Noakes, Henry Brinkerhoff, Jasmine Bowman, Jonathan W. Mount, Benjamin I. Tickman, Richard H. Ebright, Jens H. Gundlach

973-Plat 8:30 AM
SLIDING OF LAC REPRESSOR ALONG DNA IS SEQUENCE-DEPENDENT AND ALLOSTERICALLY REGULATED. Alessia Tempestini, Carina Monico, Lucia Gardini, Francesco Vanzi, Francesco S. Pavone, **Marco Capitanio**

974-Plat 8:45 AM
SINGLE-MOLECULE CHARACTERIZATION OF P53 ON DNA USING DNA ARRAY "DNA GARDEN". **Kiyoto Kamagata**

975-Plat 9:00 AM
STRUCTURAL CHARACTERIZATION OF THE HIV-1 REVERSE TRANSCRIPTASE INITIATION COMPLEX. **Kevin Larsen**, Yamuna Mathiharan, Kalli Kappel, Aaron Coey, Dong-Hua Chen, Lauren Madigan, Georgios Skiniotis, Joseph Puglisi, Elisabetta Viani Puglisi

976-Plat 9:15 AM
CRISPR CAS9 MEDIATED DNA UNWINDING DETECTED USING SITE-DIRECTED SPIN LABELING. Narin S. Tangprasertchai, Rosa Di Felice, Xiaojun Zhang, Ian M. Slaymaker, Carolina Vazquez Reyes, Wei Jiang, Remo Rohs, **Peter Qin**

977-Plat 9:30 AM
ENHANCED PROOFREADING GOVERNS CRISPR-CAS9 TARGETING ACCURACY. Janice S. Chen, **Yavuz S. Dagdas**, Benjamin P. Kleinstiver, Moira M. Welch, Alexander A. Sousa, Lucas B. Harrington, Samuel H. Sternberg, Keith J. Joung, Ahmet Yildiz, Jennifer A. Doudna

978-Plat 9:45 AM
INVESTIGATING AND MODELLING THE TARGET RECOGNITION DYNAMICS OF THE CRISPR-CAS SURVEILLANCE COMPLEX CASCADE.
Marius Rutkauskas, Tomas Sinkūnas, Inga Songailiene, Virginijus Siksnys, Ralf Seidel

979-Plat 10:00 AM
DIRECT OBSERVATION OF TYPE IA TOPOISOMERASE GATE OPENING.
Maria Mills, Yuk-Ching Tse-Dinh, Keir C. Neuman

Platform
Microtubules and Associated Motors

8:15 AM–10:15 AM, ESPLANADE, ROOM 156

Co-Chairs
Jing Xu, University of California, Merced
Anita Jannasch, Technische Universität Dresden, Germany

980-Plat 8:15 AM
CRYO-ELECTRON TOMOGRAPHY REVEALS THAT DYNACTIN RECRUITS A TEAM OF DYNEINS FOR PROCESSIVE MOTILITY. **Danielle A. Grotjahn**, Saikat Chowdhury, Yiru Xu, McKenney J. Richard, Trina Schroer, Gabriel C. Lander

981-Plat 8:30 AM
STRUCTURAL ANALYSIS OF A HUMAN MITOTIC KINESIN AND ITS POTENTIAL BINDING SITE FOR A SMALL MOLECULE INHIBITOR. Hee-Won Park, Zhujun Ma, Haizhong Zhu, Shimin Jiang, Robert C. Robinson, **Sharyn A. Endow**

982-Plat 8:45 AM CPOW TRAVEL AWARDEE
NATIVE KINESIN-1 DOES NOT PREFERENTIALLY BIND TO GTP-RICH MICROTUBULES IN VITRO. Qiaochu Li, Stephen J. King, **Jing Xu**

983-Plat 9:00 AM
DIFFERENTIAL PHOSPHORYLATION IN THE MOTOR DOMAIN OF MITOTIC KINESIN-5 CIN8 REGULATES ITS FUNCTIONS *IN VIVO*. **Nurit Siegler**, Alina Goldstein, Ofer Shapira, Darya Goldman, Ervin Valk, Mardo Kõivomägi, Mart Loog, Larisa Gheber

984-Plat 9:15 AM
KINESIN-8 DEPOLYMERIZES MICROTUBULES WITH A FORCE-DEPENDENT MECHANISM. **Anita Jannasch**, Michael Bugiel, Erik Schäffer

985-Plat 9:30 AM
HOOK1 INDUCES SUPERPROCESSIVE MOTILITY OF DYNEIN AND IS REQUIRED FOR TRAFFICKING OF SIGNALING ENDOSOMES IN NEURONS.
Mara A. Olenick, Erika L.F. Holzbaur

986-Plat 9:45 AM
MICROTUBULE ASSOCIATED PROTEINS AND BUNDLING REGULATE KINESIN AND DYNEIN PROCESSIVITY AND FORCE GENERATION TO DIRECT INTRACELLULAR TRAFFICKING. Abdullah R. Chaudhary, Linda Balabanian, Florian Berger, Christopher L. Berger, **Adam G. Hendricks**

987-Plat 10:00 AM
THE INTERPLAY OF DIFFUSION, MOTOR-DRIVEN WALKS, AND TETHERING IN INTRACELLULAR TRANSPORT. **Saurabh Mogre**, Elena Koslover

Exhibitor Presentation
TA Instruments – Waters LLC

8:30 AM–10:00 AM, EXHIBIT HALL, ROOM 6

Characterizing Biopharmaceuticals for Stability and Affinity
We will be discussing native and multi-parameter approaches to testing biopharmaceuticals. Isothermal titration calorimetry (ITC) and differential scanning calorimetry (DSC) are powerful tools for in-depth characterization of molecular binding events and structural stability of biopharmaceuticals. DSC and ITC generate comprehensive thermodynamic profiles for protein domain structures and the energetics of inter- and intramolecular binding events. In addition to these stability and affinity assays, we have a new technique for determination of longer-term stability. Using an isothermal calorimeter, we can quantify shelf-life stability while simultaneously determining the percent aggregated material. This test is typically completed in a few days and has been shown to agree with longer-term SEC data.

Speakers
Colette Quinn, Microcalorimetry Product Manager,
TA Instruments – Waters LLC
Malin Suurkuusk, Isothermal Calorimetry Product Manager,
TA Instruments – Waters LLC

CPOW Committee Meeting

8:30 AM–10:30 AM, SOUTH, LEVEL THREE, ROOM 306

Exhibitor Presentation
Bruker Corporation

9:30 AM–11:00 AM, EXHIBIT HALL, ROOM 5

The Latest in Mechanobiology Research with AFM
Mechanobiology-related research is focused on understanding how cells exert and respond to forces. Examining the effects of forces on cells has a wide-range of applications from understanding disease pathology to the development of tissue engineering devices. Recent advances in atomic force microscopy (AFM) are not only allowing direct observation of cell membrane structures, such as microvilli, on living cells, they are also providing unique opportunities to measure the nanomechanical properties of individual cells, map the spatial distribution of membrane receptors, as well as study the dynamics of various cellular processes and behaviors.

In this session we will introduce the newest advancements in AFM technology designed to enable quantitative nanomechanical property research at the cellular and molecular levels. Come see how researchers can look at, map, and measure mechanical properties like the adhesion forces between cells and molecules, and visualize their dynamic behaviors, as well as capture high-resolution images. Before you come, check out these leading researcher interviews, talking about their current work using AFM:

- Using AFM to study cell mechanics and function: https://www.news-medical.net/news/20171017/Using-AFM-to-study-cell-mechanics-and-function.aspx
- Probing living cells with AFM: https://www.news-medical.net/news/20171121/Probing-living-cells-with-AFM.aspx
- Using AFM to study cancer cells: https://www.news-medical.net/news/20171114/Using-AFM-to-study-cancer-cells.aspx
- Studying the nanomechanical properties of aging and cancerous cells using AFM: https://www.news-medical.net/news/20171031/Studying-the-nanomechanical-properties-of-aging-and-cancerous-cells-using-AFM.aspx
- Measuring biological samples using SNAP: https://www.news-medical.net/news/20171024/Measuring-biological-samples-using-SNAP.aspx

Speaker
Ian Armstrong, Sales Applications Manager, Bruker Corporation

Career Development Center Workshop
Demystifying the Academic Job Search II: Preparing your Written Application Materials: CV, Cover Letter, and Research Statement

10:00 AM–11:00 AM, SOUTH, LOWER LEVEL, ROOM 2

Over 90% of the cuts in a typical academic job search are made on the basis of your written application materials. Given the large number of candidates in a typical applicant pool, your documents must convey the most important information about you in the most clear and efficient manner. Learn about how your materials should differ based on the type of institution and/or program, and how to create "glance-able" documents to speak most effectively on your behalf.

Exhibits

10:00 AM–5:00 PM, EXHIBIT HALL ABC

Coffee Break

10:15 AM–11:00 AM, EXHIBIT HALL ABC

New Member Welcome Coffee

10:15 AM–11:15 AM, NORTH, LOWER LOBBY, ROOM 20/21

Calling all new BPS members! Come and mingle with BPS Staff, Society Council, and program members as you learn about the Society's activities. Current members are welcome to come and meet with new members.

Exhibitor Presentation
Dynamic Biosensors GmbH

10:30 AM–12:00 PM, EXHIBIT HALL, ROOM 6

Biophysical Analysis of Molecular Interactions with the switchSENSE Biosensor
switchSENSE is an automated biosensor chip technology employing electrically actuated DNA nanolevers for the real-time measurement of binding kinetics (k_{ON}, k_{OFF}) and affinities (K_D). nteractions between proteins, DNA/RNA, and small molecules can be detected with femtomolarsensitivity. At the same time, protein diameters (D_H) are analyzed with Angstrom accuracy and conformational changes and melting transitions (T_M) can be measured using minimal AMounts of sample. The principles and applicability of static and dynamic measurement modalities will be introduced in this talk. We will discuss unique possibilities for the functionalization of the sensor surface, e.g., the adjustment of ligand densities and the precise assembly of different ligands on bifunctional nanolevers.

Application examples from fundamental research and drug development will be presented, including:

- Introduction to the analysis of molecular interactions with electro-switchable DNA nanolevers
- Quantification of conformational changes in proteins and Stokes radius measurements
- Analysis of complex binders: high-affinity and bispecific antibody formats
- CRISPR/Cas9 – nucleic acid interactions and enzymatic activity measurements
- Controlling the density of ligands on a chip surface by electrical desorption and "invisibility cloaking"
- TUTORIAL: Programming of measurement workflows and data analysis

Speakers
Ulrich Rant, CEO, Dynamic Biosensors GmbH
Kenneth Dickerson, Director of Business Development in North America, Dynamic Biosensors GmbH
Joanna Deek, Scientist, Dynamic Biosensors GmbH
Felix Kroener, Scientist, Dynamic Biosensors GmbH
Daisylea de Souza Paiva, Technical Sales Manager, Dynamic Biosensors GmbH

Symposium
Synaptic Vesicle Fusion and Retrieval

10:45 AM–12:45 PM, NORTH, LOWER LOBBY, ROOM 24

Co-Chairs
Axel Brunger, Stanford University
Diasynou Fioravante, University of California, Davis

988-Symp 10:45 AM
MOLECULAR MECHANISMS OF SYNAPTIC VESICLE PRIMING.
Axel Brunger

989-Symp 11:15 AM
TRANSLATING NEURONAL ACTIVITY AT THE SYNAPSE: THE ROLE OF THE PROTEIN KINASE C CASCADE IN SHORT-TERM PLASTICITY.
Diasynou Fioravante

990-Symp **11:45 AM**
TRANS-SYNAPTIC PROTEIN ORGANIZATION ALIGNING VESICLE FUSION WITH RECEPTORS. **Thomas Blanpied**

991-Symp **12:15 PM**
VISUALIZING MEMBRANE STRUCTURAL REMODELING DURING FUSION AND FISSION IN LIVE CELLS. **Ling-Gang Wu**

Symposium
Cardiac Contractility

10:45 AM–12:45 PM, NORTH, LOWER LOBBY, ROOM 25

Co-Chairs
Livia Hool, University of Western Australia
Brian Sykes, University of Alberta, Canada

992-Symp **10:45 AM**
ELUCIDATING THE MOLECULAR MECHANISMS FOR ACTIVATION OF THE L-TYPE CALCIUM CHANNEL IN THE FIGHT OR FLIGHT RESPONSE. **Livia C. Hool**

993-Symp **11:15 AM**
IS THE HEART DRUGGABLE? DEVELOPMENT OF A CALCIUM SENSITIZER. **Brian Sykes**

994-Symp **11:45 AM**
SPECTROSCOPIC PROBES OF CARDIAC CONTRACTILITY AND THERAPEUTIC DISCOVERY. **David Dale Thomas**

995-Symp **12:15 PM**
POST-TRANSLATIONAL MODIFICATION SIGNALING AND BIOELECTRICAL, BIOPHYSICAL AND BIOENERGETIC PACEMAKER FUNCTION. **Yael Yaniv**

Symposium
Future of Biophysics

10:45 AM–12:45 PM, SOUTH, LEVEL TWO, ROOM 207/208

Support contributed by the Burroughs Wellcome Fund

Co-Chairs
Anne Kenworthy, Vanderbilt University
Francesca Marassi, Sanford Burnham Prebys Medical Discovery Institute

No Abstract **10:45 AM**
THE INVISIBLE DANCE OF CRISPR-CAS9. **Giulia Palermo**

No Abstract **11:15 AM**
CONFORMATIONAL AND FUNCTIONAL FLEXIBILITY OF THE MOLECULAR CHAPERONE BIP. **Anastasia Zhuravleva**

No Abstract **11:45 AM**
PUSHING THE ENVELOPE: TOWARD A NANOSCALE MODEL OF HIV-1 ASSEMBLY. **Schuyler Van Engelenburg**

No Abstract **12:15 PM**
NEW STRUCTURE-ACTIVITY PARADIGMS FOR AMYLOIDS FROM PATHOGENIC MICROBES. **Meytal Landau**

Platform
Protein-Lipid Interactions II

10:45 AM–12:45 PM, SOUTH, LEVEL TWO, ROOM 215/216

Co-Chairs
Michael Brown, University of Arizona
Carmen Domene, King's College London, United Kingdom

996-Plat **10:45 AM**
MOLECULAR RECOGNITION AT THE MEMBRANE INTERFACE: PROTEIN-MEMBRANE ELECTROSTATIC INTERACTIONS MODULATE THE BIOLOGICAL FUNCTION OF ANTI-HIV ANTIBODIES. **Jose L. Nieva**, Edurne Rujas, Sara Insausti, Daniel P. Leaman, Beatriz Apellaniz, Johana Torralba, Lei Zhang, Jose M. Caaveiro, Michael B. Zwick

997-Plat **11:00 AM**
CHOLESTEROL AND NEUROSTEROIDS BIND COMMON SITES BUT ASSUME DIFFERENT ORIENTATIONS IN A PENTAMERIC LIGAND GATED ION CHANNEL. **Melissa M. Budelier**, Wayland W. L. Cheng, John R. Bracamontes, Zi-Wei Chen, Krishnan Kathiresan, Laurel Mydock-McGrane, Douglas F. Covey, Alex S. Evers

998-Plat **11:15 AM**
PROTEIN-LIPID INTERACTIONS ON THE HIV MEMBRANE DEFINED BY EPR SPECTROSCOPY. **Likai Song**, Zahra Hayati, Mengtian Liu, Mikyung Kim, Ellis Reinherz

999-Plat **11:30 AM** **CPOW TRAVEL AWARDEE**
STRUCTURAL PLASTICITY OF THE PIVOTAL CYTOCHROME C/CARDIOLIPIN COMPLEX IN MITOCHONDRIAL APOPTOSIS. **Mingyue Li**, Abhishek Mandal, Maria DeLucia, Jinwoo Ahn, Vladimir A. Tyurin, Valerian E. Kagan, Patrick C.A. van der Wel

1000-Plat **11:45 AM**
CYTOCHROME P450 / CYTOCHROME P450 REDUCTASE COMPLEX FORMATION DEPENDS ON NADPH: A SINGLE PROTEIN TRACKING STUDY. **James A. Brozik**, Carlo Barnaba, Evan Taylor

1001-Plat **12:00 PM**
CAVEOLIN-ASSISTED SPHINGOLIPID TRANSPORT TO THE PLASMA MEMBRANE. **Joanna Podkalicka**, Manuela Dezi, John Manzi, Aurelie Di Cicco, Daniel Levy, Christophe Lamaze, Patricia Bassereau

1002-Plat **12:15 PM**
GRAMICIDIN INCREASES LIPID FLIP-FLOP IN SYMMETRIC AND ASYMMETRIC LIPID VESICLES. **Milka Doktorova**, Frederick A. Heberle, Drew Marquardt, Radda Rusinova, Lea Sanford, Thasin Peyear, John Katsaras, Gerald Feigenson, Olaf S. Andersen

1003-Plat **12:30 PM**
MAPPING THE INTERACTIONS OF ALPHA-SYNUCLEIN TO LIPID MEMBRANES IN THE PHYSIOLOGICAL LIMIT. **Peter J. Chung**, Hyeondo Hwang, Alessandra Leong, Erin J. Adams, Ka Yee C. Lee

Platform
Protein Folding, Stability, and Evolution

10:45 AM–12:45 PM, ESPLANADE, ROOM 153

Co-Chairs
Kresten Lindorff-Larsen, University of Copenhagen, Denmark
Yuning Hong, La Trobe University, Australia

1004-Plat **10:45 AM**
PREDICTION OF CHANGES IN PROTEIN FOLDING STABILITY UPON SINGLE RESIDUE MUTATIONS. **Carlos A. Bueno**, Davit A. Potoyan, Ryan R. Cheng, Peter G. Wolynes

1005-Plat **11:00 AM**
TOWARDS IMPROVED BIOPHYSICAL CALCULATIONS TO IDENTIFY DISEASE-CAUSING MUTATIONS. **Kresten Lindorff-Larsen**, Amelie Stein, Kaare Teilum, Alex Toftgaard Nielsen, Rasmus Hartmann-Petersen

1006-Plat **11:15 AM** **INTERNATIONAL TRAVEL AWARDEE**
MUTANT PHENOTYPE PREDICTION AND PROTEIN MODEL DISCRIMINATION USING DEEP SEQUENCING DATA. **Shruti Khare**, Kritika Gupta, Arti Tripathi

1007-Plat **11:30 AM**
THE PHYSICAL ORIGINS OF ENZYME EVOLUTION: CORRELATING THE ACTIVE SITE ELECTRIC FIELDS OF ANTIBIOTIC RESISTANCE ALONG EVOLUTIONARY TRAJECTORIES IN TEM B-LACTAMASES. **Samuel H. Schneider**, Jacek A. Kozuch, Steven G. Boxer

1008-Plat 11:45 AM
FUNNEL GAS MODEL FOR PROTEIN MANY-BODY SYSTEMS UNDER THE CROWDED ENVIRONMENT. **Macoto Kikuchi**, Yoshikatsu Tada, Nobu C. Shirai

1009-Plat 12:00 PM
LIGHTING UP PROTEIN MISFOLDING AND AGGREGATES BY CHEMICAL PROBES. **Yuning Hong**

1010-Plat 12:15 PM
FOLDING PROTEINS FROM ONE END TO THE OTHER. **Micayla A. Bowman**, Patricia L. Clark

1011-Plat 12:30 PM
THE EFFECT OF THE RIBOSOME ON NASCENT CHAIN DYNAMICS. **Madeleine K. Jensen**, Samuel Itskanov, Avi J. Samelson, Susan Marqusee

Platform
Membrane Receptors and Signal Transduction

10:45 AM–12:45 PM, Esplanade, Room 154

Co-Chairs
David Clarke, STFC Central Laser Facility, United Kingdom
Eva Sevcsik, Technische Universität Wien, Germany

1012-Plat 10:45 AM
DIFFERENTIAL LAT MICROCLUSTER COMPOSITION AND ACTIN-DEPENDENT MOVEMENT AT THE IMMUNOLOGICAL SYNAPSE CENTER. **Anthony Vega**, Jonathon Ditlev, Darius Koster, Xiaolei Su, Ron Vale, Satyajit Mayor, Michael K. Rosen, Khuloud Jaqaman

1013-Plat 11:00 AM
DNA ORIGAMI AS A NANOSCALE PLATFORM FOR T-CELL ACTIVATION. Viktoria Motsch, Joschka Hellmeier, Gerhard J. Schütz, **Eva Sevcsik**

1014-Plat 11:15 AM

Education Travel Awardee
BIOPHYSICAL FEATURES OF THE ABTCR MECHANOME THAT DRIVE HIGH AVIDITY T-CELL RECOGNITION. **Yinnian Feng**, Kristine N. Brazin, Eiji Kobayashi, Robert J. Mallis, Ellis L. Reinherz, Matthew J. Lang

1015-Plat 11:30 AM
FLUORESCENCE LOCALISATION IMAGING WITH PHOTOBLEACHING AT 5 NM RESOLUTION REVEALS THE ARCHITECTURE OF BASAL EGFR COMPLEXES AND MECHANISMS OF AUTOINHIBITION AND ACTIVATION. **Marisa L. Martin-Fernandez**, Laura C. Zanetti-Domingues, Dimitrios Korovesis, Sarah R. Needham, Christopher J. Tynan, Selene K. Roberts, David T. Clarke, Daniel J. Rolfe, Peter J. Parker

1016-Plat 11:45 AM
GLYCOPROTEIN CROWDING AFFECTS CELL MEMBRANE SIGNALLING. **Hao Pan**, Matthew Paszek

1017-Plat 12:00 PM
TRANSIENT HETERO-DIMERIZATION OF OPIOID RECEPTORS (GPCRS) REVEALED BY SINGLE-MOLECULE TRACKING. **Peng Zhou**, Rinshi S. Kasai, Koichiro M. Hirosawa, Alexey Yudin, Yuki M. Shirai, Takahiro K. Fujiwara, Akihiro Kusumi

1018-Plat 12:15 PM
AN EFFICIENT MOLECULAR DYNAMICS SIMULATION STRATEGY TO INVESTIGATE THE MECHANISTIC BASIS FOR BIASED AGONISM AT G PROTEIN-COUPLED RECEPTORS. **Derya Meral**, Davide Provasi, Marta Filizola

1019-Plat 12:30 PM
MOLECULAR TIMING OF MEMBRANE SIGNALING REACTIONS. **William Y. C. Huang**, Steven Alvarez, Young Kwang Lee, Yasushi Kondo, Jean K. Chung, Hiu Yue Monatrice Lam, John Kuriyan, Jay T. Groves

Platform
Ion Channels, Pharmacology, and Disease

10:45 AM–12:45 PM, Esplanade, Room 155

Co-Chairs
Rebecca Howard, Stockholm University, Sweden
Heike Wulff, University of California, Davis

1020-Plat 10:45 AM CPOW TRAVEL AWARDEE
DISSECTING FUNCTION AND DISTRIBUTION OF SODIUM CHANNELS AND GAP JUNCTIONAL PROTEINS USING SUPERRESOLUTION PATCH-CLAMP. **Anita Alvarez-Laviada**, Rengasayee Veeraraghavan, Vania Braga, Robert Gourdie, Julia Gorelik

1021-Plat 11:00 AM
INHIBITION OF THE POTASSIUM CHANNEL KV1.3 REDUCES INFARCTION AND INFLAMMATION IN ISCHEMIC STROKE. **Heike Wulff**, Yi-Je Chen, Hai M. Nguyen, Izumi Maezawa, Lee-Way Jin

1022-Plat 11:15 AM
A MINIMAL PROTEIN REGION REQUIRED FOR THE CHEMICAL ACTIVATION OF THE MECHANOSENSITIVE CHANNEL PIEZO1. **Jerome J. Lacroix**

1023-Plat 11:30 AM
KNOTBODIES: A NEW GENERATION OF ION CHANNEL THERAPEUTIC BIOLOGICS CREATED BY FUSING KNOTTIN TOXINS INTO ANTIBODIES. **Damian C. Bell**, Aneesh Karratt-Vellatt, Sachin Surade, Tim Luetkens, Edward W. Masters, Naja M. Sørensen, Neil Butt, John McCafferty

1024-Plat 11:45 AM
DIFFERENTIAL METABOLIC AND NUCLEOTIDE SENSITIVITY OF BETA-CELL AND CARDIAC K_{ATP} CHANNELS. **Natascia Vedovato**, Peter Proks, Olof H. Rorsman, Kostantin Hennis, Frances M. Ashcroft

1025-Plat 12:00 PM
STRUCTURAL DETAILS OF AN ALLOSTERIC MECHANISM FOR BIMODAL ANESTHETIC MODULATION OF PENTAMERIC LIGAND-GATED ION CHANNELS. **Rebecca J. Howard**, Zaineb Fourati, Stephanie A. Heusser, Haidai Hu, Reinis R. Ruza, Ludovic Sauguet, Erik Lindahl, Marc Delarue

1026-Plat 12:15 PM
X-RAY CRYSTAL STRUCTURES OF THE INFLUENZA A M2 PROTON CHANNEL BOUND TO AMANTADINE, RIMANTADINE, AND INHIBITING COMPOUNDS. **Jessica L. Thomaston**, William F. DeGrado

1027-Plat 12:30 PM
AZOBENZENE-BASED PHOTOSWITCHES FOR THE CONTROL OF THE VOLTAGE-GATED PROTON CHANNEL HV1. Andreas Rennhack, **Elena Grahn**, U. Benjamin Kaupp, Thomas K. Berger

Platform
Systems Biophysics

10:45 AM–12:45 PM, Esplanade, Room 156

Co-Chairs
Jochen Guck, Technische Universität Dresden, Germany
Jennifer Chen, Drexel University

1028-Plat 10:45 AM
BIOPHYSICAL TECHNIQUES FOR THE STUDY OF PHASE TRANSITIONS IN PROTEIN DROPLETS AND CELLS. Raimund Schlüssler, Shada Abuhattum, Gheorghe Cojoc, Timon Beck, Felix Reichel, Kyoohyun Kim, Mirjam Schürmann, Paul Müller, Jürgen Czarske, Vasily Zaburdaev, Titus Franzmann, Simon Alberti, **Jochen Guck**

1029-Plat 11:00 AM
ANALYSIS OF APOPTOTIC EVENT TIME CORRELATIONS IN SINGLE CELLS. **Alexandra Murschhauser**, Peter Röttgermann, Daniel Woschee, David Garry, Martina Ober, Kenneth Dawson, Joachim O. Rädler

1030-Plat 11:15 AM
A STUDY OF TRANSCRIPTIONAL ACTIVATION BY THE TRANSCRIPTION FACTOR GAL4 IN SACCHAROMYCES CEREVISIAE BY 3D ORBITAL TRACKING AND IN VIVO RNA LABELLING. **Anh Huynh**, Micah Buckmiller, Daniel R. Larson, Tineke Lenstra, Matthew L. Ferguson

1031-Plat 11:30 AM
DESIGNING SINGLE-CELL EXPERIMENTS WITH DISCRETE STOCHASTIC MODELS. **Zachary Fox**, Brian Munsky

1032-Plat 11:45 AM
MORPHOLOGY OF EMBRYONIC EPIDERMIS: AN EMPIRICAL MULTISCALE BIOPHYSICS APPROACH. **Jesse L. Silverberg**, Peng Yin

1033-Plat 12:00 PM
A PHYSICAL MECHANISM FOR MICRO-VASCULAR ADAPTABILITY. **Shyr-Shea Chang**, Kyung In Baek, Chih-Chiang Chang, Andrew Pietersen, Tzung K. Hsiai, Marcus Roper

1034-Plat 12:15 PM
TISSUE-SPECIFIC INTERACTIONS AND FUNCTIONAL VERSATILITY OF DRUG TARGETS CHARACTERIZE ADVERSE EFFECTS OF THE DRUGS. **Jihye Hwang**

1035-Plat 12:30 PM
DISSECTION OF MULTIPLICITY OF THE GPCR MEDIATED SIGNALING. **Jennifer Chen**, Yue Pan, Lynn S. Penn, Jun Xi

Career Development Center Workshop Networking for Nerds: How to Create Your Dream Career

11:30 AM–12:30 PM, South, Lower Level, Room 2

Wanna land your dream job? Get ready to network! Most jobs and other game-changing career opportunities are not advertised, and even if they are, there is usually a short-list of candidates already in mind. So how do you find out about and access the 90% of jobs and other opportunities that are "hidden"? In this workshop, we will focus on proven networking strategies and tactics to identify new opportunities, locate decision-makers within organizations, solidify your reputation and brand in the minds of those who hire, and gain access to hidden jobs and game-changing opportunities. Discover how networking and self-promotion can enable you to land or even create your dream job from scratch!

Exhibitor Presentation Asylum Research, an Oxford Instruments Company

11:30 AM–1:00 PM, Exhibit Hall, Room 5

High Resolution and High Speed Imaging Innovations and Advancements for Visualizing Dynamics at the Nanoscale
Asylum Research will share the latest results from the Cypher VRS, the world's first and only full-featured video-rate AFM. Until now, this capability was only available on AFMs built solely for video rate imaging with limited capabilities such as sample size. The Cypher VRS enables high quality imaging at over 625 lines per second, corresponding to about 10 frames per second. This speed greatly exceeds other "fast scanning" AFMs, by a factor of at least 5-10X. The Cypher VRS also features the full range of modes and accessories supported with its environmental scanner, including heating and cooling. These capabilities make the Cypher VRS ideally suited for visualizing dynamic biomolecular processes at the nanoscale. Additionally, Andor will present their SRRF-Stream, offering the capability to adapt conventional fluorescence microscopes to perform live cell superresolution using a large field of view and in real time. SRRF-Stream processes data at up to 30x faster than the corresponding ImageJ post processing implementation of SRRF (Nano-J SRRF). This furthermore permits image acquisition and SRRF processing to happen in parallel, resulting in a massive overall workflow improvement. SRRF-Stream facilitates use of low excitation intensities (mW-W/cm2), prolonging live cell observations and enabling accurate physiology. It is also compatible with conventional fluorophores, e.g. GFP, simple labelling, no photo-switching required. By enabling real-time superresolution with large field of view images, the combination of SRRF-Stream and our iXon EMCCD cameras represents a highly cost-effective way to unlock powerful superresolution from conventional fluorescence microscopes. SRRF-Stream is ideally suited to iXon Life, highly cost-effective single photon sensitive EMCCD cameras that are streamlined specifically for fluorescence microscopy usage. Finally, Bitplane will present Imaris, its 3D/4D image visualization and analysis software. Imaris interactively renders data sets 100s of GBs to TB in size and with thousands of time points. In addition, Imaris offers a variety of analysis tools – each of them presented in an easy to use wizard. With Imaris 9 the Surfaces tool analyzes extremely large images to report spatial, morphological, and intensity measurements for the characterization of biological objects of all sizes and shapes. Imaris' multiple tracking algorithms are easily applied to Surfaces to analyze temporal changes and report motion behavior. In addition, the XT module provides a two-way interface from Imaris to classic programming languages: Matlab, Java, or Python and an image export/import to Fiji. These features enable Imaris to provide a flexible and powerful solution for the analysis of 3D/4D images.

Speakers
Sophia Hohlbauch, Applications Scientist, Asylum Research, an Oxford Instruments Company
Colin Coates, Product Manager, Andor Technology
Chi-Li Chiu, Technical Support Specialist, Bitplane

Exhibitor Presentation Nanion Technologies GmbH

12:30 PM–2:00 PM, Exhibit Hall, Room 6

Part One: Ion Channel Analysis – Today's Contemporary Systems for Safety and Efficacy Screening
Nanion provides "smart tools for electrophysiologists." If you are studying ion channels and electrogenic transporters, our chip- and plate-based devices are well suited to advance your research and screening projects. You will find instrumentation for patch clamp, bilayer recordings, SSM-based electrophysiology, impedance, and extracellular field recording within our portfolio.

In our first workshop, we focus on two plate-based devices for higher throughput assays:

The SyncroPatch 384/768PE, an automated patch clamp platform, records from up to 768 cells simultaneously. Application areas range from HTS cardiac safety assessment and efficacy screening to the analysis of ion channel mutations. The SyncroPatch 384/768PE supports voltage- and current clamp recordings, temperature control, and minimal cell usage. In addition to the use of stably transfected cell lines, more challenging cell assays including stem cell-derived cells, transiently transfected cells or primary cells can be used successfully.

The CardioExcyte 96, a device for label-free analysis of 2D/3D cells/clusters in a 96 well plate, utilizes two different analysis technologies: Extracellular field potential and impedance. It is a versatile tool for cardiac safety screening given its high resolution which allows the recording of beating iPSC-derived cardiomyocyte networks. The optical lid (CardioExcyte 96 SOL) uses LEDs for pacing cardiomyocytes with light (optogenetics) to study beat rate-dependencies of compounds. Furthermore, long-term impedance measurements of cells over several days makes it an ideal tool for routine toxicity screening (e.g. hepatotox, cardiotox) and cell monitoring.

Speakers
Andrea Brüggemann, CSO, Nanion Technologies GmbH
Niels Fertig, CEO, Nanion Technologies GmbH

Industry Panel
Avenues to Industry

1:00 PM–2:30 PM, South, Level Three, Room 307/308

Come join us for a Q&A discussion about science in industry. Hear from a panel of scientists about their career path to industry. Learn about the different roles and positions and get perspective about how you can tailor your current research experience to align with industry needs.

Panelists
To Be Announced

Biophysics 101
Mechanobiology

1:30 PM–3:00 PM, Esplanade, Room 153

Support contributed by Chroma Technology Corporation

Mechanobiology is an emerging field of biophysical research that focuses on understanding the mechanical basis of cell function. It includes studying the force-induced and tensional changes that occur within cells and between cells and their environment, and the mechanotransduction of cellular signals that lead to cell motility and induce changes during differentiation. The speakers in this session will discuss the mechanobiology of single molecules, migrating cells, and sheets of cells during embryogenesis, and the methods that they use in their studies.

Moderator
Sharyn Endow, Duke University

Presenters
Keir Neuman, NIH
Michael Sheetz, National University of Singapore Mechanobiology Institute
Maria Leptin, European Molecular Biology Laboratory

Exhibitor Presentation
Journal of General Physiology

1:30 PM–3:00 PM, Exhibit Hall, Room 5

***Journal of General Physiology*: Celebrating 100 Years**
The *Journal of General Physiology* has published seminal biophysical discoveries since 1918 and continues to disseminate mechanistic and quantitative physiology of the highest quality. Join us in celebrating 100 years of JGP during this special presentation featuring the editors and distinguished guests. A full program will be available at the JGP Booth #219 in the Exhibit Hall.

Speakers
Sharona Gordon, Editor-in-Chief, Journal of General Physiology
Richard Aldrich, Associate Editor, Journal of General Physiology
José Faraldo-Gómez, Associate Editor, Journal of General Physiology
Henk Granzier, Associate Editor, Journal of General Physiology
Merritt Maduke, Associate Editor, Journal of General Physiology
Eduardo Ríos, Associate Editor, Journal of General Physiology
Kenton Swartz, Associate Editor, Journal of General Physiology

NSF Funding 101

1:30 PM–3:00 PM, Esplanade, Room 157

Putting your best foot forward in your grant proposal is key to securing funding for research. Program officers from the National Science Foundation will walk attendees through the process and provide tips on how to prepare the best possible proposal.

Panelists
Engin Serpersu, NSF
Additional Panelists To Be Announced

Snack Break

1:45 PM–3:00 PM, Exhibit Hall ABC

Poster Presentations and Late Posters

1:45 PM–3:45 PM, Exhibit Hall ABC

Data Visualization

2:15 PM–3:45 PM, Esplanade, Room 151

This interactive session will focus on how to best represent your data visually, whether for a talk, a poster, or publishing a paper. Different types of data require different approaches to presentation while the emergence of new ways to publish and present results are challenging traditional ways of showcasing outcomes and data. New tools and approaches are now enhancing how we interact with our data. How to determine the best approach, summarize complex material in easily digestible forms, and why simpler is better will all be discussed. Datasets and real examples of visual interpretations by participants will be discussed.

Career Development Center Workshop
Nailing the Job Talk, or Erudition Ain't Enough

2:30 PM–3:30 PM, South, Lower Level, Room 2

Congratulations! You've made it to the finals and are suddenly facing the most important presentation of your life. Answers to your questions about how to structure your presentation, how much detail to include, what they are really looking for, etc.

Speed Networking

2:30 PM–4:00 PM, Esplanade Rotunda

Career development and networking is important in science, but can be a big time commitment. Here we offer refreshments and the chance to speed network, an exciting way to connect with a large number of biophysicists (including Biophysical Society committee members) in a short amount of time. Mid-career and more experienced scientists could learn how to get more involved in the Society or network for open positions in their labs. Early career scientists could discuss career goals and challenges, get advice on tenure or grant writing, or find out how to gain recognition for their work. Graduate students and postdocs could make contacts to find their next position. After introductions, each person will have short 3-5 minute meetings with consecutive new contacts. During this time you can exchange information and ask questions. When time is up, you select the next person to talk to. By the end of the event, each participant will have had meaningful interactions with over half a dozen colleagues and the opportunity to meet many more. It's that simple!

Mentors
Frank Bosmans, Johns Hopkins School of Medicine
Otonye Braide, Gordon College
Sam Cho, Wake Forrest University
Julio Cordero-Morales, University of Tennessee Health Science Center
Daryl Eggers, San Jose State University
Erine Fuentes, University of Iowa

Mentors, continued
Eda Kocili, University of Central Florida
Marie Longo, University of California, Davis
Medha Pathak, University of California, Irvine
Gail Robertson, University of Wisconsin-Madison
Patricia Soto, Creighton University

How to Project Your Best Self Confidence Matters Just as Much as Competence

2:30 PM–4:00 PM, North, Lower Lobby, Room 20/21

Bringing your best self to interviews, conferences, talks – all aspects of your career – means projecting confidence. While competence matters, studies show that representing yourself with confidence has a huge impact on success. Yet women are often less self-assured than men: they underestimate their abilities, they predict that they will do worse on tests than they do, and they are not sure that they are qualified to take that next step. This session will discuss the studies that show this confidence gap, how this gap affects career decisions made by women at multiple stages and will conclude with strategies to overcome this barrier. Understanding the confidence gap concerns not only women, but also anyone who recruits, trains, mentors or advocates for women.

Panelists
Karen Fleming, Johns Hopkins University
Linda Columbus, University of Virginia

Exhibitor Presentation Nanion Technologies GmbH

2:30 PM–4:00 PM, Exhibit Hall, Room 6

Part Two: Paving the Way for In Depth Pore-, Ion Channel-, and Electrogenic Transporter Analysis
In our second workshop we focus on devices for bilayer recordings, patch clamp, and electrogenic transporter assays including live demonstrations.

The SURFE^{2}R product family enables label-free real time measurement of electrogenic transporter protein activity. Employing SSM (solid supported membrane)-based electrophysiology, the SURFE^{2}R instruments compensate for the low turnover rate of these proteins by measurement of up to 109 transporters in parallel. This method has proven its value: High quality data on about 100 SLC- and MFS- transporters as well as ATPases and ligand gated ion channels has been published. The flexible single channel instrument, SURFE^{2}R N1 is ideally suited for basic research, whereas the SURFE^{2}R 96SE is able to measure 96 sensors in a fully parallel mode enabling larger screening studies on substrates, inhibitors, or modulators.

The Port-a-Patch is the world's smallest patch clamp rig for high quality, giga-ohm seal patch clamp recordings in voltage and current clamp modes. Versatile add-ons, such as internal perfusion, allow unprecedented experimental freedom, above and beyond the possibilities of conventional patch clamp.

The Orbit product family supports parallel lipid bilayer recordings of reconstituted ion channels for four artificial lipid bilayers (Orbit mini) or 16 lipid bilayers (Orbit 16) simultaneously. Using Micro Electrode Cavity Array (MECA, Ionera) recording substrates, the bilayers are automatically formed by remotely actuated painting (Ionera- SPREAD), which will be demonstrated during this session.

Speakers
Andrea Brüggemann, CSO, Nanion Technologies GmbH
Niels Fertig, CEO, Nanion Technologies GmbH
Maria Barthmes, Product Manager, SURFE^{2}R, Nanion Technologies GmbH
Gerhard Baaken, CEO, Ionera Technologies GmbH
Ekaterina Zaitseva, CSO, Ionera Technologies GmbH

Exhibitor Presentation KinTek Corporation

3:30 PM–5:00 PM, Exhibit Hall, Room 5

Using KinTek Explorer Software to Understand Kinetics and Rigorously Fit Data
In this presentation, Dr. Johnson will introduce the theory and operation of *KinTek Explorer* software to show how easy it is to fit data to any user-defined model without resorting to the use of equations. Examples of experiments that can be fit include: transient and single turnover stopped-flow kinetics, steady state kinetics, slow onset inhibition, equilibrium titrations, rapid-quench-flow kinetics, temperature dependence, and voltage-dependent rate constants. In addition time-resolved absorbance or fluorescence and pH-dependent spectra can be analyzed by singular value decomposition to yield spectra and time- or pH-dependence of each species. Fast dynamic simulation using proprietary algorithms for numerical integration allows you to explore parameter space and learn kinetics. By modeling the experiments exactly as performed, all details of the experimental setup are included, eliminating errors in interpretation. Moreover, multiple experiments can be fit simultaneously to a single unifying model. Only *KinTek Explorer* offers such robust and dynamic data fitting. In addition to describing *KinTek Explorer's* basic features, Dr. Johnson will introduce new features and will be available to help you to fit your own data. Learn about what you are missing in your own data fitting. See www.kintekcorp.com for more information.

Speaker
Kenneth Johnson, Professor of Biochemistry, University of Texas at Austin, President, KinTek Corporation

Membership Committee Meeting

3:30 PM–5:30 PM, South, Level Three, Room 306

Career Development Center Workshop Careers in Entrepreneurship (Spoiler Alert: There's more here than launching your own start-up!)

4:00 PM–5:00 PM, South, Lower Level, Room 2

Fancy a career in entrepreneurship? There are many pathways to explore. Yes, you can launch your own start-up or consultancy, but you can also find and create exciting careers that nurture entrepreneurship in areas as diverse as tech transfer, marketing, venture capital, and product development. In this workshop, we will discuss the multitude of professional avenues you can pursue if you want to go into entrepreneurship, and how to access, position yourself for success, and advance in these roles and ecosystems. Of course, we will also explore the career path of entrepreneur as well, and discuss various aspects of being a start-up success.

Symposium Energy Transduction

4:00 PM–6:00 PM, North, Lower Lobby, Room 24

Co-Chairs
Susan Buchanan, NIH
Krysztof Palczewski, Case Western University

1036-Symp **4:00 PM**
STRUCTURAL INSIGHT INTO THE ROLE OF THE TON COMPLEX IN ENERGY TRANSDUCTION. Herve Celia, Nicholas Noinaj, Stanislov D. Zakarov, Enrica Bordignon, Istvan Botos, Monica Santamaria, Travis J. Barnard, William A. Cramer, Roland Lloubes, **Susan K. Buchanan**

1037-Symp **4:30 PM**
DISSOCIATION OF THE HETEROTRIMERIC G PROTEIN COMPLEX BY NANOBODIES: POTENTIAL USES IN THE MODULATION OF DIVERSE GPCR SIGNALING. **Krzysztof Palczewski**

1038-Symp **5:00 PM**
WATER OXIDATION REACTION IN PHOTOSYSTEM II STUDIES WITH XFELS. **Junko Yano**

1039-Symp **5:30 PM**
EFFICIENT ENERGY TRANSDUCTION IN RESPIRATORY COMPLEXES AND SUPERCOMPLEXES. **Carola Hunte**

Symposium
Protein Structure and Dynamics in the Lipid Bilayer Membrane

4:00 PM–6:00 PM, North, Lower Lobby, Room 25

Co-Chairs
Timothy Cross, Florida State University
Song-I Han, University of California, Santa Barbara

1040-Symp **4:00 PM**
FUNCTIONAL CONSEQUENCES OF MEMBRANE PROTEIN OLIGOMERIZATION. **Song-I Han**, Chungta Han, Matt Idso, Sunyia Hussain

1041-Symp **4:30 PM**
A (PASSIVE TO ACTIVE) CHASER: NMR AND MD OF MEMBRANE PROTEINS. **Wonpil Im**

1042-Symp **5:00 PM**
DECIPHERING TRANSPORT MECHANISMS OF BACTERIAL EFFLUX PUMPS USING NMR SPECTROSCOPY. Maureen Leninger, Ampon Sae Her, Casey Mueller, James Banigan, **Nathaniel Traaseth**

1043-Symp **5:30 PM**
UNIQUE INSIGHTS INTO THE STRUCTURAL AND FUNCTIONAL BIOLOGY OF MEMBRANE PROTEINS FROM SOLID STATE NMR SPECTROSCOPY. **Timothy Cross**, Joana Paulino, Huajun Qin, Yiseul Shin, Cristian Escobar, Rongfu Zhang, Joshua Taylor, Yimin Miao, Riqiang Fu, Eduard Chekmenev, Ivan Hung, Zhehong Gan, Petr Gor'kov

Platform
Molecular Dynamics I

4:00 PM–6:00 PM, South, Level Two, Room 207/208

Co-Chairs
Richard Bradshaw, NIH
Sayane Shome, Iowa State University

1044-Plat **4:00 PM**
MECHANISM OF SUBSTRATE TRANSLOCATION IN AN ALTERNATING ACCESS TRANSPORTER. **Naomi R. Latorraca**, Nathan M. Fastman, Liang Feng, Ron O. Dror

1045-Plat **4:15 PM**
NEUROTRANSMITTER TRANSPORTER CONFORMATIONAL DYNAMICS USING HDX-MS AND MOLECULAR DYNAMICS SIMULATION. **Richard T. Bradshaw**, Anu Nagarajan, Suraj Adhikary, Daniel J. Deredge, Patrick L. Wintrode, Satinder K. Singh, Lucy R. Forrest

1046-Plat **4:30 PM**
TRANSPORT PATHWAYS IN MEMBRANE TRANSPORTERS. **Sayane Shome**, Edward Yu, Robert Jernigan

1047-Plat **4:45 PM**
VIRTUAL DENGUE VIRUS: THE INS AND OUTS. Jan K. Marzinek, Roland G. Huber, Daniel Holdbrook, Priscilla LS Boon, Adelene YL Sim, Ana S. Martins, Wuan G. Saw, Ivo C. Martins, Ganesh S. Anand, Gerhard Grüber, Shee-Mei Lok, Thorsten Wohland, Yue Wan, Chandra Verma, **Peter J. Bond**

1048-Plat **5:00 PM**
RELEASE OF EMPTY NANODISCS FROM CHARGED DROPLETS IN THE ELECTROSPRAY IONIZATION PROCESS: A MOLECULAR DYNAMICS STUDY. **Beibei Wang**, Peter Tieleman

1049-Plat **5:15 PM**
MOLECULAR MECHANISM OF AB_{42} PEPTIDE-FIBRIL ADSORPTION. **Mathias MJ Bellaiche**, Tuomas PJ Knowles, Robert B. Best

1050-Plat **5:30 PM** **INTERNATIONAL TRAVEL AWARDEE**
INITIAL STEPS IN THE $PI(4,5)P_2$ DEPENDENT FIBROBLAST GROWTH FACTOR 2 OLIGOMERIZATION. **Fabio Lolicato**, Chetan Poojari, Ünal Coskun, Walter Nickel, Ilpo Vattulainen

1051-Plat **5:45 PM**
UNDERSTANDING HOW BETA-HAIRPINS FOLD USING MOLECULAR DYNAMICS SIMULATIONS IN MULTIPLE FORCE FIELDS. **Brooke E. Husic**, Keri A. McKiernan, Vijay S. Pande

Platform
Protein Dynamics and Allostery I

4:00 PM–6:00 PM, South, Level Two, Room 215/216

Co-Chairs
Sara Tafoya, University of Calfornia, Berkeley
Alfredo Caro, University of Pennsylvania

1052-Plat **4:00 PM**
THE CONFORMATIONAL LANDSCAPE OF SMC: A FRET STUDY. Gemma L.M. Fisher, Benji C. Bateman, **Timothy D. Craggs**, Mark S. Dillingham

1053-Plat **4:15 PM**
TWO-STEP MEMBRANE BINDING BY THE BACTERIAL SRP RECEPTOR ENABLES EFFICIENT AND ACCURATE CO-TRANSLATIONAL PROTEIN TARGETING. **Yu-Hsien Hwang Fu**, William YC Huang, Kuang Shen, Jay T. Groves, Thomas Miller, Shu-ou Shan

1054-Plat **4:30 PM**
INSIGHT INTO COUPLED BINDING AND FOLDING IN INSULIN DIMER ASSOCIATION FROM T-JUMP INDUCED DISSOCIATION EXPERIMENTS. **Xinxing Zhang**, Andrei Tokmakoff

1055-Plat **4:45 PM**
DYNAMICS OF HUMAN TELOMERASE. **Linnea Jansson-Fritzberg**, Joseph Parks, Rhiju Das, Michael Stone

1056-Plat **5:00 PM**
VISUALIZATION OF ASYMMETRIC STRUCTURE OF CA^{2+}/CALMODULIN-DEPENDENT PROTEIN KINASE II OLIGOMERS BY HIGH-SPEED ATOMIC FORCE MICROSCOPY. **Mikihiro Shibata**, Hideji Murakoshi

1057-Plat **5:15 PM**
MOLECULAR SWITCH-LIKE REGULATION ENABLES GLOBAL COORDINATION IN A VIRAL RING ATPASE. **Sara Tafoya**, Shixin Liu, Juan P. Castillo, Rockney Atz, Marc Morais, Grimes Shelley, Paul Jardine, Carlos Bustamante

1058-Plat **5:30 PM**
DENGUE VIRUS STRAIN 2 CONFORMATIONS AND ITS STRUCTURAL DYNAMICS–ROLES OF DIVALENT IONS AND TEMPERATURE. **Kamal Kant Sharma**, Xin-Xiang LIM, Sarala N. Tntirimudalige, Anjali Gupta, Jan K. Marzinek, Xin Yin Elisa LIM, Shee-Mei Lok, Peter J. Bond, Ganesh S. Anand, Thorsten Wohland

1059-Plat **5:45 PM**
HIGH-RESOLUTION NEUTRON SCATTERING DATA REVEAL THE DECOUPLING OF PROTEINS AND WATER AT THE DYNAMICAL TRANSITION. **Antonio Benedetto**

Platform
Muscle and Motors Biophysics

4:00 PM–6:00 PM, ESPLANADE, ROOM 153

Co-Chairs
Kenneth Taylor, Florida State University
Richard Lieber, University of California

1060-Plat **4:00 PM**
ATPASE CYCLE ANALYSIS PREDICTS THAT MUTATIONS LINKED TO DILATED CARDIOMYOPATHY IN HUMAN BETA MYOSIN WILL IMPAIR FORCE GENERATION. **Michael Geeves**, Zoltan Ujfalusi, Carlos Vera, Srbolujub Mijailovich, Marina Svicevic, Leslie Leinwand

1061-Plat **4:15 PM**
THE ENZYMATIC ACTIVITY AND CELLULAR LOCALIZATION OF DROSOPHILA MYOSIN 7A IS REGULATED BY A NOVEL BINDING PROTEIN. **Rong Liu**, Verl Siththanandan, Yi Yang, AMY Hong, Fang Zhang, Xufeng Wu, Neil Billington, Yasuharu Takagi, James R. Sellers

1062-Plat **4:30 PM**
CHALLENGES IN TIRF-MICROSCOPY BASED SINGLE MOLECULE ATPASE AND BINDING ASSAYS FOR MYOSIN AND ACTIN. Alf Mansson, **Marko Usaj**

1063-Plat **4:45 PM** **INTERNATIONAL TRAVEL AWARDEE**
THE POWER OF A SYNTHETIC MACHINE BASED ON THE FAST MYOSIN ISOFORM OF SKELETAL MUSCLE. **Irene Pertici**, Lorenzo Bongini, Luca Melli, Giulia Falorsi, Danut-Adrian Cojoc, Tamás Bozó, Miklós S.Z. Kellermayer, Vincenzo Lombardi, Pasquale Bianco

1064-Plat **5:00 PM**
MYOSIN VA VESICULAR TRANSPORT IS MODULATED BY ACTIN FILAMENT DENSITY, ORIENTATION, AND POLARITY IN AN *IN VITRO* 3D ACTIN NETWORK. **Andrew T. Lombardo**, Shane R. Nelson, Guy G. Kennedy, Kathleen M. Trybus, Sam Walcott, David M. Warshaw

1065-Plat **5:15 PM**
A MINIMAL MODEL FOR THE EFFECTS OF PH AND PHOSPHATE ON MUSCLE PROVIDES A MOLECULAR BASIS FOR CELLULAR MEASUREMENTS. **Katelyn Jarvis**, Edward P. Debold, Sam Walcott, Mike Woodward

1066-Plat **5:30 PM**
OVARIAN HORMONE AFFECTS THE REGULATION OF SUPER-RELAXATION IN SKELETAL MUSCLE. **Lien A. Phung**, Sira Karvinen, Brett A. Colson, Karl J. Petersen, Dawn A. Lowe, David D. Thomas

1067-Plat **5:45 PM**
MECHANO-CHEMICAL COUPLING IN SARCOMERE LATTICE MODULATED BY NONLINEAR CROSSBRIDGE ELASTICITY. **Djordje Nedic**, Boban Stojanovic, Michael A. Geeves, Srboljub M. Mijailovich

Platform
Calcium Channels and Signaling

4:00 PM–6:00 PM, ESPLANADE, ROOM 154

Co-Chairs
Eamonn Dickson, University of California, Davis
Romana Schober, Johannes Kepler University Linz, Austria

1068-Plat **4:00 PM**
ROLE OF NPC1 IN REGULATING STORE-OPERATED CALCIUM ENTRY: LESSONS FROM NIEMANN PICK TYPE C DISEASE. **Scott A. Tiscione**, Oscar Vivas, Eamonn J. Dickson

1069-Plat **4:15 PM**
MOLECULAR INSIGHTS INTO THE PATHOPHYSIOLOGY OF THE CA^{2+} SENSING PROTEIN STIM1. **Romana Schober**, Irene Frischauf, Victoria Lunz, Christoph Romanin, Rainer Schindl

1070-Plat **4:30 PM**
MIXED SIGNALS: INTERACTION BETWEEN RYR AND IP_3R MEDIATED CALCIUM RELEASE SHAPES THE CALCIUM TRANSIENT FOR HYPERTROPHIC SIGNALLING IN CARDIOMYOCYTES. **Hilary Hunt**, Gregory Bass, Llewelyn Roderick, Christian Soeller, Vijay Rajagopal, Edmund Crampin

1071-Plat **4:45 PM**
IP_3-INDUCED SR-CA^{2+} RELEASE FUNCTIONS AS AN ANTI-ARRHYTHMOGENIC MECHANISM IN VENTRICULAR MYOCYTES. **Joaquim Blanch Salvador**, Marcel Egger

1072-Plat **5:00 PM**
FRET-BASED MAPPING AND MILLISECOND STRUCTURAL KINETICS OF CALMODULIN BOUND TO RYANODINE RECEPTOR CHANNELS. **Robyn T. Rebbeck**, Bengt Svensson, John A. Rohde, Montserrat Samso, Donald M. Bers, David D. Thomas, Razvan L. Cornea

1073-Plat **5:15 PM**
STRUCTURAL DYNAMICS OF CALMODULIN IN REGULATION OF CALCIUM RELEASE IN HEALTH AND DISEASE. **Megan R. McCarthy**, Robyn T. Rebbeck, Razvan L. Cornea, David D. Thomas

1074-Plat **5:30 PM**
MICROSTRUCTURAL AND FUNCTIONAL IMAGING OF THE INTACT SINOATRIAL NODE DETECTS HETEROGENOUS CA^{2+}-DRIVEN INTRA AND INTERCELLULAR COMMUNICATIONS THAT LEAD TO PACING PERFECTION. **Rostislav Bychkov**, Kenta Tsutsui, Magdalena Juhaszova, Steven Sollott, Michael D. Stern, Victor A. Maltsev, Edward G. Lakatta

1075-Plat **5:45 PM**
MODULATION OF CA^{2+} INFLUX AT HYPERPOLARIZED MEMBRANE POTENTIALS ALTERS DEPOLARIZATION-TRIGGERED EXOCYTOSIS IN BOVINE CHROMAFFIN CELLS. **Alla F. Fomina**, Lukun Yang

Platform
RNA Structure and Dynamics

4:00 PM–6:00 PM, ESPLANADE, ROOM 155

Co-Chairs
Shannon Yan, University of California, Berkeley
Kathleen Hall, Washington University School of Medicine

1076-Plat **4:00 PM**
DIFFERENT CATIONS CHANGE THE RATES OF AN RNA FOLDING PATHWAY. **Robb Welty**, Kathleen B. Hall

1077-Plat **4:15 PM**
CALCULATION OF ION-DEPENDENT RNA FOLDING FREE ENERGY USING COARSE-GRAINED SIMULATION. **Hung T. Nguyen**, Dave Thirumalai

1078-Plat 4:30 PM EDUCATION TRAVEL AWARDEE
ALTERNATIVE SRP RNA FOLDED STATES ACCESSIBLE CO-TRANSCRIPTIONALLY CAN MODULATE SRP PROTEIN-TARGETING ACTIVITY.
Shingo Fukuda, **Shannon Yan**, Mingxuan Sun, Carlos J. Bustamante

1079-Plat 4:45 PM
SIMULATIONS OF OPTICAL TWEEZERS EXPERIMENTS REVEAL DETAILS OF RNA STRUCTURE UNFOLDING. **Wojciech K. Kasprzak**, Taejin Kim, My-Tra Le, Feng Gao, Megan Y. L. Young, Xuefeng Yuan, Joonil Seog, Anne E. Simon, Bruce A. Shapiro

1080-Plat 5:00 PM
RELATIONSHIP BETWEEN FOLDING AND CATALYSIS IN THE *GLMS* RIBOZYME RIBOSWITCH. **Andrew Savinov**, Steven M. Block

1081-Plat 5:15 PM
INVESTIGATING THE FUNCTION OF CONFORMATIONAL HETEROGENEITY IN TELOMERASE RNA USING MULTI-DIMENSIONAL CHEMICAL MAPPING AND SINGLE-MOLECULE SPECTROSCOPY. **Christina Palka**, Rhiju Das, Yehuda Tzfati, Michael Stone

1082-Plat 5:30 PM
A NANOIMAGING APPROACH FOR IDENTIFICATION OF THE SECONDARY STRUCTURAL DOMAINS IN LONG SSRNA MOLECULES. **Jamie L. Gilmore**, Aiko Yoshida, Hideki Aizaki, Masahiro Nakano, Takaji Wakita, Shige Yoshimura, Kunio Takeyasu, Takeshi Noda

1083-Plat 5:45 PM
CELLULAR IMAGING OF SMALL RNAS USING FLUORESCENT RNA-MANGO APTAMERS. **Adam Cawte**, Sunny Jeng, Alexis Autour, Michaël Ryckelynck, Peter Unrau, David Rueda

Platform
Micro- and Nanotechnology

4:00 PM–6:00 PM, ESPLANADE, ROOM 156

Co-Chairs
Jiwook Shim, Rowan University
Utku Sönmez, Carnegie Mellon University

1084-Plat 4:00 PM
DETECTION OF METHYLATION ON DSDNA AT SINGLE-MOLECULE LEVEL USING SOLID-STATE NANOPORES. Julian Bello, younghoon Kim, Shouvik Banerjee, Kirby Smithe, David Estrada, SuA Myong, Ann Nardulli, Eric Pop, Rashid Bashir, **Jiwook Shim**

1085-Plat 4:15 PM
THE NANOPORE MASS SPECTROMETER. **Mathilde Lepoitevin**, William Maulbetsch, Benjamin Wiener, Derek Stein

1086-Plat 4:30 PM
ACTIVE TRANSPORT BY A MEMBRANE EMBEDDED BIOMOTOR NANOPORE. Ke Sun, Yuejia Chen, Changjian Zhao, Xialin Zhang, Xiaojun Zeng, Xin Jiang, **Jia Geng**

1087-Plat 4:45 PM
LABEL-FREE DETECTION OF SINGLE-MOLECULE MELTING KINETICS WITH LASER HEATED NANOPORE. **Hirohito Yamazaki**, Rui Hu, Robert Henley, Justin Halman, Kirill Afonin, Dapeng Yu, Qing Zhao, Meni Wanunu

1088-Plat 5:00 PM
NANOPARTICLE-GUIDED BIOMOLECULE DELIVERY FOR TRANSGENE EXPRESSION AND GENE SILENCING IN MATURE PLANTS. **Gozde S. Demirer**, Roger Chang, Huan Zhang, Linda Chio, Markita P. Landry

1089-Plat 5:15 PM
GOLD NANOWIRE FABRICATION WITH SURFACE-ATTACHED LIPID NANOTUBE TEMPLATES. **Kristina Jajcevic**, Kaori Sugihara

1090-Plat 5:30 PM
CHEMOTAXIS OF IMMUNE CELLS IN MICROFLUIDIC FLOW-FREE CONCENTRATION GRADIENT GENERATOR. **Utku M. Sonmez**, Philip R. LeDuc, Pawel Kalinski, Lance A. Davidson

1091-Plat 5:45 PM
HIGH SPEED MOTORS DRIVEN BY A MOLECULAR TENSION GRADIENT. **Aaron T. Blanchard**, Khalid Salaita

Exhibitor Presentation
Bruker Corporation

4:30 PM–6:00 PM, EXHIBIT HALL, ROOM 6

Harnessing the Power of Superresolution Single Molecule Localization Microscopy with the Vutura 352: Labeling and Imaging Strategies
Single molecule localization microscopy (SMLM) has made a significant impact in the field of biology by enabling a 10-fold enhancement in resolution. A key factor in achieving this enhanced resolution is to optimally label and image the specimen. Numerous labeling strategies exist to tag structures in cells, bacteria, virus, tissue sections, *C. elegans* and *Drosophila*, to make the best use of SMLM. Examples include DNA- and Oligo-Paint, antibody/nanobody labeling with organic dyes, Halo and SNAP-tag dyes, and photo-switchable fluorescent proteins. Choosing a sub-optimal labeling method for a given biological sample will result in loss of achievable resolution. Once a specimen has been optimally labeled and imaged, the acquired localization data can then be readily quantified via statistical analysis to test experimental hypotheses.

Join this session to learn about labeling strategies and techniques used to get the best SML results.

Speaker
Manasa Gudheti, Sales Applications Scientist, Bruker Corporation

Exhibitor Presentation
Sutter Instrument

5:30 PM–7:00 PM, EXHIBIT HALL, ROOM 5

Scientists Empowering Scientists
There have been many technological evolutions in Patch Clamp electrophysiology over the past 4.5 decades that Sutter Instrument has been collaborating with researchers. During this period, Sutter has introduced many new product families, including pipette pullers, manipulators, light sources, wavelength switchers, specialized microscopes, and most recently, fully integrated patch clamp AMplifier systems. At this presentation, we will teach techniques, tips and tricks, and showcase features from three of our product families: pullers, manipulators, and patch clamp systems.

Since Sutter Instrument's inception in 1974, our pipette pullers have been used in a large number of research facilities all over the world.They are considered the unparalleled leader in performance and reliability. We will demonstrate how to make the unique micropipettes needed for your application, with a discussion on scoring and cutting, bending, polishing, and beveling.

The IPA®, Double IPA® and new dPatch® Ultra-fast, Low-noise Integrated Patch Clamp amplifiers, and SutterPatch® Software can be used for a variety of common experiments, including characterization of ionic current and recording synaptic events in tissue slices. We will demonstrate how the SutterPatch Software's online measurements and sophisticated control of experimental workflow can be used to aid real-time decision-making and eventually simplify analysis.

Sutter introduced Micromanipulators in 1985. From that time on, the company has continued to develop manipulators with stepper motor drive mechanisms and ergonomic controllers that are adaptable to many different experimental designs and platforms. We will introduce two new-

er additions to the product family: the four axis QUAD® and the three-axis TRIO®. In addition, we will demonstrate how the Multi-Link™ software can be used for robotic control and integration with other hardware.

Registration is available online through the Sutter Instrument Event Registration page https://sutter.eventbrite.com.

Speakers
Adair Oesterle, Product Manager, Micropipette Pullers, Sutter Instrument
Geoff Lambright, Product Manager, Microscopy, Sutter Instrument
Telly Galiatsatos, Tech Support and Product Development, Sutter Instrument
Jan Dolzer, Product Manager, Patch Clamp Systems, Sutter Instrument

Dinner Meet-Ups

5:30 PM – 5:45 PM, SOUTH LOBBY, SOCIETY BOOTH

Interested in making new acquaintances and experiencing the cuisine of San Francisco? Meet at the Society Booth each evening, Sunday through Tuesday, at 5:30 PM where a BPS member will coordinate dinner at a local restaurant.

Awards and 2018 Biophysical Society Lecture

8:00 PM–9:00 PM, NORTH, LOWER LOBBY, ROOM 24/25

PRESENTATION OF AWARDS **8:00 PM**

No Abstract **8:15 PM**
CRISPR SYSTEMS: BIOLOGY AND APPLICATION OF GENE EDITING.
Jennifer Doudna

Reception and Dance

9:30 PM–12:00 AM, MARRIOTT MARQUIS,
YERBA BUENA BALLROOM

Registrants are invited to attend the reception following the BPS Lecture. Badges will be required for admittance. Guest badges for this event are available for purchase during registration.

Reception and Quiet Room

9:30 PM–12:00 AM, MARRIOTT MARQUIS, GOLDEN GATE A

Registrants are invited to attend the reception in a more quiet atmosphere following the BPS Lecture. Badges will be required for admittance. Guest badges for this event are available for purchase during registration.

MONDAY POSTER SESSIONS

1:45 PM–3:45 PM, EXHIBIT HALL ABC

Below is the list of poster presentations for Monday of abstracts submitted by October 2. *The list of late abstracts scheduled for Monday is available in the Program Addendum, and those posters can be viewed on boards beginning with L.*

Posters should be mounted beginning at 6:00 PM on Sunday and removed by 5:30 PM on Monday evening. Posters will be on view until 10:00 PM the night before presentation. Poster numbers refer to the program order of abstracts as they appear in the online Abstracts Issue. Board numbers indicate where boards are located in the Exhibit Hall.

ODD-NUMBERED BOARDS 1:45 PM–2:45 PM | EVEN-NUMBERED BOARDS 2:45 PM–3:45 PM

Board Numbers	Category
B1–B30	Protein Structure and Conformation I
B31–B50	Protein-Small Molecule Interactions II
B51–B68	Protein Assemblies II
B69–B89	Protein Dynamics and Allostery II
B90–B110	Membrane Protein Structures I
B111–B133	Membrane Protein Dynamics II
B134–B146	Membrane Protein Folding
B147–B167	Transcription
B168–B186.1	Protein-Nucleic Acid Interactions II
B187–B206	Chromatin and the Nucleoid I
B207–B229	Membrane Physical Chemistry II
B230–B257	Membrane Active Peptides and Toxins I
B258–B287	Membrane Structure II
B288–B311	General Protein-Lipid Interactions I
B312–B339	Exocytosis and Endocytosis
B340–B355	Calcium Signaling I
B356–B372	Intracellular Calcium Channels and Calcium Sparks and Waves II
B373–B392	Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating II
B393–B414	Ligand-gated Channels II
B415–B438	Ion Channel Regulatory Mechanisms II
B439–B461	Ion Channels, Pharmacology, and Disease I
B462–B480	Cardiac Muscle Mechanics and Structure I
B481–B504	Myosins
B505–B532	Cell Mechanics, Mechanosensing, and Motility I
B533–B543	Bacterial Mechanics, Cytoskeleton, and Motility
B544–B564	Membrane Pumps, Transporters, and Exchangers II
B565–B575	Cellular Signaling and Metabolic Networks
B576–B601	Molecular Dynamics I
B602–B619	Computational Methods and Bioinformatics I
B620–B649	Optical Microscopy and Superresolution Imaging: Applications to Cellular Molecules I
B650–B674	Force Spectroscopy and Scanning Probe Microscopy
B675–B689	Biosensors I
B690–B713	Biomaterials

It is the responsibility of the poster presenters to remove print materials from the board after their presentations. Please do not leave materials or belongings under poster boards or in the poster area. Posters will not be collected or stored for pick-up at a later time. The Biophysical Society is not responsible for any articles left in the poster area.

Protein Structure and Conformation I (Boards B1–B30)

1092-Pos Board B1
CONSERVED DOMAIN ARCHITECTURE OF HUMAN BLM HELICASE MAINTAINS BALANCE BETWEEN D-LOOP DISRUPTION AND EXTENSION. **Gábor M. Harami**, Yeonee Seol, János Pálinkás, Máté Gyimesi, Zoltán J. Kovács, Máté Martina, Anna Budai, Julianna B. Németh, Keir C. Neuman, Mihály Kovács

1094-Pos Board B3
RECQ HELICASE TRIGGERS A BINDING MODE CHANGE IN THE SSB-DNA COMPLEX EFFICIENTLY INITIATE DNA UNWINDING. Gábor M. Harami, Maria Mills, Yeonee Seol, Máté Gyimesi, Máté Martina, Zoltán J. Kovács, **Mihaly Kovacs**, Keir C. Neuman

1093-Pos Board B2
SECRET FROM THE ABYSS: STRUCTURES OF THE D-FAMILY DNA POLYMERASE (POLD) REVEAL THAT DNA REPLICATION AND DNA TRANSCRIPTION SHARE A JOINT EVOLUTIONARY HISTORY IN ARCHAEA. Pierre Raia, Pierre Béguin, Ghislaine Henneke, Marc Delarue, **Ludovic Sauguet**

1095-Pos Board B4
POTENTIAL DISRUPTION OF EBOLA VIRUS MATRIX BY GRAPHENE NANOSHEETS. **Rudramani Pokhrel**, Jeevan GC, Nisha Bhattarai, Prem Chapagain, Bernard Gerstman

1096-Pos Board B5
TOWARD HIGH RESOLUTION STRUCTURES OF THE HIV-1 IN/LEDGF/DNA COMPLEX. Julien Batisse, Eduardo Bruch, Nicolas Levy, Benoit Maillot, Sylvia Eiler, Oyindamola Oladosu, **Marc Ruff**

1097-Pos Board B6
CAN SAXS TELL US WHETHER ANTIBODY SHAPE EVOLVES? **Rosaleen A. Calvert**, Katy A. Doré, Brian J. Sutton, Andrew J. Beavil

1098-Pos Board B7
ACCOUNTING FOR SPECIFICITY AND CROSS-REACTIVITY IN T CELL RECEPTOR MOLECULAR RECOGNITION. **Brian M. Baker**

1099-Pos Board B8
FLAVIVIRUS CAPSID PROTEIN BINDING TO HOST LIPID SYSTEMS. Ana S. Martins, André Nascimento, André F. Faustino, Filomena A. Carvalho, Nuno C. Santos, **Ivo C. Martins**

1100-Pos Board B9
NANOBODIES TARGETING NOROVIRUS CAPSID REVEAL FUNCTIONAL EPITOPES AND POTENTIAL MECHANISMS OF NEUTRALIZATION. **Anna D. Koromyslova**, Grant S. Hansman

1101-Pos Board B10
MERCURY AND ALZHEIMERS DISEASE: HG(II) IONS DISPLAY SPECIFIC BINDING TO THE AMYLOID-BETA PEPTIDE AND MODULATE ITS AGGREGATION. **Sebastian Warmlander**, Cecilia Wallin, Sabrina Sholts, Per Roos, Jyri Jarvet, Astrid Graslund

1102-Pos Board B11
CID Travel Awardee
SPECTROSCOPIC STUDIES OF BUFFER AND METAL ION EFFECTS ON AMYLOID-BETA PEPTIDE STRUCTURE AND AGGREGATION. **Keyon Carter**

1103-Pos Board B12
COMBINING DNP NMR WITH SEGMENTAL AND SPECIFIC LABELING TO STUDY THE QUATERNARY STRUCTURES OF YEAST PRION PROTEIN STRAINS. **Yiling Xiao**, Whitney Costello, Carla Madrid, Kendra Frederick

1104-Pos Board B13 INTERNATIONAL TRAVEL AWARDEE
UNDERSTANDING THE STRUCTURAL BASIS OF RECOGNITION BETWEEN PLASMODIUM FALCIPARUM AND HUMAN SUMOYLATION MACHINERY. **Jai Shankar Singh**, Vaibhav Kumar Shukla, Mansi Gujarati, Ram Kumar Mishra, Ashutosh Kumar

1105-Pos Board B14
STRUCTURAL BASIS OF AN ESSENTIAL INTERACTION BETWEEN DNAG AND DNAB IN *MYCOBACTERIAL TUBERCULOSIS*. **Dhakaram P. Sharma**, Ramachandran Vijayan, Arif Abdul Rehman, Samudrala Gourinath

1106-Pos Board B15 International Travel Awardee
EVOLUTION OF ANTIBODY STRUCTURE AND FUNCTION THROUGH STUDIES OF IGE AND IGM. **Rosemary Nyamboya**

1107-Pos Board B16 CPOW Travel Awardee
SPECTROSCOPIC STUDY OF CU(II) BINDING TO THE LIGHT CHAIN 6AJL2 AND ITS EFFECT ON AMYLOID FIBER FORMATION. Angel Pelaez-Aguilar, Carlos AMero, **Lina Rivillas-Acevedo**

1108-Pos Board B17
ELECTROSTATIC INTERACTIONS AT THE DIMER INTERFACE STABILIZE THE *E. COLI B* SLIDING CLAMP. **Anirban Purohit**

1109-Pos Board B18
DISSOCIATION OF FACTOR XIII HOMODIMER DURING ACTIVATION PROCESS: SOLUTION EVIDENCE WEIGHS IN ON DECADES-LONG DEBATE. **Boris Anokhin**, Vilius Stribinskis, William Dean, Muriel Maurer

1110-Pos Board B19
STRUCTURE AND CONFORMATIONAL DYNAMICS OF THE SPLICING FACTOR HNRNP H. **Liang-Yuan Chiu**, Blanton S. Tolbert, Srinivasa Rao Penumutuchu

1111-Pos Board B20
AMYLOID BETA PEPTIDE AGGREGATION PROCESS IN THE PRESENCE OF SUGAR-BASED SURFACTANTS- CONFORMATIONAL AND STRUCTURAL STUDIES. **Michalina Wilkowska**, Weronika Andrzejewska, Ryszard Zieliński, Maciej Kozak

1112-Pos Board B21
MAPPING THE REGIONS IN PCNA THAT MEDIATE NUCLEOSOME ASSEMBLY. **Lynne Dieckman**, Molly Carrig, Claire Embree, Kurt Shaffer, Hunter VanDolah

1113-Pos Board B22
TAU PEPTIDE INTERACTIONS WITH LIPID MEMBRANES: SECONDARY STRUCTURE ANALYSIS. **Sam Ealy**

1114-Pos Board B23
DECIPHERING THE INTERACTIONS BETWEEN AN ANTICANCER BACTERIOCIN AND THE P53 DNA BINDING DOMAIN. **Yongqi Huang**, Jingjing Zhou, Xiyao Cheng, Zhengding Su

1115-Pos Board B24
MOTIF IV AND V OF ACTIVE DNA DEPENDENT ATPASE A DOMAIN, A SWI2/SNF2 PROTEIN, ARE REQUIRED FOR BOTH LIGAND BINDING AND CONFORMATIONAL INTEGRITY. **Vijendra Arya**, Rohini Muthuswami

1116-Pos Board B25
HUMAN NOROVIRUS INHIBITION THROUGH COMBINATION DRUG TREATMENT. **Alessa Ringel**, Turgay Kilic, Jessica Devant, Kerstin Ruoff, Anna Koromyslova, Alexander Hempelmann, Michelle Haas, Celina Geiß, Imme Roggenbach, Juliane Graf, Grant Hansman

1117-Pos Board B26
MONITORING OF ALZHEIMER'S AMYLOID-B PEPTIDE AGGREGATION VIA FLUORESCENCE CORRELATION SPECTROSCOPY AND TOTAL INTERNAL REFLECTION MICROSCOPY. **Jüri Jarvet**, Astrid Gräslund, Ann Tiiman, Vladana Vukoevic

1118-Pos Board B27
BIOCHEMICAL AND BIOPHYSICAL CHARACTERISATION OF INFLUENZA A VIRUS PROTEINS. **Muhd Faiz-Hafiz Mohd Kipli**, Jolyon Claridge, Jason Schnell

1119-Pos Board B28
LOOP SUBSTITUTION WITH BETA TURNS DISRUPTS FIBRIL FORMATION IN AMYLOID MODEL SEQUENCES. **Heng Chi**

1120-Pos Board B29
TOPOLOGY OF PLASMIN-DRIVEN FIBRINOLYSIS IN A NANOSCALE FIBRIN MATRIX. **Tímea Feller**, Jolán Hársfalvi, Csilla Csányi, Balazs Kiss, Miklós Kellermayer

1121-Pos Board B30 EDUCATION TRAVEL AWARDEE
CHARACTERIZATION OF THE MOLECULAR MECHANISM FOR MATURATION INHIBITORS AGAINST THE HIV-1 CAPSID-SP1 DOMAIN. **Carly A. Sciandra**, Pengfei Ding, Eric O. Freed, Michael F. Summers

Protein-Small Molecule Interactions II (Boards B31–B50)

1122-Pos Board B31
ENGINEERING TARGETED LECTINS BY COMPUTER-GUIDED DIRECTED EVOLUTION. **Ismail C. Kazan**, Prerna Sharma

1123-Pos Board B32
PROBING THE INTERACTION OF ABETA42 AMYLOID SPECIES WITH AN AGGREGATION SUPPRESSOR MOLECULE BY INFRARED NANOSPECTROSCOPY. **Francesco Simone Ruggeri**, Johnny Habchi, Sean Chia, Michele Vendruscolo, Tuomas P. J. Knowles

1124-Pos Board B33
INTERACTIONS OF QUINAZOLINE DERIVATIVES WITH BETA-AMYLOID. **Praveen Nekkar Rao**, Tarek Mohamed, Arash Shakeri

1125-Pos Board B34
LIGAND BINDING STUDIES OF A PLASMID ENCODED DIHYDROFOLATE REDUCTASE BY ^{19}F NMR. **Gabriel J. Fuente Gomez**

1126-Pos Board B35
THE REGULATION OF SURFACE CHARGE BY BIOLOGICAL OSMOLYTES. **Roy Govrin**

1127-Pos Board B36
MECHANISM OF ALLOSTERIC MODULATOR BINDING TO THE ADENOSINE A_1 RECEPTOR. **Yinglong Miao**

1128-Pos Board B37
EFFECTS OF TRIMETHYLAMINE-N-OXIDE ON THE CONFORMATION OF PEPTIDES AND PROTEINS. **Zhaoqian Su**, Farbod Mahmoudinobar, Cristiano Dias

1129-Pos Board B38
INDUCIBLE GENE EXPRESSION AND PROTEIN LOCALIZATION USING CRISPR/DCAS9 AND ANTIVIRAL PROTEASE INHIBITORS. **Elliot P. Tague**, John Ngo

1130-Pos Board B39
SYSTEMATIC DEVELOPMENT OF SMALL MOLECULES TO INHIBIT SPECIFIC MICROSCOPIC STEPS OF AMYLOID-BETA42 AGGREGATION IN ALZHEIMER'S DISEASE. **Sean Chia**, Johnny Habchi, Ryan Limbocker, Benedetta Mannini, Minkoo Ahn, Michele Perni, Oskar Hansson, Paolo Arosio, Janet R. Kumita, Pavan Kumar Challa, Samuel I.A. Cohen, Sara Linse, Christopher M. Dobson, Tuomas P.J. Knowles, Michele Vendruscolo

1131-Pos Board B40
ARRHYTHMOGENIC CARDIOMYOPATHY RELATED DSG2 MUTATIONS AFFECT DESOMOSMAL BINDING KINETICS. Mareike Dieding, Jana D. Debus, Raimund Kerkhoff, Anna Gaertner-Rommel, **Volker Walhorn**, Hendrik Milting, Dario Anselmetti

1132-Pos Board B41
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1133-Pos Board B42
UNDERSTANDING THE TOXICITY AND REPURPOSING POTENTIAL OF KINASE INHIBITORS. **Hammad Naveed**

1134-Pos Board B43
BINDING PATHWAYS OF PHENYLALANINE TO THE DIMERIC REGULATORY DOMAIN OF HUMAN PAH REVEAL A LID GATING MECHANISM. **Yunhui Ge**, Eileen K. Jaffe, Vincent A. Voelz

1135-Pos Board B44
ANTIBIOTIC PERMEATION ACROSS THE BACTERIAL OUTER MEMBRANE PORIN. **Nandan Haloi**, Mrinal Shekhar, Bryon S. Drown, Paul J. Hergenrother, Emad Tajkhorshid

1136-Pos Board B45
MEASUREMENTS OF ENZYME ACTIVITY WITH FIELD-EFFECT TRANSISTORS. Nicholas Guros, Son T. Le, Antonio Cardone, Brent Sperling, Curt Richter, Jeffery Klauda, Harish Pant, **Arvind Balijepalli**

1137-Pos Board B46
THE PH DEPENDENCE OF KETAMINE BINDING TO G-PROTEIN COUPLED RECEPTORS. **Thomas T. Joseph**, Roderic G. Eckenhoff, Grace Brannigan

1138-Pos Board B47
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1139-Pos Board B48
BINDING BEHAVIOR AND ENERGETICS BETWEEN CURCUMIN AND AMYLOID-B AGGREGATES AT THE MOLECULAR SCALE. **Tye D. Martin**, Angelina J. Malagodi, Eva Y. Chi, Deborah G. Evans

1140-Pos Board B49
NDGA INHIBITS FUNCTIONAL AMYLOID BIOSYNTHESIS AND BIOFILM FORMATION BY UROPATHOGENIC E. COLI. **Joshua A. Visser**, Lynette Cegelski

1141-Pos Board B50
INTERROGATING FUNCTIONAL AMYLOID FORMATION USING SMALL MOLECULES. **Elizabeth Gichana**

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1142-Pos Board B51 INTERNATIONAL TRAVEL AWARDEE
EFFECT OF HYPERGLYCEMIC CONDITIONS ON THE EARLY SELF-ASSEMBLY OF THE ALZHEIMER'S AMYLOID BETA PEPTIDE: IMPLICATIONS FOR NEUROTOXICITY. Sneha Menon, **Neelanjana Sengupta**

1143-Pos Board B52
OLIGOMERIZATION AND FIBRILLIZATION DYNAMICS OF AMYLOID PEPTIDES AND BETA-BARREL OLIGOMER INTERMEDIATES. **Yunxiang Sun**, Xinwei Ge, Feng Ding

1144-Pos Board B53
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1145-Pos Board B54
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1146-Pos Board B55
EFFECT OF BIO-MOLECULES ON HUMAN ISLET AMYLOID POLYPEPTIDE AGGREGATION, FIBRIL REMODELING AND CYTOXICITY. **Yanting Xing**, Feng Ding, Pu Chun Ke

1147-Pos Board B56
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1148-Pos Board B57
BOTH CELL-ASSOCIATED AND SECRETED FORMS OF THE *P. AERUGINOSA* ADHESIN CDRA PROMOTE BIOFILM FORMATION. **Courtney Reichhardt**, Cynthis Wong, Daniel Passos da Silva, Daniel J. Wozniak, Matthew R. Parsek

1149-Pos Board B58
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1150-Pos Board B59
GLEEVEC CAN ACT AS AN ALLOSTERIC ACTIVATOR OF ABL KINASE. **Tao Xie**, Tamjeed Saleh, Charalampos G. Kalodimos

1151-Pos Board B60
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1152-Pos Board B61
SELF-ASSEMBLING ABETA(30-36) PEPTIDES: A COMBINED ALL-ATOM AND COARSE-GRAINED SIMULATION STUDY. **Zhenyu Qian**, Qingwen Zhang, Guanghong Wei, Peijie Chen

1153-Pos Board B62
AMYLOID BETA PROTEINS MODIFIED BY PUFA OXIDATION PRODUCTS IN ALZHEIMER'S DISEASE BRAIN. Haralambos A. Mourelatos, **Hiroaki Komatsu**, Ran Furman, Giuseppe Grasso, Paul H. Axelsen

1154-Pos Board B63
COMPUTATIONAL STUDIES OF ALPHA-SYNUCLEIN FIBRIL FORMATION AND STABILITY. **Andrew H. Beaven**, Tod D. Romo, Andrew K. Lewis, Anthony R. Braun, Alan Grossfield, Jonathan N. Sachs

1155-Pos Board B64
HIV-TAT 32-62 PROTEIN FRAGMENT FORMS FIBRILLAR STRUCTURES. **Alina Popescu Hategan**, Joseph Steiner, Elena Karnaukhova, Emilios K. Dimitriadis, Avindra Nath

1156-Pos Board B65
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1157-Pos Board B66
MEMBRANE INTERACTION AND ASSEMBLY MECHANISM OF AB IN ALZHEIMER'S DISEASE. Ya-Ling Chiang, Hsien-Shun liao, Catherine Stark, Andrew Liu, Audrey Huang, James Yao, Paul D. Smith, Curtis W. Meuse, **Albert J. Jin**

1158-Pos Board B67
A NEW INSIGHT INTO THE MOLECULAR MECHANISM OF THE INHIBITION OF LYSOZYME FIBRILLATION BY GALLIC ACID. **Mouli Konar**, Swagata Dasgupta

1159-Pos Board B68
INVESTIGATING CURLI AND CELLULOSE INTERACTIONS IN THE SPATIAL CONTEXT OF BACTERIAL BIOFILMS. **Nicolette F. Goularte**, Lynette Cegelski

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1160-Pos Board B69
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1161-Pos Board B70
PROTEIN LOCAL CONFORMATIONS AT THE LIGHT OF A STRUCTURAL ALPHABET. **Alexandre G. de Brevern**

1162-Pos Board B71
ANCIENT THIOREDOXINS EVOLVED TO MODERN DAY STABILITY-FUNCTION REQUIREMENT BY ALTERING NATIVE STATE ENSEMBLE. **Tushar Modi**, Jonathan Huihui, Kingshuk Ghosh, Banu Ozkan

1163-Pos Board B72
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1164-Pos Board B73
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1165-Pos Board B74
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1166-Pos Board B75
STRUCTURAL DYNAMICS IS A DETERMINANT OF THE FUNCTIONAL SIGNIFICANCE OF MISSENSE VARIANTS. **Luca Ponzoni**, Ivet Bahar

1167-Pos Board B76
ATOMISTIC SIMULATIONS REVEAL A HINDERED TRANSITION OF THE B-LOOP DOMAIN OF INFLUENZA HEMAGGLUTININ. **Xingcheng Lin**, Jeffrey K. Noel, Qinghua Wang, Jianpeng Ma, Jose N. Onuchic

1168-Pos Board B77
DYNAMIC MODULATION OF BINDING AS A MECHANISM FOR REGULATING INTERFERON SIGNALING. **Hongchun Li**, Nanaocha Sharma, Ignacio J. General, Joseph M. Salvino, Gideon Schreiber, Ivet Bahar

1169-Pos Board B78
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1170-Pos Board B79
INVESTIGATING PHOSPHOANTIGEN-INDUCED CONFORMATIONAL CHANGE OF BUTYROPHILIN 3A1 USING ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS. **Christopher T. Boughter**, Benoît Roux, Erin J. Adams

1171-Pos Board B80
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1172-Pos Board B81
ANTIGEN INDUCED DYNAMIC CONFORMATION CHANGES OF ANTIBODY TO FACILITATE RECOGNITION OF FC RECEPTORS. Jun Zhao, Ruth Nussinov, **Buyong Ma**

1173-Pos Board B82
LESSONS FROM 8 MILLISECONDS OF AGGREGATED KINASE MOLECULAR DYNAMICS SIMULATIONS. **Mohammad M. Sultan**, Vijay Pande

1174-Pos Board B83
MOLECULAR ANALYSIS OF DENGUE NS3 HELICASE FUNCTION. **Kelly E. Du Pont**, Russell B. Davidson, Brian J. Geiss, Martin McCullagh

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1176-Pos Board B85
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1178-Pos Board B87
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1179-Pos Board B88
DRIVERS OF CONFORMATIONAL VARIABILITY IN TRANSTHYRETIN MONOMERS UNDER AMYLOIDOGENIC CONDITIONS. **Matthew C. Childers**, Valerie Daggett

1180-Pos Board B89
QUANTIFYING PEPTIDE BINDING AFFINITIES FROM NON-EQUILIBRIUM WORK. Onur Serçinoğlu, **Pemra Ozbek Sarica**

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1181-Pos Board B90
DISSOCIATION OF THE HETEROTRIMERIC G PROTEIN COMPLEX BY NANOBODIES: POTENTIAL USES IN THE MODULATION OF DIVERSE GPCR SIGNALING. **Krzysztof Palczewski**

1182-Pos Board B91
STRUCTURE AND DYNAMICS OF THE RECEPTOR-BOUND GHRELIN LIPOPEPTIDE. **Guillaume Ferré**, Marjorie Damian, Céline M'Kadmi, Olivier Saurel, Georges Czaplicki, Pascal Demange, Jacky Marie, Nicolas Floquet, Jean-Alain Fehrentz, Alain Milon, Jean-Louis Banères

1183-Pos Board B92
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1184-Pos Board B93
CHARACTERIZING A NEW MECHANISM IN GPCR SIGNALING AND ENERGY BALANCE. **Valerie Chen**, Ashley Tess Wong

1185-Pos Board B94
INTRACELLULAR EFFECT OF B3-ADRENOCEPTOR AGONIST CARAZOLOL ON SKELETAL MUSCLE, A DIRECT INTERACTION WITH SERCA. **Ibrahim A. Ramirez**, Eduardo Rodriquez, Rocío Alvarez, Eugenio Quiroz, Alicia Ortega

1186-Pos Board B95
SPATIALLY CONSTRAINED WATER MOLECULES ARE CONSERVED IN GPCR ACTIVATION. **AJ Venkatakrishnan**, Ron Dror

1187-Pos Board B96 EDUCATION TRAVEL AWARDEE
STRUCTURE OF A PHOSPHATIDYLINOSITOL-PHOSPHATE SYNTHASE FROM MYCOBACTERIA. **Meagan L. Belcher Dufrisne**, Carla D. Jorge, Oliver B. Clarke, Wayne A. Hendrickson, Helena Santos, Filippo Mancia

1188-Pos Board B97
BICELLE RECONSTITUTION OF ION CHANNEL DOMAINS FOR NMR STRUCTURAL STUDIES. Jing Zhu, Mangmang Zhu, **Sebastien F. Poget**

1189-Pos Board B98
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1190-Pos Board B99
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1191-Pos Board B100
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1192-Pos Board B101
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Tara C. Marcink, Bo An, Barbara Brodsky, Tommi White, Steven R. Van Doren

1193-Pos Board B102
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1194-Pos Board B103
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1195-Pos Board B104
A STRUCTURAL AND COMPUTATIONAL STUDY OF BARIUM BLOCKADE IN THE KCSA CHANNEL. **Ahmed Rohaim**, LiDong Gong, Jing Li, Huan Rui, Benoit Roux

1196-Pos Board B105
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1197-Pos Board B106
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1198-Pos Board B107
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1199-Pos Board B108
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MOLECULAR DYNAMICS SIMULATIONS REVEAL THE ROLE OF MEMBRANE CHOLESTEROL DURING PORE FORMING PATHWAY OF CYTOLYSIN A. **Amit Behera**, K. Ganapathy Ayappa

1201-Pos Board B110
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1203-Pos Board B112
Education Travel Awardee
LIGAND MODULATION OF SIDECHAIN DYNAMICS IN A WILD-TYPE HUMAN GPCR. **Lindsay D. Clark**, Igor Dikiy, Karen Chapman, Karin E. Rodstrom, James Aramini, Michael V. LeVine, George Khelashvili, Soren G. F. Rasmussen, Kevin H. Gardner, Daniel M. Rosenbaum

1204-Pos Board B113
DISTINCT DYNAMICS OF BIASED AGONISTS BOUND AT1R. **Sangbae Lee**, Anita K. Nivedha, HyunDeok Song, Nagarajan Vaidehi

1205-Pos Board B114
IDENTIFICATION OF GPCR TRANSITION PATHWAYS USING GO MODELS. **Leslie A. Salas-Estrada**, Stephen J. Constable, Anthony Pane, Alan Grossfield

1206-Pos Board B115
DIVERSE DIFFUSION REGIMES OF INDIVIDUAL M2 MUSCARINIC RECEPTORS AND GI PROTEINS IN LIVE CELLS. **Claudiu Gradinaru**

1207-Pos Board B116 CPOW Travel Awardee
MOLECULAR BASIS OF CLASS B GPCRS REVEALED BY MULTISCALE MODELING. Chenyi Liao, **Jianing Li**

1208-Pos Board B117
DYNAMIC BEHAVIORS OF VARIOUS CONFORMATIONAL STATES OF A2A RECEPTOR. **Sangbae Lee**, Anita K. Nivedha, Christopher Tate, Nagarajan Vaidehi

1209-Pos Board B118
HYDRATION THERMODYNAMICS OF A POWDERED G-PROTEIN-COUPLED RECEPTOR. **Andres M. Salinas**, Suchithranga MDC Perera, Michael F. Brown

1210-Pos Board B119
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1211-Pos Board B120
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1212-Pos Board B121
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1213-Pos Board B122
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1214-Pos Board B123
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1215-Pos Board B124
CONFORMATIONAL TRANSITIONS IN YDDG BACTERIAL TRANSPORTER: A MECHANISTIC PICTURE. **Shashank Pant**, Emad Tajkhorshid

1216-Pos Board B125
ROTATIONAL DIFFUSION OF MEMBRANE PROTEINS PROBED BY ANISOTROPIC T_2 *AND* $T_{1\rho}$ NMR RELAXATION IN ALIGNED LIPID BILAYERS. **Alexander Nevzorov**, Emmanuel Awosanya

1217-Pos Board B126
MODELING AND SIMULATION OF OUTER MEMBRANE PROTEINS IN PSEUDOMONAS AERUGINOSA OUTER MEMBRANES. **Joonseong Lee**, Wonpil Im

1218-Pos Board B127
LOCAL AND GLOBAL DYNAMICS IN *KLEBSIELLA PNEUMONIAE* OUTER MEMBRANE PROTEIN A IN LIPID BILAYERS PROBED AT ATOMIC RESOLUTION. **Olivier Saurel**

1219-Pos Board B128
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1220-Pos Board B129
FREE ENERGY STUDY ON HBD-3 TRANSLOCATION ON LIPID MEMBRANE. **Liqun Zhang**

1221-Pos Board B130
MICROSECOND-LEVEL SIMULATIONS REVEAL MEMBRANE PROTEIN INSERTION MECHANISM OF INSERTASE YIDC. **Thomas Harkey**, Mahmoud Moradi, Jeevapani Hettige

1222-Pos Board B131 Education Travel Awardee
LIPID-DEPENDENT MODULATION OF CONFORMATIONAL SWITCHING BY PROTONATION DURING MEMBRANE PROTEIN INSERTION. **Victor Vasquez-Montes**, Mykola V. Rodnin, Alexey S. Ladokhin

1223-Pos Board B132
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1224-Pos Board B133
MEASURING THE BILAYER DEPTH DEPENDENCE OF THE SCN INFRARED PROBE GROUP USING POLY-L TRANSMEMBRANE PEPTIDES. **Julia C. Fortier**, Sara T. Gebre, Casey H. Londergan

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1225-Pos Board B134
HUMAN MITOCHONDRIAL VDAC FUNCTIONALITY GOVERNS SCAFFOLD STABILITY. **Radhakrishnan Mahalakshmi**

1226-Pos Board B135
FOLDING PROTEINS OUTSIDE THEIR NATIVE ENVIRONMENT: FOLDING THE INNARDS OF AN OUTER MEMBRANE TRANSPORTER. **Adam M. Zmyslowski**

1227-Pos Board B136
SLOW INTERCONVERSION IN A CONFORMATIONALLY HETEROGENEOUS UNFOLDED-STATE ENSEMBLE OF OUTER MEMBRANE PHOSPHOLIPASE A. Georg Krainer, Pablo Gracia, Erik Frotscher, Neharika Chamachi, Andreas Hartmann, Philip Gröger, Sandro Keller, **Michael Schlierf**

1228-Pos Board B137
INTERACTIONS OF THE MEMBRANE PROTEIN CHAPERONE SKP WITH BAMD OF THE B-BARREL ASSEMBLY MACHINERY COMPLEX FROM E. COLI. Meenakshi Sharma, **Jörg H. Kleinschmidt**

1229-Pos Board B138
PARTITION COEFFICIENT OF ARGININE BETWEEN TRANSLOCON INTERIOR AND LIPID PHASE. **Denis G. Knyazev**, Mirjam Zimmermann, Roland Kuttner, Peter Pohl

1230-Pos Board B139
HOW CLC CHLORIDE TRANSPORTER FOLDS. **Duyoung Min**, Robert E. Jefferson, Yifei Qi, Jing Yang Wang, Mark A. Arbing, Wonpil Im, James U. Bowie

1231-Pos Board B140
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1232-Pos Board B141
IRON MEDIATED INTERACTION OF ALPHA SYNUCLEIN WITH LIPID RAFTS IN MODEL MEMBRANE SYSTEMS. **Loredana Casalis**, Fabio Perissinotto, Denis Scaini

1233-Pos Board B142
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1234-Pos Board B143
MOLECULAR MECHANISM OF POLYPEPTIDE INSERTION INTO BILAYER AND EXIT. **Gregory Slaybaugh**, Dhammika Weerakkody, Oleg Andreev, Yana Reshetnyak

1235-Pos Board B144
MECHANISMS BY WHICH LIPIDS SHAPE THE REACTION COORDINATE OF GLPG PROTEASE. **Ana-Nicoleta Bondar**

1236-Pos Board B145
A MINIMAL HELICAL HAIRPIN MOTIF RECAPITULATES MISFOLDING AND PHARMACOLOGICAL RESCUE OF CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR (CFTR). **Georg Krainer**, Antoine Treff, Andreas Hartmann, Tracy A. Stone, Sandro Keller, Charles M. Deber, Michael Schlierf

1237-Pos Board B146
FUNCTIONAL STABILIZATION OF PURIFIED HUMAN CFTR BY NBD1 MUTATIONS AND BY PHOSPHATIDYLSERINE. **Ina Urbatsch**, Zhengrong Yang, Ellen Hildebrandt, Fan Jiang, Qingxian Zhou, Jiangli An, Bala M. Xavier, Netaly Khazanov, Hanoch Senderowitz, John C. Kappes, Christie G. Brouillette

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1239-Pos Board B148
ELECTRON MICROSCOPY AND INTEGRATIVE MODELING SHED LIGHT ON THE MECHANISMS OF TRANSCRIPTION INITIATION. Chunli Yan, Yuan He, Eva Nogales, **Ivaylo Ivanov**

1240-Pos Board B149
TRANSCRIPTION ENHANCEMENT BY NUCLEAR SPECKLE ASSOCIATION. **Jiah Kim**, Nimish Khanna, Andrew S. Belmont

1241-Pos Board B150
SINGLE-MOLECULE ANALYSIS OF THE INFLUENZA VIRUS REPLICATION INITIATION MECHANISM. **Nicole C. Robb**, Aartjan J.W. te Velthuis, Ervin Fodor, Achillefs N. Kapanidis

1242-Pos Board B151
HOW DOES A VIRAL RNA POLYMERASE RATCHET ALONG DNA WITHOUT BACKTRACKING? Lin-Tai Da, Chao E, Yao Shuai, Shaogui Wu, Xiao-Dong Su, **Jin Yu**

1243-Pos Board B152
ABORTIVE AND PRODUCTIVE TRANSCRIPTION INITIATION BY E. COLI RNA POLYMERASE. **Kate Henderson**, Cristen M. Molzahn, Lindsey C. Felth, Claire Evensen, Sarah Dyke, Guanyu Liao, Jack Prazich, M. Thomas Record

1244-Pos Board B153
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1245-Pos Board B154
TRANSCRIPTION DYNAMICS AT THE HIV-1 REPORTER LOCUS. **Linda Stephanie Forero-Quintero**, Michael May, Edouard Bertrand, Eugenia Basyuk, Hiroshi Kimura, Brian Munsky, Timothy Stasevich

1246-Pos Board B155
REAL-TIME OBSERVATION OF POLYMERASE- PROMOTER CONTACT REMODELING DURING TRANSCRIPTION INITIATION. **Furqan M. Fazal**, Cong A. Meng, Steven M. Block

1247-Pos Board B156
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1248-Pos Board B157
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1249-Pos Board B158
HIGHLY SPECIFIC CIRCULAR RNA QUANTIFICATION IN SINGLE YEAST CELLS. **Gable M. Wadsworth**, Harold D. Kim

1250-Pos Board B159
IN VIVO EFFECTS OF DISCRIMINATOR SEQUENCES ON TRANSCRIPTION INITIATION IN *E. COLI*. **Kevin Lauterjung**, Xiangyang Liu, Kate Henderson, Vatsan Raman, Tom Record

1251-Pos Board B160
USING MINIMAL SYNTHETIC ENHANCERS TO REACH A PREDICTIVE UNDERSTANDING OF TRANSCRIPTIONAL REGULATION IN DEVELOPMENT. Myron Child, **Armando Reimer**, Emma Luu, Hernan Garcia

1252-Pos Board B161
MEDIATOR FORMS CLUSTERS WITH RNA POLYMERASE II IN LIVE STEM CELLS. **Won-Ki Cho**, Jan-Hendrik Spille, Micca Hecht, Choongman Lee, Ibrahim Cisse

1253-Pos Board B162
MICROARRAY ANALYSIS REVEALS DEREGULATED LNCRNAS AND MRNAS IN DB/DB MICE PLASMA AND HEART: DIAGNOSTIC BIOMARKERS OF DIABETIC CARDIOMYOPATHY. **Tarun Pant**

1254-Pos Board B163
THE ROLE OF THE CBP TRANSCRIPTIONAL ACTIVATOR IN THE CIRCADIAN REPRESSIVE COMPLEX. **Efrain H. Ceh Pavia**, Jennifer Fribourgh, Leslee Nguyen, Carrie L. Partch

1255-Pos Board B164
TRANSCRIPTIONAL DYNAMICS AND THE REGULATION OF CHROMATIN ACCESSIBILITY IN *DROSOPHILA* EMBRYONIC DEVELOPMENT. **Elizabeth Eck**, Jonathan Liu, Hernan Garcia

1256-Pos Board B165
ROADBLOCKS BY PROTEIN-MEDIATED DNA LOOPS. **Zsuzsanna Vörös**, Cristin R. Hendrickson, David Dunlap, Laura Finzi

1257-Pos Board B166
UNCOVERING DYNAMICAL MECHANISMS OF TRANSCRIPTION FACTOR READOUT IN DEVELOPMENT USING OPTOGENETICS. **Simon Alamos**, Yang Joon Kim, Jordan Y. Xiao, Elizabeth Earley, Hernan G. Garcia

1258-Pos Board B167
DETERMINATION OF MUSCLE-SPECIFIC STRUCTURAL VARIATIONS OF TITIN BASED ON MRNA TRANSCRIPT ANALYSIS. **Pabodha Hettige**, Uzma Tahir, Kiisa C. Nishikawa, Matthew J. Gage

Protein-Nucleic Acid Interactions II (Boards B168–B186.1)

1259-Pos Board B168 **EDUCATION TRAVEL AWARDEE**
INVESTIGATING THE MECHANISM OF DNA RECOGNITION BY A CRISPR-CAS12A NUCLEASE. **Wei Jiang**

1260-Pos Board B169
DUPLEX DNA DESTABILIZATION BY TYPE V CRISPR-CAS NUCLEASES DURING INTERROGATION OF DNA. **Vladimir Mekler**, Leonid Minakhin, Konstantin Kuznedelov, Karthik Murugan, Dipali Sashital, Konstantin Severinov

1261-Pos Board B170
A PAM-INDUCED SIGNALLING ACTIVATES THE COMMUNICATION BETWEEN HNH AND RUVC IN CRISPR-CAS9. **Giulia Palermo**, Clarisse Ricci, Yinglong Miao, Martin Jinek, J. Andrew McCammon

1262-Pos Board B171
CORRELATED SINGLE MOLECULE TWIST AND FLUORESCENCE MEASUREMENTS ON CRISPR/CAS SYSTEMS. **Pierre Aldag**, Julene Madariaga Marcos, Inga Songailiene, Felix Kemmerich, Virginijus Siksnys, Ralf Seidel

1263-Pos Board B172
REAL-TIME OBSERVATION OF TARGET SEARCH BY THE CRISPR SURVEILLANCE COMPLEX CASCADE. Chaoyou Xue, Yicheng Zhu, Xiangmei Zhang, Yeon-Kyun Shin, **Dipali G. Sashital**

1264-Pos Board B173
BIOPHYSICAL ANALYSIS OF CAS9–DNA INTERACTIONS AND ENZYMATIC ACTIVITY WITH ELECTRO-SWITCHABLE DNA LAYERS. **Felix J. Kroener**, Ulrich Rant

1265-Pos Board B174
DNA UNWINDING IS THE PRIMARY DETERMINANT OF CRISPR-CAS9 SPECIFICITY. **Shanzhong Gong**, Helen H. Yu, Kenneth A. Johnson, David W. Taylor

1266-Pos Board B175
EXPLORING MECHANISMS OF SITE-SPECIFIC DNA CLEAVAGE WITH SINGLE MOLECULE SENSITIVITY. **Sadie Piatt**, Allen Price, Stephen Parziale, Raquel Ferreira

1267-Pos Board B176
SPATIAL ORGANIZATION AND DYNAMICS OF RNA PROCESSING IN *CAULOBACTER CRESCENTUS*. **Camille Bayas**, Jiarui Wang, Marissa K. Lee, Jared M. Schrader, Lucy Shapiro, W. E. Moerner

1268-Pos Board B177
GLOBAL LANDSCAPES OF PROTEIN-RNA RECOGNITION PROVIDE QUANTITATIVE TOOLS TO PREDICT AND ENGINEER SPECIFICITY IN RNA STRUCTURED ELEMENTS. **Faruck Morcos**, Qin Zhou, Zachary Campbell

1269-Pos Board B178
IN VITRO RECONSTRUCTION AND ANALYSIS OF EUKARYOTIC CATALYTIC RIBONUCLEOPROTEIN RNASE P. Anna Perederina, Igor Berezin, **Andrey S. Krasilnikov**

1270-Pos Board B179
COOPERATIVE RNA RECOGNITION BY A VIRAL TRANSCRIPTION ANTITERMINATOR. **Gonzalo de Prat Gay**

1271-Pos Board B180
SOLVENT ACCESSIBILITY OF CRISPR-CAS9 TARGET DNA IS CORRELATED WITH SUBSTRATE SPECIFICITY. **Travis H. Hand**, Anuska Das, Emily Duboy, Mitchell Roth, Chardasia Smith, Uriel Baptist, Hong Li

1272-Pos Board B181
INTERACTION BETWEEN CAPSID COAT PROTEIN AND MS2 BACTERIOPHAGE SSRNA WITH DIFFERENT LOOP MOTIF FOR VIRUS ASSEMBLY PROCESS. **Lokendra Poudel**, Wai-Yim Ching

1273-Pos Board B182
SELECTIVE PACKAGING OF HIV-1 RNA BY GAG PROTEINS. **Ioulia F. Rouzina**, Robijn Bruinsma

1274-Pos Board B183
CHARACTERIZING PROTEIN AND RNA INTERACTIONS THAT NUCLEATE THE HIV-1 VIRAL ASSEMBLY. **Ugonna Mbaekwe**, Pengfei Ding, Michael Summers

1275-Pos Board B184
A FLEXIBLE REGION OF PRP8 INTERACTS WITH U5 SNRNA LOOP I AND IS FUNCTIONALLY LINKED TO 5′ SPLICE SITE RECOGNITION. **Andrew MacRae**, Megan Mayerle, Robert Chalkley, Melissa Jurica

1276-Pos Board B185
INHIBITORY EFFECT OF THE DNA TENSION ON THE CRISPR/CAS9 ACTIVITIES. **Suleyman Ucuncuoglu**, Kassidy Lundy, Ozgur Sahin

1277-Pos Board B186
SINGLE MOLECULE STUDY OF HRAP1 REGULATED TRF2 BINDING MOTIFS ON TELOMERIC DSDNA. **Xiaodan Zhao**, Vinod Kumar Vogirala, Meihan Liu, Yu Zhou, Sara Sandin, Jie Yan

1277.1-Pos Board B186.1
DETERMINING NUCLEOCAPSID PROTEIN RECOGNITION OF NON-CANONICAL SUBSTRATE HAIRPINS. **Henrietta Ehirim**, Melanie Dillon, Catherine Volle

Chromatin and the Nucleoid I (Boards B187–B206)

1278-Pos Board B187
ARTIFICIAL MODIFICATION OF HISTONES AND THE EFFECT ON EPIGENETICS. **Kyrsten M. Thibodeau**

1279-Pos Board B188
MAPPING COMBINATORIAL EPIGENETIC MODIFICATIONS AT SINGLE NUCLEOSOME RESOLUTION. **Jen-Chien Chang**, Kazuhide Watanabe, Takashi Umehara, Yuichi Taniguchi, Yuko Sato, Hiroshi Kimura, Akiko Minoda

1280-Pos Board B189
INVESTIGATING THE ROLE OF HISTONE MODIFICATION IN NUCLEOSOME FORMATION BY CAG/CTG REPEATS. **Whitli Thomas**, Catherine Volle

1281-Pos Board B190
SINGLE MOLECULE OBSERVATION OF CHROMATIN COMPACTION REVEALS THE ROLE OF HISTONE TAILS AND THEIR EPIGENETIC MODIFICATIONS. **Sohn Byeong-Kwon**

1282-Pos Board B191
CHROMATIN CURTAINS: A SINGLE-MOLECULE METHOD FOR VISUALIZING HISTONE MARKS ON CHROMATIN SUBSTRATES IN VITRO. **Liv E. Jensen**, Bassem Al-Sady, Sy Redding

1283-Pos Board B192
A SYSTEMATIC STUDY OF NUCLEOSOME CORE PARTICLE AND NUCLEOSOME-NUCLEOSOME STACKING STRUCTURE. **Nikolay Korolev**, Alexander P. Lyubartsev, Lars Nordenskiöld

1284-Pos Board B193
SOLUTION ENSEMBLE OF THE MACROH2A NUCLEOSOME WITH LINKER SEQUENCE. **Samuel Bowerman**, Srinivas Chakravarthy, Jeff Wereszczynski

1285-Pos Board B194
HIGH-RESOLUTION LOCUS-SPECIFIC MAPPING OF CHROMATIN CONTACTS USING TWO-PHOTON PHOTOACTIVATED DNA CROSS-LINKING. **Max Kushner**, Juan Wang, Abdullah Ozer, Judhajeet Ray, John Lis, Warren Zipfel

1286-Pos Board B195
A MECHANISM OF COHESIN-DEPENDENT LOOP EXTRUSION ORGANIZES MAMMALIAN CHROMATIN STRUCTURE IN THE DEVELOPING EMBRYO. **Hugo B. Brandão**, Johanna Gassler, Maxim Imakaev, Ilya M. Flyamer, Sabrina Ladstätter, Wendy A. Bickmore, Jan-Michael Peters, Kikuë Tachibana-Konwalski, Leonid A. Mirny

1287-Pos Board B196
CHROMATIN FOLDING WITH DFRACT. **Alan Perez-Rathke**, Jie Liang

1288-Pos Board B197
IMPACT OF THE LINKER HISTONE H1 ON THE STRUCTURE AND DYNAMICS OF CHROMATIN FIBERS: A MOLECULAR DYNAMICS STUDY. **Francisco Rodriguez Ropero**, Jeff Wereszczynski

1289-Pos Board B198
CHARACTERIZING CHROMATIN GEOMETRY AND ITS DEPENDENCE ON LOCAL NUCLEOSOME ENVIRONMENT. **Stefjord Todolli**, Ondrej Maxian, Wilma K. Olson

1290-Pos Board B199
LINKER DNA LENGTH DEFINES THE STRUCTURE OF CHROMATIN FIBERS. **Thomas B. Brouwer**, Artur Kaczmarczyk, Nicolaas Hermans, Margherita Botto, John van Noort

1291-Pos Board B200
TRANSIENT ANOMALOUS SUBDIFFUSION MODEL OF DNA-BINDING SPECIES IN THE NUCLEUS. **Michael J. Saxton**

1292-Pos Board B201 **INTERNATIONAL TRAVEL AWARDEE**
DNA-BENDING NON-HISTONE PROTEINS CAN MAKE CHROMATIN IRREGULAR AND MORE COMPACT. **Gaurav Bajpai**, Mandar Inamdar, Dibyendu Das, Ranjith Padinhateeri

1293-Pos Board B202
SINGLE AND DOUBLE BOX HMGB PROTEINS DIFFERENTIALLY DESTABILIZE NUCLEOSOMES. **Micah J. McCauley**, Ran Huo, Nicole Becker, Molly Nelson Holte, Uma M. Muthurajan, Ioulia Rouzina, Karolin Luger, L. James Maher III, Nathan E. Israeloff, Mark C. Williams

1294-Pos Board B203 **CPOW TRAVEL AWARDEE**
DYNAMICS OF HISTONE H3 TAILS IN MONONUCLEOSOMES STUDIED BY SINGLE-MOLECULE FRET AND MD SIMULATIONS. **Kathrin Lehmann**, Ruihan Zhang, Suren Felekyan, Ralf Kühnemuth, Katalin Toth

1295-Pos Board B204
RANDOM WALK IN THE REALM OF CHROMATIN. Zhen Wah Tan, Enrico Guarnera, **Igor N. Berezovsky**

1296-Pos Board B205 **INTERNATIONAL TRAVEL AWARDEE**
HIGH-RESOLUTION MAPPING OF CHROMATIN DYNAMICS DURING TRANSCRIPTION IN MAMMARY TUMOR CELLS. **Haitham Ahmed Shaban**, Roman Barth, Kerstin Bystricky

1297-Pos Board B206
HU MULTIMERIZATION SHIFT CONTROLS NUCLEOID COMPCATION. **Michal Hammel**

Membrane Physical Chemistry II (Boards B207–B229)

1298-Pos Board B207
ELECTROSTATICS IN CLOSED SYSTEMS. **Joel A. Cohen**

1299-Pos Board B208
ISOTHERMAL TITRATION CALORIMETRY OF BE^{2+} AND CA^{2+} WITH PHOSPHATIDYLSERINE MODELS GUIDES ALL-ATOM FORCE FIELD DEVELOPMENT FOR LIPID-ION INTERACTIONS. **Alison Leonard**, Sergei Sukharev, Jeffery B. Klauda

1300-Pos Board B209
ASSOCIATION OF NEUROTRANSMITTERS WITH LIPID BILAYER MEMBRANES. **Brian Josey**, Frank Heinrich, Mathias Lösche

1301-Pos Board B210
MEMBRANE COMPOSITION DETERMINES MECHANISM OF MIN WAVE CYCLE. **Carsten Sönnichsen**, Weixiang Ye, Rubén Ahijado-Guzmán, Sirin Celicsoy

1302-Pos Board B211
THERMODYNAMIC STUDIES OF INDOMETHACIN ADSORPTION TO PHOSPHOLIPID MEMBRANES. **Grace Yin Stokes**

1303-Pos Board B212
CHANGES IN THE BIOPHYSICS OF LIPID MEMRBANES MEDIATED BY PEPTIDES AND DRUGS. Hannah M. Britt, Vian S. Ismail, Vanessa J. Lyne, Jackie A. Mosely, **John M. Sanderson**

1304-Pos Board B213
LIPID MEMBRANES AS A TARGET FOR REACTIVE ALDEHYDE ACTION. **Olga Jovanovic**, Mario Vazdar, Elena E. Pohl

1305-Pos Board B214
THERMODYNAMIC AND MORPHOLOGICAL PROPERTIES OF VIOLACEIN REGULATED BY THE LIPID COMPOSITION OF CELLULAR MEMBRANE MODELS AT THE AIR-WATER INTERFACE. Karine D. Souza, Katia R. Perez, Nelson Duran, Gisele Z. Justo, **Luciano Caseli**

1306-Pos Board B215
RESVERATROL PROTECTS MEMBRANES FROM PLA1 AND PLA2 HYDROLYTIC ATTACK. Yun Luo, Qinqin Fei, Wesley M. Botello-Smith, David Kent, Abdelaziz Alsamarah, Payal Chatterjee, **Maria Lambros**

1307-Pos Board B216
1,6-HEXANEDIOL, WHICH IS USED TO DISRUPT PROTEIN-RICH LIQUID DROPLETS IN THE CELL CYTOPLASM, DOES NOT DISRUPT MODEL CELL MEMBRANES. **Catherine Chang**, Caitlin E. Cornell, Sarah L. Keller

1308-Pos Board B217
CYCLOSPORINE A DEMONSTRATES BILAYER MODIFICATION WITH SLOW KINETICS. **Hanan A. Baker**, Thasin Peyear, Olaf S. Andersen

1309-Pos Board B218
SILDENAFIL AND TADALAFIL AFFECT ION CHANNELS FORMED BY ANTIMICROBIAL PEPTIDES VIA MEMBRANE DIPOLE POTENTIAL. Anastasiia A. Zakharova, Svetlana S. Efimova, Daria A. Khaleneva, **Olga S. Ostroumova**

1310-Pos Board B219
GEOMETRIC SHAPE OF LIPIDS VERSUS MOLECULAR INTERACTIONS IN MEMBRANE PORE FORMATION. **Neha Awasthi**

1311-Pos Board B220
LADDERANE PHOSPHOLIPIDS FORM DENSE MEMBRANES WITH LOW PROTON PERMEABILITY. **Frank R. Moss**, Steven R. Shuken, Jaron A. M. Mercer, Carolyn M. Cohen, Noah Z. Burns, Steven G. Boxer

1312-Pos Board B221
ENERGY LANDSCAPE OF MEMBRANE DEFORMATIONS PREDICTS MECHANISM OF PORE FORMATION BY ANTIMICROBIAL PEPTIDES. **Sergey A. Akimov**, Oleg V. Kondrashov, Timur R. Galimzyanov, Irene Jiménez-Munguía, Veronika V. Aleksandrova, Peter I. Kuzmin, Oleg V. Batishchev

1313-Pos Board B222 **INTERNATIONAL TRAVEL AWARDEE**
EFFECTS OF TPPS2A-PHOTOSENSITIZATION LYSOSOMAL MEMBRANES. **Tayana M. Tsubone**, Rosangela Itri

1314-Pos Board B223
INTERFACIAL EFFECTS DOMINATE ION PERMEATION THROUGH MEMBRANE CHANNELS IN LOW IONIC STRENGTH SOLUTIONS. Antonio Alcaraz, M. Lidón López, María Queralt-Martín, **Vicente M. Aguilella**

1315-Pos Board B224
WATER PERMEABILITY ACROSS THE DROPLET BILAYER REVEALS INTERACTION BETWEEN CHOLESTEROL AND POLYUNSATURATED LIPIDS. **Sunghee Lee**

1316-Pos Board B225
SOLVATOCHROMIC PROPERTY IN LIPID BILAYER INTERPHASES EVALUATED FROM THE DECONVOLUTION OF TIME RESOLVED EMISSION SPECTRUM OF LAURDAN. **Nozomi Watanabe**, Thomas K.M. Nyholm, J. Peter Slotte, Keishi Suga, Hiroshi Umakoshi

1317-Pos Board B226
CONTROL OF IONIC AND MOLECULAR TRANSPORT THROUGH ARTIFICIAL LIPID MEMBRANES CONTAINING PHOTOPOLYMERIZABLE LIPIDS WITH APPLICABILITY TO DRUG DELIVERY. **Gamid Abatchev**, Caitlin Sall, Daniel Prather, Karsten Wake, Daniel Fologea

1318-Pos Board B227
MEMBRANE LEAKAGE: FURTHER INSIGHT BY ADVANCED STATISTICAL ANALYSIS OF VESICLE LEAKAGE. Stefan Braun, Johannes Schnur, Anja Stulz, Heiko H. Heerklotz, **Maria Hoernke**

1319-Pos Board B228
OXYSTEROL TRANSLOCATION THROUGH LIPID BILAYERS. **Waldemar Kulig**, Heikki Mikkolainen, Agnieszka Olzynska, Piotr Jurkiewicz, Lukasz Cwiklik, Tomasz Rog, Martin Hof, Pavel Jungwirth, Ilpo Vattulainen

1320-Pos Board B229
THEORETICAL AND COMPUTATIONAL INVESTIGATIONS INTO LIPID BILAYER PERMEATION OF DRUGS. **Sunny Hwang**, James C. Gumbart

Membrane Active Peptides and Toxins I (Boards B230–B257)

1321-Pos Board B230
SCREENING OF MEDICINES FOR MALARIA VENTURE'S PATHOGEN BOX FOR CYTOTOXICITY USING A GRAMICIDIN-BASED FLUORESCENCE ASSAY. **Thasin Peyear**, Olaf S. Andersen

1322-Pos Board B231
INTERACTION OF TOXINS AND PEPTIDES WITH LIPID MEMBRANES STUDIED ON A MICROFLUIDIC DEVICE. **Simon Bachler**, Patrick Drücker, Alex T. Müller, Céline Del Don, Eduard B. Babiychuk, Gisbert Schneider, Annette Draeger, Petra S. Dittrich

1323-Pos Board B232
1/F NOISE IN THE ANTHRAX TOXIN CHANNEL. **Goli Yamini**, Nnanya Kalu, Sanaz Momben Abolfath, Ekaterina M. Nestorovich

1324-Pos Board B233
CRYO-EM STRUCTURE OF THE ANTHRAX TOXIN PROTECTIVE ANTIGEN CHANNEL BOUND TO LETHAL FACTOR. **Nathan J. Hardenbrook**, Shiheng Liu, Kang Zhou, Jiansen Jiang, Z. Hong Zhou, Bryan Krantz

1325-Pos Board B234
ELUCIDATING THE UNFOLDING STEP IN THE MECHANISM OF PROTEIN TRANSLOCATION USING ANTHRAX TOXIN. **Koyel J. Ghosal**, Bryan A. Krantz

1326-Pos Board B235
CELLULAR ENTRY OF DIPHTHERIA TOXIN DOES NOT REQUIRE FORMATION OF THE OPEN-CHANNEL STATE BY ITS TRANSLOCATION DOMAIN. Mykola V. Rodnin, Mauricio Vargas-Uribe, **Alexey S. Ladokhin**

1327-Pos Board B236
STUDYING LIPID DYNAMICS DUE TO LISTERIOLYSIN O BINDING AND PORE FORMATION ON ARTIFICIAL PHOSPHOLIPID MEMBRANE SYSTEMS. **Ilanila Ilangumaran Ponmalar**, Ganapathy K. Ayappa, Jaydeep K. Basu

1328-Pos Board B237 **INTERNATIONAL TRAVEL AWARDEE**
UNDERSTANDING THE PORE-FORMING MECHANISM OF PEPTIDES DERIVED FROM THE N-TERMINUS OF STICHOLYSIN. **Haydee Mesa Galloso**, Uris Ros, Pedro A. Valiente, D. Peter Tieleman

1329-Pos Board B238
ARGININE CONTRIBUTIONS TO THE MEMBRANE-ACTIVE PROPERTIES OF AN AMPHITROPIC PEPTIDE FROM THE CYAA TOXIN TRANSLOCATION REGION. **Alexis Voegele**, Nicolas Sapay, Daniel Ladant, Alexandre Chenal

1330-Pos Board B239
MEMBRANE ACTIVITY OF THE FUNGAL PEPTIDE TOXIN CANDIDALYSIN. **Christian Nehls**, Julia Wernecke, Laura Paulowski, Mareike Lewke, Helena S. Fabritz, Julian R. Naglik, Bernhard Hube, Thomas Gutsmann

1331-Pos Board B240 **EDUCATION TRAVEL AWARDEE**
LYSENIN CHANNEL RECONSTITUTION INTO UNSUPPORTED DROPLET INTERFACE BILAYERS. **Christopher A. Thomas**, Devon Richtsmeier, Aaron Smith, Peter Mullner, Daniel Fologea

1332-Pos Board B241
ATP AND AMP RESHAPE THE ENERGY LANDSCAPE OF VOLTAGE-GATED LYSENIN CHANNELS IN A CHARGE AND CONCENTRATION DEPENDENT MANNER. **Daniel Prather**, Sheenah Lynn Bryant, Nisha Shrestha, K. Summer Ware, Andy Bogard, Philip Belzeski, Daniel Fologea

1333-Pos Board B242
BIOPHYSICAL PROPERTIES OF LYSENIN CHANNELS. **Daniel Fologea**

1334-Pos Board B243
INHIBITION OF BACTERIAL TOXIN ACTIVITY USING RECEPTOR-BASED PEPTIDES. **Eric Krueger**, Shannon Hayes, Shailagne Yutuc, Angela C. Brown

1335-Pos Board B244 **EDUCATION TRAVEL AWARDEE**
A NOVEL MEMBRANE PEPTIDE THAT INHIBITS CELL MIGRATION BY ACTIVATION OF THE RECEPTOR TYROSINE KINASE EPHA2. **Justin M. Westerfield**, Daiane S. Alves, Xiaojun Shi, Vanessa P. Nguyen, Robert H. Pullen III, Katherine M. Stefanski, Kristen Booth, Jennifer Morrell-Falvey, Bing-Cheng Wang, Steven M. Abel, Adam W. Smith, Francisco N. Barrera

1336-Pos Board B245
EBOLA VIRUS DELTA-PEPTIDE ACTS AS AN ENTEROTOXIC VIROPORIN IN VIVO. **Shantanu Guha**, Lilia Melnik, Robert F. Garry, William C. Wimley

1337-Pos Board B246
PYROGLUTAMINATED ABETA-(3-42) ENHANCES AGGREGATION OF ABETA-PEPTIDE ON NEURONAL MEMBRANES AT PHYSIOLOGICAL CONCENTRATIONS: A FCS ANALYSIS. Yoshiaki Yano, An Takeno, **Katsumi Matsuzaki**

1338-Pos Board B247
TOWARDS A NANOSCALE DESCRIPTION OF THE INTERACTIONS BETWEEN AMYLOID PEPTIDE AB1-42 AND MUTANTS WITH MEMBRANES. **Mehdi Azouz**, Christophe Cullin, Michel Lafleur, Sophie Lecomte

1339-Pos Board B248 **EDUCATION TRAVEL AWARDEE**
INSERTION MECHANISM INTO THE LIPID BILAYER OF THE PH SENSITIVE ATRAM PEPTIDE AND ITS THERAPEUTIC PROSPECTS. **Vanessa P. Nguyen**, Stephen J. Kennel, Jonathan S. Wall, Francisco N. Barrera

1340-Pos Board B249
USE OF SPONTANEOUS MEMBRANE TRANSLOCATING PEPTIDE FOR CYTOSOLIC DELIVERY OF BIOLOGICALLY ACTIVE POLAR PEPTIDE. **Jenisha Ghimire**, Taylor Fuselier, William C. Wimley

1341-Pos Board B250
LIPOSOME DELIVERY SYSTEM OF ANTIMICROBIAL PEPTIDES AGAINST HUANGLONGBING (HLB) CITRUS DISEASE. **Jeanette C. Velasquez Guzman**, Supratim Basu, Roel Rabara, Loan K. Huynh, Gargi C. Basu, Hau B. Nguyen, Goutam Gupta

1342-Pos Board B251
USING PH SENSITIVE PEPTIDES FOR THE ENDOSOMAL RELEASE OF ANTIBODIES. **Eric Wu**, Yilin Wang, Kalina Hristova, William Wimley

1343-Pos Board B252
SYNTHETIC MOLECULAR EVOLUTION OF HYBRID CELL PENETRATING PEPTIDES THAT EFFICIENTLY DELIVER PEPTIDE AND PEPTIDE NUCLEIC ACID CARGOES TO CELLS. **William Kauffman**, William Wimley

1344-Pos Board B253
DISSECTING DRUG PHYSICO-CHEMICAL PROFILES AS THEY RELATE TO THEIR BILAYER MODIFYING POTENCY. **Radda Rusinova**, Roger E. Koeppe, II, Olaf S. Andersen

1345-Pos Board B254
CONTROL OF CELL-SELECTIVE ACTIVITY OF MEMBRANE-ACTIVE POLYLEUCINE-BASED PEPTIDES USING DATABASE-GUIDED HIGH-THROUGHPUT SCREENING. **Charles H. Chen**, Charles G. Starr, Shantanu Guha, Jochen Bürck, Anne S. Ulrich, William C. Wimley, Martin B. Ulmschneider

1346-Pos Board B255
MODELING OF PEPTIDE FOLDING AND TRANSLOCATION ACROSS MEMBRANES. **Andrei L. Lomize**, Irina Pogozheva

1347-Pos Board B256
CELL-PENETRATING PEPTIDE FOR TRANSCELLULAR TRANSPORT: THE EFFECT OF PHYSICO-CHEMICAL PROPERTIES ON PERMEABILITY. **Alexander Komin**, Ran Lin, Honggang Cui, Peter C. Searson, Kalina Hristova

1348-Pos Board B257
CELL-PENETRATING PEPTIDES WITH ANTIMICROBIAL, TRANSFECTION AND TRANSDUCTION ACTIVITIES. Justine Wolf, Louic Vermeer, Arnaud Marquette, Morane Lointier, Jesus Raya, Philippe Bertani, Dennis Wilkens Juhl, Antoine Kichler, Martin Gotthardt, Max Wittmann, Regine Süss, Loic Hamon, Anne Galy, David Fenard, **Burkhard Bechinger**

Membrane Structure II (Boards B258–B287)

1349-Pos Board B258
SOLID-STATE ^{2}H NMR INVESTIGATIONS OF VIRAL M2 ION CHANNEL DRUGS. **Soohyun Lee**, Rami Musharrafieh, Xiaolin Xu, Andrey V. Struts, Jun Wang, Trivikram R. Molugu, Michael F. Brown

1350-Pos Board B259
INVESTIGATION OF PHOTOINDUCED OLIGOMERIZATION OF RHODOPSIN BY NATIVE MASS SPECTROMETRY. **Steven D.E. Fried**, William C. Resager, Suchithranga M.D.C. Perera, Michael F. Brown, Michael T. Marty

1351-Pos Board B260
SIMULATING GPCRS IN MINIMAL MEMBRANE MIXTURES. **Edward R. Lyman**, Lewen Yang, Anne Robinson, Noah Malmstadt, Ilya Levental

1352-Pos Board B261
QUANTIFYING NANOSCALE MORPHOLOGICAL FEATURES OF THE PRIMARY CILIUM MEMBRANE USING SUPERRESOLUTION FLUORESCENCE MICROSCOPY. **Joshua Yoon**, Lucien Weiss, Ljiljana Milenkovic, Tim Stearns, W. E. Moerner

1353-Pos Board B262
METHYLENE VOLUMES IN MONOGLYCERIDE BILAYERS ARE LARGER THAN IN LIQUID ALKANES. **Brian C. Seper**, Anthony Ko, Aaron Abma, Andrew D. Folkerts, Stephanie Tristram-Nagle, Paul E. Harper

1354-Pos Board B263
MOLECULAR DYNAMICS SIMULATIONS OF *STRATUM CORNEUM* MODEL MEMBRANES. **Eric Wang**, Jeffery Klauda

1355-Pos Board B264
MOLECULAR DYNAMICS MODELING OF PSEUDOMONAS AERUGINOSA BIOLOGICAL MEMBRANE. **Ao Li**, Xin Yong

1356-Pos Board B265
ATOMISTIC INSIGHTS INTO THE UNIQUE ROLES OF LIPOPOLYSACCHARIDE MODIFICATIONS IN STRENGTHENING BACTERIAL OUTER MEMBRANE DEFENSES. **Amy Rice**, Jeff Wereszczynski

1357-Pos Board B266
EXPLORATION OF LIPID COMPOSITION IN CIRCULARIZED NANODISCS. **Manuel Castro**, James M. Hutchinson, Charles R. Sanders

1358-Pos Board B267
NANOSCALE STRUCTURE OF LIPID BILAYERS REVEALED BY IN-SILICO AND EXPERIMENTAL SMALL ANGLE NEUTRON SCATTERING. **Mitchell Dorrell**, Fred Heberle, John Katsaras, Ed Lyman, Alexander Sodt

1359-Pos Board B268
LIPOPOLYSACCHARIDE, STRUCTURE AND ASSEMBLY OF BACTERIAL OUTER MEMBRANES. **Boyan Bonev**

1360-Pos Board B269
MAGAININS IN A GRAM NEGATIVE BACTERIAL MEMBRANE MIMIC: A STRUCTURAL ANALYSIS AT SUB NANOMETER RESOLUTION. **Michael Pachler**

1361-Pos Board B270
COMPLEX BIOLOGICAL MEMBRANES: CAPTURING BILAYER PROPERTIES *IN SILICO* AT DIFFERENT COMPOSITIONAL COMPLEXITY. **Helgi I. Ingolfsson**, Tim S. Carpenter, Felice C. Lightstone

1362-Pos Board B271 **INTERNATIONAL TRAVEL AWARDEE**
THE MOLECULAR STRUCTURE OF HUMAN RED BLOOD CELL MEMBRANES FROM HIGHLY ORIENTED, SOLID SUPPORTED MULTI-LAMELLAR MEMBRANES. **Sebastian Himbert**, Rick J. Alsop, Maikel C. Rheinstädter

1363-Pos Board B272
ASSEMBLY OF CELLULAR ENVELOPES–A STEP TOWARD CELL-SCALE SIMULATIONS. **Eric Shinn**, Emad Tajkhorshid, Joshua Vermaas

1364-Pos Board B273
MOLECULAR MECHANISM OF CENTRAL NERVOUS SYSTEM MYELINOGENESIS: IN VITRO SELF-ASSEMBLY OF MYELIN MEMBRANE LIPID AND PROTEIN STRUCTURES. **Andrew V. Molina**, Ka Yee C. Lee

1365-Pos Board B274
THE BIOPHYSICAL AND BIOCHEMICAL POLARIZATION OF THE EPITHELIAL PLASMA MEMBRANE. **Allison Skinkle**, Barbara Diaz-Rohrer, Ilya Levental

1366-Pos Board B275
LIQUID DISORDERED AND LIQUID ORDERED NANODOMAINS PRESENT IN THE POPC-STEROL MODEL SYSTEM. **Fernando Favela-Rosales**, Iván Ortega-Blake, Jorge Hernández-Cobos

1367-Pos Board B276
GANGLIOSIDES AND LYSOLIPIDS REGULATE THE SIZE OF MEMBRANE RAFTS DEPENDING ON THE MEMBRANE COMPOSITION. Anna S. Lyushnyak, Vladimir D. Krasnobaev, Timur R. Galimzyanov, Sergey A. Akimov, **Oleg V. Batishchev**

1368-Pos Board B277
ROLE OF MEMBRANE CHOLESTEROL IN THE APOPTOSIS INDUCED BY GINSENOSIDE RH2, A STEROID SAPONIN. **Sandrine L. Verstraeten**

1369-Pos Board B278
STRUCTURAL TRANSITIONS IN CERAMIDE CUBIC PHASES DURING FORMATION OF THE HUMAN SKIN BARRIER. Christian Wennberg, Magnus Lundborg, Ali Narangifard, Lars Norlén, **Erik Lindahl**

1370-Pos Board B279
PLANT POLYPHENOLS INDUCED THE POLYMORPHIC PHASE TRANSITION OF MEMBRANE LIPIDS. **Svetlana S. Efimova**, Olga S. Ostroumova

1371-Pos Board B280
HOMEOSTATIC REMODELING OF MAMMALIAN MEMBRANES IN RESPONSE TO DIETARY LIPID PERTURBATIONS IS ESSENTIAL FOR CELLULAR FITNESS. **Kandice R. Levental**, Eric Malmberg, Ilya Levental

1372-Pos Board B281
PREDICTING SPECTRAL PROPERTIES OF POLARITY SENSITIVE DYES WITH QM/MM SIMULATION. **Swapnil Baral**, Bjorn Baumeier, Edward Lyman

1373-Pos Board B282
HUMECTANTS' INFLUENCE ON THE NANOSTRUCTURE AND THERMOTROPIC BEHAVIOR OF FULLY HYDRATED PHOSPHOLIPIDS. **Ngai Ying Denise Li**, Michael Rappolt

1374-Pos Board B283
DUMBBELL-SHAPED JANUS DENDRIMERSOMES EXHIBIT LAMELLAR TO SPONGE PHASE TRANSITIONS. **Samantha Wilner**, Qi Xiao, Virgil Percec, Tobias Baumgart

1375-Pos Board B284
ELECTROSTATICALLY CONTROLLED DOMAIN SIZE AND ALIGNMENT IN PHASE SEPARATED LIPID MULTILAYERS. **Suho Lee**, Yuno Lee, Ji Hyun Bak, Dae-Woong Jeong, Jae-heui Lee, Hyun Hwi Lee, Changbong Hyeon, Myung Chul Choi

1376-Pos Board B285
EFFECT OF PEG, LIPID COMPOSITION AND FORMULATION ON VESICLE LAMELLARITY: A SMALL ANGLE NEUTRON SCATTERING STUDY. **Valeria Nele**

1377-Pos Board B286
CELL-LIKE MECHANICAL RESPONSE IN PASSIVE PLASMA MEMBRANE VESICLES. **Jan Steinkühler**, Tripta Bhatia, Iztok Urbančič, Erdinc Sezgin, Martin Westermann, Reinhard Lipowsky, Rumiana Dimova

1378-Pos Board B287
STRUCTURAL AND MECHANICAL EFFECTS OF CALCIUM ON THE LIPID BILAYER. **Nicholas E. Charron**, Pei Yin Yang, Huey W. Huang

General Protein-Lipid Interactions I (Boards B288–B311)

1379-Pos Board B288
THEORETICAL AND COMPUTATIONAL MODELING OF THE RUPTURE FORCE DISTRIBUTION IN PEPTIDE LIPID INTERACTIONS. Milica Utjesanovic, Kanokporn Chattrakun, Krishna Sigdel, Gavin M. King, **Ioan Kosztin**

1380-Pos Board B289
SOFT MATTER INFLUENCES ON G-PROTEIN-COUPLED-RECEPTOR ACTIVATION PROBED BY FTIR AND UV-VISIBLE SPECTROSCOPY.
Michael F. Brown, Blake Mertz, Eglof Ritter

1381-Pos Board B290
THE GPCR OPSIN TRANSLOCATES LIPIDS VIA A DYNAMIC MECHANISM SPECIFIED BY MARKOV STATE MODEL ANALYSIS OF MOLECULAR DYNAMICS TRAJECTORIES. Giulia Morra, Asghar M. Razavi, Kalpana Pandey, Harel Weinstein, Anant K. Menon, **George Khelashvili**

1382-Pos Board B291
G-PROTEIN-COUPLED RECEPTOR ACTIVATION THROUGH MEMBRANE DEFORMATION. **Nipuna Weerasinghe**, Steven D. Fried, Suchithranga M.D.C. Perera, Anna R. Eitel, Udeep Chawla, Trivikram R. Molugu, Andrey V. Struts, Michael F. Brown

1383-Pos Board B292
STATE DEPENDENT INTERACTIONS OF LIPIDS WITH GPCR REVEALED BY MD SIMULATIONS USING IN VIVO-MIMETIC MEMBRANES. **Wanling Song**, Mark SP Sansom

1384-Pos Board B293
CHOLESTEROL INTERACTIONS WITH THE A2A ADENOSINE RECEPTOR: ALL-ATOM, COARSE-GRAINED, AND METADYNAMICS SIMULATIONS.
Lewen Yang

1385-Pos Board B294
INVESTIGATING CHOLESTEROL DYNAMICS AND INTERACTIONS WITH THE DOPAMINE TRANSPORTER USING A MEMBRANE MIMETIC MODEL. **Muyun Lihan**, Emad Tajkhorshid

1386-Pos Board B295
UNDERSTANDING GRP1 PH DOMAIN-LIPID INTERACTION USING AN ACCELERATED MEMBRANE MODELUNDERSTANDING GRP1 PH DOMAIN-LIPID INTERACTION USING AN ACCELERATED MEMBRANE MODEL. **Shashank Pant**, Emad Tajkhorshid

1387-Pos Board B296
MULTIVALENT MEMBRANE LIPID TARGETING BY THE CALCIUM-INDEPENDENT C2A DOMAIN OF SLP-4/GRANUPHILIN. Abena Watson-Siriboe, AMI Alnaas, Jack Henderson, Sherleen Tran, J. Ryan Osterberg, Nara Lee Chon, Tatyana Lyakhova, Julianna Oviedo, Hai Lin, **Jefferson Knight**

1388-Pos Board B297
THE MEMBRANE TETHER OF THE RAS SIGNALING PROTEIN DRIVES NANOCLUSTERING BY FLY-CASTING FOR ANIONIC LIPIDS. **Chris Neale**, Angel García

1389-Pos Board B298
SPECIFIC COATING OF CELLULAR LIPID DROPLETS BY A GIANT AND REPETITIVE AMPHIPATHIC HELIX. Manuel Giménez Andrés, Sandra Antoine-Bally, Marco M. Manni, Cathy Jackson, Bruno Antonny, **Alenka Copic**

1390-Pos Board B299
SINGLE MOLECULE PARALLAX FLUORESCENCE QUENCHING MEASUREMENTS REVEAL C2 DOMAIN COOPERATIVITY IN THE MEMBRANE PENETRATION ACTIVITY OF OTOFERLIN. **Shauna C. Otto**, Nicole J. Hams, Weihong Qiu, Colin P. Johnson

1391-Pos Board B300
MEMBRANE BINDING AND DIMERIZATION OF VINCULIN TAIL. **Lukas Braun**, Ingmar Schön, Viola Vogel

1392-Pos Board B301
COOPERATIVITY IN MEMBRANE BINDING BY C2AB TANDEM DOMAINS OF SYNAPTOTAGMIN-7 AND SYNAPTOTAGMIN-1: A COMPARATIVE STUDY. **Hai Tran**, Lauren Anderson, Jefferson Knight

1393-Pos Board B302
TOWARD UNDERSTANDING THE MECHANISM OF CALCIUM-INHIBITED MEMBRANE BINDING OF THE SLP-2 C2A DOMAIN. **Timothy Spotts**, Sam Willstead, Abena Watson-Siriboe, Jefferson Knight

1394-Pos Board B303
EXPLORING FERROCYANIDE-MEDIATED PHOTOREDUCTION MECHANICS OF CYTOCHROME C IN THE PRESENCE AND ABSENCE OF CARDIOLIPIN. **Dmitry Malyshka**, Reinhard Schweitzer-Stenner

1395-Pos Board B304
LIPID BINDING PREFERENCES OF THE ALTERNATIVELY TRANSLATED REGION OF PTEN-LONG. **Anne-Marie Bryant**, Karin Plante, Alonzo Ross, Gericke Arne

1396-Pos Board B305
STRUCTURAL AND ENERGETIC DETAILS OF THE BINDING OF PTEN TO PHOSPHATIDYLINOSITOL PHOSPHATE-CONTAINING MEMBRANES THROUGH MOLECULAR SIMULATIONS. **Fiona B. Naughton**, Antreas C. Kalli, Mark SP Sansom

1397-Pos Board B306
THE ROLE OF LIPID CHEMISTRY IN ALPHA-SYNUCLEIN MEMBRANE BINDING AND AGGREGATION. **Sandra Rocha**, Pernilla Wittung-Stafshede

1398-Pos Board B307 **EDUCATION TRAVEL AWARDEE**
MEMBRANE-MEDIATED GRAMICIDIN INTERACTIONS DETERMINE PEPTIDE CLUSTERING AND ENHANCE CHANNEL FORMATION. **Oleg V. Kondrashov**, Timur R. Galimzyanov, Sergey A. Akimov, Yuri N. Antonenko

1399-Pos Board B308
CY3/CY5 FLUOROPHORE-LIPID INTERACTIONS AND THEIR EFFECTS ON MEMBRANE PROTEIN DYNAMICS. **Kin Lam**, Emad Tajkhorshid

1400-Pos Board B309
THE INTERACTION OF AMPHIPATHIC A-HELIX BUNDLE PROTEINS WITH NEUTRAL LIPID DROPLETS. Mona Mirheydari, Elizabeth K. Mann, **Edgar E. Kooijman**

1401-Pos Board B310
THE MEMBRANE MATTERS: SENSITIVITY OF TIM PROTEINS TO BULK MEMBRANE PROPERTIES IN BINDING PHOSPHATIDYLSERINE. **Daniel Kerr**, Zhiliang Gong, Gregory T. Tietjen, Adrienne Luoma, Charles L. Dulberger, Erin J. Adams, Ka Yee C. Lee

1402-Pos Board B311
EPS15 FORMS MEMBRANE BOUND NETWORKS THAT PROMOTE LOCALIZED ASSEMBLY OF THE CLATHRIN COAT. **Grace Kago**, Justin Houser, Wilton T. Snead, Wade F. Zeno, Carl C. Hayden, Eileen M. Lafer, Jeanne C. Stachowiak

Exocytosis and Endocytosis (Boards B312–B339)

1403-Pos Board B312
DRUG DELIVERY PLATFORM BASED ON AMPHIPHILIC POLY-N-VINYL-2-PYRROLIDONE: THE ROLE OF SIZE DISTRIBUTION IN CELLULAR UPTAKE. Anna L. Luss, Camilla L. Andersen, Irene G. Benito, Rafael C. Marzo, Zaida H. Medina, Martin B. Rosenlund, Sven B. Romme, Pavel P. Kulikov, Cristian P. Pennisi, Mikhail I. Shtilman, **Leonid Gurevich**

1404-Pos Board B313
A HOLISTIC APPROACH TO STUDY INTERACTIONS BETWEEN NANOPARTICLES/VESICLES/VIRUSES AND SUPPORTED LIPID BILAYERS USING QCM-D, DUAL-WAVELENGTH SPR, AND NEUTRON REFLECTOMETRY. **Antonius Armanious**, Yuri Gerelli, Björn Agnarsson, Hudson Pace, Samantha Micciulla, Emanuel Schneck, Fredrik Höök

1405-Pos Board B314
MULTIVALENT INHIBITORS PREVENTING UPTAKE OF VIRUS-LIKE PARTICLES. Ivo Kabelka, Radim Brožek, **Robert Vacha**

1406-Pos Board B315
NEW, NON-AXISYMMETRIC MODES OF DEFORMATION IN ENDOCYTOSIS. **Yannick A. D. Omar**, Amaresh Sahu, Roger A. Sauer, Kranthi K. Mandadapu

1407-Pos Board B316
LOW AFFINITY RECEPTORS CAN ENTER ENDOCYTIC PITS BY BINDING TO HIGH AFFINITY RECEPTORS. **Chi Zhao**, Andre C.M. DeGroot, Jeanne C. Stachowiak

1408-Pos Board B317
MODELING THE FLAT TO CURVED TRANSITION DURING CLATHRIN MEDIATED ENDOCYTOSIS. **Felix Frey**, Delia Bucher, Kem A. Sochacki, Susann Kummer, Hans-Georg Kräusslich, Karl Rohr, Justin W. Taraska, Steeve Boulant, Ulrich S. Schwarz

1409-Pos Board B318 **CPOW TRAVEL AWARDEE**
CLATHRIN COAT CONTROLS VESICLE ACIDIFICATION BY BLOCKING VACUOLAR ATPASE ACTIVITY. **Zohreh Farsi**, Sindhuja Gowrisankaran, Matija Krunic, Burkhard Rammner, Andrew Woehler, Carsten Mim, Reinhard Jahn, Ira Milosevic

1410-Pos Board B319
ROLE OF ACTIN AND MEMBRANE TENSION IN REGULATING MODES OF EXOCYTOSIS. **Julian Hassinger**, David Drubin, Padmini Rangamani

1411-Pos Board B320
FORCE GENERATION BY CURVATURE-GENERATING MOLECULES IN CELLS WITH TURGOR. **Jonah K. Scher-Zagier**

1412-Pos Board B321
MEMBRANE TENSION DICTATES THE SPATIOTEMPORAL HETEROGENEITY OF ENDOCYTIC CLATHRIN COAT DYNAMICS IN CELLS. **Nathan M. Willy**, Joshua Ferguson, Scott Huber, Spencer Heidotting, Esra Aygun, Sarah Wurm, Ezekiel Johnston-Halperin, Michael Poirier, Comert Kural

1413-Pos Board B322
ENERGETICS AND STABILITY OF NECK FORMATION IN YEAST AND MAMMALIAN ENDOCYTOSIS. **Ritvik Vasan**, Julian Hassinger, Haleh Alimohamadi, David Drubin, Padmini Rangamani

1414-Pos Board B323
HIGHLY CHARGED MEMBRANE TEMPLATES FOR STUDYING THE MECHANO-CHEMISTRY OF DYNAMIN 1. **Javier Vera Lillo**, Anna V Shnyrova, Vadim A. Frolov

1415-Pos Board B324
THE FERA DOMAIN IS A MEMBRANE-BINDING FOUR-HELIX BUNDLE EMBEDDED WITHIN FERLIN MEMBRANE FUSION PROTEINS. **Faraz Harsini**, Sukanya Chebrolu, Anne Rice, Roger Bryan Sutton

1416-Pos Board B325
MUNC18-1 CATALYZES SNARE ASSEMBLY BY TEMPLATING SNARE FOLDING AND ASSOCIATION. **Yongli Zhang**

1417-Pos Board B326 **EDUCATION TRAVEL AWARDEE**
CONFORMATIONAL CHANGES OF SNAP-25 DUE TO ENVIRONMENTAL CONDITIONS. **Ani C. Nichol**, Matt C. Pettit, Walker L. Johnson, Wade J. Whitt, Emily Campbell Whitt, Skyler F. Nichol, Robert E. Coffman, Dixon J. Woodbury

1418-Pos Board B327
SINGLE SNARE COMPLEX RECYCLING BY NSF. **Ucheor Brandon Choi**, Minglei Zhao, Kristopher I. White, Qiangjun Zhou, Richard Pfuetzner, Axel T. Brunger

1419-Pos Board B328
DILATION OF FUSION PORES BY SYNAPTOTAGMIN-1 C2AB DOMAINS. Zhenyong Wu, Lu Ma, Yongli Zhang, **Erdem Karatekin**

1420-Pos Board B329
STRUCTURAL INSIGHT INTO THE INTERACTION OF SYNAPTOTAGMIN-1 AND SNARE COMPLEX ON LIPID BILAYER BY CRYO-ELECTRON MICROSCOPY. **Kirill Grushin**, Jing Wang, Jeff Coleman, James E. Rothman, Charles V. Sindelar, Shyam S. Krishnakumar

1421-Pos Board B330
THE SYNAPTOTAGMIN CALCIUM-BINDING LOOPS MODULATE THE RATE OF FUSION PORE EXPANSION. **Mounir Bendahmane**, Kevin P. Bohannon, Tejeshwar C. Rao, Schmidtke W. Michael, Prabhodh Abbineni, Alexandra H. Ranski, Mazdak M. Bradberry, Sherleen Tran, Nara L. Chon, Jefferson D. Knight, Hai Lin, Edwin R. Chapman, Arun Anantharam

1422-Pos Board B331
STRUCTURE-BASED ENHANCEMENT OF *GOSSYPIUM* SYNAPTOTAGMIN TO MODIFY TOLERANCE TO ENVIRONMENTAL STRESS. **Anthony A. Bui**, Faraz M. Harsini, Roger Bryan Sutton

1423-Pos Board B332
OPTICAL MONITORING OF INDIVIDUAL RELEASE SITES TESTS A NEW MECHANISM FOR SYNAPTIC DEPRESSION. **Hua Wen**, Paul Brehm

1424-Pos Board B333
EXO- AND ENDOCYTOSIS AT A RETINAL INHIBITORY SYNAPSE DURING CROSSOVER INHIBITION. **Marc A. Meadows**, Margaret Veruki, Espen Hartveit, Henrique von Gersdorff

1425-Pos Board B334
SINGLE MOLECULE FLUORESCENCE STUDIES REVEAL OTOFERLIN AS A MULTIVALENT SCAFFOLD LINKING SNARES AND CALCIUM CHANNELS FOR EXOCYTOSIS AT RIBBON SYNAPSES. **Colin P. Johnson**, Nicole Hams, Weihong Qiu

1426-Pos Board B335
COMPARISON OF DETERMINISTIC AND STOCHASTIC APPROACHES FOR CALCIUM DEPENDENT EXOCYTOSIS. **Victor Matveev**

1427-Pos Board B336
THE INTERPLAY OF DOPAMINE RECEPTORS IN THE PANCREATIC ISLET REGULATES HORMONE SECRETION. **Alessandro Ustione**, David W. Piston

1428-Pos Board B337
ULTRASTRUCTURAL AND FUNCTIONAL ANALYSIS OF WEIBEL-PALADE BODIES. James Streetley, Ana-Violeta Fonseca, Jack Turner, Nikolai I. Kiskin, **Tom Carter**, Peter Rosenthal

1429-Pos Board B338
DYNAMIN-1 RESTRAINS VESICULAR CATECHOLAMINE RELEASE TO A SUBQUANTAL MODE IN MAMMALIAN ADRENAL CHROMAFFIN CELLS. Qihui Wu, Quanfeng Zhang, Yinglin Li, Bin Liu, Xi Wu, Changhe Wang, Feipeng Zhu, **Zhuan Zhou**

1430-Pos Board B339
SECRETORY GRANULE LUMENAL PROTEINS HAVE HIGHLY LIMITED MOBILITY. **Prabhodh S. Abbineni**, Kevin P. Bohannon, Mary A. Bittner, Daniel Axelrod, Ronald W. Holz

Calcium Signaling I (Boards B340–B355)

1431-Pos Board B340
STORE-OPERATED CALCIUM ENTRY IN ADULT WILD TYPE VENTRICLE CARDIOMYOCYTES. Dmitry Grekhnyov, Konstantin Gusev, Vladimir Vigont, **Elena Kaznacheyeva**

1433-Pos Board B342
HELIX-HELIX CONTACTS BETWEEN THE ORAI1 PORE SEGMENT AND THE TM2/3 RING REGULATES STIM1-MEDIATED CRAC CHANNEL ACTIVATION. **Priscilla S.-W. Yeung**, Megumi Yamashita, Christopher E. Ing, Régis Pomès, Douglas M. Freymann, Murali Prakriya

1432-Pos Board B341
STIM1 FUNCTION IS CONTROLLED BY MULTIPLE CA^{2+} BINDING SITES IN ITS LUMINAL DOMAIN. **Aparna Gudlur**, Ana Eliza Zeraik, Nupura Hirve, Rajanikanth Vangipurapu, Andrey Bobkov, Guolin Ma, Sisi Zheng, Youjun Wang, Yubin Zhou, Elizabeth Komives, Patrick G. Hogan

1434-Pos Board B343
STIM PROTEINS CLUSTER ORAI1 CHANNELS AND MODULATE RECEPTOR-MEDIATED CALCIUM SIGNALS. **Robert M. Nwokonko**, Yandong Zhou, Xiangyu Cai, Natalia Loktionova, Mohamed Trebak, Donald L. Gill

1435-Pos Board B344
EVP4593 COMPOUND DECREASES ABNORMAL STORE-OPERATED CALCIUM ENTRY IN IPSCS-BASED MODEL OF HUNTINGTON'S DISEASE. **Vladimir Vigont**, Konstantin Gusev, Elena Kaznacheyeva

1436-Pos Board B345
INTERPLAY OF CRAC CHANNELS WITH CA^{2+} ACTIVATED K^{+} CHANNELS. **Adela Krizova**, Romana Schober, Sonja Lindinger, Carmen Butorac, Christoph Romanin, Isabella Derler

1437-Pos Board B346
CHARACTERIZATION OF THE CALCIUM RELEASE-ACTIVATED CALCIUM (CRAC) CHANNEL FROM THE HUMAN PATHOGEN *SCHISTOSOMA MANSONI*. **Ana Eliza Zeraik**, Aparna Gudlur, Ricardo DeMarco, Ana Paula U. Araujo, Patrick Hogan

1438-Pos Board B347
NO ROLE FOR ELEVATED INTRACELLULAR CALCIUM DURING MALARIA INVASION. **Viola Introini**, Alex J. Crick, Teresa Tiffert, Jurij Kotar, Yen-Chun Lin, Pietro Cicuta, Virgilio L. Lew

1439-Pos Board B348
EXPRESSION LEVEL OF STIM PROTEINS ALTER ELECTROPHYSIOLOGICAL PROPERTIES OF ENDOGENOUS CALCIUM CHANNELS. **Alexey V. Shalygin**, Dmitrii Kolesnikov, Anton Skopin, Anastasia Perevoznikova, Lyubov Glushankova, Elena V. Kaznacheyeva

1440-Pos Board B349
TUNING THE LATERAL RANGE OF L-TYPE CALCIUM CHANNEL-DEPENDENT CALCIUM SIGNALS IN DENDRITES OF HIPPOCAMPAL NEURONS. **William A. Sather**, Mark L. Dell'Acqua, Philip J. Dittmer

1441-Pos Board B350
STORE-OPERATED ION CHANNELS ARE ACTIVATED AFTER CHRONIC ER STRESS IN BETA CELLS. **Benjamin M. Thompson**, Suryakiran Vadrevu, Leslie Satin

1442-Pos Board B351
NEW FLUORESCENT TOOLS TO IDENTIFY STRESSED CELLS AND INTERROGATE SECOND MESSENGER SIGNALING IN NEURODEGENERATION. **Thomas Hughes**, Kevin Harlen

1443-Pos Board B352
PULSED RADIOFREQUENCY FOR CHRONIC PAIN: AN ELECTROPORATION MEDIATED CALCIUM SIGNALING PROCESS? **Borja Mercadal**, Rubén Vicente, Antoni Ivorra

1444-Pos Board B353
GCAMP CALCIUM IMAGING REVEALS KINETICS AND LOCATION OF MET CHANNELS IN MAMMALIAN SEMICIRCULAR CANAL HAIR CELLS. **Holly A. Holman**, Micah D. Frerck, Richard D. Rabbitt

1445-Pos Board B354
FAST DECAY VARIANTS OF RED FLUORESCENT GENETICALLY-ENCODED CALCIUM INDICATORS. **Silke Kerruth**, Catherine Coates, Katalin Török

1446-Pos Board B355
THE BRIGHT CALBRYTE 520 ENABLES THE PROBENECID-FREE INTRACELLULAR CALCIUM ASSAYS. **Qin Zhao**, Muhua Yang, Haitao Guo, Ruogu Peng, Jinfang Liao, Zhenjun Diwu

Intracellular Calcium Channels and Calcium Sparks and Waves II (Boards B356–B372)

1447-Pos Board B356
IMPROVED CALCIUM HANDLING IN HUMAN INDUCED PLURIPOTENT STEM CELL CARDIOMYOCYTES. **Daniel Blackwell**, Shan S. Parikh, Nieves Gomez-hurtado, Bjorn C. Knollmann

1448-Pos Board B357
TRPV4 INCREASES CARDIOMYOCYTE CALCIUM TRANSIENTS AND CONTRIBUTES TO CARDIAC DAMAGE FOLLOWING ISCHEMIA-REPERFUSION IN HEARTS OF AGED MICE. **Deborah Peana**, John L. Jones, Adam B. Veteto, Michelle D. Lambert, Timothy L. Domeier

1449-Pos Board B358
EARLY DIASTOLIC CA^{2+} SPARKS ALTER REPOLARIZATION RATE OF RABBIT CARDIOMYOCYTES. Priyanka Saxena, Godfrey Smith, **Niall Macquaide**

1450-Pos Board B359
RE-TRIGGERABILITY OF CA^{2+} SPARKS FOLLOWING EVOKED CA^{2+} RELEASE. **Ewan D. Fowler**, Cherrie HT Kong, Jules C. Hancox, Mark B. Cannell

1451-Pos Board B360
SUBCELLULAR CALCIUM EVENTS AND CALCIUM WAVES IN LEG SKELETAL MUSCLE FIBERS ISOLATED FROM THE HONEY BEE *APIS MELLIFERA*. Claude Collet, Cecilia Simut, Marianna Takacs, Laszlo Szabo, Peter Szentesi, **László Csernoch**

1452-Pos Board B361
THE FUNCTIONAL SIGNIFICANCE OF CARDIAC SERCA DIMERIZATION. **Elisa Bovo**, Siddharth Bhayani, Roman Nikolaienko, Daniel Kahn, Seth Robia, Aleksey Zima

1453-Pos Board B362
SARCOPLASMIC RETICULUM CALCIUM LEAK IN CARDIOMYOCYTES: A CONTRIBUTION OF TRPC1 CHANNELS. Azmi A. Ahmad, Chris Hunter, **Frank B. Sachse**

1454-Pos Board B363
DOWNREGULATION OF NCX AND RYR DRIVES CHANGES IN COMPLEMENTARY CHANNELS TO REGULATE CALCIUM TRANSIENTS IN CULTURED NEONATAL VENTRICULAR MYOCYTES. **Esteban Vazquez-Hidalgo**, Paul Paolini, Parag Katira

1455-Pos Board B364
PROTEIN PHOSPHATASE-1 MODULATES BASAL SPONTANEOUS BEATING RATE OF SINOATRIAL NODE CELLS (SANC). **Tatiana M. Vinogradova**, Ihor Zahanich, Yevgeniya O. Lukyanenko, Syevda Sirenko, Daniel R. Riordon, Kirill V. Tarasov, Yue Li, Alexey E. Lyashkov, Dongmei Yang, Edward G. Lakatta

1456-Pos Board B365
SPECIES DIFFERENCES OF CALCIUM CLOCK FUNCTIONS IN HUMAN, RABBIT AND MOUSE PACEMAKER CELLS RECAPITULATE SPECIES DIFFERENCES IN HEART RATE. **Syevda Sirenko**, Kenta Tsutsui, Bruce D. Ziman, Oliver J. Monfredi, Victor A. Maltsev, Edward G. Lakatta

1457-Pos Board B366
ACTION POTENTIAL SHORTENING PREVENTS ATRIAL CALCIUM ALTERNANS. **Giedrius Kanaporis**, Jaime DeSantiago, Zane M. Kalik, Kathrin Banach, Lothar A. Blatter

1458-Pos Board B367
CONNEXIN-43-HEMICHANNEL-MEDIATED ATP EFFLUX TRIGGERS ARRHYTHMOGENIC CA^{2+} WAVES VIA P2X PURINOCEPTOR CURRENT IN ATRIAL MYOCYTES. Joon-Chul Kim, Min-Jeong Son, Qui Anh Le, **Sun-Hee Woo**

1459-Pos Board B368
INTERCELLULAR ULTRAFAST CALCIUM WAVE VELOCITY AND PROPAGATION OF SPONTANEOUS ELECTRICAL ACTIVITY IN A7R5 CELLS AT PHYSIOLOGICAL TEMPERATURE. **Jairo C. Quijano**, Teddy Grand, Stephan Rohr, Jean Jacques Meister

1460-Pos Board B369
EXCITATION-CONTRACTION COUPLING IN HFPEF. **Peter Kilfoil**, Xin Yue, Rui Zhang, Ryan Solymani, Daniel Soetkamp, Eduardo Marbán, Joshua Goldhaber

1461-Pos Board B370
TRIGGER VERSUS SUBSTRATE: MULTI-SCALE CONSIDERATIONS FOR ARRHYTHMIA MODULATION BY PHARMACOLOGICAL ACTION. **Michael A. Colman**, Erick A. Perez Alday, Arun V. Holden, Al P. Benson

1462-Pos Board B371
CELLSPECKS: A SOFTWARE FOR AUTOMATED DETECTION AND ANALYSIS FOR CALCIUM CHANNELS IN LIVE CELLS. **Syed Islamuddin Shah**, Martin Smith, Ian Parker, Ghanim Ullah, Angelo Demuro

1463-Pos Board B372
RELEVANCE OF INSP3 RECEPTOR ROS REGULATION IN ATRIAL MYOCYTES. **Jaime Desantiago**, Kathrin Banach

Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating II (Boards B373–B392)

1464-Pos Board B373
DYNAMIC REARRANGEMENT OF THE INTRINSIC LIGAND REGULATES GATING OF KCNH POTASSIUM CHANNELS. **Gucan Dai**, Zachary M. James, William N. Zagotta

1465-Pos Board B374
A NOVEL HERG 1A/1B STABLE CELL LINE FOR DRUG SCREENING AND RESEARCH APPLICATIONS. **Erick B. Ríos Pérez**, Fang Liu, Whitney Stevens-Sostre, Gail A. Robertson

1466-Pos Board B375
I_{KR} ENHANCEMENT IN STEM CELL-DERIVED CARDIOMYOCYTES BY MORPHOLINO ANTI-SENSE OLIGONUCLEOTIDES. Mark W. Nowak, Brian K. Panama, Qiuming Gong, Sanjot Singh, Randall Rasmusson, Zhengfeng Zhou, **Glenna C L Bett**

1467-Pos Board B376
MODELS OF HERG BLOCK. **Brandon Franks**, Glenna C L Bett, Randall Rasmusson

1468-Pos Board B377
EXTERNAL PROTONS ACCELERATE DEACTIVATION OF HERG CHANNELS BY DESTABILIZING THE RELAXED STATE OF THE VOLTAGE-SENSOR. Yu Shi, Samrat Thouta, **Tom Claydon**

1469-Pos Board B378
DIVALENT IONS AND H^+ BLOCK THE CARDIAC POTASSIUM CHANNEL HERG AT AN OUTER PORE SITE. Gagandeep Singh, Kavaldeep Singh, Souad Hamade, **Alan Miller**

1470-Pos Board B379
NORQUETIAPINE, THE ACTIVE METABOLITE OF QUETIAPINE, INHIBITS CLONED HERG POTASSIUM CHANNELS. **Hong Joon Lee**, Jin-Sung Choi, Sang June Hahn

1471-Pos Board B380
MOLECULAR MECHANISMS OF HERG POTASSIUM CHANNEL INTERACTIONS WITH IVABRADINE: IMPORTANCE OF THE LIPOPHILIC ROUTE. Sergei Noskov, Henry Duff, Laura Perissinotti, Jiqing Guo, **Meruyert Kudaibergenova**

1472-Pos Board B381
SINUSOIDAL VOLTAGE PROTOCOLS FOR RAPID CHARACTERISATION OF ION CHANNEL KINETICS. Kylie A. Beattie, Adam P. Hill, Remi Bardenet, Yi Cui, Jamie I. Vandenberg, David J. Gavaghan, Teun P. de Boer, **Gary R. Mirams**

1473-Pos Board B382
COMPARISON OF HERG AND ZERG POTASSIUM CHANNEL FUNCTION AND PHARMACOLOGY. **Christina M. Hull**, Christine E. Genge, Glen F. Tibbits, Thomas W. Claydon

1474-Pos Board B383
DYNAMICS OF THE EAG DOMAIN AND CYCLIC NUCLEOTIDE-BINDING HOMOLOGY DOMAIN INTERACTION PROBED WITH A FLUORESCENT NONCANONICAL AMINO ACID (L-ANAP) IN HERG POTASSIUM CHANNELS. **Ashley A. Johnson**, Matthew C. Trudeau

1475-Pos Board B384
CALCIUM-CALMODULIN REGULATION OF HEAG1 CHANNEL GATING IS ALSO IMPORTANT FOR THE ENHANCED PROLIFERATION OF HEAG1 EXPRESSING CELLS. **Alina Finch**, Raj Patel, Fred W. Muskett, John S. Mitcheson

1476-Pos Board B385
PROTEIN DEGRADATION MECHANISM OF EAG1 K^+ CHANNEL. **Chih-Yung Tang**, Po-Hao Hsu, Ya-Ching Fang, Chung-Jiuan Jeng

1477-Pos Board B386
BIOPHYSICAL CHARACTERIZATION OF A PREDICTED SHAKER SPLICE VARIANT WITH AN UNCONVENTIONAL INITIATION CODON. **Hans J. Moldenhauer**, Scarlett E. Delgado, Nieves Navarro, David Naranjo

1478-Pos Board B387
THE MONO-ADP-RIBOSYLTRANSFERASE ARTD10 REGULATES KV1.1 THROUGH PKCD. **Yuemin Tian**, Patricia Verheugd, Priyanka Goswami, Anand Goswami, Daniel Komnig, Bernhard Lüscher, Stefan Gründer

1479-Pos Board B388
REGION-SPECIFIC PHOSPHORYLATION OF VOLTAGE-GATED POTASSIUM CHANNEL KV2.1 IN MAMMALIAN BRAIN. **Jiyeon Hwang**

1480-Pos Board B389
THE KV2.1 POTASSIUM CHANNEL FORMS ENDOPLASMIC RETICULUM/PLASMA MEMBRANE JUNCTIONS VIA INTERACTION WITH VAP-A AND VAP-B. **Benjamin T. Johnson**, Ashley Leek, Michael Kirmiz, Emily Maverick, James Trimmer

1481-Pos Board B390
VOLTAGE-GATED POTASSIUM CHANNEL KV3.1B IS REGULATED BY THE SODIUM CHANNEL BETA3 SUBUNIT. **Jiseon Shim**

1482-Pos Board B391
THE FUNCTIONAL MODULATION OF SODIUM-ACTIVATED POTASSIUM (SLACK) CHANNELS BY PHOSPHATASE AND ACTIN REGULATOR 1 (PHACTR1). **Syed R. Ali**, Leonard K. Kaczmarek

1483-Pos Board B392
DEVELOPMENT OF AN AUTOMATED ELECTROPHYSIOLOGY ASSAY FOR KV1.3 USING NANION SYNCROPATCH 384PE. **Kaylee Choi**, Joe McGivern

Ligand-gated Channels II (Boards B393–B414)

1484-Pos Board B393
AGONIST-SPECIFIC PHARMACOLOGICAL EFFECTS OF CMPI AND NS9283 AT (A4)3(B2)2 NEURONAL NICOTINIC. ACETYLCHOLINE RECEPTORS. Kemburli Munoz, Farah Deba, **Ayman K. Hamouda**

1485-Pos Board B394
EFFECTS OF CHRONIC MENTHOL AT ALPHA3BETA4 (A3B4)-CONTAINING NICOTINIC ACETYLCHOLINE RECEPTORS. **Selvan Bavan**, Suparna Patowary, Charlene H. Kim, Brandon J. Henderson, Henry A. Lester

1486-Pos Board B395
ANCESTRAL RECONSTRUCTION APPROACH TO ACETYLCHOLINE RECEPTOR STRUCTURE AND FUNCTION. **Corrie J. B. daCosta**, Jethro E. Prinston, Johnathon R. Emlaw, Mathieu F. Dextraze, Christian J. G. Tessier, F. Javier Pérez-Areales, Melissa S. McNulty

1487-Pos Board B396
ALLOSTERIC ACTIVATION OF UNLIGANDED ACHRS: MULTIPLE, BUMPY PATHWAYS. **Tapan K. Nayak**, Anthony Auerbach

1488-Pos Board B397
ALTERNATIVE BINDING MODE OF FULL AND PARTIAL AGONISTS IN A PENTAMERIC LIGAND-GATED ION CHANNEL STABILISES LOOP C IN AN OPEN CONFORMATION. **Marc A. Dämgen**, Timo Greiner, Remigijus Lape, Lucia G. Sivilotti, Philip C. Biggin

1489-Pos Board B398
PHARMACOLOGICAL PROPERTIES AND EVALUATIONS OF A NOVEL POSITIVE ALLOSTERIC MODULATOR OF A7 NACHR FOR ATTENUATION OF SCHIZOPHRENIA-LIKE BEHAVIOR IN MICE. Lilan Sun, Taoyi Yang, Wenxuan Jiao, Qi Sun, **Kewei Wang**

1490-Pos Board B399
FUNCTIONAL CHARACTERIZATION OF NOVEL PHOTO-SWITCHABLE NEUROMUSCULAR BLOCKERS. **Clara Herrera-Arozamena**, Olaia Martí-Marí, Martín Estrada, Mario Dela Fuente-Revenga, Carlos A. Villalba-Galea, María Isabel Rodríguez-Franco

1491-Pos Board B400
ENDOCYTOSIS PARTICIPATION IN NICOTINE-INDUCED UPREGULATION OF ALPHA 7 (A7) NICOTINIC ACETYLCHOLINE RECEPTORS (NACHRS) IN XENOPUS OOCYTES. **Joseph Farley**, Jayharsh Panchal, Kristi DeBoeuf, Mohammad Islam, Jonathan Blake Anderson, Vasu Sheel, Josh Hoffer

1492-Pos Board B401
AGONIST BINDING TO ENDPLATE ACHRS: MWC IS A-OK. **Anthony Auerbach**, Tapan K. Nayak

1493-Pos Board B402
DISSECTING KINETIC DIFFERENCES IN ANCESTRAL/EXTANT HYBRID ACETYLCHOLINE RECEPTORS. **Christian Tessier**, Corrie daCosta

1494-Pos Board B403
ALLOSTERIC MODULATION OF THE PENTAMERIC LIGAND-GATED ION CHANNEL ELIC BY FUNCTIONALLY ACTIVE NANOBODIES. Marijke Brams, Hannelore De Peuter, Radovan Spurny, Els Pardon, Daniel Bertrand, Jan Steyaert, Cedric Govaerts, **Chris Ulens**

1495-Pos Board B404
GLYCINE RECEPTOR OLIGOMERIZATION CHARACTERIZED BY NUMBER AND BRIGHTNESS ANALYSIS. **Mohammed A. Shanawaz**, Sheena Mago, Allen Stekol, Mario J. Rebecchi, James P. Dilger

1496-Pos Board B405
EFFECTS OF 5-HT_{3A} INTRACELLULAR DOMAIN MODIFICATIONS ON OLIGOMERIZATION. **Antonia Stuebler**, Michaela Jansen

1497-Pos Board B406
INTERACTION SITES OF SEROTONIN TYPE 3A INTRACELLULAR DOMAIN ($5\text{-}HT_{3A}$-ICD) WITH CHAPERON PROTEIN RIC-3. **Elham Pirayesh**, Michaela Jansen

1498-Pos Board B407
MAPPING TWO NEURSTEROID MODULATORY SITES IN GLIC: A PROTOTYPIC PENTAMERIC LIGAND GATED ION CHANNEL. **Wayland WL Cheng**, Zi-Wei Chen, Bracamontes R. John, Melissa M. Budelier, Kathiresan Krishnan, Daniel J. Shin, Cunde Wang, Xin Jiang, Douglas F. Covey, Gustav Akk, Alex S. Evers

1499-Pos Board B408
STRUCTURES AND FUNCTIONS OF ELIC-GABAAR CHIMERAS. **Qiang Chen**, Marta M. Wells, Palaniappa Arjunan, Tommy S. Tillman, Devin Adell, Aina E. Cohen, Yan Xu, Pei Tang

1500-Pos Board B409 EDUCATION TRAVEL AWARDEE
PROBING CONFORMATIONAL MOTIONS UNDERLYING ANESTHETIC DRUG ACTIONS IN A LIGAND-GATED ION CHANNEL. **Sritejasvinthi Karimikonda**, Varun Tiwari, Candice S. Klug, Cynthia Czajkowski

1501-Pos Board B410
EXPANSION OF A TRANSMEMBRANE CAVITY FACILITATES ANESTHETIC POTENTIATION OF A PENTAMERIC LIGAND GATED ION CHANNEL. **Marie Lycksell**, Stephanie A. Heusser, Rebecca J. Howard, Erik Lindahl

1502-Pos Board B411
THE PROS OF NACH AND 5-HT3 RECEPTORS. **Sarah C. Lummis**, Richard Mosesso, Dennis A. Dougherty

1503-Pos Board B412 EDUCATION TRAVEL AWARDEE
ALLOSTERIC MODULATION OF THE PENTAMERIC LIGAND-GATED ION CHANNEL ELIC BY BARBITURATES. **Hannelore De Peuter**, Marijke Brams, Delphine Joseph, Daniel Bertrand, Chris Ulens

1504-Pos Board B413
HIGHLY PURE SOLUBLE CHIMERAS OF THE INTRACELLULAR DOMAIN OF ANIONIC PENTAMERIC LIGAND-GATED ION CHANNELS. **Akash Pandhare**, Ali F. Ahmed, Jackson V. Littlejohn, Michaela Jansen

1505-Pos Board B414
HIGH PRECISION IN FLUIDIC CONTROL PROVIDES NEEDED AND RELIABLE ACCURACY IN LIGAND INDUCED CURRENT RESPONSES OF ACETYLCHOLINE AND GABA RECEPTORS. **Ali Yehia**, Haiyang Wei

Ion Channel Regulatory Mechanisms II (Boards B415–B438)

1506-Pos Board B415
PKC ACTIVATION INDUCES UBIQUITINATION-DEPENDENT KV1.3 ENDOCYTOSIS MEDIATED BY NEDD4-2 UBIQUITIN LIGASE. Ramón Martínez-Mármol, Katarzyna Styrczewska, Mireia Pérez-Verdaguer, Albert Vallejo-Gracia, Núria Comes, Alexander Sorkin, **Antonio Felipe**

1507-Pos Board B416
REVEALING MOLECULAR COUPLING BETWEEN ANION SELECTIVITY AND STRUCTURAL TRANSITIONS IN VOLTAGE-DEPENDENT ANION CHANNEL (VDAC). **Van Ngo**, Tatiana K. Rostovtseva, Sergey M. Bezrukov, Sergei Y. Noskov

1508-Pos Board B417
TEMPERATURE CONDITIONING INCREASES CA^{2+} SENSITIVITY AND ACTIVATION KINETICS OF ANO6 VARIANTS. **Joo Hyun Nam**, Yung Kyu Kim, Sung Joon Kim

1509-Pos Board B418
EFFECTS AND ACTIVATION MECHANISMS OF IVERMECTIN ON G-PROTEIN-GATED INWARDLY RECTIFYING POTASSIUM CHANNELS. **I-Shan Chen**, Michihiro Tateyama, Yuko Fukata, Motonari Uesugi, Yoshihiro Kubo

1510-Pos Board B419
GAUSSIAN-ACCELERATED MOLECULAR DYNAMICS MODELING LEADS TO IDENTIFICATION OF SLAC1 ANION CHANNEL RESIDUES FOR CO_2 SIGNALING IN ARABIDOPSIS GUARD CELL. **Jingbo Zhang**, Nuo Wang, Yinglong Miao, Felix Hauser, Wouter-Jan Rappel, J. Andrew McCammon, Julian Schroeder

1511-Pos Board B420
CHIMERIC KV7.4 CHANNEL WITH AMINO-TERMINUS OF KV7.5 HAS PUTATIVE PROTEIN KINASE A PHOSPHORYLATION SITE AND IS SUFFICIENT TO CONFER PARTIAL SENSITIVITY TO CYCLIC ADENOSINE MONOPHOSPHATE/PROTEIN KINASE A (CAMP/PKA) PATHWAY. **Lyubov I. Brueggemann**, Leanne L. Cribbs, Kenneth L. Byron

1512-Pos Board B421
HUMAN SPERM ROTATION IS REGULATED BY ASYMMETRICALLY POSITIONED FLAGELLAR CONTROL UNITS. **Nadja Mannowetz**, Melissa R. Miller, Samuel J. Kenny, Steven A. Mansell, Michal Wojcik, Robert S. Zucker, Ke Xu, Polina V. Lishko

1513-Pos Board B422
MODULATION OF KCNQ CHANNELS BY INTRACELLULAR ZINC. Haixia Gao, Aurélien Boillat, Dongyang Huang, Ce Liang, Chris Peers, **Nikita Gamper**

1514-Pos Board B423
ASSIGNING FUNCTION TO THE D AND E HELICES OF HCN CNBD. ANDREA SAPONARO, ALESSANDRO PORRO, CHIARA DONADONI, BINA SANTORO, GERHARD THIEL, **Anna Moroni**

1515-Pos Board B424
CAVEOLAE-MEDIATED ACTIVATION OF MECHANOSENSITIVE $I_{CL,SWELL}$ CHANNELS DISRUPTS CONDUCTION AND PROMOTES ARRHYTHMOGENESIS IN PULMONARY VEINS AND SUPERIOR VENA CAVA. **Di Lang**, Yuri V. Egorov, Rose Wang, Leonid V. Rosenshtraukh, Alexey V. Glukhov

1516-Pos Board B425 EDUCATION TRAVEL AWARDEE
MUSCARINIC RECEPTOR NEUROMODULATION OF KCNQ M-TYPE K+, AND OTHER, CHANNELS IN HIPPOCAMPAL PRINCIPAL NEURONS INVOLVES STRIKING CELL-SPECIFIC REGULATION CONTROLLING EXCITABILITY. **Chase M. Carver**, Mark S. Shapiro

1517-Pos Board B426
THE UNFOLDED PROTEIN RESPONSE CONTRIBUTES TO ELECTRICAL REMODELING IN HUMAN CARDIOMYOCYTES. **Man Liu**, Guangbin Shi, Anyu Zhou, Samuel C. Dudley, Jr.

1518-Pos Board B427
$K_{2P}2.1$ (TREK-1)-ACTIVATOR COMPLEXES REVEAL A CRYPTIC SELECTIVITY FILTER BINDING SITE. **Marco Lolicato**, Cristina Arrigoni, Takahiro Mori, Yoko Sekioka, Clifford Bryant, Kimberly A. Clark, Daniel L. Minor

1519-Pos Board B428 EDUCATION TRAVEL AWARDEE
STRUCTURAL AND FUNCTIONAL CHARACTERIZATION OF BESTROPHIN CHANNEL INACTIVATION. **George Vaisey**, Stephen B. Long

1520-Pos Board B429
B3-ADRENERGIC RECEPTOR REGULATION OF CARDIAC ION CHANNELS IN OVERWEIGHT INSULIN RESISTANT RATS. Aysegul Durak, Yusuf Olgar, Erkan Tuncay, **Belma Turan**

1521-Pos Board B430
MODELING MECHANISMS OF CARDIAC L-TYPE CA^{2+} CHANNEL REGULATION: INTERACTIONS OF VOLTAGE, CA^{2+}, AND ISOFLURANE. **Neeraj Manhas**, AMadou K.S. Camara, Ranjan K. Dash

1522-Pos Board B431
VISCOSITY AND CONDUCTIVITY TUNABLE DIODE-LIKE BEHAVIOR FOR MESO- AND MICROPORES. **Rachel A. Lucas**, Yinghua Qiu, Zuzanna S. Siwy

1523-Pos Board B432
PKA-DEPENDENT PHOSPHORYLATION UNDERLIES FUNCTIONAL UPREGULATION OF SK CHANNELS IN VENTRICULAR MYOCYTES FROM HYPERTROPHIC HEARTS. **Iuliia Polina**, Shanna Hamilton, Radmila Terentyeva, Karim Roder, Gideon Koren, Dmitry Terentyev

1524-Pos Board B433
EXTRACELLULAR PHOSPHATE IS AN ENDOGENOUS REGULATOR FOR VOLTAGE-GATED PROTON CHANNELS AND PRODUCTION OF REACTIVE OXYGEN SPECIES IN OSTEOCLASTS. Guangshuai Li, Katsuuki Miura, Yoshiko Hino, Yoshie Moriura, Junko Kawawaki, Hiromu Sakai, **Miyuki Kuno**

1525-Pos Board B434
THE SIGMA-1 RECEPTOR MODULATES K_V1.2 CHANNELS IN THE ABSENCE OF THE K_VB2 SUBUNIT. **Madelyn J. Abraham**, Adrian YC Wong, Richard Bergeron

1526-Pos Board B435
EVIDENCE FOR MECHANOSENSITIVE CHANNEL ACTIVITY OF TENTONIN 3/TMEM150C. **Gyu-Sang Hong**

1527-Pos Board B436
GRAMICIDIN ION BINDING AND CONDUCTANCE: NEW INSIGHTS FROM 17O SOLID STATE NMR SPECTROSCOPY IN A 1.5 GHZ SPECTROMETER. **Joana Paulino**, Ivan Hung, Eduard Chekmenev, Zhehong Gan, Timothy A. Cross

1528-Pos Board B437
MODEL DEVELOPMENT OF SK CHANNEL GATING INCORPORATING CALCIUM SENSITIVITY AND DRUG INTERACTION. **Ilse van Herck**, Bo H. Bentzen, Vincent Seutin, Hemenegild Arevalo, Mary M. Maleckar, Neil V. Marrion, Andrew G. Edwards

1529-Pos Board B438
ROLE OF NEURONAL JUNCTOPHILINS IN RECRUITMENT AND MODULATION OF VOLTAGE-GATED CALCIUM CHANNELS IN PM-ER JUNCTIONS. **Stefano Perni**, Kurt G. Beam

Ion Channels, Pharmacology, and Disease I (Boards B439–B461)

1530-Pos Board B439
ISTAROXIME ACCELERATES CALCIUM TRANSIENT DECAY IN HUMAN INDUCED PLURIPOTENT STEM CELL-DERIVED CARDIOMYOCYTES. **Beatrice Badone**, Roel Spatjens, Cristina Altrocchi, Paul Volders, Antonio Zaza

1531-Pos Board B440
PATIENT-SPECIFIC MUTATIONS IMPAIR BESTROPHIN1'S ESSENTIAL ROLE IN MEDIATING CA^{2+}-DEPENDENT CL^- CURRENTS IN HUMAN RPE. Yao Li, Yu Zhang, Yu Xu, Alec Kittredge, Nancy Ward, Shoudeng Chen, Stephen Tsang, **Tingting Yang**

1532-Pos Board B441
D242N, A K_V7.1 LQTS MUTATION UNCOVERS A KEY RESIDUE FOR I_{KS} VOLTAGE DEPENDENCE. Cristina Moreno, Anna Oliveras, Chiara Bartolucci, Carmen Muñoz, Alicia de la Cruz, Diego A. Peraza, Juan R. Gimeno, Mercedes Martin-Martinez, Stefano Severi, Antonio Felipe, Pier D. Lambiase, Teresa Gonzalez, **Carmen Valenzuela**

1533-Pos Board B442
NORMETHSUXIMIDE AND ETHOSUXIMIDE POTENTIATE A1B3Г2 $GABA_A$ RECEPTORS AND ALLEVIATE PENTYLENETETRAZOL-MEDIATED INHIBITION IN CULTURED HEK293 CELLS. **Brendan Ito**, Yongli Chen

1534-Pos Board B443
EXPLORING THE ROLE OF RYANODINE RECEPTORS IN HUNTINGTON'S DISEASE PATHOPHYSIOLOGY. **Panagiota Apostolou**, Steven Reiken, Qi Yuan, Kaylee Wedderburn-Pugh, Felicia Benoit, Ari Moscona, Kavin Chada, Andrew Marks

1535-Pos Board B444
STRUCTURAL MODELING OF FULL-LENGTH KCA CHANNELS USING ROSETTA. **Heesung Shim**, Heike Wulff, Kevin DeMarco, Vladimir Yarov-yarovoy

1536-Pos Board B445
DUAL EFFECT OF AMIODARONE ON THE ONCOGENIC KV10.1 CHANNEL. **Froylan Gomez-Lagunas**, Carolina Barriga-Montoya, Areli Huanosta-Gutiérrez

1537-Pos Board B446
POLYPEPTIDE TOXINS: TWO NEW INHIBITORS OF THE ONCOGENIC POTASSIUM CHANNEL KV10.1. **Enoch Luis**, Erika Monserrat Torres-Moales, Arlet Loza-Huerta, Sergio Román-González, Roberto Arreguin-Espinosa, Cesar Oliver Lara-Figueroa, Arturo Hernández-Cruz, Lourival D. Possani, Arturo Picones

1538-Pos Board B447
IDENTIFICATION OF AN ETHANOL RECOGNITION SITE IN BK BETA1 SUBUNIT THAT MEDIATES ETHANOL-INDUCED CEREBRAL ARTERY MYOCYTE BK CHANNEL INHIBITION AND THE RESULTING ARTERY CONSTRICTION. Guruprasad Kuntamallappanavar, Anna Bukiya, **Alex Dopico**

1539-Pos Board B448
INTRODUCING SIMULATED I_{K1} INTO HUMAN IPSC-CARDIOMYOCYTES USING DYNAMIC CLAMP ON AN AUTOMATED PATCH CLAMP PLATFORM. **Corina Bot**, Nadine Becker, Birgit Goversen, Sonja Stoelzle-Feix, Alison Obergrussberger, Toon A.B. van Veen, Niels Fertig, Teun P. de Boer

1540-Pos Board B449 **CID TRAVEL AWARDEE**
MECHANISM OF GATING OF THE INTERMEDIATE-CONDUCTANCE CALCIUM-ACTIVATED POTASSIUM CHANNEL (KCA3.1). **Brandon M. Brown**, Heesung Shim, Heike Wulff

1541-Pos Board B450
DEVELOPMENT OF K_V1.3-BLOCKING MONOCLONAL ANTIBODIES USING *TETRAHYMENA THERMOPHILA* . Janna Bednenko, Rian Harriman, Lore Mariën, **Hai M. Nguyen**, Alka Agrawal, Ashot Papoyan, Yelena Bisharyan, Joanna Cardarelli, Ted Clark, Donna Cassidy-Hanley, Bas van der Woning, Hans de Haard, Ellen Collarini, Heike Wulff, Paul Colussi

1542-Pos Board B451
FUNCTION, EXPRESSION, AND PHARMACOLOGY OF DISEASE-ASSOCIATED MUTATIONS OF NMDA RECEPTORS. **Vojtech Vyklilcky**, Barbora Karusova, Bohdan Kysilov, Marek Ladislav, Pavla Hubalkova, Tereza Smejkalova, Martin Horak, Hana Chodounska, Eva Kudova, Jiri Cerny, Ladislav Vyklicky

1543-Pos Board B452
NOVEL DRUGS THAT AUGMENT KCNQ (KV7, "M-TYPE") POTASSIUM CHANNELS AS A POST-EVENT TREATMENT FOR TRAUMATIC BRAIN INJURY. **Isamar Sanchez**, Fabio Antonio Borges Vigil, Eda Bozdemir, Rafael J. Veraza, Liliana Espinoza, Deborah M. Holstein, MaryAnn Hobbs, Vladislav Bugay, James Lechleiter, Robert Brenner, Mark S. Shapiro

1544-Pos Board B453
DISEASE-ASSOCIATED MUTATIONS REVEAL A CONSERVED GLYCINE THAT STABILIZES OPPOSING CHANNEL CONFORMATIONS IN IONOTROPIC GLUTAMATE RECEPTORS. **Johansen AMin**, Xiaodong Pang, Aaron Gochman, Mark E. Bowen, Huan-Xiang Zhou, Lonnie P. Wollmuth

1545-Pos Board B454
DEVELOPMENT AND APPLICATION OF A PEPTIDE INHIBITOR-BOUND QUANTUM DOT TARGETING THE VOLTAGE-GATED POTASSIUM CHANNEL KV1.3 IN THE OLFACTORY BULB. **Austin B. Schwartz**, Anshika Kapur, Zhenbo Huang, Raveendra Anangi, Zoltan Dekan, Erminia Fardone, Goutam Palui, Glenn F. King, Hedi Mattoussi, Debra A. Fadool

1546-Pos Board B455
IDENTIFICATION OF HYPEREKPLEXIA MUTATIONS THAT IMPAIR THE HOMOPENTAMERIC ASSEMBLY OF THE GLYCINE RECEPTOR GLYRA1. **Anke Dopychai**, Simone Heidenreich, C. Flore Pokam, Günther Schmalzing

1547-Pos Board B456
ATOMISTIC SIMULATION OF LIPID MEMBRANE PERMEATION FOR CARDIAC ION CHANNEL BLOCKERS. **Kevin R. DeMarco**, Slava Bekker, Colleen E. Clancy, Sergei Y. Noskov, Igor Vorobyov

1548-Pos Board B457
$GABA_A$ RECEPTOR SUBTYPE SELECTIVITY OF THE PROCONVULSANT RODENTICIDE TETS. **Brandon Pressly**, Hai Minh Nguyen, Heike Wulff

1549-Pos Board B458
VALIDATION OF AN AUTOMATED PATCH-CLAMP SCREENING ASSAY ON HUMAN KIR2.1 CARDIAC ION CHANNELS. **Georg Andrees Bohme**, Camille Sanson, Brigitte Schombert, Michel Partiseti

1550-Pos Board B459
TRANSCRIPTIONAL PROFILES AND K^+ CHANNELS DIFFER IN RAT AND MOUSE PRIMARY MICROGLIA IN RESPONSE TO PRO- AND ANTI-INFLAMMATORY STIMULI. Starlee Lively, Doris Lam, **Lyanne C. Schlichter**

1551-Pos Board B460
ROLE OF RYANODINE RECEPTOR CHANNEL AND MECHANISMS OF VASCULAR DISEASES. Yun-Min Zheng, **Yong-Xiao Wang**

1552-Pos Board B461
CHANGES IN I_{KR} AMPLITUDE (NOT GATING) IS THE KEY DETERMINANT FOR VENTRICULAR ACTION POTENTIAL PROLONGATION. **Don E. Burgess**, Jennifer L. Smith, Ahmad S. Amin, Corey L. Anderson, Craig T. January, Brian P. Delisle

Cardiac Muscle Mechanics and Structure I (Boards B462–B480)

1553-Pos Board B462
HYPERTROPHIC CARDIOMYOPATHY: VARIABLE EXPRESSION OF MYOSIN-BINDING PROTEIN C FROM CELL-TO-CELL AND FUNCTIONAL IMBALANCE AMONG INDIVIDUAL CARDIOMYOCYTES. David Aldag-Niebling, Ante Radocaj, Denise Hilfiker-Kleiner, Cristobal dos Remedios, Bernhard Brenner, **Theresia Kraft**

1554-Pos Board B463
HIGH-THROUGHPUT FUNCTIONAL SCREENING ASSAY OF FORCE AND STIFFNESS IN IPSC DERIVED CARDIOMYOCYTES. **Ricardo Serrano**, Wesley Lawrence McKeithan, Mark Mercola, Juan Carlos del Álamo

1555-Pos Board B464
STABLE MICROTUBULES PROVIDE VISCOELASTIC RESISTANCE TO CARDIOMYOCYTE LENGTH CHANGE. **Matthew A. Caporizzo**, Christina Y. Chen, Alexander K. Salomon, Kenneth Bedi, Kenneth B. Margulies, Benjamin L. Prosser

1556-Pos Board B465
A NOVEL MOUSE MODEL FOR TITIN-BASED DILATED CARDIOMYOPATHY. **Eyad Nusayr**, Joshua Strom, Rebecca E. Slater, Henk L. Granzier

1557-Pos Board B466
LOCATION OF HYPERTROPHIC CARDIOMYOPATHY-CAUSING TROPONIN T MUTATIONS DETERMINES DEGREE OF MYOFILAMENT DYSFUNCTION. **Maike Schuldt**, Jamie R. Johnston, Michelle Michels, Diederik W.D. Kuster, José R. Pinto, Jolanda van der Velden

1558-Pos Board B467
TITIN VARIANTS IN GENETIC MYOPATHIES AND CARDIOMYOPATHIES-STRUCTURAL AND BIOPHYSICAL CHARACTERIZATION OF PATHOGENIC MUTATIONS. **Roksana Nikoopour**, Martin Rees, Mark Pfuhl, Ana Ferreiro, Perry Elliott, Mathias Gautel

1559-Pos Board B468
ISCHEMIC CARDIOMYOPATHY PERTURBS GSK-3B LOCALIZATION TO THE MYOFILAMENT TO REDUCE FUNCTION. Marisa J. Stachowski, Maria Papadaki, Jody L. Martin, Christine S. Moravec, **Jonathan A. Kirk**

1560-Pos Board B469
ENGINEERED THIN FILAMENT MUTATIONS TO STUDY THE SARCOMERE LENGTH DEPENDENCE OF CARDIAC MUSCLE CONTRACTILITY. **Joseph D. Powers**, Farid Moussavi-Harami, Jil C. Tardiff, Jennifer Davis, Michael Regnier

1561-Pos Board B470
THE OFF STATE OF THE THICK FILAMENT OF CARDIAC MUSCLE IS NOT AFFECTED BY INOTROPIC INTERVENTIONS LIKE THE INCREASE IN DIASTOLIC SARCOMERE LENGTH OR THE ADDITION OF A BETA-ADRENERGIC EFFECTOR. **Vincenzo Lombardi**, Francesca Pinzauti, Marco Caremani, Joseph Powers, Serena Governali, Massimo Reconditi, Theyencheri Narayanan, Ger J. M. Stienen, Marco Linari, Gabriella Piazzesi

1562-Pos Board B471 EDUCATION TRAVEL AWARDEE
MECHANICAL AND STRUCTURAL ANALYSIS OF CARDIOMYOPATHIES AT THE SINGLE CELL LEVEL. **Paige E. Cloonan**, Lina Greenberg, Michael J. Greenberg

1563-Pos Board B472
THE MISSENSE E258K-MYBP-C MUTATION INCREASES THE ENERGY COST OF TENSION GENERATION IN BOTH VENTRICULAR AND ATRIAL TISSUE FROM HCM PATIENTS. **Giulia Vitale**, Francesca Gentile, Nicoletta Piroddi, Beatrice Scellini, Josè Manuel Pioner, Iacopo Olivotto, Cecilia Ferrantini, Chiara Tesi, Corrado Poggesi

1564-Pos Board B473
CHRONIC EXERCISE INCREASES COMPLIANT TITIN AND KETTIN ISOFORM CONTENT IN CARDIAC MUSCLE OF RAT AND DROSOPHILA MODELS. Mark Hiske, Deena Damschroder, Rober J. Wessells, Patrick J. Mueller, **Charles S. Chung**

1565-Pos Board B474
CARDIOSKELETAL DEFECTS IN R58Q-RLC MOUSE MODEL OF HCM. **Katarzyna Kazmierczak**, Jingsheng Liang, Zhiqun Zhou, Sunil Yadav, Aldrin V. Gomes, Danuta Szczesna-Cordary

1566-Pos Board B475
DELETION OF CALPONIN 2 ATTENUATES THE DEVELOPMENT OF CALCIFIC AORTIC VALVE DISEASE. **Olesya Plazyo**, Jian-Ping Jin

1567-Pos Board B476
THE ACTC M305L HYPERTROPHIC CARDIOMYOPATHY MUTATION RESULTS IN HYPERCONTRACTILITY AND IMPAIRED RELAXATION OF *DROSOPHILA* MUSCLES. Meera C. Viswanathan, William Schmidt, Aditi Madan, Leah C. Sullivan, Christopher S. Newhard, Michael J. Rynkiewicz, William Lehman, Douglas M. Swank, **Anthony Cammarato**

1568-Pos Board B477
CARDIAC THIN FILAMENT-MEDIATED CALCIUM SENSITIZATION MODULATES CROSS-BRIDGE KINETICS. Maicon Landim-Vieira, David Gonzalez-Martinez, Jamie R. Johnston, Weikang Ma, Olga Antipova, Omar Awan, P. Bryant Chase, Thomas Irving, **Jose R. Pinto**

1569-Pos Board B478
CHARACTERIZATION OF A FLUORESCENT LEVOSIMENDAN ANALOG BINDING TO CARDIAC TROPONIN. **Brittney Klein**, Brian D. Sykes

1570-Pos Board B479
REGULATED MODEL OF STEADY-STATE CARDIAC LENGTH-DEPENDENT ACTIVATION. **Timothy Alcid**, William C. Hunter

1571-Pos Board B480
UNDERSTANDING CALCIUM SENSITIZATION AND DESENSITIZATION USING A CARDIAC TROPONIN CHIMERA. **Fangze Cai**, Peter Hwang, Brian Sykes

Myosins (Boards B481–B504)

1572-Pos Board B481
IS THE MYOSIN HEAD CONFORMATION COUPLED TO THE THICK FILAMENT BACKBONE STRUCTURE? **Kenneth A. Taylor**, Zhongjun Hu, Dianne W. Taylor, Robert J. Edwards

1573-Pos Board B482
MYOSIN PHOSPHORYLATION-MEDIATED RESCUE OF CARDIAC FUNCTION IN FAMILIAL HYPERTROPHIC CARDIOMYOPATHY. **Sunil Yadav**, Katarzyna Kazmierczak, Jingsheng Liang, Chen-Ching Yuan, Zhiqun Zhou, Lauro Takeuchi, Rosemeire Kanashiro-Takeuchi, Danuta Szczesna-Cordary

1574-Pos Board B483
THE IMPACT OF DISEASE-RELATED MUTATIONS ON THE STRUCTURAL DYNAMICS AND ALLOSTERY IN MYOSIN MOTORS. Julia Weder, **Matthias Preller**

1575-Pos Board B484
IMPACT OF HYPERTROPHIC CARDIOMYOPATHY MUTATIONS AND THE ROLE OF MYOSIN BINDING PROTEIN-C ON THE SEQUESTERED STATE OF MYOSIN. **Darshan V. Trivedi***, Saswata S. Sarkar*, Makenna M. Morck, Arjun A. Adhikari, Kathleen M. Ruppel, James A. Spudich

1576-Pos Board B485
A MIXED-KINETIC MODEL DESCRIBES UNLOADED VELOCITIES OF SMOOTH, SKELETAL, AND CARDIAC MUSCLE MYOSIN FILAMENTS IN VITRO. **Richard Brizendine**, Gabriel Sheehy, Diego Alcala, Sabrina Novenschi, Josh Baker, Christine Cremo

1577-Pos Board B486
SINGLE MOLECULE, OPTICAL TRAPPING STUDIES OF OMECAMTIV MERCARBIL ON HUMAN CARDIAC MYOSIN'S FORCE PRODUCTION. **Michael S. Woody**, Michael J. Greenberg, Bipasha Barua, Donald A. Winkelmann, Yale E. Goldman, E. Michael Ostap

1578-Pos Board B487
HYDRATION OF MAGNESIUM IS REQUIRED FOR MYOSIN VI PHOSPHATE RELEASE. **Mauro L. Mugnai**, Devarajan Thirumalai

1579-Pos Board B488
OPTICAL CONTROL OF FAST AND PROCESSIVE ENGINEERED MYOSINS: OPTIMIZATION AND CHARACTERIZATION IN VITRO AND IN LIVING CELLS. **Paul V. Ruijgrok**, Rajarshi P. Ghosh, Muneaki Nakamura, Robert Chen, Vipul Vachharajani, Jan Liphardt, Zev Bryant

1580-Pos Board B489
BIOCHEMICAL AND FUNCTIONAL CHARACTERIZATION OF THE INTERACTION OF MYO1C WITH 14-3-3. **Huan-Hong Ji**, E. Michael Ostap

1581-Pos Board B490
TOOLS TO STUDY NONMUSCLE MYOSIN-2 MOTOR FUNCTION REVISITED. **Sarah Heissler**, Neil Billington, Xuefei Ma, Robert Adelstein, James Sellers

1582-Pos Board B491
ATPASE ACTIVITY OF DIAPHRAGM MUSCLE FIBRES ISOLATED FROM THE RABBIT CONTAINING THE R403Q MUTATION IN THE HEART. **Md Rezuanul Haque Saikat**, Yu-Shu Cheng, Dilson Rassier

1583-Pos Board B492
MAPPING INTRINSIC COMMUNICATION PATHWAYS IN THE MYOSIN MOTOR DOMAIN ASSOCIATED WITH FORCE GENERATION. **Wiebke Ewert**, Peter Franz, Georgios Tsiavaliaris, Matthias Preller

1584-Pos Board B493
TUNING THE MECHANICAL OUTPUT OF NONMUSCLE MYOSIN-2 FILAMENTS. Luca Melli, Neil Billington, Attila Nagy, Hajer Ennomani, Yasuhara Takagi, Laurent Blanchoin, **James R. Sellers**

1585-Pos Board B494
VARIATION IN STRIDE LENGTH OF MYOSIN-5A REVEALED BY INTERFEROMETRIC SCATTERING MICROSCOPY (ISCAT). Joanna Andrecka, **Adam Fineberg**, Daniel Cole, Alistair Curd, Kavitha Thirumurugan, Yasuharu Takagi, James R. Sellers, Peter J. Knight, Philipp Kukura

1586-Pos Board B495
HIGH RESOLUTION CRYO-EM STRUCTURES OF ACTIN-BOUND MYOSIN STATES REVEAL THE MECHANISM OF MYOSIN FORCE SENSING. **Ahmet Mentes**, Andrew Huehn, Xueqi Liu, Adam Zwolak, Roberto Dominguez, Henry Shuman, E. Michael Ostap, Charles V. Sindelar

1587-Pos Board B496
FORCE PRODUCED BY SMOOTH AND SKELETAL MUSCLE MYOSIN FILAMENTS MEASURED WITH MICRO-FABRICATED CANTILEVERS. **Yu-Shu Cheng**, Md Rezuanul Haque Saikat, Dilson Rassier

1588-Pos Board B497
CAN WE REPRODUCE THE LATCH-STATE IN VITRO AT THE MOLECULAR LEVEL? **Zsombor Balassy**, Linda Kachmar, Gijs Ijpma, Anne-Marie Lauzon

1589-Pos Board B498
INFLUENCE OF SAMPLE SOURCE: SLIDING VELOCITY OF DIFFERENT NATIVE THIN FILAMENTS ON TISSUE PURIFIED SLOW SKELETAL AND CARDIAC MYOSIN. Maral Mohebbi, Petra Uta, Theresia Kraft, **Tim Scholz**

1590-Pos Board B499
MEASURING THE FORCE OF SINGLE AND/OR MULTIPLE MYOSIN 5 BY USING A SINGLE BEAM OPTICAL TRAP. **Justin J. Raupp**, Yuwen Mei, Takeshi Sakamoto

1591-Pos Board B500 EDUCATION TRAVEL AWARDEE
THE FORCE-DEPENDENT ACTIVITY OF MULTIPLE MYOSIN VI MONOMERS. **Ellen Rumley**, David Altman

1592-Pos Board B501
MUTATIONS IN THE CONVERTER DOMAIN OF MYOSIN V DEMONSTRATE COUPLING BETWEEN LEVER ARM SWING AND PHOSPHATE RELEASE. **Laura K. Gunther**, Shane D. Walton, Wanjian Tang, William C. Unrath, Darshan Trivedi, Christopher M. Yengo

1593-Pos Board B502
OBSERVING THE BEHAVIOR OF A SINGLE MYOSIN HEAD WITHIN A MYOSIN FILAMENT MOVING ON ACTIN. **Richard Brizendine**, Josh Baker, Christine Cremo

1594-Pos Board B503
ENSEMBLE BEHAVIOR OF ACTOMYOSIN CROSSBRIDGES. **Khoi D. Nguyen**, Madhusudhan Venkadesan

1595-Pos Board B504
FORCE AND CALCIUM REGULATION OF A SINGLE MYOSIN-5B MOTOR. Lucia Gardini, Sarah M. Heissler, Claudia Arbore, Yi Yang, James R. Sellers, Francesco S. Pavone, **Marco Capitanio**

Cell Mechanics, Mechanosensing, and Motility I (Boards B505–B532)

1596-Pos Board B505
BIOPHYSICS OF MECHANOSENSITIVE CADHERIN ADHESION AND ITS REGULATION. **Andrew V. Priest**, Ramesh Koirala, Chi-Fu Yen, Sanjeevi Sivasankar

1597-Pos Board B506
MECHANOCHEMICAL MODELING AS AN EXPLORATIVE TOOL TO STUDY TISSUE MORPHOGENESIS. **Francesco Atzeni**, Richard S. Smith, Christof Aegerter, Damian Brunner

1598-Pos Board B507
EQUILIBRIUM STRUCTURE AND MECHANICS OF THE CELLULAR GLYCOCALYX. **Jay G. Gandhi**, Donald L. Koch, Matthew J. Paszek

1599-Pos Board B508
FREQUENCY AND CURVATURE OF THE FLAGELLAR WAVEFORM OF *CHLAMYDOMONAS REINHARDTII* ARE STABLE DURING REGROWTH. **Mathieu Bottier**, Susan K. Dutcher, Philip V. Bayly

1600-Pos Board B509
DUAL BIOMEMBRANE FORCE PROBE ENABLES SINGLE-CELL MECHANICAL ANALYSIS OF SIGNAL CROSSTALK BETWEEN MULTIPLE MOLECULAR SPECIES. **Lining Ju**, Yunfeng Chen, Kaitao Li, Cheng Zhu

1601-Pos Board B510
MECHANICAL PROPERTY CHANGE OF RED BLOOD CELL MEMBRANE UNDER PHOTOSENSITIZER MEDIATED OXIDATIVE STRESS OF CIS PORPHYRIN. **Koji Kinoshita**, Gustavo Campos, Tayana Tsubone, Vita Solovyeva, Jonathan Brewer, David Needham, Rosangela Itri

1602-Pos Board B511
CELL GROWTH RATE DICTATES THE ONSET OF GLASS TO FLUID-LIKE TRANSITION AND LONG TIME SUPER-DIFFUSION IN AN EVOLVING CELL COLONY. **Abdul Malmi Kakkada**, Xin Li, Himadri S. Samanta, Sumit Sinha, Dave Thirumalai

1603-Pos Board B512
THE APICAL CONSTRICTION FORCE OF MADIN-DARBY CANINE KIDNEY (MDCK) CELLS. Ching-chung Hsueh, Ivan Alex Priela Lazarte, Mathieu Prouveur, Wen-hsiu Wu, Ying-ting How, **Keng-hui Lin**

1604-Pos Board B513
A BREAKDOWN OF CELLULAR MECHANISMS REQUIRED FOR CELL AND FOCAL ADHESION AREA SENSITIVITY TO SUBSTRATE STIFFNESS. **Magdalena Stolarska**, Aravind Rammohan

1605-Pos Board B514
MAGNETO-ACTIVE SUBSTRATES FOR LOCAL MECHANICAL STIMULATION OF LIVING CELLS. **Alexis E. Coullomb**, Cecile M. Bidan, Mario Fratzl, Philippe Moreau, Alain H. Lombard, Irene Wang, Martial Balland, Thomas Boudou, Nora M. Dempsey, Thibaut Devillers, Aurelie Dupont

1606-Pos Board B515
CELL MEMBRANE TRANSMITS HIGH-LEVEL INTEGRIN TENSION TO MEDIATE CELL REAR DE-ADHESION DURING KERATOCYTE MIGRATION. **Yuanchang Zhao**, Yongliang Wang, Anwesha Sarkar, Xuefeng Wang

1607-Pos Board B516
INTEGRIN MOLECULAR TENSIONS IN LIVE CELLS ARE ALTERED BY SUBSTRATE RIGIDITY. **Anwesha Sarkar**, Xuefeng Wang

1608-Pos Board B517
FOUR DIMENSIONAL TRACTION MEASUREMENTS OF CHEMOTACTIC NEUTROPHILS IN HYDROGELS. **Michael W. Harman**, Christian Franck, Jonathan Reichner

1609-Pos Board B518
PRESSURE-INEDUCED ACTIVATION OF THE SWIMMING MOTILITY OF MAGNETOTACTIC BACTERIUM. **Masayoshi Nishiyama**, Ruan Juanfang, Takayuki Kato, Toru Minamino, Keiichi Namba, Akitoshi Seiyama, Long-Fei Wu, Yoshie Harada

1610-Pos Board B519 INTERNATIONAL TRAVEL AWARDEE
HEPATITIS C VIRUS ALTERS NUCLEAR MECHANICS BY DOWN-REGULATING LAMIN A/C. **Sreenath Balakrishnan**, Suma M.S., Geetika Sharma, Saumitra Das, G.K. Ananthasuresh

1611-Pos Board B520
BLOOD SHEAR STRESS SELECTS METASTASIS-INITIATING CELLS WITH METASTATIC ADVANTAGES. Xin Tang, Jing Jin, Shiying Huang, Ying Xin, **Youhua Tan**

1612-Pos Board B521
THE EFFECT OF NETRIN-1 ON NEUTROPHIL AND BREAST CANCER CELL MIGRATION AND THEIR MIGRATORY INTERACTION. Jolly Hipoilito, Hagit Peretz-Soroka, Aniel Moya Torres, Evan Booy, Ke Yang, Monika Gupta, Markus Meier, Sean McKenna, Manuel Koch, Susy Santos, Jörg Stetefeld, **Francis Lin**

1613-Pos Board B522
HOW FILAMENTS DENSITY IMPACTS FORCE GENERATION AND PROTRUSION RATE OF LAMELLIPODIUM IN MOTILE CELLS. **Setareh Dolati**

1614-Pos Board B523
HIGH-THROUGHPUT MECHANOTRANSDUCTION IN DROSOPHILA EMBRYOS WITH A MICROFLUIDIC DEVICE. **Ardon Z. Shorr**, Utku Sönmez, Jonathan S. Minden, Philip R. LeDuc

1615-Pos Board B524
MECHANICAL FEEDBACK COORDINATES CELL WALL EXPANSION AND ASSEMBLY IN YEAST MATING MORPHOGENESIS. **Samhita Banavar**, Carlos Gomez, Michael Trogdon, Linda Petzold, Tau Mu Yi, Otger Campas

1616-Pos Board B525
A COMPUTATIONAL FRAMEWORK TO ACCURATELY PREDICT MULTIVALENT ENTHALPY AND CONFIGURATIONAL ENTROPY LANDSCAPES OF MULTIVALENT INTERACTIONS OF CELL MIMETICS. **Aravind R. Rammohan**, Sungmin Ha, Mathew Mckenzie, Natesan Ramakrishnan, Ravi Radhakrishnan

1617-Pos Board B526
ROCK AND MLCK TUNE REGIONAL STRESS FIBER MECHANICS VIA PREFERENTIAL MYOSIN LIGHT CHAIN PHOSPHORYLATION. Elena Kassianidou, **Jasmine H. Hughes**, Sanjay Kumar

1618-Pos Board B527
HIGH-THROUGHPUT CELL DEFORMABILITY SCREENING TO IDENTIFY NOVEL ANTI-CANCER COMPOUNDS. **Navjot Kaur Gill**, Kendra Dee Nyberg, Dongping Qi, Bobby Tofiq, Robert Damoiseaux, AMY C. Rowat

1619-Pos Board B528
A CONSTITUTIVE FLOW RELATION FOR LYMPHATIC ENDOTHELIUM. **Emily A. Margolis**, Cassandra M. Chua, Joe Tien

1620-Pos Board B529
REDUCED MOTILITY OF SWIMMING ALGAL CELLS AT INCREASED MEDIUM VISCOSITY. **Kara M. Clark**, Victoria Hodge, Gang Xu

1621-Pos Board B530
INFLUENCE OF BENDING OF MICROVILLI ON LEUKOCYTE ROLLING ADHESION IN SHEAR FLOW–A SIMULATION STUDY. **Tai-Hsien Wu**, Dewei Qi

1622-Pos Board B531
ASYMMETRIC FLOWS IN THE INTERCELLULAR MEMBRANE DURING CELL DIVISION. **Vidya V. Menon**, Sundar R. Naganathan, Mandar M. Inamdar, Anirban Sain

1623-Pos Board B532
CELL MIGRATION THROUGH A CONFINED MICRO-ENVIRONMENT: AN ATTEMPT TO UNDERSTAND THE MOTION OF METASTATIC CELLS. **Carlotta Ficorella**, Rebeca Martínez Vázquez, Paul Heine, Eugenia Lepera, Jing Cao, Roberto Osellame, Joseph A. Käs

Bacterial Mechanics, Cytoskeleton, and Motility (Boards B533–B543)

1624-Pos Board B533
IMPACT OF FLUORESCENT PROTEIN FUSIONS ON THE BACTERIAL FLAGELLAR MOTOR. Minyoung Heo, Ashley L. Nord, Delphine Chamousset, Erwin van Rijn, Hubertus J.E. Beaumont, **Francesco Pedaci**

1625-Pos Board B534
MODELING COLONY PATTERN FORMATION UNDER DIFFERENTIAL ADHESION AND CELL PROLIFERATION. **Jiajia Dong**, Stefan Klumpp

1626-Pos Board B535
BRAUNS LIPOPROTEIN FACILITATES OMPA INTERACTION WITH THE ESCHERICHIA COLI CELL WALL. **Firdaus Samsudin**, Alister Boags, Thomas J. Piggot, Syma Khalid

1627-Pos Board B536
NUCLEOID SEGREGATION DYNAMICS AND ITS VARIABILITY IN DIVIDING AND FILAMENTOUS *E. COLI*. Anteneh H. Abebe, Itay Gelber, Alex Aranovich, Mario Feingold, **Itzhak Fishov**

1628-Pos Board B537
CALCIUM CHANNEL BLOCKERS EFFECT ON MOTILITY : A NOVEL TARGET IN BIOMEDICAL RESEARCH. **Negar Motayagheni**

1629-Pos Board B538
MEASURING THE EFFECTIVE TEMPERATURE OF SINGLE MAGNETOTACTIC BACTERIA AS A TOOL TO STUDY NON-THERMAL BIOLOGICAL NOISE. **Lucas Le Nagard**, Solomon Barkley, Xiaohui Zhu, Adam P. Hitchcock, Cecile Fradin

1630-Pos Board B539
MECHANICAL PERTURBATIONS TO THE GUT MICROBIOTA. **Carolina Tropini**, Justin Sonnenburg, KC Huang, Katharine Ng

1631-Pos Board B540
DYNAMICS OF GROWTH, CELL DIVISION, AND PHENOTYPIC SWITCHING OFESCHERICHIA COLIAT ELEVATED CONCENTRATION OF MAGNESIUM SULFATE. **Sudip Nepal**, Azarin Yazdani, Vincent Chevrier, Pradeep Kumar

1632-Pos Board B541
FACTORS AFFECTING BACTERIAL GROWTH CONSTANTS. **Esha Atolia**

1633-Pos Board B542
ROLE OF BACTERIAL ELECTROPHYSIOLOGY IN BIOFILM DEVELOPMENT. **Bradley Prythero**, R. Andrew Weekley, Giancarlo N. Bruni, Joel M. Kralj

1634-Pos Board B543
INVESTIGATING THE EFFECT OF ANTIMICROBIAL PEPTIDES ON BIOFILM SURVIVAL. **Thelma Mashaka**, Catherine B. Volle

Membrane Pumps, Transporters, and Exchangers II (Boards B544–B564)

1635-Pos Board B544
REGULATION OF MAMMALIAN LARGE NEUTRAL AMINO ACID TRANSPORTER LAT1 BY ITS PARTNER CD98. **Qingnan Liang**, Pattama Wiriyasermkul, Matthias Quick, Ming Zhou

1636-Pos Board B545
STRUCTURE-BASED LIGAND DISCOVERY FOR THE HUMAN OLIGOPEPTIDE TRANSPORTER 1, PEPT1. Claire Colas, Masayuki Masuda, Kazuaki Sugio, Seiji Miyauchi, Yongjun Hu, David E. Smith, **Avner Schlessinger**

1637-Pos Board B546
MOLECULAR DYNAMICS SIMULATIONS REVEAL SPECIFIC INTERACTIONS OF THE BAND 3 ANION EXCHANGER WITH LIPIDS AND GLYCOPHORIN A. **Antreas C. Kalli**, Reinhart A.F. Reithmeier

1638-Pos Board B547
EXPLORING THE TRANSPORT MECHANISM OF THE HUMAN AE4 (SLC4A9) CL^-/HCO_3^- EXCHANGER. Marcelo A. Catalán, Juan José Viveros, Fernanda Fernandez, Lisandra Flores, Sebastian Brauchi, **Gaspar Peña-Münzenmayer**

1639-Pos Board B548
HOW STRUCTURAL ELEMENTS ADDED IN EVOLUTION FROM BACTERIAL TRANSPORTERS SERVE HUMAN SLC6 HOMOLOGS . **Asghar Razavi**, George Khelashvili, Harel Weinstein

1640-Pos Board B549
IDENTIFICATION OF THE SLC26A6 AND NADC-1 TRANSPORTERS BINDING SITE. **Ehud Ohana**

1641-Pos Board B550
EFFECT OF ADENYLYL-IMIDODIPHOSPHATE ON K^+/CA^{2+}-EXCHANGER ACTIVITY IN HUMAN RED BLOOD CELLS. **Daniel R. Landi Conde**, Naileth D. González Sanabria, Jesús G. Romero

1642-Pos Board B551
TRANSPORTED BY LIGHT: OPTOGENETIC CONTROL OF NCX1. Riccardo Rizzetto, Viviana Agus, Silvia Cainarca, Lucia Rutigliano, Loredana Redaelli, Lia Scarabottolo, **Jean-Francois Rolland**

1643-Pos Board B552
DISSECTING THE THERMODYNAMICS OF TRANSPORT OF A SODIUM-CALCIUM EXCHANGER. **Irina Shlosman**, Fabrizio Marinelli, Joseph A. Mindell, José D. Faraldo-Gómez

1644-Pos Board B553
HOW THE SUBSTRATE OCCUPANCY OF A MEMBRANE TRANSPORTER DETERMINES THE VIABILITY OF ITS ALTERNATING-ACCESS MECHANISM AND THUS ITS FUNCTIONAL SPECIFICITY. **Fabrizio Marinelli**, Emel Ficici, José Faraldo-Gómez

1645-Pos Board B554
EAAT3 INVESTIGATED USING SSM-BASED HTS ELECTROPHYSIOLOGY ON THE SURFE^{2}R 96SE. **Maria Barthmes**, Andre Bazzone, Stephan Holzhauser, Michale George, Niels Fertig, Andrea Brüggemann

1646-Pos Board B555
THE SPLIT PERSONALITY OF GLUTAMATE TRANSPORTERS: A CHANNEL AND A TRANSPORTER. **Renae M. Ryan**

1647-Pos Board B556
SELECTIVITY PROFILING OF THE HUMAN MONOAMINE TRANSPORTERS: INVESTIGATION OF THE SEROTONIN TRANSPORTER MECHANISM. **Eva Hellsberg**, Lucy R. Forrest, Anna Stary-Weinzinger, Gerhard F. Ecker

1648-Pos Board B557
TRANSLOCATION OF POTASSIUM IN INITIATING RESET OF MONOAMINE TRANSPORTER PROTEINS FROM MICROSECOND MOLECULAR DYNAMICS SIMULATIONS. **Emily M. Benner**, Jeffrey D. Evanseck

1649-Pos Board B558
MOLECULAR CHARACTERIZATION OF THE CTR COPPER TRANSPORTER. **Kehan Chen**, Gang Wu, Ah-Lim Tsai, Ming Zhou

1650-Pos Board B559
COUPLING SPECTROSCOPIC DATA FOR A SECONDARY TRANSPORTER WITH SIMULATIONS TO ASSESS THE ROLE OF A KEY ACIDIC RESIDUE. **Vanessa Leone**, Izabela Waclawska, Burkhard Endeward, Thomas Prisner, Christine Ziegler, Lucy R. Forrest

1651-Pos Board B560
A HIGHLY CONSERVED NA^+ BINDING SITE IN PROKARYOTIC MULTI-DRUG MATE TRANSPORTERS. **Emel Ficici**, Wenchang Zhou, José D. Faraldo-Gómez

1652-Pos Board B561
LACTOSE PERMEASE: MECHANISM THROUGH STRUCTURES. **Hemant Kumar**, H Ronald Kaback, Robert M. Stroud

1653-Pos Board B562
CRYSTAL STRUCTURE OF AN EIIC TRAPPED IN AN INWARD-FACING CONFORMATION. **Zhenning Ren**, Jumin Lee, Zhichun Xu, Yin Nian, Liya Hu, Jason McCoy, Allan Ferreon, Wonpil Im, Ming Zhou

1654-Pos Board B563
MOLECULAR MECHANISM OF SUGAR TRANSPORT BY A SWEET TRANSPORTER. **Liang Feng**

1655-Pos Board B564
BEYOND THE STRUCTURE: DECIPHERING THE MOLECULAR MECHANISMS OF SECONDARY TRANSPORT WITH HYDROGEN-DEUTERIUM EXCHANGE MASS SPECTROMETRY. **Chloe PVJ Martens**

Cellular Signaling and Metabolic Networks (Boards B565–B575)

1656-Pos Board B565
MITOCHONDRIAL CHAOS: REDOX-ENERGETIC BEHAVIOR AT THE EDGE. Jackelyn M. Kembro, Sonia Cortassa, Steven J. Sollott, **Miguel A. Aon**

1657-Pos Board B566
ENZYMATIC DYNAMICS IN BRIEF MAXIMAL EXERCISE: A SKELETAL MUSCLE GLYCOGENOLYSIS METABOLIC MODEL. **Kevin M. Christmas**, James B. Bassingthwaighte

1658-Pos Board B567
$PM_{2.5}$ EXPOSURE AND ROS PRODUCTION IN NR8383 RAT ALVEOLAR MACROPHAGES. **Anthony Waterston**, Joel Castillo, Micah Olivas, Alam Hasson, Laurent Dejean

1659-Pos Board B568
BISPHOSPHONATES REGULATE OSTEOBLASTS/OSTEOCLASTS PROLIFERATION INDUCING BONE MINERALIZATION. **Rosa Scala**, Mariacristina Angelelli, Fatima Maqoud, Antonio Scilimati, Domenico Tricarico

1660-Pos Board B569
A NOVEL BACTERIAL CELL TO CELL COMMUNICATION MECHANISM. **Arthur Prindle**, Jintao Liu, Munehiro Asally, Jordi Garcia-Ojalvo, Gurol Suel

1661-Pos Board B570
Education Travel Awardee
THE ROLE OF CALMODULIN METHIONINE OXIDATION IN REGULATING CONFORMATIONAL CHANGE. **Daniel Walgenbach**, Jennifer C. Klein, Andrew Gregory

1662-Pos Board B571
SPATIAL CHARACTERIZATION OF NADH CONCENTRATION AND DIFFUSION IN CELLS AND TISSUE. **Rachel Cinco**, Per Niklas Hedde, Michelle A. Digman, Enrico Gratton

1663-Pos Board B572
DIFFUSION AS A RULER: MODELING KINESIN DIFFUSION AS A LENTH SENSOR FOR INTRAFLAGELLAR TRANSPORT. **Nathan L. Hendel**, Matt Thomson, Wallace F. Marshall

1664-Pos Board B573
INVESTIGATIONS INTO IDIOSYNCRATIC DRUG-INDUCED HEPATOTOXICITY AND CHRONIC PROLIFERATION OF CANCER CELLS USING A LABEL-FREE METHOD. **Corina T. Bot**, Sonja Stölzle-Feix, Krisztina Juhasz, Elena Dragicevic, Leo Doerr, Matthias Beckler, Michael George, Andrea Brüggemann, Rodolfo J. Haedo, Niels Fertig

1665-Pos Board B574
CHARACTERIZATION OF POSPHATIDYLINOSITOL-3,4-BISPHOSPHATE BINDING PROPERTIES OF PROTEINS IN LIVING CELLS USING THE VOLTAGE SENSING PHOSPHATASE CI-VSP. Tabitha Hees, Dominik Oliver, **Christian R. Halaszovich**

1666-Pos Board B575
BCL-2 OR BCL-XL OVEREXPRESSSION AFFECTS BOTH LACTIC FERMENTATION AND MITOCHONDRIAL METABOLISM IN GROWING PRO-LYMPHOCYTES. **Catalina Olea**, Rhaul Llanos, Krish Krishnan, Laurent Dejean

Molecular Dynamics I (Boards B576–B601)

1667-Pos Board B576
DOES CYTOSINE METHYLATION STABILIZE THE BI SUBSTATE OF DNA? Jesse Garcia Castillo, Jessica Romero, Roxanne A. Fries, Georgia A. Macy, **Paul S. Nerenberg**

1668-Pos Board B577
USING MOLECULAR DYNAMICS SIMULATIONS TO COMPARE THE STABILITY OF LYSENIN STRUCTURES OBTAINED THROUGH X-RAY CRYSTALLOGRAPHY AND SINGLE-PARTICLE CRYO-ELECTRON MICROSCOPY. **Vivek Govind Kumar**

1669-Pos Board B578
HOW ZIKA SUSTAINS HIGH TEMPERATURES: INSIGHTS FROM ATOMIC SIMULATIONS. **Pindi Chinmai**, Venkat Reddy Chirasani, Mohammad Homaidur Rahman, Mohd Ahsan, Prasanna Diddige Revanasiddappa, Sanjib Senapati

1670-Pos Board B579
EVOLUTIONARILY CONSERVED AND DIVERGENT RESIDUE-RESIDUE CONTACT DYNAMICS PROVIDE INSIGHTS INTO THE ALLOSTERIC REGULATION OF CYCLOPHILINS. Phuoc J. Vu, **Xin-Qiu Yao**, Mohamed Momin, Donald Hamelberg

1671-Pos Board B580
CONFORMATIONAL DYNAMICS OF THE HIV-1 *TRANS*-ACTIVATION RESPONSE ELEMENT RNA HAIRPIN BOUND TO A LAB-EVOLVED PEPTIDE. **Chapin E. Cavender**, Ivan A. Belashov, Joseph E. Wedekind, David H. Mathews

1672-Pos Board B581
CONFORMATIONAL TRANSITION DYNAMICS OF A POTASSIUM CHANNEL VOLTAGE SENSOR DOMAIN. **Tohru Terada**

1673-Pos Board B582
PREDICTING SPECTRAL SHIFT IN THE TELEOST RH2 CONE OPSINS USING MOLECULAR DYNAMICS SIMULATIONS. **Jagdish Suresh Patel**, Celeste J. Brown, F. Marty Ytreberg, Deborah L. Stenkamp

1674-Pos Board B583
GLYCAN-PROTEIN INTERACTIONS IN NMDA RECEPTORS REVEALED WITH COMPUTATIONAL MODELING AND NMR SPECTROSCOPY. **Anton V. Sinitskiy**, Ganesh P. Subedi, Adam W. Barb, Vijay S. Pande

1675-Pos Board B584
VON WILLEBRAND FACTOR, A FORCE-SELECTIVE PLATELET BINDER AND FACTOR VIII CARRIER. **Klaus Bonazza**, Roxana Iacob, Nathan Hudson, John Engen, Timothy Springer

1676-Pos Board B585
COMPUTATIONAL STUDY ON CONFORMATIONAL RELAXATION DYNAMICS OF A PROTEIN. **Sotaro Fuchigami**

1677-Pos Board B586
NMR RELAXATION AND MOLECULAR DYNAMICS SIMULATIONS OF SIDE CHAIN DYNAMICS IN PROTEINS. **Falk Hoffmann**, Mengjun Xue, Frans Mulder, Lars Schäfer

1678-Pos Board B587
THE EFFECTS OF LINKER HISTONE ISOFORMS ON THE STRUCTURE AND DYNAMICS OF THE CHROMATOSOME. **Dustin C. Woods**, Jeff Wereszczynski

1679-Pos Board B588
HOW PROTEINS BIND TO DNA. TARGET DISCRIMINATION AND DYNAMIC SEQUENCE INTERROGATION ON TELOMERES. **Milosz Wieczor**, Jacek Czub

1680-Pos Board B589
ATOMIC-LEVEL CHARACTERIZATION OF THE HIV-1 CAPSID AND HOST-PATHOGEN INTERACTIONS FROM MOLECULAR DYNAMICS SIMULATIONS. **Juan R. Perilla**

1681-Pos Board B590
MOLECULAR DYNAMICS SIMULATION OF TOLL-LIKE RECEPTOR 4 (TLR4) ECTODOMAIN. **Alireza Tafazzol**, Yong Duan

1682-Pos Board B591
CHARACTERIZING THE MOTIONS OF N2-N3 DOMAINS OF ISDH. **Joseph Clayton**, Jeff Wereszczynski

1683-Pos Board B592
COVALENT COMPLEX MODEL OF DNA TOPOISOMERASE AND DNA FOR MOLECULAR DYNAMICS SIMULATION. **Purushottam Tiwari**, Prem Chapagain, Yuk-Ching Tse-Dinh, Aykut Uren

1684-Pos Board B593
MOLECULAR DYNAMICS AND DOCKING STUDIES ON ACETYLCHOLINESTERASE (ACHE) INHIBITORS. **Rejwan Ali**, Mostafa Sadoqi, Simon Moller, Allal Boutajangout, Mihaly Mezei

1685-Pos Board B594
OLIGOMERIZATION OF NICOTINIC ACETYLCHOLINE RECEPTORS IN DOMAIN-FORMING MEMBRANES. **Kristen N. Woods**, Liam M. Sharp, Grace Brannigan

1686-Pos Board B595
EXPERIMENTAL AND COMPUTATIONAL STUDIES OF STRUCTURAL DIFFERENCES BETWEEN ALTERNATIVE EXON SKIPPED REPAIRS FOR DUCHENNE MUSCULAR DYSTROPHY. **Manyuan Ma**, Nick Menhart, Jeff Wereszczynski

1687-Pos Board B596
MOLECULAR DYNAMICS SIMULATION STUDIES OF POLYMYXIN B DERIVATIVES IN HOMOGENEOUS *E. COLI* K12 BILAYERS. **Seonghoon Kim**, Marcos Pires, Wonpil Im

1688-Pos Board B597
MOLECULAR DYNAMICS SIMULATIONS FOR CONFORMATIONAL CHANGES ON A REACTION STEP OF SR-CA^{2+}-ATPASE. **Chigusa Kobayashi**, Yasuhiro Matsunaga, Jaewoon Jung, Yuji Sugita

1689-Pos Board B598
INFLUENZA VIRAL ENVELOPE SIMULATION REVEALS NOVEL DRUGGABLE POCKETS ON SURFACE GLYCOPROTEINS. **Sarah E. Kochanek**, Jacob D. Durrant, Rommie E. AMaro

1690-Pos Board B599
NOVEL INSIGHTS TO THE DESIGN OF APOLIPOPROTEIN AI MIMETIC PEPTIDES. **Mohsen Pourmousa**, Richard W. Pastor

1691-Pos Board B600
RESULTS REGARDING THE RESOLVING OF MEMBRANE-PROTEIN COMPLEXES USING NEUTRON REFLECTION IN MOLECULAR DYNAMICS. **Bradley W. Treece**, Arvind Ramanathan, Frank Heinrich, Mathias Lösche

1692-Pos Board B601
MODELING THE ROTATIONAL DYNAMICS OF NOVEL HETERO-FRET PROBES AS MEASURED USING TIME-RESOLVED ANISOTROPY. **Ryan E. Leighton**, Hannah Leopold, Jacob Schwarz, Arnold J. Boersma, Erin D. Sheets, Ahmed A. Heikal

Computational Methods and Bioinformatics I (Boards B602–B619)

1693-Pos Board B602
A DATA DICTIONARY AND PROTOTYPE DEPOSITION SYSTEM FOR ARCHIVING INTEGRATIVE/HYBRID MODELS. **Brinda Vallat**, Benjamin Webb, John Westbrook, Andrej Sali, Helen Berman

1694-Pos Board B603
MOLQL: TOWARDS A COMMON GENERAL PURPOSE MOLECULAR QUERY LANGUAGE. **Alexander S. Rose**, David Sehnal, Spencer Bliven, Stephen K. Burley, Sameer Velankar

1695-Pos Board B604
COMPARATIVE PROTEIN DYNAMICS WITH DROIDS 1.0–A GUI-BASED PIPELINE FOR FUNCTIONAL EVOLUTIONARY PROTEIN ANALYSIS AND VISUALIZATION. **Gregory A. Babbitt**, Jamie S. Mortensen, Erin E. Coppola, Lily E. Adams, Justin K. Liao

1696-Pos Board B605
CHANNELSDB AND MOLEONLINE–DATABASE AND TOOL FOR ANALYSIS OF BIOMACROMOLECULAR TUNNELS AND PORES. Lukáš Pravda, David Sehnal, **Karel Berka**, Veronika Navrátilová, Dominik Toušek, Václav Bazgier, Radka Svobodová Vařeková, Michal Otyepka, Jaroslav Koča

1697-Pos Board B606
DESIGN PRINCIPLES FOR FUNCTIONALIZED SURFACES. **Tamara C. Bidone**, Aravind Rammohan, Matt McKenzie, Gregory A. Voth

1698-Pos Board B607
INTERACTIVE EXPLORATION OF NON-COVALENT INTERACTIONS WITH THE NGL VIEWER. **Alexander S. Rose**, Stephen K. Burley

1699-Pos Board B608
NOVEL TOOLS FOR ANALYZING THE THREE-DIMENSIONAL CELLULAR SHAPE SPACE. **C. David Williams**, Julie A. Theriot, Molly M. Maleckar, The Allen Inst for Cell Science

1700-Pos Board B609
EXPLORING DEEP NEURAL NETWORK ARCHITECTURES FOR AUTOMATED ELECTRON MICROGRAPH SEGMENTATION. **Matthew D. Guay**, Zeyad A. Emam, Adam B. Anderson, Richard D. Leapman

1701-Pos Board B610
PERMM: WEB SERVER AND DATABASE FOR PREDICTION OF MEMBRANE PERMEABILITY AND TRANSLOCATION PATHWAYS OF MOLECULES. **Irina D. Pogozheva**, Henry I. Mosberg, Andrei Lomize

1702-Pos Board B611
FAST, ACCURATE PH DEPENDENT ALCHEMICAL FREE ENERGY CALCULATIONS TOWARDS RATIONAL DRUG DESIGN. **Daniel J. Mermelstein**

1703-Pos Board B612
EFFICIENT FLEXIBLE-BACKBONE DOCKING OF CHALLENGING PROTEIN COMPLEXES. **Shourya S. Roy Burman**, Nicholas A. Marze, William Sheffler, Jeffrey J. Gray

1704-Pos Board B613
CHARMM-GUI MEMBRANE BUILDER WITH GLYCOLIPIDS AND LIPOPOLYSACCHARIDES. **Jumin Lee**, Göran Widmalm, Jeffery B. Klauda, Wonpil Im

1705-Pos Board B614
GAMER 2.0: SOFTWARE TOOLKIT FOR ADAPTIVE MESH GENERATION FROM STRUCTURAL BIOLOGICAL DATASETS. **Christopher T. Lee**, John Moody, Michael J. Holst, J. Andrew McCammon, Rommie E. AMaro

1706-Pos Board B615
'MARTINIZING' THE VARIATIONAL IMPLICIT SOLVENT METHOD (VISM): SOLVATION FREE ENERGY FOR COARSE-GRAINED PROTEINS. **Clarisse Gravina Ricci**, Bo Li, Li-Tien Cheng, Joachim Dzubiella, J. Andrew McCammon

1707-Pos Board B616
FAST IMPLICIT POTENTIALS FOR ACCURATE PREDICTION AND DESIGN OF MEMBRANE PROTEIN STRUCTURES. **Rebecca F. Alford**, Patrick Fleming, Karen G. Fleming, Jeffrey J. Gray

1708-Pos Board B617
SIMULATION OF BROWNIAN DYNAMICS ON A CURVED SURFACE. **Kenji Kimura**, Yasuhiro Inoue

1709-Pos Board B618
STUDY OF POLYELECTROLYTE-SMALL MOLECULE DRUG BINDING WITH WORMLIKE CHAIN MODEL. **Merina Jahan**, Mark J. Uline

1710-Pos Board B619
DETRENDING: HOW TO CORRECT IMAGES FOR BLEACHING. **Rory Nolan**, Luis Alvarez, Sergi Padilla-Parra

Optical Microscopy and Superresolution Imaging: Applications to Cellular Molecules I (Boards B620–B649)

1711-Pos Board B620
COUNTING SINGLE MOLECULES WITH LOCALIZATION MICROSCOPY. **Joshua Milstein**

1712-Pos Board B621
MULTICOLOR SPATIAL INTENSITY DISTRIBUTION ANALYSIS OF LASER SCANNING MICROSCOPY IMAGES TO STUDY DOPAMINE RECEPTOR DYNAMICS. **Daniel J. Foust**, Antoine G. Godin, Alessandro Ustione, Paul W. Wiseman, David W. Piston

1713-Pos Board B622
SPATIALLY SELECTIVE DISSECTION OF SIGNAL TRANSDUCTION IN NEURONS GROWN ON NETRIN-1 PRINTED NANOARRAYS VIA SEGMENTED FLUORESCENCE FLUCTUATION ANALYSIS. **Angelica A. Gopal**, Sebastien G. Ricoult, Stephanie N. Harris, David Juncker, Timothy E. Kennedy, Paul W. Wiseman

1714-Pos Board B623
OPEN-SOURCE OPTICAL PROJECTION TOMOGRAPHY OF LARGE ORGAN SAMPLES. **Pedro P. Vallejo Ramirez**, Joseph Zammit, Bogdan Spiridon, Fergus Riche, Florian Stroehl, Romain F. Laine, Clemens F. Kaminski

1715-Pos Board B624
FLAT-FIELD ILLUMINATION MICROSCOPY FOR LARGE FIELD-OF-VIEW QUANTITATIVE IMAGING. **Ian Khaw**, Benjamin Croop, Kyu Young Han

1716-Pos Board B625
MULTICOLOR TWO-PHOTON FLUORESCENCE LIFETIMES MICROSCOPY BY WAVELENGHT MIXING FOR EFFICIENT AND SIMULTANEUS NADH AND FAD IMAGING REVEALS METABOLIC SHIFTS ASSOCIATED TO CELLULAR DIFFERENTIATION AND OXIDATIVE STRESS IN LIVING TISSUES. **Chiara Stringari**, Emmanuel Beaurepaire

1717-Pos Board B626
LONG-TERM SUPERRESOLUTION IMAGING OF AMYLOID STRUCTURES USING TRANSIENT BINDING OF STANDARD AMYLOID PROBES. Kevin Spehar, Tianben Ding, Yuanzi Sun, Jin Lu, George R. Nahass, Matthew D. Lew, **Jan Bieschke**

1718-Pos Board B627
QUANTITATIVE PHASE IMAGING BIOLOGICAL APPLICATIONS USING QUADRIWAVE LATERAL SHEARING INTERFEROMETRY. Sherazade Aknoun, Antoine Federici, **Flor A. Medina**, Pierre Bon, Julien Savatier, Benoit Wattellier, Serge Monneret

1719-Pos Board B628
SCMOS NOISE CORRECTION ALGORITHM FOR MICROSCOPY IMAGES. **Sheng Liu**, Michael J. Mlodzianoski, Zhenhua Hu, Yuan Ren, Kristi McElmurry, David A. Miller, Karl F. Ziegler, Paula-Marie Ivey, Donghan Ma, Daniel M. Suter, Fang Huang

1720-Pos Board B629
A LIQUID TUNABLE MICROSCOPE AS A NEW PARADIGM IN OPTICAL MICROSCOPY TO PAINT 4D CHROMATIN ORGANISATION IN THE CELL NUCLEUS. **Alberto Diaspro**, Isotta Cainero, Luca Lanzanò, Paolo Bianchini, Giuseppe Vicidomini, Francesca Cella Zanacchi, Luca Pesce, Simone Pelicci, Michele Oneto, Melody Di Bona, Mario Faretta, Paola Barboro, Aymeric Le Gratiet

1721-Pos Board B630
NEW INSIGHTS INTO THE ANTIMICROBIAL MECHANISM OF SILVER IONS REVEALED BY SUPERRESOLUTION FLUORESCENCE MICROSCOPY. **Prabhat Khadka**, Venkata Rao Krishnamurthi, Meaad Alqahtany, Yong Wang

1722-Pos Board B631
DIRECT VISUALIZATION OF LIPOPROTEIN MEDIATED CHOLESTEROL TRANSPORT AT THE PHOSPHOLIPID BILAYER INTERFACE. **Birgit Plochberger**, Markus Axmann, Erdinc Sezgin, Johannes Preiner, Andreas Karner, Clemens Röhrl, Michael D. Brodesser, Christian Eggeling, Gerhard J. Schütz, Herbert Stangl

1723-Pos Board B632
SPLIT-STED IMAGING OF NUCLEAR STRUCTURES. **Luca Lanzano'**, Maria J. Sarmento, Lorenzo Scipioni, Michele Oneto, Simone Pelicci, Melody Di Bona, Luca Pesce, Mario Faretta, Laura Furia, Gaetano I. Dellino, Pier G. Pelicci, Paolo Bianchini, Alberto Diaspro

1724-Pos Board B633
MULTI-STRUCTURE SUPERRESOLUTION IMAGING USING DNA STRAND DISPLACEMENT. Diane S. Lidke, Cheyenne Martin, Farzin Farzam, Jeremy S. Edwards, Matthew Lakin, Sandeep Pallikkuth, **Keith A. Lidke**

1725-Pos Board B634
NANOSCOPY WITH MULTIPLE OFF-STATES. **Johann G. Danzl**, Sven Sidenstein, Carola Gregor, Nicolai Urban, Peter Ilgen, Stefan Jakobs, Stefan W. Hell

1726-Pos Board B635
MULTICOLOR IMAGING BASED ON INTERFEROMETRIC INFORMATION IN 4PI SINGLE-MOLECULE SWITCHING NANOSCOPY. **Kevin Hu**, Yongdeng Zhang, Joerg Bewersdorf

1727-Pos Board B636
SUPERRESOLUTION FLUORESCENCE MICROSCOPY OF PROTEIN ASSOCIATION AND HIGHER-ORDER STRUCTURE. **Adriano Vissa**, Maximiliano Giuliani, William S. Trimble, Peter K. Kim, Christopher M. Yip

1728-Pos Board B637
SUB-MICRON TO NANOSCALE CHEMICAL CHARACTERIZATION OF BIOLOGICAL SYSTEMS USING LASER AND AFM BASED IR SPECTROSCOPY. **Eoghan Dillon**, Anirban Roy, Curtis Marcott, Craig Prater

1729-Pos Board B638
VERSATILE MULTIPLEXED SUPERRESOLUTION IMAGING OF NANOSTRUCTURES BY QUENCHER-EXCHANGE-PAINT. **Tobias Lutz**, Alexander H. Clowsley, Ruisheng Lin, Stefano Pagliara, Lorenzo di Michele, Christian Soeller

1730-Pos Board B639
IMAGING OF HUMAN SUBCUTANEOUS ADIPOSE TISSUE REVEALS INSULIN REFRACTIVE AND RESPONSIVE POPULATIONS. **Chad D. McCormick**, Ludmila Bezrukov, Hang Waters, Ginikanwa Oneyekaba, Jordan Levine, Shahzaib Khan, Paul Blank, Andrew Demidowich, Jack Yanovski, Joshua Zimmerberg

1731-Pos Board B640
UNDERSTANDING BOUNDARY EFFECTS AND CONFOCAL OPTICS ENABLES QUANTITATIVE FRAP ANALYSIS IN THE CONFINED GEOMETRIES OF ANIMAL, PLANT AND FUNGAL CELLS . James L. Kingsley, Jeffrey P. Bibeau, Sayed I. Mousavi, Cem Unsal, Zhilu Chen, Xinming Huang, Luis Vidali, **Erkan Tuzel**

1732-Pos Board B641
FAST FLUORESCENCE LIFETIME IMAGING FOR LONGITUDINAL STUDIES OF PROTEIN AGGREGATION IN LIVING C. ELEGANS. **Tessa Sinnige**, Romain F. Laine, Kai Yu Ma, Amanda J. Haack, Peter Gaida, Nathan Curry, Michele Perni, Ellen A.A. Nollen, Christopher M. Dobson, Michele Vendruscolo, Gabriele S. Kaminski Schierle, Clemens F. Kaminski

1733-Pos Board B642
FLUORESCENCE LIFETIME TRAJECTORY OF THE MOUSE PRE-IMPLANTATION EMBRYO PREDICTS ITS VIABILITY. **Ning Ma**

1734-Pos Board B643
OLIGOMERIZATION AND NUCLEAR SHUTTLING DYNAMICS OF VIRAL PROTEINS STUDIED BY QUANTITATIVE MOLECULAR BRIGHTNESS ANALYSIS USING FLUORESCENCE CORRELATION SPECTROSCOPY. **Madlen Luckner**, Valentin Dunsing, Salvatore Chiantia, Andreas Herrmann

1735-Pos Board B644
PROBING ASYMMETRIC BEHAVIOR OF A CELL CYCLE REGUPATORY PROTEIN IN LIVE *CAULOBACTER* USING SINGLE-MOLECULE IMAGING. **Jiarui Wang**, Lucy Shapiro, W.E. Moerner

1736-Pos Board B645 **CID TRAVEL AWARDEE**
DECIPHERING THE ROLE OF BACTERIAL ELECTROPHYSIOLOGY IN MECHANOSENSATION. **Giancarlo N. Bruni**, Benjamin Dodd, Anjali Rao, Bradley Prythero, Andrew Weekley, Joel Kralj

1737-Pos Board B646
EXTENDING LIVE-CELL FLUORESCENCE IMAGING TO ANAEROBES OF THE GUT MICROBIOME. **Hannah E. Chia**, Matthew H. Foley, Neil G. Marsh, Nicole M. Koropatkin, Julie S. Biteen

1738-Pos Board B647
HARNESSING SPATIAL AND TEMPORAL FLUORESCENCE FLUCTUATIONS TO DIFFERENTIATE LUMINAL AND MEMBRANE-BOUND PROTEINS IN THE NUCLEAR ENVELOPE. **Jared Hennen**, Kwang-Ho Hur, G.W. Gant Luxton, Joachim D. Mueller

1739-Pos Board B648
GLUCOSE RESPONSE OF TRANS-DIFFERENTIATED ALPHA TO BETA CELLS IN PANCREATIC ISLETS. **Michael DiGruccio**, Zeno Lavagnino, Talitha van der Meulen, Mark Huising, Dave Piston

1740-Pos Board B649
PAIR CORRELATION ANALYSIS OF KU DYNAMICS UPON DNA DAMAGE. **Michelle A. Digman**, Francesco Palomba, Xiangduo Kong, Kyoko Yokomori, Enrico Gratton

Force Spectroscopy and Scanning Probe Microscopy (Boards B650–B674)

1741-Pos Board B650
NANOMECHANICS OF DNA-BINDERS TO DNA BY MAGNETIC TWEEZERS. Ying Wang, Dennis Kreft, Andy Sischka, Volker Walhorn, Katja Toensing, **Dario Anselmetti**

1742-Pos Board B651
COMPOSITION-DEPENDENT ALTERATIONS IN THICKNESS AND PHYSICAL PROPERTIES OF LIPID BILAYER FILM REVEALED BY FREQUENCY MODULATION ATOMIC FORCE MICROSCOPY. **Akinori Kogre**, Yoshikazu Takahashi, Hideo Shindou, Fuyuki Tokumasu, Takao Shimizu

1743-Pos Board B652
PINPOINTING UNLABELED RNA SEQUENCES WITHIN A PROTEIN-RNA COMPLEX WITH ATOMIC FORCE MICROSCOPY. **Youngkyu Kim**, Zhenghan Gao, Duckhoe Kim, Wei Shen Aik, Liang Tong, Ozgur Sahin

1744-Pos Board B653
BIO-FUNCTIONALIZED CORE-SHELL MICROPARTICLES FOR HIGH FORCE OPTICAL TRAPPING. **Dana N. Reinemann**, Juan Carlos Cordova, Rizia Bardhan, Matthew J. Lang

1745-Pos Board B654
EFFECT OF GRAPHENE OXIDE PACKING ON BACTERIAL ADHESION USING SINGLE CELL FORCE SPECTROSCOPY. Elise Linna, Sara BinAhmed, **Benjamin L. Stottrup**, Santiago Romero-Vargas Castrill¢n

1746-Pos Board B655
NEURAL NETWORK APPROACH FOR THE ANALYSIS OF AFM FORCE-DISTANCE CURVES FOR BRAIN CANCER DIAGNOSIS. **Eleonora Minelli**, Gabriele Ciasca, Tanya Enny Sassun, Manila Antonelli, Massimiliano Papi, Valentina Palmieri, Giuseppe Maulucci, Antonio Santoro, Felice Giangaspero, Roberto Delfini, Gaetano Campi, Marco De Spirito

1747-Pos Board B656
CALCIUM DEPENDENT INTERACTION BETWEEN N2A-HALO AND F-ACTIN: A SINGLE MOLECULE STUDY. **Samrat Dutta**, Brent Nelson, Matthew Gage, Kiisa Nishikawa

1748-Pos Board B657
ΓΔ T CELL INHIBIT GROWTH AND METASTASIS OF BREAST CANCER CELLS BY ALTERING CELLULAR BIOPHYSICAL PROPERTIES AND CANCER CELL METABOLISM. **Yi Hu**, Yangzhe Wu

1749-Pos Board B658
PROBING STRUCTURAL FEATURES OF BIOMOLECULAR ENSEMBLES WITH ATOMIC FORCE MICROSCOPY. **Alexander Lushnikov**, Alexey Krasnoslobodtsev

1750-Pos Board B659
NEW OBLIGATE FOLDING INTERMEDIATE OF AN RNA PSEUDOKNOT OBSERVED USING ATOMIC FORCE MICROSCOPY BASED FORCE SPECTROSCOPY WITH 10 MS RESOLUTION. **Robert Walder**, Ty W. Miller, William J. Van Patten, Thomas T. Perkins

1751-Pos Board B660
MEASURING THE EFFECT OF ANTIMICROBIAL PEPTIDES ON THE BIOPHYSICAL PROPERTIES OF BACTERIA USING ATOMIC FORCE MICROSCOPY. **Catherine Volle**, Kanesha Overton, Helen Greer, Megan Ferguson, Eileen Spain, Megan Nunez

1752-Pos Board B661
TEMPERATURE-DEPENDENT NANOMECHANICS AND TOPOGRAPHY OF BACTERIOPHAGE T7. Zsuzsanna Vörös, Gergely Sevcsik, Gabriella Csík, Levente Herényi, **Miklós S. Kellermayer**

1753-Pos Board B662
BIOMECHANICAL CHARACTERIZATION OF PROTEIN-BASED HYDROGELS USING A FORCE-CLAMP RHEOMETER. **Luai R. Khoury**, Joel Nowitzke, Kirill Shmilovich, Ionel Popa

1754-Pos Board B663
PROBING ELASTIC PROPERTIES OF MOUSE ARTICULAR CARTILAGE ACROSS TISSUE THICKNESS. **Emilios K. Dimitriadis**, Preethi L. Chandran, Edward Mertz, Ferenc Horkay

1755-Pos Board B664
MICROPIPETTE GEOMETRY-INDUCED ELECTROSTATIC TRAPPING OF NANOPARTICLES. **Yazgan Tuna**, Ji-Tae Kim, Hsuan-Wei Liu, Vahid Sandoghdar

1756-Pos **Board B665**
MECHANICAL UNFOLDING OF THE HIGH POTENTIAL IRON-SULFUR PROTEIN PROBED BY SINGLE MOLECULE ATOMIC FORCE MICROSCOPY. **Jiayu Li**, Hongbin Li

1757-Pos **Board B666**
HIGH PRECISION AFM-BASED SMFS OF MECHANICALLY LABILE T3SS EFFECTORS. **Marc-Andre LeBlanc**, Robert Walder, Devin Edwards, Thomas Perkins, Marcelo Sousa

1758-Pos **Board B667**
PROBING THE SINGLE MOLECULE FOLDING DYNAMICS OF MAMMALIAN PRION PROTEINS FROM SPECIES WITH DIFFERENT DISEASE SUSCEPTIBILITY. **Uttam Anand**, Craig Garen, Michael T. Woodside

1759-Pos **Board B668**
SINGLE PARTICLE VIRUS ISOELECTRIC POINT DETERMINATION WITH CHEMICAL FORCE MICROSCOPY. **Xue Mi**, Caryn L. Heldt

1760-Pos **Board B669**
HIGH-THROUGHPUT SINGLE-MOLECULE CHARACTERIZATION OF ANTIBODY-ANTIGEN INTERACTION USING CENTRIFUGE FORCE MICROSCOPY. **Yi Luo**, Darren Yang, Molly MacIsaac, Wesley P. Wong

1761-Pos **Board B670**
ROLE OF DIMER INTERFACE ON THE COOPERATIVITY AND MISFOLDING IN SOD1 STUDIED BY SINGLE MOLECULE FORCE SPECTROSCOPY. **Supratik Sen Mojumdar**, Zackary Scholl, Michelle Sullivan, Craig Garen, Michael T. Woodside

1762-Pos **Board B671**
ATOMIC FORCE MICROSCOPY PROBING OF EXTRA-CELLULAR VESICLES. Daan Vorselen, Susan van Dommelen, Raya Sorkin, Richard van Wijk, Raymond M. Schiffelers, Gijs J. Wuite, **Wouter H. Roos**

1763-Pos **Board B672**
PROBING A FUNDAMENTAL PEPTIDE-LIPID INTERACTION IN *E. COLI* USING HIGH PRECISION FORCE SPECTROSCOPY METHODS. **Kanokporn Chattrakun**, Krishna P. Sigdel, Tina R. Matin, Milica Utjesanovic, Ioan Kosztin, Gavin M. King

1764-Pos **Board B673**
HIGH-SPEED AFM REVEALS DYNAMIC BEHAVOR OF ANTIBODY. **Norito Kotani**, Yoko Kawamoto-Ozaki, Ryo Nakatsuka, Susumu Kondo, Takashi Morii, Takao Okada

1765-Pos **Board B674**
DIRECT QUANTITATIVE DETECTION OF MICRORNAS BY EXCHANGE-INDUCED REMNANT MAGNETIZATION SPECTROSCOPY. **Haopeng Yang**, Miriam Gavriliuc, Shoujun Xu, Yuhong Wang

Biosensors I (Boards B675–B689)

1766-Pos **Board B675**
HIGH THROUGHPUT INTEGRIN TENSION MAPPING IN PLATELETS AT SUBMICRON RESOLUTION. **Yongliang Wang**, Dana N LeVine, Margaret Gannon, Yuanchang Zhao, Anwesha Sarkar, Bailey Hoch, Xuefeng Wang

1767-Pos **Board B676**
IMPROVING THE BRIGHTNESS OF CIRCULAR PERMUTATED RED FLUORESCENT PROTEINS USING AN IN SILICO APPROACH. **Junyi Liang**, Mark Rizzo

1768-Pos **Board B677** **CID TRAVEL AWARDEE**
PHENYLENE ETHYNYLENE BASED SENSORS FOR THE SELECTIVE DETECTION OF TAU PATHOLOGY. **Florencia A. Monge**, Patrick L. Donabedian, Nicole M. Maphis, Shanya Jiang, David G. Whitten, Kiran Bhaskar, Eva Y. Chi

1769-Pos **Board B678**
IMAGING DOPAMINE NEUROMODULATION IN BRAIN STRIATUM AND PREFRONTAL CORTEX. **Abraham Beyene**, Kristen Delevich, Jackson Travis Del Bonis-O'Donnell, Wren Thomas, Wan Chen Lin, Linda Wilbrecht, Markita P. Landry

1770-Pos **Board B679** **EDUCATION TRAVEL AWARDEE**
HIGH SELECTIVITY AND SENSITIVITY OF OLIGOMERIC P-PHENYLENE ETHYNYLENES FOR DETECTING AMYLOID PROTEINS IN-VITRO. **Adeline M. Fanni**, Florencia A. Monge, Arjun Thapa, David G. Whitten, Eva Y. Chi

1771-Pos **Board B680**
MICROSCOPY USING FLUORESCENT DRUG BIOSENSORS FOR "INSIDE-OUT PHARMACOLOGY". **Anand K. Muthusamy**, AMol V. Shivange, Aaron L. Nichols, Aron Kamajaya, Janice Jeon, Philip M. Borden, Jonathan S. Marvin, Elizabeth K. Unger, Huan Bao, Edwin R. Chapman, Lin Tian, Loren L. Looger, Henry A. Lester

1772-Pos **Board B681**
G-QUADRUPLEX FOCI REVEALED BY FLUORESCENT PROBE: A UNIVERSAL CANCER BIOMARKER? **Ta-Chau Chang**

1773-Pos **Board B682**
DRINC: CO-IMAGING OF DYNAMIC ACTIVITIES AND PROTEIN LOCALIZATION IN SUPERRESOLUTION. **Gary CH Mo**, Jin Zhang

1774-Pos **Board B683**
SIMULTANEOUS IMAGING OF APOLLO-NADP$^+$ AND FUCCI TO CORRELATE BETA-CELL NADPH/NADP$^+$ REDOX STATE TO THE CELL CYCLE. **Huntley H. Chang**, Jonathan V. Rocheleau

1775-Pos **Board B684**
APOLLO-NADP$^+$ EXPRESSED IN THE PANCREATIC BETA-CELLS OF LIVING ZEBRAFISH RESPONDS TO GLUCOSE AND DIAMIDE TO REVEAL NADPH DYNAMICS. **Cindy V. Bui**, Curtis W. Boswell, Brian Ciruna, Jonathan V. Rocheleau

1776-Pos **Board B685**
A BREATH OF FRESH AIR: A GENETICALLY ENCODED O_2 PROBE FOR DIRECT MAPPING AND QUANTIFICATION OF OXYGENATION LEVELS IN CELLS VIA FLUORESCENCE LIFETIME IMAGING. **Alessio Andreoni**, Rozhin Penjweini, Marie-Paule Strub, Dan L. Sackett, Jay R. Knutson

1777-Pos **Board B686**
ACIDITY AT THE SURFACES OF CANCER CELLS. **Oleg A. Andreev**, Da Wei, Donald Engelman, Yana Reshetnyak

1778-Pos **Board B687**
PHOTONIC CONTROL OF MICROALGAE FOR IN-SITU AND REAL-TIME MONITORING OF ALGAL CULTIVATION. **Minsun Song**, SoonGweon Hong, Luke P. Lee

1779-Pos **Board B688**
MONITORING VOLTAGE FLUCTUATIONS OF INTRACELLULAR MEMBRANES FLUCTUATIONS OF INTRACELLULAR MEMBRANES. **Masoud Sepehri Rad**, Lawrence B. Cohen, Oliver Braubach, Bradley J. Baker

1780-Pos **Board B689**
REAL-TIME IMAGING OF LITHIUM 'HOT-SPOTS': AN ANALYSIS OF ION CONDUCTANCE IN AQUAPORIN-1 USING NOVEL PHOTO-SWITCHABLE SENSOR. **Jinxin V. Pei**, Sabrina Heng, Micheal De Ieso, Georgina Sylvia, Mohamad Kourghi, Andrew D. Abell, Andrea J. Yool

Biomaterials (Boards B690–B713)

1781-Pos Board B690
APPLICATIONS OF CROSS-LINKED CATARACTOUS EYE PROTEIN ISOLATE FILMS AS DRUG DELIVERY VEHICLES. **Sultana Parveen**, Swagata Dasgupta

1782-Pos Board B691
NUCLEAR UPTAKE OF THIOLATED RIBOFLAVIN GOLD NANOASSEMBLY: DNA DAMAGE AND APOPTOSIS INDUCTION IN CANCER CELL. **Abhishek Sau**, Sabyasachi Sen, Kallol Bera, Uttam Pal, Biswarup Satpati, Chandrima Das, Samita Basu

1783-Pos Board B692
MYOBLAST PROTECTION BY POLYETHYLENE OXIDE-POLYPROPYLENE OXIDE BLOCK COPOLYMERS AGAINST HYPO-OSMOTIC STRESS. **Mihee Kim**, Karen Haman, Evelyne Houang, Wenjia Zhang, Demetris Yannopoulos, Joseph Metzger, Frank Bates, Benjamin Hackel

1784-Pos Board B693
INTERACTIONS OF LIPID MULTILAYERS IN THE PRESENCE OF ATP. Ryan Z. Lybarger, Michele Costantino, Abhinav Ramkumar, Bruce D. Ray, **Horia I. Petrache**

1785-Pos Board B694
BIOMIMETIC MEMBRANE DESIGN PRINCIPLES FOR ANGSTROM SCALE SEPARATION. **Tingwei Ren**, Ratul Chowdhury, Peter Butler, Costas Maranas, Manish Kumar

1786-Pos Board B695
A FLUORESCENT NANOPROBE FOR THE DETECTION OF IN SITU TEMPERATURE CHANGES DURING HYPERTHERMIA TREATMENT OF TUMORS. Edouard Alphandery, Darine Abi Haidar, **Olivier Seksek**, Maxime Thoreau, Alain Trautmann, Nadege Bercovici, Florence Gazeau, Francois Guyot, Imène Chebbi

1787-Pos Board B696
BIOCOMPATIBLE COATED MAGNETOSOME MINERALS FOR APPLICATION IN THE MAGNETIC HYPERTHERMIA TREATMENT OF TUMORS. **Yasmina Hamdous**, Imene Chebbi, Chalani Mandawala, Raphael Le Fevre, Francois Guyot, Olivier Seksek, Edouard Alphandery

1788-Pos Board B697
ALL AQUEOUS SYNTHESIS OF SILICA ENCAPSULATED QUANTUM DOTS WITH FUNCTIONAL SHELLS. **Huanhuan Feng**, Xing Ma, Tingting Zheng, Jan Bart ten Hove, Aldrik H. Velders, Joris Sprakel

1789-Pos Board B698
DE NOVO DESIGNED PROTEINS FOR COLLOIDAL STABILIZATION AND IMPROVEMENT OF CELLULAR UPTAKE. **Tingting Zheng**, Felipe Perona Martínez, Ingeborg Maria Storm, Wolf Rombouts, Joris Sprakel, Renko de Vries, Romana Schirhagl

1790-Pos Board B699
DESIGN OF HISTONE-MIMIC NANOPARTICLES FOR DNA AND RNA COMPACTION USING MOLECULAR MODELING. Matthew Manning, Jessica A. Nash, **Yaroslava G. Yingling**

1791-Pos Board B700
ANTIBACTERIAL PROPERTIES OF CURCUMIN LOADED GRAPHENE OXIDE FLAKES. **Valentina Palmieri**, Francesca Bugli, Margherita Cacaci, Riccardo Di Santo, Alberto Vitali, Riccardo Torelli, Maura Di Vito, Claudio Conti, Maurizio Sanguinetti, Marco De Spirito, Massimiliano Papi

1792-Pos Board B701
GRAPHENE OXIDE LASER PRINTING FOR CONTROLLED STEM CELLS DIFFERENTIATION AND ANTIBACTERIAL EFFECTS. Valentina Palmieri, Marta Barba, Lorena Di Pietro, Silvia Gentilini, Francesca Bugli, Rosanna Larciprete, Wanda Lattanzi, Maurizio Sanguinetti, Marco De Spirito, Claudio Conti, **Massimiliano Papi**

1793-Pos Board B702
ELECTROSPUN POLY(AMINO ACID) BASED NANO GEL FIBER MATRICES AND THEIR BIOCOMPATIBILITY AND BIODEGRADABILITY. **Kristof Molnar**, Constantinos Voniatis, Daniella Feher, Andrea Ferencz, Gyorgy Weber, Miklos Zrinyi, Angela Jedlovszky-Hajdu

1794-Pos Board B703
NOVEL BIOCOMPATIBLE POLYMERS FOR BIOMEDICAL APPLICATIONS. **Tomasz Witko**, Maciej Guzik, Kamila Sofińska, Karolina Stepien, Karolina Podobinska

1795-Pos Board B704
ON THE SUCROSE-INDUCED SELF-ASSEMBLY KINETICS OF HM PECTIN. **Daniela Giacomazza**, Donatella Bulone, Pier L. San Biagio, Rosamaria Marino, Romano Lapasin

1796-Pos Board B705
ADHESIVE NANOMATERIALS DERIVED FROM THE BARNACLE AMPHIBALANUS AMPHITRITE POLYMERIZE BY MOLECULAR RECOGNITION OF SEQUENCES. **Elizabeth A. Yates**, Ashley M. Schenck, Catherine M. Yip, Kenan P. Fears, Christopher R. So, Kathryn J. Wahl

1797-Pos Board B706
ENGINEERED CAF1 PROTEIN POLYMERS FORM TUNEABLE BIOACTIVE HYDROGEL SCAFFOLDS. **Helen Waller**, Gema Dura, Daniel T. Peters, Adrian Yemm, Jeremy H. Lakey

1798-Pos Board B707
MICROTUBULE TRANSPORT ON 3D BIOCOMPATIBLE NANOSTRUCTURES. **Haneen Martinez**, Matthew N. Rush, Jimin Guo, Jeff Brinker, Geroge D. Bachand

1799-Pos Board B708
MAPPING SPATIAL DISTRIBUTIONS OF PERICELLULAR STIFFNESS IN A NATURALLY DERIVED EXTRACELLULAR MATRIX. **Mark Keating**, Elliot Botvinick

1800-Pos Board B709
SCAFFOLD STIFFNESS AT MICROSCALE DIRECTS STEM CELL LINEAGE SPECIFICATION. **Yang Song**, Kang Xu, Sixiang Wang, Jeremiah W. Woodcock, Xiaoling Liao, Martin Y.M. Chiang, Li Yang

1801-Pos Board B710
BIOMECHANICAL CHARACTERIZATION OF FIBROBLAST-POPULATED COLLAGEN TISSUE MODELS. **Zheng Yie Yap**, Chen Wai Kok, Ting Wei Law, Melville Vaughan, Gang Xu

1802-Pos Board B711
MECHANICAL RESPONSE OF FIBROUS MATERIALS TO LOCAL CONTRACTILE LOADS. Brian Burkel, Maria Proestaki, Peter Grimmer, **Jacob Notbohm**

1803-Pos Board B712
NMR STUDIES OF SECONDARY STRUCTURE AND COMPACTION OF MINIELASTIN. **Ma. Faye Charmagne Carvajal**, Kelly Greenland, Jonathan Preston, Ronald Koder, Richard Wittebort

1804-Pos Board B713
NMR STUDY OF ELASTIN'S ELASTICITY MECHANISM. **Nour Jamhawi**, Richard Wittebort

Tuesday, February 20, 2018

Daily Program Summary

All rooms are located in the *Moscone Center* unless noted otherwise.

7:30 AM-5:00 PM	**Registration/Information**	**South Lobby**
8:00 AM-9:00 AM	**Biophysical Society Business Meeting**	**South, Level Three, Room 307/308**
8:00 AM-4:00 PM	**Poster Viewing**	**Exhibit Hall ABC**
8:15 AM-10:15 AM	**Symposium: RNA Structure and Function** **Co-Chairs** *Teresa Carlomagno, Leibniz University of Hanover, Germany* *Karla M. Neugebauer, Yale University* COUPLING BETWEEN TRANSCRIPTION & SPLICING TUNES GENE EXPRESSION. *Karla Neugebauer* CRYSTAL STRUCTURES OF A GROUP II INTRON LARIAT AND IMPLICATIONS FOR THE SPLICEOSOME. *Maria Costa* CRYO-EM SNAPSHOTS OF THE SPLICEOSOME. *Kiyoshi Nagai* A SOLID VIEW ON RNA: SOLID-STATE NMR OF RNA AND RNP COMPLEXES. *Teresa Carlomagno*	**North, Lower Lobby, Room 24**
8:15 AM-10:15 AM	**Symposium: Interrogating Membrane Organization and Dynamics** **Co-Chairs** *Mary Kraft, University of Illinios* *Siewert-Jan Marrink, University of Groningen, The Netherlands* INSIGHT INTO PLASMA MEMBRANE ORGANIZATION ACQUIRED WITH SECONDARY ION MASS SPECTROMETRY (SIMS). *Mary L. Kraft* COMPUTATIONAL MODELING OF REALISTIC CELL MEMBRANES. *Siewert J. Marrink* MIXING WATER, TRANDUCING ENERGY, SHAPING MEMBRANES. *Atul N. Parikh* UNCOVERING THEORGANELLE INTERACTOME: DYNAMIC IMAGING OF MULTIPLE ORGANELLES. *Jennifer Lippincott-Schwartz*	**North, Lower Lobby, Room 25**
8:15 AM-10:15 AM	**Platform: Intrinsically Disordered Proteins (IDP) and Aggregates I**	**South, Level Two, Room 207/208**
8:15 AM-10:15 AM	**Platform: EPR, NMR, Electron Microscopy, Diffraction, and Scattering**	**South, Level Two, Room 215/216**
8:15 AM-10:15 AM	**Platform: Cell Mechanics and Motility II**	**Esplanade, Room 153**
8:15 AM-10:15 AM	**Platform: Protein Assemblies**	**Esplanade, Room 154**
8:15 AM-10:15 AM	**Platform: Voltage-gated K Channels I**	**Esplanade, Room 155**
8:15 AM-10:15 AM	**Platform: Membrane Active Peptides and Toxins**	**Esplanade, Room 156**
9:00 AM-10:30 AM	**Subgroup Chairs Meeting**	**South, Level Three, Room 313**
9:30 AM-10:30 AM	**Career Development Center Workshop:** **Looking Beyond Academia: Identifying Your Career Options Using MyIDP, Linkedin, and More**	**South, Lower Level, Room 2**
10:00 AM-4:00 PM	**Exhibits**	**Exhibit Hall ABC**
10:15 AM-11:00 AM	**Coffee Break**	**Exhibit Hall ABC**
10:30 AM-12:00 PM	**Exhibitor Presentation: Sophion Bioscience A/S** **Ion Channel Profiling and Electrophysiological Characterization Using Automated Patch Clamp (QPatch), Cell Line Generation, and iPSC Derived Cardiomyocytes: Tools for Finding Antibodies and Peptides for Ion Channel Targets**	**Exhibit Hall, Room 6**

10:45 AM-12:45 PM	**Symposium: Awards** **Chair:** *Lukas Tamm, University of Virginia and BPS President* CFTR, THE ODD ABC TRANSPORTER RESPONSIBLE FOR CYSTIC FIBROSIS. *Jue Chen* QUANTITATIVE *IN SITU* IMAGING OF CELLULAR LIPID DYNAMICS. *Wonhwa Cho* DISSECTING THE MOLECULAR BASIS FOR CIRCADIAN TIMEKEEPING. *Carrie L. Partch* TOPOGRAPHIC CUES FOR MANIPULATING INTRACELLULAR SIGNALING AT NANOSCALE. *Bianxiao Cui* PHYSICS OF DNA AND CHROMATIN FUNCTION. *Taekjip Ha* HYPERTROPHIC CARDIOMYOPATHY AND THEMYOSIN MESA: VIEWING AN OLD DISEASE IN A NEW LIGHT. *James Spudich* MICROPARTICLE ASSEMBLY PATHWAYS ON LIPID MEMBRANES. *Daniela J. Kraft*	**North, Lower Lobby, Room 24**
10:45 AM-12:45 PM	**Platform: Channel Regulation**	**South, Level Two, Room 207/208**
10:45 AM-12:45 PM	**Platform: Membrane Structure**	**South, Level Two, Room 215/216**
10:45 AM-12:45 PM	**Platform: Cytoskeletal Assemblies and Dynamics**	**Esplanade, Room 153**
10:45 AM-12:45 PM	**Platform: Cardiac, Smooth, and Skeletal Muscle Electrophysiology and Regulation**	**Esplanade, Room 154**
10:45 AM-12:45 PM	**Platform: Force Spectroscopy and Scanning Probe Microscopy**	**Esplanade, Room 155**
10:45 AM-12:45 PM	**Platform: Protein Structure and Conformation III**	**Esplanade, Room 156**
11:30 AM-12:30 PM	**Career Development Center Workshop: Evaluating a Job Offer**	**South, Lower Level, Room 2**
11:30 AM-1:00 PM	**Exhibitor Presentation: Malvern Panalytical** **Integration of Multiple Biophysical Tools to Accelerate the Biotherapeutic Development Process**	**Exhibit Hall, Room 5**
12:00 PM-1:30 PM	**Funding Opportunities for Faculty at Primarily Undergraduate Institutions**	**Esplanade, Room 158**
12:00 PM-2:00 PM	**Postdoc to Faculty Q&A: Transitions Forum and Luncheon**	**South, Level Three, Room 313/314**
1:15 PM-2:45 PM	**We Don't Think the Way We Think We Think:** **Seeing and Addressing Unconscious Bias and Stereotype Threat**	**South, Level Three, Room 307/308**
1:30 PM-3:30 PM	**The Nuts and Bolts of Preparing Your NIH Grant**	**Esplanade, Room 151**
1:45 PM-3:00 PM	**Snack Break**	**Exhibit Hall ABC**
1:45 PM-3:45 PM	**Poster Presentations and Late Posters**	**Exhibit Hall ABC**
2:30 PM-3:30 PM	**Career Development Center Workshop:** **Going Live: Preparing for Interviews in Industry and Academia**	**South, Lower Level, Room 2**
2:30 PM-4:00 PM	**Leveling the Playing Field**	**Esplanade, Room 157**
3:00 PM-5:00 PM	**Education Committee Meeting**	**South, Level Three, Room 306**
4:00 PM-6:00 PM	**Symposium: Modeling and Probing the Cytoskeleton** **Co-Chairs** *Anders Carlsson, Washington University in St. Louis* *Iva Tolić, University of Zagreb, Croatia* COMPUTATIONAL MODELS OF INDIVIDUAL AND COLLECTIVE KERATOCYTE MIGRATION. *Alex Mogilner* HOW ACTIN POLYMERIZATION BENDS THE CELL MEMBRANE TO DRIVE ENDOCYTOSIS. *Anders E. Carlsson* A MINIMAL SYSTEM FOR MICROTUBULE-BASED CELL POLARITY. *Marileen Dogterom* TORQUES AND FORCES IN THE MITOTIC SPINDLE. *Iva M. Tolić*	**North, Lower Lobby, Room 24**
4:00 PM-6:00 PM	**Symposium: Protein Dynamics, Folding, and Allostery I: How Do Proteins Fold and Misfold?** **Co-Chairs** *Galia Debelouchina, University of California, San Diego* *Michele Vendruscolo, University of Cambridge, United Kingdom* PRINCIPLES OF PROTEIN STRUCTURAL ENSEMBLE DETERMINATION. *Michele Vendruscolo* EVOLUTIONARY COUPLINGS REVEAL ALTERNATIVE 3D STRUCTURES. *Debora Marks* Protein Sequence Coevolution, Energy Landscapes and Their Connections to Protein Structure, Folding and Function. *Jose N. Onuchic* THE ROLE OF UBIQUITIN IN CHROMATIN STRUCTURAL ORGANIZATION. *Galia T. Debelouchina*	**North, Lower Lobby, Room 25**
4:00 PM-6:00 PM	**Platform: Optical Spectroscopy**	**South, Level Two, Room 207/208**

4:00 PM-6:00 PM	**Platform: Membrane Dynamics and Fusion I**	**South, Level Two, Room 215/216**
4:00 PM-6:00 PM	**Platform: Neuroscience**	**Esplanade, Room 153**
4:00 PM-6:00 PM	**Platform: Replication, Recombination, Repair, Transcription, and Translation**	**Esplanade, Room 154**
4:00 PM-6:00 PM	**Platform: TRP Channels**	**Esplanade, Room 155**
4:00 PM-6:00 PM	**Platform: Protein Dynamics and Allostery II**	**Esplanade, Room 156**
5:30 PM-5:45 PM	**Dinner Meet-Ups**	**South Lobby, Society Booth**
6:00 PM-10:00 PM	**Publications Committee Meeting**	**Marriott Marquis, Pacific A**
7:30 PM-9:30 PM	**Workshop: Probing Atomic Single Sites in Cells and Bio-Assemblies: Advances in In-Cell NMR** **Esplanade, Room 153a** **Co-Chairs** *Lucia Banci, University of Florence, Italy* *Ichio Shimada, University of Tokyo, Japan* IN-CELL NMR: ITS CONTRIBUTION FOR UNDERSTANDING FUNCTIONAL PROCESSES. *Lucia Banci* STUDYING PROTEINS INSIDE EUKARYOTIC CELLS IN NMR. *Ichio Shimada* CELLULAR SOLID-STATE NMR APPLIED TO BACTERIAL AND HUMAN CELLS. *Marc Baldus* IN-CELL NMR SPECTROSCOPY FOR THE INVESTIGATION OF THE CONFORMATION OF MACROMOLECULES. *Volker Dotsch* DISSECTING BACTERIA AND MAMMALIAN CELLS BY WHOLE-CELL NMR: CELL WALLS, RIBOSOMES, NUCLEI, OH MY! *Lynette Cegelski*
7:30 PM-9:30 PM	**Workshop: Atoms to Cells: Modeling Biological Complexity** **Esplanade, Room 154** **Co-Chairs** *Leslie Loew, University of Connecticut Health Center* *Banu Ozkan, University of Arizona* BIOMOLECULAR SIMULATION FOR ALL. *Ron O. Dror* CROWDED AND COMPLEX: MOLECULAR SIMULATIONS OF BIOLOGICAL MEMBRANES. *Mark S.P. Sansom* RAS SIGNALING: ALLOSTERY, CONFORMATION, AND FUNCTION. *Ruth Nussinov* ALLOSTERY AND CONFORMATIONAL DYNAMICS IN PROTEIN EVOLUTION. *S. Banu Ozkan* CELL BIOPHYSICS WITH VIRTUAL CELL. *Leslie Loew*
7:30 PM-9:30 PM	**Workshop: From Molecules to Mammals: Imaging, Sensing, and Light Control** **Esplanade, Room 155** **Co-Chairs** *Gang Han, University of Massachusetts Medical School* *Jin Hyung Lee, Stanford University* SMALL AND BRIGHT: TAILORING LUMINESCENT NANOPARTICLES FOR BIOLOGY. *Gang Han* OPTOGENETIC FMRI AND THE INVESTIGATION OF GLOBAL BRAIN CIRCUIT MECHANISMS. *Jin Hyung Lee* BUILDING PROTEINS TO PEEK AND POKE AT GTPASE CIRCUITS IN VIVO. *Klaus M. Hahn* ILLUMINATING THE BIOCHEMICAL ACTIVITY ARCHITECTURE OF THE CELL. *Jin Zhang* ENGINEERING OF BACTERIAL PHYTOCHROMES FOR NEAR-INFRARED IMAGING, SENSING AND LIGHT-CONTROL IN MAMMALS. *Vladislav V. Verkhusha*
7:30 PM-9:30 PM	**Workshop: Biomembrane Models and Tools** **Esplanade, Room 156** **Co-Chairs** *Rumiana Dimova, Max Planck Institute, Germany* *J. Antoinette Killian, Utrecht University, The Netherlands* GIANT VESICLES AS HANDY TOOLS FOR ASSESSING MEMBRANE MECHANICS, WETTING AND RESHAPING. *Rumiana Dimova* CONSTRUCTING AND USING PHASE DIAGRAMS OF MULTI-COMPONENT LIPID MIXTURES. *Gerald W. Feigenson* THE STYRENE-MALEIC ACID COPOLYMER: A VERSATILE TOOL IN MEMBRANE RESEARCH. *J. Antoinette Killian* PLASMA MEMBRANE MODELS. *Kalina Hristova* NANOPORE-CONFINED BILAYERS: A MODEL OF BIOMEMBRANES WITH DEFINED CURVATURE AND A TOOL FOR ORIENTED SAMPLE MAGNETIC RESONANCE. *Alex I. Smirnov*
8:00 PM-10:00 PM	**SOBLA (The Society for Latinoamerican Biophysicists) Meeting**	**Esplanade, Room 158**

Tuesday, February 20

Registration/Information

7:30 AM–5:00 PM, SOUTH LOBBY

Biophysical Society Business Meeting

8:00 AM–9:00 AM, SOUTH, LEVEL THREE, ROOM 307/308

Poster Viewing

8:00 AM–4:00 PM, EXHIBIT HALL ABC

Symposium
RNA Structure and Function

8:15 AM–10:15 AM, NORTH, LOWER LOBBY, ROOM 24

Co-Chairs
Teresa Carlomagno, Leibniz University of Hanover, Germany
Karla M. Neugebauer, Yale University

1805-Symp 8:15 AM
COUPLING BETWEEN TRANSCRIPTION & SPLICING TUNES GENE EXPRESSION. **Karla Neugebauer**

1807-Symp 9:15 AM
CRYSTAL STRUCTURES OF A GROUP II INTRON LARIAT AND IMPLICATIONS FOR THE SPLICEOSOME. **Maria Costa**, Hélène Walbott, Dario Monachello, Eric Westhof, François Michel

1806-Symp 8:45 AM
CRYO-EM SNAPSHOTS OF THE SPLICEOSOME. **Kiyoshi Nagai**

1808-Symp 9:45 AM
A SOLID VIEW ON RNA: SOLID-STATE NMR OF RNA AND RNP COMPLEXES. Alexander Marchanka, Mumdooh Ahmed, **Teresa Carlomagno**

Symposium
Interrogating Membrane Organization and Dynamics

8:15 AM–10:15 AM, NORTH, LOWER LOBBY, ROOM 25

Co-Chairs
Mary Kraft, University Illinois
Siewert-Jan Marrink, University of Groningen, The Netherlands

1809-Symp 8:15 AM
INSIGHT INTO PLASMA MEMBRANE ORGANIZATION ACQUIRED WITH SECONDARY ION MASS SPECTROMETRY (SIMS). **Mary L. Kraft**

1810-Symp 8:45 AM
COMPUTATIONAL MODELING OF REALISTIC CELL MEMBRANES. **Siewert J. Marrink**

1811-Symp 9:15 AM
MIXING WATER, TRANDUCING ENERGY, SHAPING MEMBRANES. Wan-Chih Su, Doug Gettel, Shiva Emami, Sowmya Purushothaman, Morgan Chabanon, Padmini Rangamani, **Atul N. Parikh**

1812-Symp 9:45 AM
UNCOVERING THEORGANELLE INTERACTOME: DYNAMIC IMAGING OF MULTIPLE ORGANELLES. **Jennifer Lippincott-Schwartz**

Platform
Intrinsically Disordered Proteins (IDP) and Aggregates I

8:15 AM–10:15 AM, SOUTH, LEVEL TWO, ROOM 207/208

Co-Chairs
Joshua Riback, University of Chicago
Sarah Rauscher, University of Toronto, Canada

1813-Plat 8:15 AM
INFERRING PROPERTIES OF DISORDERED CHAINS FROM FRET TRANSFER EFFICIENCIES. **Wenwei Zheng**, Gül Zerze, Alessandro Borgia, Jeetain Mittal, Benjamin Schuler, Robert B. Best

1814-Plat 8:30 AM
THE COLLAPSED CONFORMATIONAL LANDSCAPE OF THE HNRNPA1 LOW COMPLEXITY REGION REVEALED BY SAXS, NMR AND SIMULATION. **Erik W. Martin**, Ivan Peran, Tanja Mittag

1815-Plat 8:45 AM
PROBING THE CONFORMATIONAL DYNAMICS OF THE DISORDERED 4E-BP2 PROTEIN IN DIFFERENT PHOSPHORYLATION STATES USING SINGLE-MOLECULE FLUORESCENCE. **Spencer Smyth**, Zhenfu Zhang, Alaji Bah, Julie D. Forman-Kay, Claudiu C. Gradinaru

1816-Plat 9:00 AM
SEQUENCE-ENCODED HETEROGENEITY OF INTERACTIONS DECOUPLES DIFFERENT MEASURES OF PROTEIN SIZES AND RECONCILES THE DISCREPANT INFERENCES FROM SAXS VERSUS FRET EXPERIMENTS. **Kiersten M. Ruff**, Gustavo Fuertes, Niccolo Banterle, Dmitri I. Svergun, Edward A. Lemke, Rohit V. Pappu

1817-Plat 9:15 AM
SAXS CONFIRMS THAT FRET DYES PROMOTE COLLAPSE OF AN OTHERWISE FULLY DISORDERED PROTEIN. **Joshua A. Riback**, Micayla A. Bowman, Adam M. Zmyslowski, Kevin W. Plaxco, Patricia L. Clark, Tobin R. Sosnick

1818-Plat 9:30 AM EDUCATION TRAVEL AWARDEE
CHARACTERIZATION OF THE AGGREGATION-PRONE ENSEMBLE OF TAU IN THE PRESENCE OF POLYPHOSPHATES. **Sanjula Wickramasinghe**, Hope Merens, Justine Lempart, Ursula Jakob, Elizabeth Rhoades

1819-Plat 9:45 AM
DISORDERED PROTEIN LINKERS: PREDICTING EFFECTIVE CONCENTRATIONS USING POLYMER PHYSICS. Charlotte S. Sørensen, **Magnus Kjaergaard**

1820-Plat 10:00 AM
THE LIQUID-LIKE STRUCTURE OF ELASTIN. **Sarah Rauscher**, Régis Pomès

Platform
EPR, NMR, Electron Microscopy, Diffraction, and Scattering

8:15 AM–10:15 AM, SOUTH, LEVEL TWO, ROOM 215/216

Co-Chairs
Malte Drescher, University of Konstanz, Germany
Lauren Ann Metskas, MRC Laboratory of Molecular Biology, United Kingdom

1821-Plat 8:15 AM
INTRACELLULAR EPR SPECTROSCOPY AND GENETICALLY ENCODED SPIN LABELS. **Malte Drescher**

1822-Plat 8:30 AM
BINDING OF VAMP2 TO MEMBRANES OF MAMMALIAN CELLS PROBED BY IN-CELL NMR. **Chuchu Wang**, Shengnan Zhang, Cong Liu

1823-Plat 8:45 AM
A NEW WAVELET APPROACH TO REMOVE NOISE FROM EXPERIMENTAL SIGNALS: REDUCING SIGNAL ACQUISITION TIMES AND IMPROVING RESOLUTION IN BIOPHYSICAL METHODS. **Madhur Srivastava**, Jack H. Freed

1824-Plat 9:00 AM
LIPID BILAYER STRUCTURE IN NATIVE CELL MEMBRANE NANOPARTICLES OF MULTIDRUG EXPORTER ACRB. Weihua Qiu, **Ziao Fu**, Guoyan Xu, Robert A. Grassucci, Wayne A. Hendrickson, Yan Zhang, Joachim Frank, Youzhong Guo

1825-Plat 9:15 AM EDUCATION TRAVEL AWARDEE
CORRELATED CRYO-FLUORESCENCE AND CRYO-ELECTRON MICROSCOPY CAN IDENTIFY SITES OF MEMBRANE FUSION. **Lauren Ann Metskas**, John A.G. Briggs

1826-Plat 9:30 AM
QUANTITATIVE ANALYSIS OF IMMATURE SECRETORY GRANULES IN BETA CELLS OF MOUSE PANCREATIC ISLETS BY SERIAL BLOCK-FACE SCANNING ELECTRON MICROSCOPY. **Richard D. Leapman**, Maria A. Aronova, Amith Rao, Emma L. McBride, Guofeng Zhang, Huanyu Xu, Abner L. Notkins, Tao Cai

1827-Plat 9:45 AM
RESONANT SOFT X-RAY SCATTERING OF PROTEINS IN SOLUTION. **Dan Ye**, Thinh Le, Cheng Wang, Peter H. Zwart, Chenhui Zhu, Esther W. Gomez, Enrique D. Gomez

1828-Plat 10:00 AM
CRYO-EM STRUCTURE OF TYPE 1 PILUS. **Weili Zheng**, Caitlin N. Spaulding, Henry L. Schreiber IV, Karen W. Dodson, Matt S. Conover, Fengbin Wang, Pontus Svenmarker, Areli Luna-Rico, Olivera Francetic, Magnus Andersson, Scott J. Hultgren, Edward H. Egelman

Platform
Cell Mechanics and Motility II

8:15 AM–10:15 AM, Esplanade, Room 153

Co-Chairs
Kimberley Gibson, Yale University
Joshua Francois, University of California, San Diego

1829-Plat 8:15 AM
INVESTIGATING THE EFFECT OF MATRIX POROSITY ON THE MECHANICS OF NEUTROPHIL MIGRATION IN THREE-DIMENSIONAL EXTRACELLULAR MATRICES. **Joshua Francois**, Juan Carlos del Alamo, Richard Firtel, Juan C. Lasheras

1830-Plat 8:30 AM INTERNATIONAL TRAVEL AWARDEE
REVEALING BACTERIAL SURFACE PHYSIOLOGY USING DUAL ATOMIC FORCE AND OPTICAL TIME-LAPSE MICROSCOPY. **Haig A. Eskandarian**

1831-Plat 8:45 AM
NOVEL ARCHITECTURE AND COMPOSITION OF A BACTERIAL FLAGELLUM IN THE SPIROCHETE *LEPTOSPIRA BIFLEXA* . **Kimberley H. Gibson**, Elsio A. Wunder Jr., Jun Liu, Felipe Trajtenberg, Alejandro Buschiazzo, Albert I. Ko, Charles V. Sindelar

1832-Plat 9:00 AM
STRESS FIBER NETWORK ORGANIZATION DURING CELL SPREADING ON MICROPATTERNED SUBSTRATES. **Dimitri Probst**, Julia Jäger, Elena Kassianidou, Anne-Lou Roguet, Sanjay Kumar, Ulrich S. Schwarz

1833-Plat 9:15 AM
INTERROGATING CELL-MEDIATED REMODELING OF THE EXTRACELLULAR MATRIX BY DYNAMIC LIGHT SCATTERING MICRORHEOLOGY.
Brad A. Krajina, Audrey Zhu, Sarah C. Heilshorn, Andrew J. Spakowitz

1834-Plat 9:30 AM EDUCATION TRAVEL AWARDEE
A CATCH-BOND DRIVES STATOR MECHANOSENSITIVITY IN THE BACTERIAL FLAGELLAR MOTOR. **Ashley L. Nord**, Emilie Gachon, Ruben Perez-Carrasco, Jasmine Nirody, Alessandro Barducci, Richard M. Berry, Francesco Pedaci

1835-Plat 9:45 AM
A MOLECULAR RACK AND PINION ACTUATES A CELL-SURFACE ADHESIN AND ENABLES BACTERIAL GLIDING MOTILITY. **Abhishek Shrivastava**, Howard C. Berg

1836-Plat 10:00 AM
NON-UNIFORM MECHANICAL STRESS PROMOTES METAL EFFLUX PUMP DISASSEMBLY. **Melanie F. Roberts**, Lauren A. Genova, Lucy M. Wang, Peng Chen, Christopher J. Hernandez

Platform
Protein Assemblies

8:15 AM–10:15 AM, Esplanade, Room 154

Co-Chairs
Jason Mears, Case Western Reserve University
Lisa Selzer, Stanford University

1837-Plat 8:15 AM
STRUCTURE AND FUNCTIONAL ANATOMY OF THE NUCLEAR PORE COMPLEX. **Seung Joong Kim**, Javier Fernandez-Martinez, Ilona Nudelman, Yi Shi, Wenzhu Zhang, Barak Raveh, Paula Upla, Ilan E. Chemmama, Riccardo Pellarin, Ignacia Echeverria, Steven J. Ludtke, Christopher W. Akey, Brian T. Chait, Andrej Sali, Michael P. Rout

1838-Plat 8:30 AM
INVESTIGATING PH-INDUCED CHANGES OF THE INFLUENZA A VIRUS MATRIX LAYER. **Lisa Selzer**, Jasmine Moshiri, Karla Kirkegaard

1839-Plat 8:45 AM
VIRION CAPSID DYNAMICS AND QUATERNARY CONFORMATIONAL CHANGES UPON HOST ENTRY. **Ranita Ramesh**, Xin-Xiang Lim, Ganesh S. Anand

1840-Plat 9:00 AM
STRUCTURAL STUDIES THAT DEFINE REGULATORY INTERACTIONS WITHIN THE MITOCHONDRIAL FISSION MACHINERY. **Jason A. Mears**, Christopher A. Francy, Ryan W. Clinton, Serena Lee

1841-Plat 9:15 AM INTERNATIONAL TRAVEL AWARDEE
DIRECT EVIDENCE OF APLP1 TRANS INTERACTIONS IN CELL-CELL ADHESION PLATFORMS INVESTIGATED VIA FLUORESCENCE FLUCTUATION SPECTROSCOPY. **Valentin Dunsing**, Mayer Magnus, Filip Liebsch, Gerhard Multhaup, Salvatore Chiantia

1842-Plat 9:30 AM
UNRAVELLING THE CONTRASTING PHASE BEHAVIOR OF WHEAT STORAGE PROTEINS: HOW TO STORE STORAGE PROTEINS? **Adeline Boire**, Christian Sanchez, Marie-Hélène Morel, M. Paul Lettinga, Paul Menut

1843-Plat 9:45 AM EDUCATION TRAVEL AWARDEE
IDENTIFYING THE FACTORS THAT CONTROL THE SIZE OF BACTERIAL MICROCOMPARTMENTS. **Farzaneh Mohajerani**, Michael F. Hagan

1844-Plat 10:00 AM
PROBING PEPTIDE DOMAINS IMPLICATED IN AMYLOID FIBRIL FORMATION DURING AMELOGENIN NANORIBBON ASSEMBLY.
Sarah A. Engelberth, Susrut Akkineni, Chun-Long Chen, Margot Bacino, Shaiba Sandhu, Ksenia Bubukina, Jeremy Horst, Johan Bonde, Jim De Yoreo, Stefan Habelitz

Platform
Voltage-gated K Channels I

8:15 AM–10:15 AM, ESPLANADE, ROOM 155

Co-Chairs
David Jones, University of Wisconsin
Francesco Tombola, University of California, Irvine

1845-Plat 8:15 AM
THE HERG PAS DOMAIN FACILITATES GATING CHARGE DEACTIVATION AT PHYSIOLOGICAL TEMPERATURE. **David K. Jones**, Carol Harley, Anthony Amolo, Joao Morais-Cabral, Gail A. Robertson

1846-Plat 8:30 AM
EXPLOITING Π-STACKING INTERACTIONS TO IMPROVE INHIBITION OF THE HV1 CHANNEL BY AROMATIC GUANIDINE DERIVATIVES. **Chang Zhao**, Liang Hong, Jason D. Galpin, Christopher A. Ahern, Francesco Tombola

1847-Plat 8:45 AM
IDENTIFICATION OF THE C-LINKER AND CNBD RESIDUES ACCOUNTING FOR THE HIGH EFFICACY OF CAMP ACTIVATION IN HCN2 CHANNELS. **Claudia P. Alvarez Baron**, Vadim A. Klenchin, Baron Chanda

1848-Plat 9:00 AM
ATOM-BY-ATOM TUNING OF AN ELECTROSTATIC POTASSIUM-CHANNEL MODULATOR. **Malin Silverå Ejneby**, Xiongyu Wu, Nina E. Ottosson, E. Peter Münger, Ingemar Lundström, Peter Konradsson, Fredrik Elinder

1849-Plat 9:15 AM
AN ALLOSTERIC ACTION MECHANISM OF A K^+ PORE BLOCKER REVEALED AT THE ATOMIC LEVEL. **Izhar Karbat**, Hagit Altman-Gueta, G. Tibor Szanto, Shelly Hamer-Rogotner, Orly Dym, Felix Frolow, Dalia Gordon, Gyorgy Panyi, Michael Gurevitz, Eitan Reuveny

1850-Plat 9:30 AM
VOLTAGE-GATED CHANNEL REGULATION BY AN AMINO ACID TRANSPORTER. **Victoria A. Baronas**, Runying Yang, Harley T. Kurata

1851-Plat 9:45 AM
MOLECULAR MECHANISM UNDERLYING A TRADITIONAL ANTICONVULSANT: SYNERGISTIC KCNQ2/3 POTASSIUM CHANNEL ACTIVATION BY DUAL COMPONENTS OF MALLOTUS OPPOSITIFOLIUS EXTRACT. **Rían Manville**, Maria Papanikolaou, Geoffrey W. Abbott

1852-Plat 10:00 AM
THE MORBIDITY OF EPILEPSY AND CARDIAC ARRHYTHMIA IS ATTRIBUTED TO COMMON CHANNELOPATHY OF GENETIC MUTANTS OF SLACK CHANNELS. Yun Xu, Fei-Fei Zhang, Jie Xu, Wen Sun, Xiao-Yun Zhao, Qiong-Yao Tang, **Zhe Zhang**

Platform
Membrane Active Peptides and Toxins

8:15 AM–10:15 AM, ESPLANADE, ROOM 156

Co-Chairs
Mibel Aguilar, Monash University, Australia
William Wimley, Tulane University

1853-Plat 8:15 AM
MEMBRANES MATTER: PREDICTING DRUG TOXICITY. **R. Lea Sanford**, Jeanne Chiaravalli-Giganti, Wesley Chao, J. Fraser Glickman, Olaf S. Andersen

1854-Plat 8:30 AM
MECHANISM OF ACTION OF PH-TRIGGERED, MEMBRANE ACTIVE PEPTIDES: EFFECT OF NEGATIVE CHARGE. **Sarah Y. Kim**, William C. Wimley, Kalina Hristova

1855-Plat 8:45 AM
ASSESSING THE TRANSLOCATION OF CELL PENETRATING PEPTIDES USING FORCE MEASUREMENTS, ELECTROPHYSIOLOGY AND EMULSIONS. **Simon Kulifaj**, Sophie Cribier, Vincent Vivier, Nicolas Rodriguez, Kieu Ngo

1856-Plat 9:00 AM
MELITTIN-INDUCED PERMEABILIZATION, RE-SEALING, AND RE-PERMEABILIZATION OF *E. COLI* MEMBRANES. **Zhilin Yang**, Heejun Choi, James Weisshaar

1857-Plat 9:15 AM
THE ANTIMICROBIAL PEPTIDE PISCIDIN P1 USES WEAK SPOTS IN MEMBRANES AS SITES OF ACTION. Laura Lucas, Roderico Acevedo, Myriam Cotten, **Ella Mihailescu**

1858-Plat 9:30 AM
AB-INITIO PREDICTION OF ANTIMICROBIAL PEPTIDES CHANNELS IN MEMBRANES. **Jakob Ulmschneider**

1859-Plat 9:45 AM
ANTIMICROBIAL SELECTIVITY AND MEMBRANE LEAKAGE MECHANISMS: THE ROLE OF LIPIDS. Anja Stulz, Larissa Akil, Karen Lienkamp, **Maria Hoernke**

1860-Plat 10:00 AM
THE CELL CYCLE DEPENDENCE OF THE ACTIVITY OF ANTIMICROBIAL PEPTIDES RESULTS IN A HIGHER RESISTANCE OF STARVING CELLS TO THE PEPTIDES. Mehdi Snoussi, Mehrnaz Siavoshi, Paul Talledo, **Sattar Taheri-Araghi**

Subgroup Chairs Meeting

9:00 AM–10:30 AM, SOUTH, LEVEL THREE, ROOM 313

Career Development Center Workshop
Looking Beyond Academia: Identifying Your Career Options Using MyIDP, Linkedin, and More

9:30 AM–10:30 AM, SOUTH, LOWER LEVEL, ROOM 2

Not sure where your professional future lies or how to approach the process in an organized and strategic manner? This presentation provides a framework and resources for moving forward with confidence towards the next step in your professional future. In addition, it will provide specific examples of how to build out your knowledge of a new potential career field and forge valuable connections that can facilitate a successful transition.

Exhibits

10:00 AM–4:00 PM, EXHIBIT HALL ABC

Coffee Break

10:15 AM–11:00 AM, EXHIBIT HALL ABC

Exhibitor Presentation
Sophion Bioscience A/S

10:30 AM–12:00 PM, EXHIBIT HALL, ROOM 6

Ion Channel Profiling and Electrophysiological Characterization Using Automated Patch Clamp (QPatch), Cell Line Generation, and iPSC Derived Cardiomyocytes: Tools for Finding Antibodies and Peptides for Ion Channel Targets
Successful ion channel drug discovery requires the integration of multiple technologies and workflows. Sophion Bioscience is a leader in automated patch clamp technology, providing medium to high throughput, automated patch clamp to the pharmaceutical industry and universities. The QPatch is a fully automated patch clamp system, executing simultaneous

8, 16 or 48 parallel patch clamp recordings in conjunction with computer controlled liquid handling, and on-board cell handling. Sophion partners with other biotech companies to create robust, ion channel, and electrophysiological workflows for drug development for ion channel targets. During this workshop, three industry speakers will provide insight into the drug discovery process. Dr. Damian Bell will present how Iontas uses Maxcyte's scalable electroporation platform and QPatch to advance its antibody programs for ion channel targets. Dr. Daniel Sauter from Sophion Bioscience will present data from the development of protocols for using QPatch with pluripotent stem-cell derived cardiomyocytes from Ncardia (Cor4U). Finally, Dr. Alan Wickenden from Janssen Research and Development will present on Johnson and Johnson's development of selective peptide, Nav1.7 inhibitor as a novel analgesic.

Speakers
Damian Bell, Head of Electrophysiology, Iontas Ltd
Daniel Sauter, Application Scientist, Sophion Bioscience A/S
Alan Wickenden, Scientific Director and Fellow, Molecular and Cellular Pharmacology, Janssen Research and Development LLC

Symposium
Awards

10:45 AM–12:45 PM, NORTH, LOWER LOBBY, ROOM 24

Chair
Lukas Tamm, University of Virginia and BPS President

No Abstract **10:45 AM**
CFTR, THE ODD ABC TRANSPORTER RESPONSIBLE FOR CYSTIC FIBROSIS. **Jue Chen**

No Abstract **11:02 AM**
QUANTITATIVE *IN SITU* IMAGING OF CELLULAR LIPID DYNAMICS. **Wonhwa Cho**

No Abstract **11:19 AM**
DISSECTING THE MOLECULAR BASIS FOR CIRCADIAN TIMEKEEPING. **Carrie L. Partch**

No Abstract **11:36 AM**
TOPOGRAPHIC CUES FOR MANIPULATING INTRACELLULAR SIGNALING AT NANOSCALE. **Bianxiao Cui**

No Abstract **11:53 AM**
PHYSICS OF DNA AND CHROMATIN FUNCTION. **Taekjip Ha**

No Abstract **12:10 PM**
HYPERTROPHIC CARDIOMYOPATHY AND THEMYOSIN MESA: VIEWING AN OLD DISEASE IN A NEW LIGHT. **James Spudich**

No Abstract **12:27 PM**
MICROPARTICLE ASSEMBLY PATHWAYS ON LIPID MEMBRANES. **Daniela J. Kraft**

Platform
Channel Regulation

10:45 AM–12:45 PM, SOUTH, LEVEL TWO, ROOM 207/208

Co-Chairs
Jorge Contreras, Rutgers University
Teresa Pérez-García, University of Valladolid, Spain

1861-Plat **10:45 AM**
CODON USAGE INFLUENCES GATING OF SMALL K^+ CHANNELS. Kerri Kukovetz, Anja Engel, Sebastian Gutsfeld, Marina Kithil, Oliver Rauh, Anna Moroni, **Gerhard Thiel**

1862-Plat **11:00 AM**
GGAMMA ASSISTS GBETA TO ACTIVATE GIRK1 BY RELAXING INHIBITORY CONSTRAINT. Galit Tabak, Tal Keren Raifman, Vladimir Tsemakhovich, **Nathan Dascal**

1863-Plat **11:15 AM**
CONTROL OF AMPA RECEPTOR ACTIVITY BY THE EXTRACELLULAR LOOPS OF AUXILIARY PROTEINS. **Clarissa Eibl**, Irene Riva, Rudolf Volkmer, Anna L. Carbone, Andrew J. R. Plested

1864-Plat **11:30 AM**
PROTONATION STATE OF GLUTAMATE 73 REGULATES THE FORMATION OF A UNIQUE DIMERIC ASSOCIATION OF VDAC1. **Lucie A. Bergdoll**, Michael T. Lerch, John W. Patrick, Christian Altenbach, Paola Bisignano, Arthur Laganowsky, Michael Grabe, Wayne Hubbell, Jeff Abramson

1865-Plat **11:45 AM**
VOLTAGE-DEPENDENT CONFORMATIONAL CHANGES OF KV1.3 POTASSIUM CHANNELS ARE AN ESSENTIAL ELEMENT FOR KV1.3-INDUCED CELL PROLIFERATION. **M. Teresa Pérez-García**, Pilar Cidad, Esperanza Alonso, Pablo Fernández-Velasco, Miguel A. de la Fuente, José R. López-López

1866-Plat **12:00 PM**
ASSOCIATION OF *HERG* AND *SCN5A* TRANSCRIPTS REGULATES ION CHANNEL EXPRESSION AND FUNCTION IN STEM CELL DERIVED CARDIOMYOCYTES. **Catherine A. Eichel**, Erick Rios-Perez, Fang Liu, David K. Jones, Gail A. Robertson

1867-Plat **12:15 PM**
A HYPERPOLARIZATION-ACTIVATED PROTON CHANNEL IN ZEBRAFISH SPERM. **Reinhard Seifert**, Lea Wobig, Therese Wolfenstetter, Sylvia Fechner, Wolfgang Bönigk, Heinz-Gerd Körschen, U. Benjamin Kaupp, Thomas Berger

1868-Plat **12:30 PM**
INSIGHTS ON GATING FUNCTIONS OF CYTOSOLIC DOMAINS OF CONNEXIN26 HEMICHANNELS REVEALED BY A HUMAN PATHOGENIC MUTATION (N14K). **Juan M. Valdez Capuccino**, Payal Chatterjee, Isaac Garcia, Andrew L. Harris, Yun Luo, Jorge E. Contreras

Platform
Membrane Structure

10:45 AM–12:45 PM, SOUTH, LEVEL TWO, ROOM 215/216

Co-Chairs
Svetlana Baoukina, University of Calgary, Canada
Ilya Levental, University of Texas Medical School at Houston

1869-Plat **10:45 AM**
LIPID ORGANIZATION IN SIMULATIONS OF CELL MEMBRANES. **Svetlana Baoukina**, Helgi I. Ingolfsson, Siewert J. Marrink, D Peter Tieleman

1870-Plat **11:00 AM**
CHOLESTEROL-INDUCED MEMBRANE ORGANIZATION PROMOTES INFLUENZA VIRUS BINDING. **Isabel Nadine Goronzy**, Robert Rawle, Steven Boxer, Peter Kasson

1871-Plat **11:15 AM**
NANOSCALE MEMBRANE CURVATURE GENERATED BY CHOLERA TOXIN SUBUNIT B: THE EFFECTS OF LIPID CROSS-LINKING AND LIPID PHASE. Abir Maarouf Kabbani, Xinxin Woodward, **Christopher V. Kelly**

1872-Plat **11:30 AM**
A STEP FORWARD IN THE DESIGN OF LIPOSOMES: SYMMETRIC & ASYMMETRIC VESICLES FROM LIPID EXTRACTS. **Laura Paulowski**, Thomas Gutsmann, Tonio Kutscher

1873-Plat **11:45 AM**
STRUCTURAL DETERMINANTS AND FUNCTIONAL CONSEQUENCES OF PROTEIN ASSOCIATION WITH MEMBRANE DOMAINS. Joseph Lorent, Blanca Barbara Diaz-Rohrer, Xubo Lin, Alex Gorfe, Kandice R. Levental, **Ilya Levental**

1874-Plat 12:00 PM INTERNATIONAL TRAVEL AWARDEE
CURVATURE-MEDIATED TRANSMEMBRANE COUPLING IN ASYMMETRIC LIPIDS VESICLES. **Barbara Eicher**, Drew Marquardt, Frederick A. Heberle, Ilse Letofsky-Papst, John Katsaras, Georg Pabst

1875-Plat 12:15 PM
BETA-1 INTEGRIN ASSOCIATION WITH ORDERED MEMBRANE DOMAINS IS DEPENDENT ON THEIR ACTIVATION STATE. **Julia T. Bourg**, Sarah L. Veatch

1876-Plat 12:30 PM
SUPPORTED LIPID BILAYERS ON SILICA NANOPARTICLES AS A PLATFORM FOR STUDYING LIPID-PROTEIN INTERACTIONS AT HIGHLY CURVED SURFACES. **Hyeondo (Luke) Hwang**, Peter Chung, Alessandra Leong, Ka Yee C. Lee

Platform
Cytoskeletal Assemblies and Dynamics

10:45 AM–12:45 PM, Esplanade, Room 153

Co-Chairs
Nikolas Hundt, University of Oxford, United Kingdom
Yuichiro Maeda, Nagoya University, Japan

1877-Plat 10:45 AM
LABEL-FREE VISUALISATION OF ACTIN NUCLEATION AND POLYMERISATION AT THE SINGLE-MOLECULE LEVEL USING INTERFEROMETRIC SCATTERING MICROSCOPY. **Nikolas Hundt**, Andrew Tyler, Gavin Young, Daniel Cole, Adam J. Fineberg, Joanna Andrecka, Philipp Kukura

1878-Plat 11:00 AM
F-FORM ACTIN CRYSTAL STRUCTURES: MECHANISMS OF ACTIN ASSEMBLY AND F-ACTIN ATP-HYDROLYSIS. Shuichi Takeda, Akihiro Narita, Toshiro Oda, Kotaro Tanaka, Ryotaro Koike, Motonori Ota, Ikuko Fujiwara, Nobuhisa Watanabe, **Yuichiro Maeda**

1879-Plat 11:15 AM
CONFORMATIONAL TWISTING OF MREB DOUBLE PROTOFILAMENT IN SIMULATION PREDICTS FILAMENT LENGTH IN VIVO. **Handuo Shi**, KC Huang

1880-Plat 11:30 AM
A COMPUTATIONAL INVESTIGATION OF ASYMMETRIC EMERGENT STRUCTURES IN ACTOMYOSIN DYNAMICS DURING CHEMOTAXIS.
Callie J. Miller, Sreeja Asokan, Jason Haugh, James E. Bear, Timothy C. Elston

1881-Plat 11:45 AM
C. ELEGANS CHROMOSOMES CONNECT TO CENTROSOMES BY ANCHORING INTO THE SPINDLE NETWORK. **Stefanie Redemann**, Johannes Baumgart, Norbert Lindow, Michael Shelley, Ehssan Nazockdast, Andrea Kratz, Steffen Prohaska, Jan Brugues, Sebastian Fürthauer, Thomas Müller-Reichert

1882-Plat 12:00 PM
CRYO-EM INSIGHT INTO MICROTUBULE-DOUBLECORTIN (MT-DCX) INTERACTION AND THE STAGES OF MT DYNAMIC INSTABILITY HARNESSED BY DCX. **Szymon W. Manka**, Carolyn A. Moores

1883-Plat 12:15 PM EDUCATION TRAVEL AWARDEE
ULTRAFAST FORCE-CLAMP SPECTROSCOPY REVEALS "SLIDING" CATCH-BOND BEHAVIOR OF THE MICROTUBULE-BINDING NDC80 PROTEIN.
Vladimir M. Demidov, Suvranta K. Tripathy, Fazly I. Ataullakhanov, Ekaterina L. Grishchuk

1884-Plat 12:30 PM
OPTICAL CONTROL OF EB1 REVEALS LOCAL FUNCTIONS OF THE MICROTUBULE +TIP COMPLEX DURING CELL MIGRATION AND DIVISION.
Jeffrey van Haren, Rabab Charafeddine, Andreas Ettinger, Hui Wang, Klaus M. Hahn, Torsten Wittmann

Platform
Cardiac, Smooth, and Skeletal Muscle Electrophysiology and Regulation

10:45 AM–12:45 PM, Esplanade, Room 154

Co-Chairs
Karen Hsu, Illinois Institute of Technology
Gea-Ny Tseng, Virginia Commomwealth University

1885-Plat 10:45 AM
MECHANISM AND REGULATION OF JPH2/PM ASSOCIATION. Junping Hu, Min Jiang, **Tseng Gea-Ny**

1886-Plat 11:00 AM
MECHANISMS OF ATRIAL ELECTRICAL REMODELING IN OBESE HEART. Ujala Srivastava, Aparajita Bhattacharya, Mohamed Boutjdir, **Ademuyiwa S. Aromolaran**

1887-Plat 11:15 AM
STRUCTURAL AND BIOCHEMICAL MECHANISMS OF MYOSIN-INDUCED DILATED CARDIOMYOPATHY. **Karen H. Hsu**, Adriana Trujillo, Thomas C. Irving, Sanford I. Bernstein

1888-Plat 11:30 AM
MECHANISM OF PROTECTION AGAINST MYOCARDIAL ISCHEMIA-REPERFUSION INJURY IN MICE RESISTANT TO CAMKII OXIDATION. **Yuejin Wu**, Ning Feng, Qinchuan Wang, Mark E. Anderson

1889-Plat 11:45 AM
FACILITATION OF SK CHANNEL ACTIVITY VIA INHIBITION OF PYK2-DEPENDENT TYROSINE PHOSPHORYLATION ALLEVIATES VENTRICULAR TACHYARRHYTHMIA IN CARDIAC HYPERTROPHY. **Shanna Hamilton**, Iuliia Polina, Radmila Terentyeva, Karim Roder, Tae Yun Kim, Jin O-Uchi, Gideon Koren, Bum-Rak Choi, Dmitry Terentyev

1890-Plat 12:00 PM
HIGH-THROUGHPUT INVESTIGATION OF CONTRACTILE AND ELECTROPHYSIOLOGICAL PROPERTIES OF OPTICALLY STIMULATED HIPSC-CM MONOLAYERS. **Shan Parikh**, Nikhil Chavali, Andrew Glazer, Christian Shaffer, Marcia Blair, Dan Roden, Bjorn Knollmann

1891-Plat 12:15 PM
SIMULATING DRUG-INDUCED ARRHYTHMIA SENSITIVITY USING AN EXPRESSION-BASED THEORETICAL MODEL OF HUMAN IPSC-DERIVED CARDIOMYOCYTES. Xin Gao, Yue Yin, Tyler Engel, Neil J. Daily, Li Pang, **Brian E. Carlson**, Tetsuro Wakatsuki

1892-Plat 12:30 PM
WHOLE HEART CYTOARCHITECTURE AT MICRON-SCALE RESOLUTION.
Erica Lazzeri, Irene Costantini, Samantha Cannazzaro, Cecilia Ferrantini, Giacomo Mazzamuto, Claudia Crocini, Raffaele Coppini, Silvia Guerini, Francesco Giardini, Leonardo Bocchi, Elisabetta Cerbai, Corrado Poggesi, Francesco Saverio Pavone, Leonardo Sacconi

Platform
Force Spectroscopy and Scanning Probe Microscopy

10:45 AM–12:45 PM, Esplanade, Room 155

Co-Chairs
Sophia Hohlbauch, Asylum Research an Oxford Instruments Company
Lukas Milles, Ludwig Maximilian University of Munich, Germany

1893-Plat 10:45 AM
MULTIMODAL MEASUREMENTS OF SINGLE-MOLECULE DYNAMICS USING FLOURBT. **Ivan E. Ivanov**, Paul Lebel, Florian C. Oberstrass, Charles Starr, Angelica Parente, Athena Ierokomos, Zev Bryant

1894-Plat 11:00 AM
VIDEO RATE ATOMIC FORCE MICROSCOPY OF BIOLOGICAL SAMPLES. **Sophia V. Hohlbauch**

1895-Plat 11:15 AM
A SIMPLE AND FAST DRIFT CORRECTION METHOD FOR HIGH-THROUGHPUT MICROSCOPY. **Arin Marchesi**, Ignacio Casuso, Simon Scheuring, Felix Rico

1896-Plat 11:30 AM
AN ELECTROMAGNETIC TWEEZERS FOR STUDYING FAST PROTEIN FOLDING DYNAMICS. **Rafael Tapia-Rojo**, Jaime Andres RIvas-Pardo, Julio M. Fernandez

1897-Plat 11:45 AM CPOW TRAVEL AWARDEE
DIRECT AND INDIRECT MAGNETIC FORCE MICROSCOPY IN HISTOLOGY. **Gunjan Agarwal**, Brooke Ollander, Joshua Sifford, Kevin J. Walsh, Angela R. Blissett, Ping Wei, Dana M. McTigue

1898-Plat 12:00 PM
LIVE CELL STED-AFM ANALYSIS CORRELATES CYTOSKELETAL STRUCTURE REMODELLING AND MEMBRANE PHYSICAL PROPERTIES DURING POLARIZED MIGRATION IN ASTROCYTES. **Nathan Curry**, Gregory Ghezali, Gabriele S. Kaminski Schierle, Nathalie Rouach, Clemens Kaminski

1899-Plat 12:15 PM
MOVING BEYOND THE MECHANICAL CLAMP: AN EXPLORATION INTO DIFFERENTIAL MECHANICAL STABILITY OF UBIQUITIN FAMILY PROTEINS. **Mona Gupta**, Ravindra Venkatramani, Sri Rama Koti Ainavarapu

1900-Plat 12:30 PM INTERNATIONAL TRAVEL AWARDEE
DECONSTRUCTING THE SINGLE MOLECULE MECHANICS OF AN ULTRASTABLE PATHOGEN ADHESIN. **Lukas F. Milles**, Rafael C. Bernardi, Klaus Schulten, Hermann E. Gaub

Platform
Protein Structure and Conformation III

10:45 AM–12:45 PM, ESPLANADE, ROOM 156

Co-Chairs
Jakub Kubiak, Heinrich Heine Universität Düsseldorf, Germany
Corie Ralston, Lawrence Berkeley National Laboratory

1901-Plat 10:45 AM
TIME-RESOLVED FLUORESCENCE SPECTROSCOPY CAPTURES EXCITED STATES OF A MEMBRANE ASSOCIATED PROTEIN. **Jakub Kubiak**, Thomas Peulen, Claus A. M. Seidel

1902-Plat 11:00 AM
A GLIMPSE INTO THE SEQUENCE OF STRUCTURAL CHANGES IN THE ORANGE CAROTENOID PROTEIN WHICH SWITCH ON THE PHOTOPROTECTION MECHANISM IN CYANOBACTERIA. Sayan Gupta, Maria A. Dominguez-Martin, Han Bao, Markus Sutter, Jun Feng, Leanne-Jade G. Chan, Christopher J. Petzold, Cheryl A. Kerfeld, **Corie Y. Ralston**

1903-Plat 11:15 AM
REFINING PEPTIDE CONFORMATIONAL LANDSCAPE BY AMIDE I INFRARED SPECTROSCOPY AND MD SIMULATIONS. **Chi-Jui Feng**, Balamurugan Dhayalan, Xinxing Zhang, Andrei Tokmakoff

1904-Plat 11:30 AM
MAGNETIC ALIGNMENT OF A PROTEIN WITH TWO SPIN-LABELS: 1 + 1 ≠ 2? **James M. Gruschus**, Madeleine Strickland, Marie-Paule Strub, Charles Schwieters, Nico Tjandra

1905-Plat 11:45 AM EDUCATION TRAVEL AWARDEE
PROTEIN YOGA: CONFORMATIONAL FLEXIBILITY OF A NOVEL FOLD. **Anne R. Kaplan**

1906-Plat 12:00 PM
STRUCUTURAL BASIS OF REVERSIBLE AMYLOID-LIKE INTERACTION IN MEDIATING HNRNP A1 PHASE SEPARATION. **Xinrui Gui**, Feng Luo, Dan Li, Cong Liu

1907-Plat 12:15 PM
CONFORMATIONAL DYNAMICS OF HUMAN PRION PROTEIN AND BINDING SITES OF ZN CATIONS. Maciej Gielnik, Michał Nowakowski, Michał Taube, Igor Zhukov, Wojciech M. Kwiatek, Dmitry M. Lesovoy, **Maciej Kozak**

1908-Plat 12:30 PM
A WATER-SOLUBLE DSBB VARIANT THAT CATALYZES DISULFIDE-BOND FORMATION *IN VIVO*. **Dario Mizrachi**, Matthew DeLisa

Career Development Center Workshop
Evaluating a Job Offer

11:30 AM–12:30 PM, SOUTH, LOWER LEVEL, ROOM 2

So they've offered you the position and now you need to make a decision. How you proceed from here on out is critical to ensure you start your new role in the organization successfully, and to ensure that you create a launchpad for future roles and compensation packages you will pursue. In this workshop, we will discuss how to evaluate the offer by examining a number of very specific elements of the opportunity, including what you will gain (for example, salary, skills, opportunity for advancement) and what you will give (for example, time for commuting and travel). We will work off of a checklist that you can use for any job offer you receive and even use it for scrutinizing multiple job offers at once. We will also discuss negotiation strategies and tactics.

Exhibitor Presentation
Malvern Panalytical

11:30 AM–1:00 PM, EXHIBIT HALL, ROOM 5

Integration of Multiple Biophysical Tools to Accelerate the Biotherapeutic Development Process
With the myriad of technologies available to assess the biophysical properties of biological materials, it can sometimes be an overwhelming task to identify which properties are most important to assess. This workshop will provide a summary of a typical workflow that can be used to assess the stability indicating properties of biological drug products across three different development phases of a drug:

Discovery Phase: From identification of lead candidates to early assessment of developability, the discovery phase is constantly expanding the properties that are being measured, while minimizing the volume of drug substance being used.

Formulation Development: Identifying the right candidate in the right formulation is critical to a products success. The need to measure the most relevant properties of the formulation to identify manufacturability is the most important requirement.

Manufacturing: Development of a robust manufacturing process, and early identification of issues associated with process change can keep you ahead of the curve to identify issues before they arise.

Speakers
Verna Frasca, Field Applications Manager, Biosciences, Malvern Panalytical
Clayton Deighan, Field Applications Scientist, Biosciences, Malvern Panalytical
Amber Fradkin, Director, Particle Characterization Core Facility, KBI Biopharma

Funding Opportunities for Faculty at Primarily Undergraduate Institutions

12:00 PM–1:30 PM, Esplanade, Room 158

This session is aimed at helping PUI faculty find funding for establishing or maintaining an active and productive undergraduate research laboratory.

Moderators
Paul Urayama, Miami University
Elizabeth Yates, United States Naval Academy

Panelists
Alexandra Ainsztein, NIH
Wilson Francisco, NSF

Postdoc to Faculty Q&A Transitions Forum and Luncheon

12:00 PM–2:00 PM, South, Level Three, Room 313/314

This question-and-answer luncheon is designed for postdocs finishing and actively applying for academic faculty positions. Discussion will be led by a panel of new faculty in basic science and/or medical school departments and experienced faculty who have served as department chairs and/or part of faculty search committees. Topics for discussion include how to prepare the curriculum vitae, the interview process, networking, how to negotiate the job offer, and advice for new faculty as they balance research with their department obligations. Pre-registration was required for lunch. If you are interested in attending and did not register in advance, you are welcome to participate in the discussion on a space-available basis.

Panelists
John Bankston, University of Colorado School of Medicine
Elenora Grandi, University of California, Davis
Andrea Meredith, University of Maryland School of Medicine
Shai Silberberg, NIH
Kenton Swartz, NIH

We Don't Think the Way We Think We Think Seeing and Addressing Unconscious Bias and Stereotype Threat

1:15 PM–2:45 PM, South, Level Three, Room 307/308

This workshop will help participants gain insight into the complex interplay of unconscious bias and stereotype threat, two ubiquitous but generally misunderstood or overlooked factors that have a significant impact on the way we perceive, evaluate, and behave towards others and ourselves. Unconscious biases are implicit attitudes or stereotypes that are activated involuntarily and without an individual's awareness or intentional control. A deep body of peer-reviewed studies have demonstrated that unconscious biases affect the way we make decisions as well as the way we see, judge and behave towards others. Stereotype Threat is a situational predicament in which people are aware (consciously or unconsciously) that they may be being judged or perceived according to their group category. Hundreds of peer-reviewed studies have shown that the experience of stereotype threat can causes a cascade of negative effects, including changes in behavior and temporary loss of skills. Participants in the workshop will engage in didactic, interactive and reflective strategies in a respectful and supportive atmosphere. Participants will gain an awareness of individual strategies to protect themselves from being influenced by unconscious or unintended biases and an awareness of strategies to protect themselves and others from the detrimental effects of stereotype threat.

Speaker
Michelle van Ryn, Institute for Equity and Inclusion in Healthcare

The Nuts and Bolts of Preparing Your NIH Grant

1:30 PM–3:30 PM, Esplanade, Room 151

You have spent years training and are ready to apply for an NIH grant. But where do you start? At this session, NIGMS program directors and officers with expertise in biophysics will be providing details on the NIH grant-making process as it stands in 2018, with a particular emphasis on grant writing and submission for new and early career investigators.

Panelists
Alexandra Ainsztein, NIGMS
Joseph Gindhart, NIGMS
John (Randy) Knowlton, NCI
Peter Preusch NIGMS
Paul Sammak, NIGMS
C.L. Albert Wang, CSR
Mary Ann Wu, NIGMS

Snack Break

1:45 PM–3:00 PM, Exhibit Hall ABC

Poster Presentations and Late Posters

1:45 PM–3:45 PM, Exhibit Hall ABC

Career Development Center Workshop
Going Live: Preparing for Interviews in Industry and Academia

2:30 PM–3:30 PM, South, Lower Level, Room 2

Most grad students and postdocs are used to having their work and accomplishments "speak" for them, and have never had an interview of any consequence. But to reach that goal of securing your first assistant professorship or research job in industry, you need to be prepared to close the deal on your own behalf and articulate why you are a great fit for their department or organization. Get answers to: what are the most common interview questions, how do I build effective answers that are more than empty clichés, what is an effective strategy for interview preparation, and more.

Leveling the Playing Field

2:30 PM–4:00 PM, Esplanade, Room 157

Leveling the Playing Field is a new series of yearly workshops designed to increase your skills in addressing the barriers faced by women in science. Are you all in favor of increasing professional opportunities of women but don't know how to contribute? These "hands-on" sessions can help you to become more effective in improving the climate for women in biophysics at all stages of their careers.

The 2018 workshop aims to increase your effectiveness in raising awareness of your research program and contributions, and the scientific contributions of women in biophysics in general, using your web presence, social media and other means.

Panelists
Constance Jeffery, University of Illinois at Chicago
Gabriela Popescu, University at Buffalo

Education Committee Meeting

3:00 PM–5:00 PM, South, Level Three, Room 306

Symposium
Modeling and Probing the Cytoskeleton

4:00 PM–6:00 PM, North, Lower Lobby, Room 24

Co-Chairs
Anders Carlsson, Washington University in St. Louis
Iva Tolić, University of Zagreb, Croatia

1909-Symp 4:00 PM
COMPUTATIONAL MODELS OF INDIVIDUAL AND COLLECTIVE KERATOCYTE MIGRATION. **Alex Mogilner**

1910-Symp 4:30 PM
HOW ACTIN POLYMERIZATION BENDS THE CELL MEMBRANE TO DRIVE ENDOCYTOSIS. **Anders E. Carlsson**

1911-Symp 5:00 PM
A MINIMAL SYSTEM FOR MICROTUBULE-BASED CELL POLARITY. **Marileen Dogterom**

1912-Symp 5:30 PM
TORQUES AND FORCES IN THE MITOTIC SPINDLE. Kruno Vukusic, Renata Buda, Juraj Simunic, Bruno Polak, Maja Novak, Zvonimir Boban, Nenad Pavin, **Iva M. Tolić**

Symposium
Protein Dynamics, Folding, and Allostery I: How Do Proteins Fold and Misfold?

4:00 PM–6:00 PM, North, Lower Lobby, Room 25

Co-Chairs
Galia Debelouchina, University of California, San Diego
Michele Vendruscolo, University of Cambridge, United Kingdom

1913-Symp 4:00 PM
PRINCIPLES OF PROTEIN STRUCTURAL ENSEMBLE DETERMINATION. **Michele Vendruscolo**

1914-Symp 4:30 PM
EVOLUTIONARY COUPLINGS REVEAL ALTERNATIVE 3D STRUCTURES. **Debora Marks**

1915-Symp 5:00 PM
PROTEIN SEQUENCE COEVOLUTION, ENERGY LANDSCAPES AND THEIR CONNECTIONS TO PROTEIN STRUCTURE, FOLDING AND FUNCTION. **Jose N. Onuchic**, Faruck Morcos

1916-Symp 5:30 PM
THE ROLE OF UBIQUITIN IN CHROMATIN STRUCTURAL ORGANIZATION. **Galia T. Debelouchina**

Platform
Optical Spectroscopy

4:00 PM–6:00 PM, South, Level Two, Room 207/208

Co-Chairs
Adam Gilmore, University of Hawaii
Pallav Kosuri, Harvard University

1917-Plat 4:00 PM
HIGH-THROUGHPUT ROTATION TRACKING USING DNA ORIGAMI ROTORS. **Pallav Kosuri**, Benjamin Altheimer, Mingjie Dai, Peng Yin, Xiaowei Zhuang

1918-Plat 4:15 PM
HIGH SPEED MECHANICAL MEASUREMENTS BASED ON DNA ORIGAMI TORQUE SENSORS. **Dominik J. Kauert**, Ralf Seidel

1919-Plat 4:30 PM
CHARACTERIZATION OF THE INTERACTION OF LIPOSOMES AND GOLD NANOPARTICLES USING SURFACE ENHANCED RAMAN SCATTERING. **Vesna Zivanovic**, Christoph Arenz, Janina Kneipp

1920-Plat 4:45 PM
NON-DESTRUCTIVE PREDICTION OF TRANSCRIPTOMES FROM SINGLE-CELL RAMAN MICROSCOPY. **Koseki J. Kobayashi-Kirschvink**, Hidenori Nakaoka, Ken-ichiro F. Kamei, Arisa Oda, Kazuki Nosho, Hiroko Fukushima, Yu Kanesaki, Shunsuke Yajima, Haruhiko Masaki, Kunihiro Ohta, Yuichi Wakamoto

1921-Plat 5:00 PM
MEASURING STRUCTURAL CHANGES AS A FUNCTION OF PROTEIN ENVIRONMENT USING INFRARED SPECTROSCOPY. **Curtis W. Meuse**, Marco A. Blanco

1922-Plat 5:15 PM
COMPREHENSIVE MULTIVARIATE ANALYSIS OF RED WINE PHENOLIC COMPOSITION, COLOR AND QUALITY COMPONENTS WITH SIMULTANEOUS ABSORBANCE AND FLUORESCENCE EXCITATION EMISSION MAPPING. **Adam Gilmore**

1923-Plat **5:30 PM**
SELF-CONSISTENT ANALYSIS OF LARGE FLUORESCENCE DATA SETS FOR INTEGRATIVE TIME-RESOLVED MODELS OF BIOMOLECULES. **Thomas-Otavio Peulen**, Hemmen Katherina, Claus A.M. Seidel

1924-Plat **5:45 PM**
ENDOGENOUS ALPHA-SYNUCLEIN ANALYSIS USING SINGLE-MOLECULE PULL-DOWN ASSAY. **Benjamin Croop**, Goun Je, Jialei Tang, Yoon-Seong Kim, Kyu Young Han

Platform
Membrane Dynamics and Fusion I

4:00 PM–6:00 PM, South, Level Two, Room 215/216

Co-Chairs
Elizabeth Kelley, NIST
Elizabeth Webster, Stanford University

1925-Plat **4:00 PM**
NANOSCALE PROTEIN INTERACTIONS DETERMINE THE MESOSCALE DYNAMIC ORGANISATION OF BIOMEMBRANES. **Anna L. Duncan**, Matthieu Chavent, Patrice Rassam, Jean Hélie, Tyler Reddy, Oliver Birkholz, Dmitry Belyaev, Ben Hambly, Jacob Piehler, Colin Kleanthous, Mark S.P. Sansom

1926-Plat **4:15 PM**
VOLUME AND SURFACE AREA DYNAMICS OF GIANT UNILAMELLAR VESICLES. **Morgan Chabanon**, Wan-Chih Su, Douglas L. Gettel, James CS Ho, Atul N. Parikh, Padmini Rangamani

1927-Plat **4:30 PM**
THE EFFECT OF PH ON SINGLE VIRUS LIPID MIXING KINETICS. **Elizabeth R. Webster**, Robert Rawle, Peter Kasson, Steven Boxer

1928-Plat **4:45 PM**
EFFECTIVE BENDING RIGIDITY OF MEMBRANES WITH RIGID INCLUSIONS. Elizabeth Kelley, Michihiro Nagao, **Paul Butler**

1929-Plat **5:00 PM**
EMERGENCE OF UNDULATIONS AS 2-D DIRECTOR FLUCTUATIONS IN PHOPHOLIPID MEMBRANES. **Trivikram R. Molugu**, Soohyun Lee, Xiaolin Xu, K. J. Mallikarjunaiah, Constantin Job, Michael F. Brown

1930-Plat **5:15 PM**
PORE-SPANNING MEMBRANES: LIPID DOMAINS IN CONFINED GEOMETRY. **Claudia Steinem**

1931-Plat **5:30 PM**
MECHANICAL PROPERTIES OF MEMBRANES UNDER ASYMMETRIC BUFFER CONDITIONS. **Marzieh Karimi**, Jan Steinkühler, Debjit Roy, Reinhard Lipowsky, Rumiana Dimova

1932-Plat **5:45 PM**
PROTEIN-MEDIATED BEADS-ON-A-STRING STRUCTURE FORMATION ALONG MEMBRANE NANOTUBES IN LIVE CELLS. **Haleh Alimohamadi**, Ben Ovryn, Padmini Rangamani

Platform
Neuroscience

4:00 PM–6:00 PM, Esplanade, Room 153

Co-Chairs
Douglas Shepherd, University of Colorado-Denver
Astrid Gräslund, Stockholm University, Sweden

1933-Plat **4:00 PM**
PROBING THE MOLECULAR MECHANISMS OF THE PROGRESSION OF ALZHEIMER'S DISEASE. **Lee Makowski**, Biel Roig Solvas

1934-Plat **4:15 PM**
MODULATING AMYLOID FORMATION: INSIGHTS FROM BIOPHYSICAL STUDIES. **Astrid Graslund**, Ann Tiiman, Jyri Jarvet, Vladana Vukojevic

1935-Plat **4:30 PM**
EVIDENCE THAT THE HUMAN INNATE IMMUNE PEPTIDE LL-37 MAY BE A BINDING PARTNER OF ABETA AND INHIBITOR OF FIBRIL ASSEMBLY. Ersilia De Lorenzi, Marcella Chiari, Raffaella Colombo, Marina Cretich, Laura Sola, Renzo Vanna, Paola Gagni, Federica Bisceglia, Carlo Morasso, Jennifer S. Lin, Moonhee Lee, Patrick L. McGeer, **Annelise E. Barron**

1936-Plat **4:45 PM**
KINESIN-1 AND ARL8B-DEPENDENT TARGETING OF A PRION MUTANT INTO AXONAL PRE-LYSOSOMAL COMPARTMENTS PROMOTES PRION AGGREGATION IN NEURONS. Romain Chassefeyre, **Sandra Encalada**

1937-Plat **5:00 PM**
SINGLE LAYER GRAPHENE PROMOTES NEURONAL ACTIVITY BY REGULATING POTASSIUM ION CHANNELS IN CULTURED NEURONAL NETWORKS. Niccolò Paolo Pampaloni, Martin Lottner, Michele Giugliano, Alessia Matruglio, Francesco D'Amico, Maurizio Prato, Josè Antonio Garrido, Laura Ballerini, **Denis Scaini**

1938-Plat **5:15 PM**
PHOTOELECTROCHEMICAL MODULATION OF NEURONAL ACTIVITY WITH FREE-STANDING COAXIAL SILICON NANOWIRES. **Ramya Parameswaran**, Joao L. Carvalho-de-Souza, Yuanwen Jiang, Michael J. Burke, John F. Zimmerman, Kelliann Koehler, Andrew W. Philips, Jaeseok Yi, Erin Adams, Francisco Bezanilla, Bozhi Tian

1939-Plat **5:30 PM**
QUANTIFYING MOLECULAR DISEASE MECHANISMS IN INTACT TISSUE USING AUTOMATIC AND ADAPTIVE REFRACTIVE INDEX COMPENSATION FOR LIGHT-SHEET FLUORESCENCE MICROSCOPY. **Douglas Shepherd**, Duncan Ryan, Elizabeth Gould, Jasmine Singh, Taylor Nowlin, Gregory Seedorf, Omid Masihzadeh, Steven Abman, Sukumar Vijayaraghavan, Wendy Macklin, Diego Restrepo

1940-Plat **5:45 PM**
DE NOVO DESIGNED PROTEINS FOR ULTRAFAST DETECTION OF MEMBRANE POTENTIAL CHANGES. **Martin J. Iwanicki**, Joshua A. Mancini, Sohini Mukherjee, Christopher C. Moser, Brian Y. Chow, Bohdana M. Discher

Platform
Replication, Recombination, Repair, Transcription, and Translation

4:00 PM–6:00 PM, Esplanade, Room 154

Co-Chairs
Sangjin Kim, Yale University
Vincent Croquette, Laboratory of ENS Statistical Physics, France

1941-Plat **4:00 PM**
ARCHITECTURAL REARRANGEMENTS DURING PRIMER SYNTHESIS. **Marilyn E. Holt**, Matthew K. Thompson, Lauren E. Salay, Walter J. Chazin

1942-Plat **4:15 PM**
WHEN HELICASE AND POLYMERASES COLLIDES AND UNFOLDS G4-QUADRUPLEX ON THEIR TRACK. **Vincent Croquette**, Samar Hodeib, Jean-Baptiste Boulé, Shubeena Chib, Kevin D. Raney

1943-Plat **4:30 PM**
NEW INSIGHTS INTO TRANSCRIPTIONAL PAUSING USING ULTRA-HIGH RESOLUTION OPTICAL TWEEZERS AND NOVEL ANALYSIS ALGORITHMS. **Ronen Gabizon**, Antony Lee, Hanif V. Movahed, Richard H. Ebright, Carlos J. Bustamante

1944-Plat 4:45 PM
COMBINATORIAL ORIGIN OF PROTEIN EXPRESSION NOISE. **Sangjin Kim**, Christine Jacobs-Wagner

1945-Plat 5:00 PM
THE INTERACTION BETWEEN BACTERIOPHAGE T7 DNA POLYMERASE AND GENE 2.5 PROTEIN AT THE SINGLE-MOLECULE LEVEL. **Julia Bakx**, Jordi Cabanas-Danes, Erwin J.G. Peterman, Gijs J.L. Wuite

1946-Plat 5:15 PM
ANISOTROPIC FLUCTUATIONS IN THE RIBOSOME DETERMINE AA-TRNA KINETICS. **Huan Yang**, Jeffrey Noel, Paul Charles Whitford

1947-Plat 5:30 PM
MECHANISTIC INSIGHT INTO THE INITIATION OF REPEAT-ASSOCIATED NONAUG TRANSLATION. **Rosslyn Grosely**, Joseph Puglisi

1948-Plat 5:45 PM
EVOLUTIONARILY-ENCODED TRANSLATION KINETICS COORDINATE CO-TRANSLATIONAL SSB CHAPERONE BINDING IN YEAST. **Nabeel Ahmed**, Kristina Döring, Günter Kramer, Bernd Bukau, Edward P. O'Brien

Platform
TRP Channels

4:00 PM–6:00 PM, ESPLANADE, ROOM 155

Co-Chairs
Eleonora Gianti, Temple University
Eleonora Zakharian, University of Illinois

1949-Plat 4:00 PM
MOLECULAR INSIGHTS INTO TRPV1 POLYMODAL ACTIVATION: IS ALLOSTERIC COUPLING BETWEEN THE TOXIN AND THE VANILLOID BINDING SITES MEDIATED BY ANNULAR LIPIDS? **Eleonora Gianti**, Michael Klein, Tibor Rohács, Vincenzo Carnevale

1950-Plat 4:15 PM
THE ROLE OF THE SELECTIVITY FILTER IN TRPV1 CHANNEL GATING. **Andres Jara-Oseguera**, Kenton J. Swartz

1951-Plat 4:30 PM
OXYTOCIN MODULATES NOCICEPTION AS A DIRECT AGONIST OF PAIN-SENSING TRPV1. Yelena Nersesyan, Lusine Demirkhanyan, Deny Cabezas-Bratesco, Victoria Oakes, Ricardo Kusuda, Tyler Dawson, Xiaohui Sun, Chike Cao, Alejandro Cohen, Katharina Zimmermann, Carmen Domene, Sebastian Brauchi, **Eleonora Zakharian**

1952-Plat 4:45 PM
MECHANISM OF TRPV5 MODULATION AND GATING AS REVEALED BY CRYO-EM. **Taylor E. T. Hughes**, David Lodowski, Kevin Huynh, Aysenur Yazici, John del Rosario, Abhijeet Kapoor, Sandip Basak, Amrita Samanta, Sudha Chakrapani, Z. Hong Zhou, Marta Filizola, Tibor Rohacs, Seungil Han, Vera Moiseenkova-Bell

1953-Plat 5:00 PM
STRUCTURES OF THE ENDOLYSOSOMAL TRPML3 CHANNEL IN DISTINCT STATES REVEAL ACTIVATION AND REGULATION MECHANISMS. Minghui Li, Xiaoyuan Zhou, Deyuan Su, Qi Jia, Huan Li, Xueming Li, **Jian Yang**

1954-Plat 5:15 PM
RESIDUES AT TRPA1 S4-S5 LINKER N-TERMINUS ARE CRITICAL FOR TRANSLATING COVALENT MODIFICATION TO CHANNEL ACTIVATION. **Wei Chou Tseng**, Karen Padilla, Seungil Han, Aaron Gerlach

1955-Plat 5:30 PM
A PIP_2 BINDING SITE ON A HUMAN TRP CHANNEL: SIMULATION STUDIES OF PKD2. **Qinrui Wang**, George Hedger, Prafulla Aryal, Jiye Shi, Elizabeth P. Carpenter, Mark S. P. Sansom

1956-Plat 5:45 PM
MECHANISM OF REGULATION OF GI/O-MEDIATED TRPC4 ACTIVATION BY INTRACELLULAR PROTONS. **Qiaochu Wang**, Dhananjay P. Thakur, Jinbin Tian, Jaepyo Jeon, Michael X. Zhu

Platform
Protein Dynamics and Allostery II

4:00 PM–6:00 PM, ESPLANADE, ROOM 156

Co-Chairs
Toshiko Ichiye, Georgetown University
Denis Schmidt, Heinrich Heine University Düsseldorf, Germany

1957-Plat 4:00 PM
IDENTIFYING CAUSALITY IN MUTANT KRAS RESIDUE PAIRS FROM MOLECULAR DYNAMICS DATA ANALYSIS. **Sezen Vatansever**, Burak Erman, Zeynep H. Gumus

1958-Plat 4:15 PM
PROTEIN HYDRAULICS: WATER MEDIATED COOPERATIVITY OF SUBSTRATE BINDING IN PKA. **Piotr Setny**

1959-Plat 4:30 PM
AN ALLOSTERIC REGION OF SRC TYROSINE KINASE ALLOWS FOR STABILIZATION OF ITS ACTIVE-LIKE CONFORMATION. **Lalima G Ahuja**, Yilin Meng, Alexandr P Kornev, Benoit Roux, Susan Taylor

1960-Plat 4:45 PM
DIRECT OBSERVATION OF GDP UNBINDING REVEALS MULTIPLE ALLOSTERIC PATHWAYS UNDERLIE G-PROTEIN ACTIVATION. **Sukrit Singh**, Xianqiang Sun, Kendall J. Blumer, Gregory R. Bowman

1961-Plat 5:00 PM
CONFORMATIONAL DYNAMICS OF HISTONE METHYLTRANSFERASE SET8 PROBED BY MILLISECOND-TIMESCALE MOLECULAR DYNAMICS, MARKOV STATE MODELING AND BIOCHEMICAL EXPERIMENTS. **Rafal P. Wiewiora**, Shi Chen, Minkui Luo, John D. Chodera

1962-Plat 5:15 PM
HOW COLLAGEN FIBRILS DYNAMICALLY DISTRIBUTE AND MEASURE STRESSES. **Agnieszka Obarska-Kosinska**, Christopher Zapp, Frauke Gräter

1963-Plat 5:30 PM **EDUCATION TRAVEL AWARDEE**
INVESTIGATING CHEMOKINE RECEPTOR CCR2 DYNAMICS AND DRUGGABILITY BY ENSEMBLE BASED APPROACHES. **Bryn C. Taylor**, Irina Kufareva, Tracy Handel, Rommie E. Amaro

1964-Plat 5:45 PM
MHC CLASS II COMPLEXES SAMPLE INTERMEDIATE STATES ALONG THE ANTIGENIC PEPTIDE EXCHANGE PATHWAY. **Sebastian Stolzenberg**, Marek Wieczorek, Jana Sticht, Sebastian Günther, Christoph Wehmeyer, Zeina El Habre, Miguel Álvaro-Benito, Frank Noé, Christian Freund

Dinner Meet-Ups

5:30 PM – 5:45 PM, SOUTH LOBBY, SOCIETY BOOTH

Interested in making new acquaintances and experiencing the cuisine of San Francisco? Meet at the Society Booth each evening, Sunday through Tuesday, at 5:30 PM where a BPS member will coordinate dinner at a local restaurant.

Publications Committee Meeting

6:00 PM–10:00 PM, MARRIOTT MARQUIS, PACIFIC A

Workshop
Probing Atomic Single Sites in Cells and Bio-Assemblies: Advances in In-Cell NMR

7:30 PM–9:30 PM, ESPLANADE, ROOM 153

Co-Chairs
Lucia Banci, University of Florence, Italy
Ichio Shimada, University of Tokyo, Japan

1965-Wkshp 7:30 PM
IN-CELL NMR: ITS CONTRIBUTION FOR UNDERSTANDING FUNCTIONAL PROCESSES. **Lucia Banci**

1966-Wkshp 7:54 PM
STUDYING PROTEINS INSIDE EUKARYOTIC CELLS IN NMR. **Ichio Shimada**

1967-Wkshp 8:18 PM
CELLULAR SOLID-STATE NMR APPLIED TO BACTERIAL AND HUMAN CELLS. **Marc Baldus**

1968-Wkshp 8:42 PM
IN-CELL NMR SPECTROSCOPY FOR THE INVESTIGATION OF THE CONFORMATION OF MACROMOLECULES. **Volker Dotsch**

1969-Wkshp 9:06 PM
DISSECTING BACTERIA AND MAMMALIAN CELLS BY WHOLE-CELL NMR: CELL WALLS, RIBOSOMES, NUCLEI, OH MY! Joseph A. H. Romaniuk, Sabrina Werby, Michelle Park, **Lynette Cegelski**

Workshop
Atoms to Cells: Modeling Biological Complexity

7:30 PM–9:30 PM, ESPLANADE, ROOM 154

Co-Chairs
Leslie Loew, University of Connecticut Health Center
Banu Ozkan, University of Arizona

1970-Wkshp 7:30 PM
BIOMOLECULAR SIMULATION FOR ALL. **Ron O. Dror**

1971-Wkshp 7:54 PM
CROWDED AND COMPLEX: MOLECULAR SIMULATIONS OF BIOLOGICAL MEMBRANES. **Mark S.P. Sansom**, Anna L. Duncan, Matthieu Chavent

1972-Wkshp 8:18 PM
RAS SIGNALING: ALLOSTERY, CONFORMATION, AND FUNCTION. **Ruth Nussinov**, Hyunbum Jang

1973-Wkshp 8:42 PM
ALLOSTERY AND CONFORMATIONAL DYNAMICS IN PROTEIN EVOLUTION. **S. Banu Ozkan**

1974-Wkshp 9:06 PM
CELL BIOPHYSICS WITH VIRTUAL CELL. **Leslie Loew**

Workshop
From Molecules to Mammals: Imaging, Sensing, and Light Control

7:30 PM–9:30 PM, ESPLANADE, ROOM 155

Co-Chairs
Gang Han, University of Massachusetts Medical School
Jin Hyung Lee, Stanford University

1975-Wkshp 7:30 PM
SMALL AND BRIGHT: TAILORING LUMINESCENT NANOPARTICLES FOR BIOLOGY. **Gang Han**

1976-Wkshp 7:54 PM
OPTOGENETIC FMRI AND THE INVESTIGATION OF GLOBAL BRAIN CIRCUIT MECHANISMS. **Jin Hyung Lee**

1977-Wkshp 8:18 PM
BUILDING PROTEINS TO PEEK AND POKE AT GTPASE CIRCUITS IN VIVO. **Klaus M. Hahn**

1978-Wkshp 8:42 PM
ILLUMINATING THE BIOCHEMICAL ACTIVITY ARCHITECTURE OF THE CELL. **Jin Zhang**

1979-Wkshp 9:06 PM
ENGINEERING OF BACTERIAL PHYTOCHROMES FOR NEAR-INFRARED IMAGING, SENSING AND LIGHT-CONTROL IN MAMMALS. Daria M. Shcherbakova, Andrii A. Kaberniuk, Taras A. Redchuk, **Vladislav V. Verkhusha**

Workshop
Biomembrane Models and Tools

7:30 PM–9:30 PM, ESPLANADE, ROOM 156

Co-Chairs
Rumiana Dimova, Max Planck Institute, Germany
J. Antoinette Killian, Utrecht University, The Netherlands

1980-Wkshp 7:30 PM
GIANT VESICLES AS HANDY TOOLS FOR ASSESSING MEMBRANE MECHANICS, WETTING AND RESHAPING. **Rumiana Dimova**

1981-Wkshp 7:54 PM
CONSTRUCTING AND USING PHASE DIAGRAMS OF MULTI-COMPONENT LIPID MIXTURES. **Gerald W. Feigenson**

1982-Wkshp 8:18 PM
THE STYRENE-MALEIC ACID COPOLYMER: A VERSATILE TOOL IN MEMBRANE RESEARCH. **J. Antoinette Killian**

1983-Wkshp 8:42 PM
PLASMA MEMBRANE MODELS. **Kalina Hristova**

1984-Wkshp 9:06 PM
NANOPORE-CONFINED BILAYERS: A MODEL OF BIOMEMBRANES WITH DEFINED CURVATURE AND A TOOL FOR ORIENTED SAMPLE MAGNETIC RESONANCE. **Alex I. Smirnov**

SOBLA (The Society for Latinoamerican Biophysicists) Meeting

8:00 PM–10:00 PM, ESPLANADE, ROOM 158

TUESDAY POSTER SESSIONS

1:45 PM–3:45 PM, EXHIBIT HALL ABC

Below is the list of poster presentations for Tuesday of abstracts submitted by October 2. The list of late abstracts scheduled for Tuesday is available in the Program Addendum, and those posters can be viewed on boards beginning with L.

Posters should be mounted beginning at 6:00 PM on Monday and MUST be removed by 4:30 PM on Tuesday evening. Posters will be on view until 10:00 PM on Monday, the night before presentation. Poster numbers refer to the program order of abstracts as they appear in the online Abstracts Issue. Board numbers indicate where boards are located in the Exhibit Hall.

On Tuesday, the Exhibit Hall witll close completely at 4:30 PM to accommodate the tear down of exhibits. **ALL POSTERS MUST BE REMOVED BY THIS TIME**. Posters remaining on boards after this time will be discarded. Posters being presented on Wednesday may be mounted beginning at 7:00 AM on Wednesday.

ODD-NUMBERED BOARDS 1:45 PM–2:45 PM | EVEN-NUMBERED BOARDS 2:45 PM–3:45 PM

Board Numbers	Category
B1–B29	Protein Structure and Conformation II
B30–B48	Protein Structure, Prediction, and Design I
B49–B67	Protein Stability, Folding, and Chaperones II
B68–B90	Protein-Small Molecule Interactions III
B91–B106	Protein Dynamics and Allostery III
B107–B127	Membrane Protein Structures II
B128–B157	Intrinsically Disordered Proteins (IDP) and Aggregates II
B158–B187	RNA Structure and Dynamics
B188–B216	Protein-Nucleic Acid Interactions III
B217–B228	Chromatin and the Nucleoid II
B229–B252	Membrane Physical Chemistry III
B253–B279	Membrane Active Peptides and Toxins II
B280–B303	General Protein-Lipid Interactions II
B304–B321	Membrane Receptors and Signal Transduction II
B322–B336	Calcium Signaling II
B337–B347	Excitation-Contraction Coupling I
B348–B362	Cardiac, Smooth, and Skeletal Muscle Electrophysiology I
B363–B391	Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating III
B392–B416	TRP Channels I
B417–B439	Ion Channels, Pharmacology, and Disease II
B440–B461	Other Channels II
B462–B480	Cardiac Muscle Mechanics and Structure II
B481–B496	Cardiac Muscle Regulation II
B497–B526	Microtubules, Structure, Dynamics and Associated Proteins
B527–B545	Kinesins, Dyneins, and Other Microtubule-based Motors I
B546–B579	Cell Mechanics, Mechanosensing, and Motility II
B580–B600	Energy Transduction Involving Light Harvesting, and Electron and Proton Transfer
B601–B606	Diffraction and Scattering Techniques
B607–B632	Molecular Dynamics II
B633–B657	Optical Microscopy and Superresolution Imaging: Novel Approaches and Analysis II
B658–B687	Optical Microscopy and Superresolution Imaging: Applications to Cellular Molecules II
B688–B696	Bioengineering II
B697–B704	Biosurfaces

It is the responsibility of the poster presenters to remove print materials from the board after their presentations. Please do not leave materials or belongings under poster boards or in the poster area. Posters will not be collected or stored for pick-up at a later time. The Biophysical Society is not responsible for any articles left in the poster area.

Protein Structure and Conformation II (Boards B1–B29)

1985-Pos Board B1
MECHANISM OF PHOSPHOLIPASE IPLA2BETA ACTIVITY AND REGULATION REVEALED BY THE NOVEL CRYSTAL STRUCTURE. **Sergey V. Korolev**

1986-Pos Board B2 **INTERNATIONAL TRAVEL AWARDEE**
EXPLORING A NOVEL OLIGOMERIZATION MECHANISM OF THERMOSTABLE DIRECT HEMOLYSIN, A PORE-FORMING PROTEIN. **Nidhi Kundu**, Kausik Chattopadhyay

1987-Pos Board B3
CAN B-CYCLODEXTRIN ENCAPSULATED POLYPHENOLS COMBAT OXIDATIVE STRESS? A CASE STUDY WITH RIBONUCLEASE A PROTEIN. **Pritam Roy**, Swagata Dasgupta

1988-Pos Board B4
THE CONFORMATION OF HUMAN PHOSPHOLIPID SCRAMBLASE 1, AS STUDIED BY INFRARED SPECTROSCOPY. EFFECTS OF CALCIUM AND DETERGENT. Nagore Andraka, Lissete Sanchez-Magraner, Marcos Garcia-Pacios, **Felix M Goni**, Jose L. Arrondo

1989-Pos Board B5
STRUCTURAL AND FUNCTIONAL CHARACTERIZATION OF VITRONECTIN AND AIL FOR HOST CELL INVASION BY Y. PESTIS. **Luz M. Meneghini**, L. Miya Fujimoto, Yong Yao, Francesca M. Marassi

1990-Pos Board B6
PROBING THE ELONGATED STRUCTURE OF A STREPTOCOCCAL SURFACE PROTEIN USING STRUCTURAL AND SINGLE-MOLECULE BIOPHYSICAL APPROACHES. **James A.H. Gilburt**, Christoph G. Baumann, Jennifer R. Potts, Fiona Whelan

1991-Pos Board B7
SOLUTION STRUCTURES OF WILDTYPE AND DEGLYCOSYLATED NEUROPILIN 1. Raphael Reuten, Natalie Krahn, Matthew McDougall, Denise Nikodemus, Makrus Meier, Manuel Koch, Joerg Stetefeld, **Trushar R. Patel**

1992-Pos Board B8
MONOMERIZATION OF XIAP BY EXECUTIONER CASPASES. **Jamshid Davoodi**, Hossein Hozhabri, Hossein Hozhabri

1993-Pos Board B9
THE STABILITY, REDUCTION POTENTIAL AND LIGAND STATE OF TWO CONFORMATIONS OF A *C*-TYPE CYTOCHROME FROM THE DIATOM THALASSIOSIRA PSEUDONANA. **Saveeta May Rampur**, Evelyn Bordeaux, Emily Tabaie, Katherine Frato

1994-Pos Board B10
ENVIRONMENTAL CALCIUM CONTROLS ALTERNATE PHYSICAL STATES OF THE CAULOBACTER SURFACE LAYER. **Jonathan Herrmann**, John Smit, Lucy Shapiro, Soichi Wakatsuki

1995-Pos Board B11
SPECIES DIFFERENCES IN VISUAL ARRESTIN MULTIMERIZATION REVEALED BY ANALYTICAL ULTRACENTRIFUGATION. **Cassandra Barnes**, Kevin Namitz, Michael Cosgrove, Peter Calvert

1996-Pos Board B12
NON-SYMBIOTIC HEMOGLOBIN CONFORMATIONAL SPACE DEPENDENCE ON THE HEME COORDINATION USING NESI-TIMS-TOF MS. David Butcher, Sophie Bernad, Valerie Derrien, Pierre Sebban, Jaroslava Miksovska, **Francisco Fernandez-Lima**

1997-Pos Board B13
STUDIES OF THE BEHAVIOR OF INDIVIDUAL (AND COMBINED) DOMAINS OF HUMAN E- AND N-CADHERIN. **Prince Tiwari**

1998-Pos Board B14 **EDUCATION TRAVEL AWARDEE**
INTERACTION OF THE ASAP1 PH DOMAIN WITH THE N TERMINUS OF ARF1 IS CONTROLLED BY CONFORMATIONAL SWITCHING. **Neeladri S. Roy**, Peng Zhai, Xiaoying Jian, Lisa Jenkins, Ruibai Luo, Marielle E. Yohe, Paul A. Randazzo

1999-Pos Board B15 **EDUCATION TRAVEL AWARDEE**
A HISTIDINE-LYSINE AXIAL LIGAND SWITCH IN A HEMOGLOBIN. **Dillon Nye**, Matthew Preimesberger, Ananya Majumdar, Juliette Lecomte

2000-Pos Board B16
STIM1-INDUCED CONFORMATIONAL TRANSITION OF ORAI-1 LEADS TO CHANNEL ACTIVATION. **Zainab Haydari**, Hengameh Shams, Mohammad Mofrad

2001-Pos Board B17 **INTERNATIONAL TRAVEL AWARDEE**
BIOACTIVE 3D STRUCTURE OF PHENYLALANINE AMMONIA-LYASE REVEAL KEY INSIGHTS INTO LIGAND BINDING DYNAMICS. **Zsofia Bata**, Erzsebet Madaras, Ibolya Leveles, Friedrich Hammerschmidt, Csaba Paizs, László Poppe, Beáta G. Vértessy

2002-Pos Board B18 **EDUCATION TRAVEL AWARDEE**
RESOLVING THE MECHANISM OF ADHESION MEDIATED BY A NON-CLUSTERED DELTA-1 PROTOCADHERIN. **Debadrita Modak**

2003-Pos Board B19
ZINC AVAILABILITY-DEPENDENT UNFOLDING OF LOZ1 ZINC FINGER. **Vibhuti Wadhwa**, AManda J. Bird, Mark P. Foster

2004-Pos Board B20
STRUCTURAL INSIGHTS TO TOXIC AMYLIN OLIGOMERS FROM 2D IR SPECTROSCOPY. **Kacie Rich**, Megan Petti, Martin Zanni

2005-Pos Board B21
STRUCTURAL INSIGHTS INTO MITOCHONDRIAL ENDOG IN RESPONSE TO OXIDATIVE STRESS. **Hanna S. Yuan**, Jason L.J. Lin, Woei-Chyn Chu

2006-Pos Board B22
STRUCTURE, FUNCTION, AND DYNAMICS OF *XANTHOMONAS ALBILINEANS* CAS2 IN TYPE I-C CRISPR-CAS SYSTEM. **Euiyoung Bae**, Nayoung Suh

2007-Pos Board B23 **INTERNATIONAL TRAVEL AWARDEE**
FLEXIBILITY OF THE MYELIN SCAFFOLDING PROTEIN PERIAXIN. **Arne Raasakka**, Huijong Han, Matti Myllykoski, Petri Kursula

2008-Pos Board B24
EFFECTS OF HYDROXYLATION AT PROLINE 567 IN HIF-1A ON THE BINDING TO PVHL. Hongsheng Qian, Junhang Hu, **Qingwen Zhang**

2009-Pos Board B25
NON-ENZYMATIC SELF-ASSOCIATION OF FIBRINOGEN IN SOLUTION STUDIED WITH 1H NMR SPECTROMETRY. **Rustem I. Litvinov**, Yuriy F. Zuev, Bulat Z. Idiyatullin, Dilyafruz R. Bakirova, Alexander E. Sitnitsky, Artem Zhmurov, Valeri Barsegov, John W. Weisel

2010-Pos Board B26
BOTULINUM TOXINS A AND E INFLICT DYNAMIC DESTABILIZATION ON T-SNARE TO IMPAIR SNARE ASSEMBLY AND MEMBRANE FUSION. **Ryan Khounlo**

2011-Pos Board B27
MODULATION OF THE PEROXIDASE ACTIVITY OF HUMAN CYTOCHROME *C* BY Ω LOOPS C AND D. **Haotian Lei**, Shiloh Nold, Bruce Bowler

2012-Pos Board B28
PROBING LOCAL SOLVATION ENVIRONMENTS IN H-NOX PROTEINS USING UNNATURAL AMINO ACIDS. **Caroline Kearney**, Trexler D. Hirn, Gwendolyn D. Fowler, Lukasz T. Olenginski, Daniyal Tariq, Scott H. Brewer, Christine M. Phillips-Piro

2013-Pos Board B29
EXPERIMENTAL AND COMPUTATIONAL STUDIES OF OBSCURIN'S FLEXIBILITY. **Jake Whitley**, Daniel Marzolf, Oleksandr Kokhan, Nathan Wright

Protein Structure, Prediction, and Design I (Boards B30–B48)

2014-Pos Board B30 CID TRAVEL AWARDEE
ANALYSIS OF RELATIVE BINDING AFFINITY PREDICTIONS FOR PROTEIN-PROTEIN COMPLEXES. **Xavier Bonner**, Brian Kuhlman, Hayretin Yumerefendi

2015-Pos Board B31
MOLECULAR DESIGN OF ARTIFICIAL RING FINGERS FOR DETECTING UBIQUITINATION ACTIVITIES. **Kazuhide Miyamoto**, Ayumi Yamashita, Kazuki Saito

2016-Pos Board B32
RATIONAL ENGINEERING AND ROSETTA DESIGN OF A GENETICALLY ENCODED FLUORESCENT REPORTER OF PROTEIN CONFORMATIONAL CHANGE. **Jan Maly**, Yann Thillier, Grace Or, Kit Lam, Jon T. Sack, Lin Tian, Vladimir Yarov-Yarovoy

2017-Pos Board B33
SUCCESSFUL RATIONAL AFFINITY MATURATION OF AN ALPHA-SYNUCLEIN ANTIBODY. **Sai Pooja Mahajan**, Bunyarit Meksiriporn, Dujduan Waraho-Zhmayev, Fernando Escobedo, Matthew P. Delisa

2018-Pos Board B34
THE DYNAMIC SELF-REGULATION OF MODULAR CULLIN-RING LIGASES. **Ryan Lumpkin**, Elizabeth Komives

2019-Pos Board B35
IDENTIFICATION OF A SCHIFF BASE ADDUCT IN CYP3A4. **Parker Flanders**, Matthew Schwartz, Justice Spriggs, Tom Larson, Larry R. Masterson

2020-Pos Board B36
DESIGNING SELECTIVE PROTEIN BINDING SITES. **Francesca Nerattini**, Luca Tubiana, Chiara Cardelli, Valentino Bianco, Christoph Dellago, Ivan Coluzza

2021-Pos Board B37
ARE PROTEINS SUCH UNIQUE POLYMERS?–THE ROLE OF DIRECTIONAL INTERACTIONS IN THE DESIGNABILITY OF GENERALIZED HETEROPOLYMERS. **Chiara Cardelli**, Valentino Bianco, Lorenzo Rovigatti, Francesca Nerattini, Luca Tubiana, Christoph Dellago, Ivan Coluzza

2022-Pos Board B38
RATIONAL DESIGN OF PDZ DOMAIN SPECIFICITY. **Young Joo Sun**, Titus Hou, Lokesh Gakhar, Sahezeel Awadia, Rafael Garcia-Mata, Ernesto Fuentes

2023-Pos Board B39
GLASS CHIP FOR NANOPORE BASED LOW NOISE RESISTIVE PULSE SENSING. **Lennart J. de Vreede**, Cuifeng Ying, Michael Mayer

2024-Pos Board B40
DE NOVO DESIGN OF CROSS-A AMYLOID-LIKE FIBRILS WITH CELLULAR ACTIVITY. **Shao-Qing Zhang**, Lijun Liu, Junjiao Yang, Marco Lolicato, Huong Kratochvil, Xiaokun Shu, William F. DeGrado

2025-Pos Board B41
RATIONAL PROTEIN DESIGN VIA STRUCTURE-ENERGETICS-FUNCTION RELATIONSHIPS IN THE PHOTOACTIVE YELLOW PROTEIN (PYP) MODEL SYSTEM. **Johan H. Both**, Robert M. Parrish, Todd J. Martínez, Steven G. Boxer

2026-Pos Board B42 EDUCATION TRAVEL AWARDEE
STRUCTURAL DESIGN OF NOVEL PROTEIN ACETYLTRANSFERASES. **Logan Kaler**, Yadilette Rivera-Colón

2027-Pos Board B43
ENGINEERING A PROMISCUOUS ACETYLTRANSFERASE. **Jenna Morris**, Yadilette Rivera-Colón

2028-Pos Board B44
ENGENDERING METHANE MONOOXYGENASE AND HYDROGEN PEROXIDE OXIDASE ACTIVITY INTO A DESIGNED DIMETAL PROTEIN BY INCREASING PROTEIN DYNAMICS. **Ronald L. Koder**, Jonathan M. Preston, Bernard H. Everson, Emma Bjerkefeldt, Florika C. Macazo, Fabien Giroud, Shelly D. Minteer, David J. Vinyard, Gary W. Brudvig

2029-Pos Board B45
A MULTI-SCALE APPROACH TO THE STUDY OF PROTEIN DESIGN, FOLDING AND AGGREGATION. Francesca Nerattini, Valentino Bianco, Chiara Cardelli, Luca Tubiana, **Ivan Coluzza**

2030-Pos Board B46
MONITOR AND CONTROL UPSTREAM BIOPROCESSING USING A POINT-OF-NEED MASS SPECTROMETER. **Richard W. Moseley**, Alexander I. McIntosh

2031-Pos Board B47
PEBANK: A COMPREHENSIVE DATABASE FOR PROTEIN ENGINEERING AND DESIGN. **Connie Wang**, Paul Chang, Marie Ary, Stephen Mayo, Barry Olafson

2032-Pos Board B48
A KNOB-SOCKET BASED RULE SET FOR DESIGNING PEPTIDE BINDING TO PDZ DOMAINS. **Shivarni Patel**, Hyun Joo, Jerry Tsai

Protein Stability, Folding, and Chaperones II (Boards B49–B67)

2033-Pos Board B49
QUANTITATIVE PREDICTION OF BACTERIAL FITNESS FROM A PROTEIN'S ENERGY LANDSCAPE. **Catherine R. Knoverek**, Kathryn M. Hart, Gregory R. Bowman

2034-Pos Board B50
PREDICTION OF NEW STABILIZING MUTATIONS BASED ON MECHANISTIC INSIGHTS FROM MARKOV STATE MODELS. **Maxwell I. Zimmerman**, Kathryn M. Hart, Carrie A. Sibbald, Thomas E. Frederick, John R. Jimah, Catherine R. Knoverek, Niraj H. Tolia, Gregory R. Bowman

2035-Pos Board B51
PROBING PROTEIN FOLDING LANDSCAPE BY USING COMBINED FORCE SPECTROSCOPY AND MOLECULAR DYNAMICS SIMULATIONS. **Ha H. Truong**, Susan Marqusee

2036-Pos Board B52
THE STRUCTURAL BASIS OF THERMOSTABILITY IN AN ENGINEERED VARIANT OF THE ENGRAILED HOMEODOMAIN. **Jennifer T. Young**, Catrina Nguyen, Michelle E. McCully

2037-Pos Board B53
CHEMICAL CHAPERONE ACTIVITY OF NAD^+ IN PROTEIN FOLDING. Chen Chen, Pei-Fen Liu, **Chiwook Park**

2038-Pos Board B54
THE INFLUENCE OF THE APICAL DOMAIN OF GROEL CHAPERONE ON THE KINETICS AND THERMODYNAMICS OF ZEBRAFISH DIHYDROFOLATE REDUCTASE UNDER THERMAL STRESS. **Charu Thapliyal**, Pratima Chaudhuri, Tapan K. Chaudhuri

2039-Pos Board B55
NANOMECHANICS OF PROTEIN UNFOLDING OUTSIDE PROTEASE NANOPORES. **Binquan Luan**

2040-Pos Board B56
IDENTIFYING NOVEL INTERACTING PARTNERS FOR THE UNC-45 CHAPERONE IN *DROSOPHILA MELANOGASTER*. **Daniel Smith**

2041-Pos Board B57
MECHANISTIC BASIS FOR CLIENT RECOGNITION AND AMYLOID INHIBITION OF NMNAT. **Shengnan Zhang**, Xiaojuan Ma, Dan Li, Cong Liu

2042-Pos Board B58
MAPPING INTERACTIONS BETWEEN THE CHAPERONE DOMAIN OF UNC-45B AND MYOSIN. Michael Villarreal, Eleno Garza, **Andres Oberhauser**

2043-Pos Board B59
CRYO-EM ANALYSIS OF THE AAA+ QUALITY CONTROL PROTEASE CLPXP. **Mia Shin**

2044-Pos Board B60
TEASING APART THE ROLE OF THE RIBOSOME AND MOLECULAR CHAPERONES IN CELLULAR PROTEIN FOLDING. **Rayna M. Addabbo**, Matthew D. Dalphin, Yue Liu, Miranda F. Mecha, Silvia Cavagnero

2045-Pos Board B61
STRUCTURES AND DYNAMICS OF PROTEIN FOLDING ON THE RIBOSOME BY NMR SPECTROSCOPY. **Anais M. Cassaignau**, Christopher Waudby, Tomasz Wlodarski, Lisa Cabrita, John Christodoulou

2046-Pos Board B62
THERMODYNAMIC STABILITY OF POLAR AND NON-POLAR FIBRILS. **Farbod Mahmoudinobar**, Zhaoqian Su, Cristiano L. Dias

2047-Pos Board B63
EFFECT OF GENE POLYMORPHISMS ON THE STRUCTURAL DYNAMICS OF PRION PROTEINS: A COMPARATIVE STUDY. **Noah Yoshida**, India Claflin, Oscar Coello, Patricia Soto

2048-Pos Board B64
MEMBRANE BINDING OF PARKINSON'S PROTEIN ALPHA-SYNUCLEIN: EFFECT OF PHOSPHORYLATION AT POSITIONS 87 AND 129 BY THE S TO D MUTATION APPROACH. Pravin Kumar, Nathalie Schilderink, Mireille M.A.E. Claessens, Vinod Subramaniam, **Martina Huber**

2049-Pos Board B65 **INTERNATIONAL TRAVEL AWARDEE**
PH-INDUCED FRUSTRATION IN THE FREE ENERGY LANDSCAPE DICTATE MISFOLDING OF THE PRION PROTEIN. **Roumita Moulick**, Rama Reddy Goluguri, Jayant B. Udgaonkar

2050-Pos Board B66
THE PHYSICAL FACTORS GOVERNING TENSILE FORCE GENERATION BY CO-TRANSLATIONAL PROTEIN FOLDING. **Sarah E. Leininger**, Edward P. O'Brien

2051-Pos Board B67
PROBING THE EFFECT OF THE RIBOSOME ON THE PROTEIN FOLDING PATHWAY USING SINGLE-MOLECULE CHEMO-MECHANICAL FOLDING. **Emily Guinn**, Susan Marqusee

Protein-Small Molecule Interactions III (Boards B68–B90)

2052-Pos Board B68
CHARACTERIZING THE DIRECT INFLUENCE OF A SMALL MOLECULE ON A RAS-RELATED PROTEIN INTERACTION. Djamali Muhoza, Alix Montoya-Beltran, **Paul D. Adams**

2053-Pos Board B69
A COMBRETASTATIN ANALOGUE C12 BINDS TO COLCHICINE SITE IN TUBULIN, INHIBITS SPINDLE MICROTUBULE DYNAMICS, ACTIVATES MITOTIC CHECKPOINT AND INDUCES APOPTOSIS IN CANCER CELLS. **Anuradha Kumari**, Shalini Srivastava, Shweta Shyam Prassanawar, Shailendra Sisodiya, Sankar K. Guchhait, Dulal Panda

2054-Pos Board B70
ROLE OF ELECTROSTATIC INTERACTIONS IN LIGAND RECOGNITION BY OROTIDINE-5'-MONOPHOSPHATE DECARBOXYLASE (ODCASE). **Jesi Lee**, Trevor Gokey, Weiming Wu, Anton B. Guliaev

2055-Pos Board B71
AN EFFICIENT CELL MODEL FOR SCREENING SMALL MOLECULE AGONISTS OF GLP-1 RECEPTOR. Ni Pi, **Xiyao Cheng**, Yongqi Huang, Zhengding Su

2056-Pos Board B72
DETERMINATION OF EFFECTOR BINDING AFFINITIES USING PHOTOACOUSTIC CALORIMETRY. **Jovany J. Betancourt**, Jaroslava Miksovska

2057-Pos Board B73
DISCOVERY OF ZIKA NS5 POLYMERASE INHIBITORS. **Anthony F. T. Moore**, Eda Koculi

2058-Pos Board B74
REVERSIBLE COVALENT BINDING AS CONCEPT FOR ALLOSTERIC INHIBITION OF HOST CELL INVASION BY MALARIA PARASITES. **Janna Ehlert**, Julia Weder, Matthias Preller

2059-Pos Board B75
INTERACTIONS OF NEURONAL CALCIUM SENSOR DREAM WITH ZINC. **Maria D. Santiago**

2060-Pos Board B76
COMBINATION THERAPIES WITH ANTIMICROBIAL PEPTIDE LL-37 AND CONVENTIONAL ANTIBIOTICS. **Mehrnaz A. Siavoshi**, Federico I. Prokopczuk, Nathan-Alexander Del Rosario, Lannah Abasi, Sattar Taheri-Araghi

2061-Pos Board B77
SOLVATION THERMODYNAMIC PROPERTIES OF CLEANSER SURFACTANTS AND THEIR SKIN HARSHNESS. **Manori Jayasinghe**

2062-Pos Board B78
BIOPHYSICAL CHARACTERIZATION OF INTERACTIONS OF HEPARIN WITH HIV-1 TAT PEPTIDE 47-57 AND ITS PERTURBATION BY CATIONIC SMALL MOLECULE. **Neha Tiwari**

2063-Pos Board B79
ISOTHERMAL TITRATION CALORIMETRY AND OXYGEN BINDING STUDIES BETWEEN INOSITOL HEXAKISPHOSPHATE AND HUMAN HEMOGLOBIN. **Antonio Tsuneshige**, Takashi Yonetani

2064-Pos Board B80
MODULATION OF THE CIRCADIAN PERIOD: SEARCHING FOR ISOFORM-SELECTIVE CYCLOPHILIN INHIBITORS. Ali Yousefi, **Kiernan Kringen**, Ryan Noland, Andrew McShan, Scott Lokey, Carrie L. Partch

2065-Pos Board B81
NANOSCALE ENCAPSULATION FOR FRAGMENT BASED DRUG DISCOVERY. Brian Fuglestad, **Nicole E. Kerstetter**, Sabrina Bédard, A. Joshua Wand

2066-Pos Board B82
CONSISTENCY CRITERION FOR PARTICLE SORTING IN SINGLE-PARTICLE CRYO-EM. **Daniel Asarnow**, Yifan Cheng

2067-Pos Board B83
INTERACTIONS OF ANTIBODIES WITH HIV 1 PROTEASE: TOWARDS IDENTIFICATION OF NEW SMALL MOLECULES FOR THERAPY. **Suchetana Gupta**, Sangeetha Balasubramanian, Sanjib Senapati

2068-Pos Board B84
INTERACTION OF *CLITORIA TERNATEA* L. FLOWER EXTRACT WITH ALPHA-AMYLASE BY PHOTON STREAMING TIME-RESOLVED FLUORESCENCE. **Graham Hungerford**, Rachael Divers, M. Adilia Lemos, Boon-Seang Chu

2069-Pos Board B85
EFFECT OF THE FLEXIBLE REGIONS OF THE ONCOPROTEIN MOUSE DOUBLE MINUTE X ON INHIBITOR-BINDING AFFINITY. **Xiyao Cheng**, Jingjing Zhou, Yongqi Huang, Zhengding Su

2070-Pos Board B86
COMPARISON OF CALMODULIN LIGAND INTERACTIONS BY HIGH PRESSURE X-RAY AND NEUTRON SCATTERING. **Claus Czeslik**, Roland Winter, Süleyman Cinar

2071-Pos Board B87
MONITORING PROTEIN-LIGANDS INTERACTIONS BY SINGLE-MOLECULE LYSOZYME NANOCIRCUITS. **James Froberg**

2072-Pos Board B88
STRUCTURE-ACTIVITY RELATIONSHIP AND CHARACTERIZATION OF NOVEL INFLUENZA INHIBITORS. **Gregory Mohl**, Nathan Liddle, David Michaelis, David Busath

2073-Pos Board B89
REACTIVITY OF HEXACOORDINATED HEME PROTEINS ON ULTRAFAST TIMESCALES. **Antonija Tangar**, Shiori Yamazaki, Sophie Bernard, Valerie Derrien, Pierre Sebban, AMY M. Scott, Jaroslava Miksovska

2074-Pos Board B90
DISTINCT MECHANISM OF OXYGEN AND CARBON MONOXIDE INTERACTIONS WITH HEME PROTEIN. **Jaroslava Miksovska**, Ruipeng Lei, Sophie Bernad, Valerie Derrien

Protein Dynamics and Allostery III (Boards B91–B106)

2075-Pos Board B91
ANALYZING ALLOSTERY WITH LONG-RANGE RIGIDITY PROPAGATION ACROSS PROTEIN NETWORKS. **Adnan Sljoka**

2076-Pos Board B92
USING CURRENT-FLOW SCHEME TO CAPTURE THE PROTEIN-PROTEIN BINDING ALLOSTERICITY. **Yun Luo**, Wesley M. Botello-Smith

2077-Pos Board B93
EVOLUTION OF CASPASE ALLOSTERY AND ENZYME SPECIFICITY. **Clay Clark**, Robert Grinshpon, Melvin E. Thomas, III, Liqi Yao, Suman Shrestha

2078-Pos Board B94
GETTING ALLOSTERIC CONTROL OVER PROTEIN ACTIVITY: NEW DEVELOPMENTS. **Enrico Guarnera**

2079-Pos Board B95
THEORETICAL ANALYSIS OF ALLOSTERIC AND OPERATOR BINDING FOR CYCLIC-AMP RECEPTOR PROTEIN MUTANTS. **Tal Einav**, Julia Duque, Rob Phillips

2080-Pos Board B96
THERMODYNAMIC COUPLING FUNCTION ANALYSIS OF ALLOSTERIC COUPLING BETWEEN NA^+ RELEASE AND INWARD-OPENING IN THE HUMAN DOPAMINE TRANSPORTER. **Michael V. LeVine**, Michel A. Cuendet, Asghar M. Razavi, George Khelashvili, Harel Weinstein

2081-Pos Board B97
LEVERAGING COOPERATIVITY FOR POCKET DETECTION. **Justin R. Porter**, Gregory R. Bowman, Katelyn E. Moeder

2082-Pos Board B98
THE RHEOSTATIC RESPONSE OF DYNAMIC ALLOSTERIC RESIDUE COUPLES (DARC) SPOT MUTATIONS. **Paul Campitelli**, Liskin Swint-Kruse, Banu Ozkan

2083-Pos Board B99
DYNAMIC COMMUNITIES IN PROTEINS: ALLOSTERIC HOTSPOTS AND FUNCTIONAL MODULES. **Sambit Kumar Mishra**, Gaurav Kandoi, Robert L. Jernigan

2084-Pos Board B100
TRANSIENT POCKET IDENTIFICATION AND EVALUATION OF THEIR ROLE FOR ALLOSTERY. **Denis Schmidt**, Christopher Pfleger, Susanne M.A. Hermans, Markus Boehm, Holger Gohlke

2085-Pos Board B101
WEAK DOMAIN STABILITY AND HIGHER CA^{2+} BINDING AFFINITY CONTRIBUTE TO ALLOSTERY BETWEEN THE D/E LINKER AND N-HELIX OF CARDIAC TROPONIN C. **Mayra A. Marques**, Adolfo H. Moraes, Jerson L. Silva, José R. Pinto, Guilherme A. P. de Oliveira

2086-Pos Board B102
ROLE OF LYS RESIDUE AT POSITION 87 OF DREAM IN ALLOSTERIC REGULATION OF DREAM'S INTERACTIONS WITH K_V CHANNEL. **Samiol Azam**, Jaroslava Miksovska

2087-Pos Board B103 **EDUCATION TRAVEL AWARDEE**
CLASSIFICATION OF ALLOSTERY IN PROTEINS: A DEEP LEARNING APPROACH. **Girik Malik**, Andrzej Kloczkowski

2088-Pos Board B104
AN ALLOSTERIC MECHANISM OF ABL KINASE ACTIVATION AND CATALYSIS. **Tamjeed Saleh**

2089-Pos Board B105
ALLOSTERY IN NMDA RECEPTORS. **Ryan Durham**, Drew Dolino, Vasanthi Jayaraman

2090-Pos Board B106
ALLOSTERY ADVOCATES IN MONOCLONAL ANTIBODY ENGINEERING TOWARDS ANTIGEN BINDING. **Chinh Su**

Membrane Protein Structures II (Boards B107–B127)

2091-Pos Board B107 **INTERNATIONAL TRAVEL AWARDEE**
SPECIFIC INTERACTIONS OF PROTEIN-PROTEIN INTERACTION BETWEEN HUMAN PROGRAMMED DEATH 1 (PD-1) AND ITS LIGAND 1 (PD-L1) WITH AB INITIO FRAGMENT MOLECULAR ORBITAL METHOD. Ho Cheol Lim, **Jung Ho Chun**, Sung Bo Hwang, Jong Wan Kim, Kyoung Tae No

2092-Pos Board B108
INTERACTION BETWEEN A-SYNUCLEIN AND VAMP2 PROMOTES SNARE-EPENDENT VESICLE DOCKING AND FUSION. **Brenden Hawk**, Ryan Khounlo, Yeon-Kyun Shin, Julien Roche

2093-Pos Board B109
PROBING PLEXIN A3 DIMERIZATION AND THE IMPORTANCE OF THE NEAR MEMBRANE EXTRACELLULAR RESIDUES. Pouyan Khakbaz, **Jeffery B. Klauda**

2094-Pos Board B110
THE STRUCTURE OF KRAS4B-FME AT THE LIPID MEMBRANE. **Frank Heinrich**, Que Van, Mathias Lösche, Andrew Stephen

2095-Pos Board B111
HIGH RESOLUTION CRYOEM STRUCTURE OF A MYCOBACTERIAL GLYCOSYLTRANSFERASE. **Yong Zi Tan**, José Rodrigues, Oliver B. Clarke, Clinton S. Potter, Bridget Carragher, Margarida Archer, Filippo Mancia

2096-Pos Board B112
MECHANISM OF CATALYSIS AND INHIBITION IN DGAT1. **Lie Wang**, Yin Nian, Ming Zhou

2097-Pos Board B113
STRUCTURAL STUDIES OF RETINOL-BINDING PROTEIN RECEPTOR RBPR2. **Jonathan Kim**, Yong Zi Tan, Brianna Costabile, Yunting Chen, Filippo Mancia

2098-Pos Board B114
CRYSTAL STRUCTURE OF A BACTERIAL ABC HEME EXPORTER IN THE APO FORM. **Md. Mahfuzur Rahman**, Tamao Hisano, Hiro Nakamura, Yoshitsugu Shiro

2099-Pos Board B115
STRUCTURE AND MECHANISM OF BACTERIAL HEME EXPORTER. **Tamao Hisano**, Hiro Nakamura, Yoshitsugu Shiro

2100-Pos Board B116
REVEALING THE SUBUNIT ARCHITECTURE OF NAD(P)H DEHYDROGENASE TYPE-1 FROM CYANOBACTERIA THROUGH CRYO-EM. **Thomas G. Laughlin**, David F. Savage, Karen M. Davies

2101-Pos Board B117
STRUCTURAL AND FUNCTIONAL STUDIES OF ANTIVIRAL PROTEIN IFITM3. **Emma H. Garst**, Avital Percher, Hang Hoang, Howard Hang

2102-Pos Board B118
HEME TRAFFICKING BY THE CYTOCHROME C BIOGENESIS PATHWAYS. **Molly C. Sutherland**, Joshua M. Jarodsky, Robert G. Kranz

2103-Pos Board B119
DYNAMICS OF TERNARY REDOX COMPLEX INFLUENCING CYTOCHROME P450 METABOLON: AN NMR STUDY. **Katherine Gentry**, Ayyalusamy Ramamoorthy

2104-Pos Board B120
CYTOCHROME-P450'S SPIN STATE INFLUENCES ITS BINDING AFFINITY TO ITS REDOX PARTNER. **Nirupama Sumangala**, Mukesh Mahajan, Thirupathi Ravula, Ayyalusamy Ramamoorthy

2105-Pos Board B121
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2106-Pos Board B122
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2107-Pos Board B123
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2108-Pos Board B124
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2109-Pos Board B125
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2110-Pos Board B126
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2111-Pos Board B127
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2112-Pos Board B128
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2114-Pos Board B130
EXPLORING THE HENDRA VIRUS REPLICATIVE COMPLEX USING THIOCYANYTE IR PROBES AND DOCKING SIMULATIONS. **John Halifax**, Maryna Khromava, Casey H. Londergan

2113-Pos Board B129
STRUCTURAL INSIGHTS INTO AGGREGATION MECHANISM OF IMMUNOGLOBULIN LIGHT CHAIN VARIABLE DOMAIN. **Pinaki Misra**, Luis Blancas Mejia, Marina Ramirez-Alvarado

2115-Pos Board B131
INTRINSICALLY DISORDERED HAX-1 REGULATES SERCA IN A CALCIUM-DEPENDENT MANNER. **Erik K. Larsen**, Cristina Olivieri, Seth Robia, Evangelia Kranias, Gianluigi Veglia

2116-Pos Board B132
STRUCTURAL CHARACTERIZATION OF THE MECHANISM OF AGGREGATION AND DISAGGREGATION OF HUNTINGTIN. **Silvia A. Cervantes Cortes**, J. Mario Isas, Janine Kirstein, Ralf Langen, Ansgar B. Siemer

2117-Pos Board B133
TIGHT BINDING THROUGH STRUCTURAL DISORDER: MECHANISM AND APPLICATION. Qingliang Shen, Jie Shi, Pingwei Li, Wonmuk Hwang, **Jae-Hyun Cho**

2118-Pos Board B134
THE CYTOSOLIC DOMAIN OF THE HUMAN ZIP4 ZINC TRANSPORTER IS INTRINSICALLY DISORDERED. Elizabeth Bafaro, **Robert Dempski**

2119-Pos Board B135
QUANTIFYING DISORDER OF AN INTRINSICALLY UNSTRUCTURED DOMAIN IN ESTROGEN RECEPTOR. Yi Peng, Shufen Cao, Matthias Buck, **Sichun Yang**

2120-Pos Board B136
DECIPHERING PROTEIN-RICH DOMAINS FORMED BY NON-STRUCTURED PROTEINS IN THE NUCLEAR PORE COMPLEX. **Hide A. Konishi**

2121-Pos Board B137
STRUCTURAL DISORDER IN ACTION IN A BACTERIAL TOXIN: SECRETION, FOLDING AND HOST CELL HIJACKING. Darragh P. O'Brien, Dominique Durand, Sara Cannella, Alexis Voegele, Patrice Vachette, Julia Chamot Rooke, Sébastien Brier, Daniel Ladant, **Alexandre Chenal**

2122-Pos Board B138
MECHANISMS OF SELECTIVE TRANSPORT THROUGH THE NUCLEAR PORE COMPLEX. **Laura Maguire**, Michael Stefferson, Meredith Betterton, Loren Hough

2123-Pos Board B139
ON THE ORIGINS OF REGULATED DISORDER WITHIN THE C-TERMINUS OF P53. **Carlos X. Hernández**, Hannah Wayment-Steele, Vijay S. Pande

2124-Pos Board B140
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2125-Pos Board B141
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2126-Pos Board B142
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2127-Pos Board B143
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2128-Pos Board B144
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2129-Pos Board B145
MODULATING AMYLOID-BETA AGGREGATION TO REDUCE THE TOXICITY OF ITS OLIGOMERIC AGGREGATES. **Ryan Limbocker**, Benedetta Mannini, Sean Chia, Francesco S. Ruggeri, Michele Perni, Roberta Cascella, Catherine Xu, Johnny Habchi, Janet R. Kumita, Fabrizio Chiti, Tuomas P. J. Knowles, Michele Vendruscolo, Christopher M. Dobson

2130-Pos Board B146
PROBING SYNAPTIC AMYLOID-BETA AGGREGATION PROMOTED BY COPPER RELEASE. Bogachan Tahirbegi, Alastair J. Magness, Aurelien Boillat, Keith R. Willison, David R. Klug, Thomas Knopfel, **Liming Ying**

2131-Pos Board B147
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2132-Pos Board B148
QUANTITATIVE HYDROXYL RADICAL FOOTPRINTING STUDY REVEALS STRUCTURAL DETAILS OF THE DISORDER-TO-ORDER TRANSITION IN AMYLOID-BETA (1-42) OLIGOMERIZATION. Janna Kiselar, Andrew Nix, Anant Paravastu, Terrone Rosenberry, **Alexandra Klinger**

2133-Pos Board B149
A MULTI-SCALE STUDY OF B-AMYLOID WILD-TYPE AND MUTANT PEPTIDES: MONOMERS, OLIGOMERS, FIBRILS. **Arthur O. Vale**, Jacob Usadi, Sachin R. Natesh, Sarida Pratuangtham, Karl F. Freed, Esmael J. Haddadian

2134-Pos Board B150
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2135-Pos Board B151
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2136-Pos Board B152
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2137-Pos Board B153
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2138-Pos Board B154
COARSE-GRAINED SIMULATIONS OF INTRINSICALLY DISORDERED PROTEINS IN THE CONTEXT OF LIQUID-LIQUID PHASE SEPARATION. **Gregory L. Dignon**, Wenwei Zheng, Young C. Kim, Jeetain Mittal, Robert Best

2139-Pos Board B155
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2140-Pos Board B156
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2141-Pos Board B157
IMPROVED ACCURACY AND CONVERGENCE OF INTRINSICALLY DISORDERED PROTEIN MOLECULAR DYNAMICS SIMULATIONS USING THE FF14IDPSFF FORCE FIELD. **Vy T. Duong**, Mahendra Thapa, Ray Luo

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2142-Pos Board B158
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2143-Pos Board B159
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2144-Pos Board B160
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2145-Pos Board B161
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2146-Pos Board B162
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2147-Pos Board B163
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2148-Pos Board B164
HIGH TEMPORAL- AND SPATIAL-RESOLUTION STUDIES OF A HELIX-TO-COIL TRANSITION THAT CONTROLS THE SWITCHING MECHANISM OF A RIBOSWITCH. **Jason Hon**, Nathan S. Daly, Scott M. Trocchia, Colin Nuckolls, Kenneth L. Shepard, Ruben L. Gonzalez, Jr.

2149-Pos Board B165
KINETIC INVESTIGATION OF NATURAL PRODUCTS AND EXTRACTS FOR POTENTIAL RIBOSWITCH LIGANDS. **Heidi Klem**, Juliane Strauss-Soukup

2150-Pos Board B166
MICROSECOND CONFORMATIONAL DYNAMICS AND DISTINCT FOLDING MECHANISMS OF $PREQ_1$ RIBOSWITCH STUDIED BY TWO-DIMENSIONAL FLUORESCENCE LIFETIME CORRELATION SPECTROSCOPY. **Bidyut Sarkar**, Kunihiko Ishii, Tahei Tahara

2151-Pos Board B167
ANALYZING THE MONOMERIC CONFORMATION OF THE HIV-1 5 PRIME-LEADER RNA USING NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY. **Matthew R. Orellana**, Joshua Brown, Michael F. Summers

2152-Pos Board B168
DETERMINING THE STRUCTURE OF THE HIV-1 5 PRIME LEADER DIMERIC CONFORMATION. **Tatiana Rodriguez**, Joshua Brown, Michael Summers

2153-Pos Board B169
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TUESDAY

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2155-Pos Board B171
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2156-Pos Board B172
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2157-Pos Board B173
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2158-Pos Board B174
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2159-Pos Board B175
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2160-Pos Board B176
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2161-Pos Board B177
HELIX-BASED RNA TWO-DIMENSIONAL STRUCTURE PREDICTION. Fengfei Wang, **Xiaojun Xu**

2162-Pos Board B178
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2163-Pos Board B179
AUTOMATED FORCE-FIELD PARAMETRIZATION GUIDED BY MULTISYSTEM ENSEMBLE AVERAGES. **Andrea Cesari**, Sandro Bottaro, Giovanni Bussi

2164-Pos Board B180
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2165-Pos Board B181
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2166-Pos Board B182
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2167-Pos Board B183
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2168-Pos Board B184
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2169-Pos Board B185
ORNITHINE DECARBOXYLASE ANTIZYME PSEUDOKNOT RNA BINDING TO SPERMINE REGULATES GENE EXPRESSION. **Juliane Strauss-Soukup**, Jodi Monahan, Katie Del Vecchio, Molly McDevitt, Zachariah Holmes, Samantha Stoupa, Garrett Soukup

2170-Pos Board B186
SELECTED POLYCATIONIC SURFACTANTS AS SIRNA CARRIERS FOR GENE THERAPY. **Weronika J. Andrzejewska**, Michalina Wilkowska, Barbara Peplińska, Maciej Kozak

2171-Pos Board B187
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2172-Pos Board B188
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2173-Pos Board B189
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2174-Pos Board B190
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2175-Pos Board B191
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2176-Pos Board B192
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2177-Pos Board B193
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2178-Pos Board B194 **INTERNATIONAL TRAVEL AWARDEE**
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2179-Pos Board B195
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2180-Pos Board B196
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2181-Pos Board B197
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2182-Pos Board B198
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2183-Pos Board B199
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2184-Pos Board B200 EDUCATION TRAVEL AWARDEE
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2185-Pos Board B201 EDUCATION TRAVEL AWARDEE
TEMPLATED CROSS CATALYSIS BY OLIGOPEPTIDES AND OLIGONUCLEOTIDES. **Eun Ae Park**

2186-Pos Board B202
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2187-Pos Board B203
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2188-Pos Board B204
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2189-Pos Board B205
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2190-Pos Board B206
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2191-Pos Board B207
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2192-Pos Board B208
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2193-Pos Board B209
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2194-Pos Board B210
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2195-Pos Board B211
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2196-Pos Board B212
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2197-Pos Board B213
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2198-Pos Board B214
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2199-Pos Board B215
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2200-Pos Board B216
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2201-Pos Board B217
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2202-Pos Board B218
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2203-Pos Board B219
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2204-Pos Board B220
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2205-Pos Board B221
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2206-Pos Board B222
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2207-Pos Board B223
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2208-Pos Board B224
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2209-Pos Board B225
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2210-Pos Board B226
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2211-Pos Board B227
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2212-Pos Board B228
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2213-Pos Board B229
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2214-Pos Board B230
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2215-Pos Board B231
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2216-Pos Board B232
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2217-Pos Board B233
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2218-Pos Board B234
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2219-Pos Board B235
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2220-Pos Board B236
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2221-Pos Board B237
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2222-Pos Board B238
REGIONAL COOPERATIVITY IN THERMOTROPIC LIPID PHASE TRANSITIONS–A COMMENT ON THE FINE STRUCTURE OF THE MAIN TRANSITION PEAK. **Beate Klösgen**, Olesya P. Jensen, Brian B. Jensen, Chen Shen

2223-Pos Board B239
LIPID INTERACTIONS: COMPARISON OF EXPERIMENT, THEORY, AND SIMULATION. **Paulo F. Almeida**

2224-Pos Board B240
EXPERIMENTAL MEASUREMENT OF THE GIBB'S FREE ENERGY OF MIXING FOR HYDROXYCHOLESTEROL-PHOSPHOLIPID MONOLAYERS. **Joan C. Kunz**, Blair Stewig, Vision B. Bagonza, Benjamin L. Stottrup

2225-Pos Board B241
ISCAT MICROSCOPY OF PHASE SEPARATED LIPID MEMBRANES. **Matthew C. Blosser**, Helena LE Coker, Mark I. Wallace

2226-Pos Board B242
ANALYZING SIMULATIONS OF LIPID MIXTURES: PHASE BOUNDARIES, TIE-LINES AND CRITICAL POINTS. Clément Arnarez, Siewert J. Marrink, **Manuel N. Melo**

2227-Pos Board B243
MEASURING PARTITION COEFFICIENT BETWEEN LIQUID-DISORDERED (LD) AND LIQUID-ORDERED PHASES. WHY ARE PHASE DIAGRAMS IMPORTANT TO KNOW? **Thais A. Enoki**, Gerald W. Feigenson

2228-Pos Board B244
DETECTION OF PURE CHOLESTEROL BILAYER DOMAINS IN BIOLOGICAL MEMBRANES OVERLOADED WITH CHOLESTEROL: METHODOLOGY DEVELOPMENT AND ITS APPLICATION TO PORCINE LENS MEMBRANE STUDIES. **Laxman Mainali**, William J. O'Brien, James S. Hyde, Witold K. Subczynski

2229-Pos Board B245
PURE CHOLESTEROL BILAYER DOMAINS ARE FORMED AT CHOLESTEROL CONTENTS SIGNIFICANTLY LOWER THAN CHOLESTEROL SOLUBILITY THRESHOLDS IN PHOSPHOLIPID MEMBRANES: EPR AND DSC STUDIES. **Laxman Mainali**, Witold K. Subczynski

2230-Pos Board B246
CHEMICAL POTENTIAL OF PLASMA MEMBRANE CHOLESTEROL IS REGULATED INDEPENDENTLY OF CELL CHOLESTEROL CONTENT. **Artem G. Ayuyan**, Fredric S. Cohen

2231-Pos Board B247
MOLECULAR DYNAMICS SIMULATIONS REVEAL THE IMPACT OF COMPOSITIONAL ASYMMETRY IN PHASE-SEPARATED LIPID MEMBRANES ON PHOSPHOLIPID PHYSICAL PROPERTIES. **Michael D. Weiner**, Gerald W. Feigenson

2232-Pos Board B248
ASYMMETRY IN LIPID BILAYERS SUPPORTED ON GLASS. **Aurelia R. Honerkamp-Smith**

2233-Pos Board B249
MANIPULATION OF LENGTH SCALES IN A MODULATED PHASE IN CELL-DERIVED GPMVS AND SYNTHETIC MODEL GUVS. **Caitlin E. Cornell**, Allison D. Skinkle, Ilya Levental, Kandice R. Levental, Sarah L. Keller

2234-Pos Board B250
LIPID DOMAIN SIZE DISTRIBUTION AND LINE TENSION IN LANGMUIR MONOLAYERS. **Benjamin L. Stottrup**, Vision B. Bagonza, Juan Tigre, Joseph A. Zasadzinski, Joan C. Kunz

2235-Pos Board B251 EDUCATION TRAVEL AWARDEE
REVERSIBLE SEPARATION OF LIVING, UNPERTURBED CELL MEMBRANES INTO LIQUID PHASES. **Glennis E. Rayermann**, Scott P. Rayermann, Caitlin E. Cornell, Alexey J. Merz, Sarah L. Keller

2236-Pos Board B252
HOW HIV-1 TAKES ADVANTAGE OF PI(4,5)P_2 CLUSTERS DURING VIRAL ASSEMBLY. **Yi Wen**, Volker M. Vogt, Gerald W. Feigenson

Membrane Active Peptides and Toxins II (Boards B253–B279)

2237-Pos Board B253
MEMBRANE CHOLESTEROL REDUCES POLYMYXIN B NEPHROTOXICITY IN RENAL MEMBRANE ANALOGUES. **Adree Khondker**, Richard J. Alsop, Alexander K. Dhaliwal, Sokunthearath Saem, Jose Moran-Mirabal, Maikel C. Rheinstadter

2238-Pos Board B254
SELECTIVE INTERACTION OF COLISTIN WITH LIPID MODEL MEMBRANES. Fernando G. Dupuy, Isabella Pagano, Kathryn Andenoro, Maria F. Peralta, Yasmene Elhady, Frank Heinrich, **Stephanie Tristram-Nagle**

2239-Pos Board B255
ADSORPTION OF POLYENE ANTIBIOTICS ON SUPPORTED LIPID BILAYERS OF DIFFERENT LIPID COMPOSITIONS. **Arturo Galván-Hernández**, Iván Ortega-Blake

2240-Pos Board B256
AN EXACT MODEL OF DAPTOMYCIN BINDING TO LIPID BILAYERS: AN UPDATE. **Antje Pokorny**, Tala O. Khatib

2241-Pos Board B257
HOW DOES THE MEMBRANE-ACTIVE ANTIBIOTIC DAPTOMYCIN WORK? **Huey W. Huang**, Nicholas E. Charron, Ming-Tao Lee, Meng-Hsuan Hsieh, Yu-Yung Chang

2242-Pos Board B258
MEMBRANE SELECTIVITY OF AN ANTIMICROBIAL LIPOPEPTIDE USING MOLECULAR DYNAMICS SIMULATIONS. **Sreyoshi Sur**, Alan Grossfield

2243-Pos Board B259
SYNERGISTIC ACTION OF FUNGICIDAL LIPOPEPTIDES AS A MECHANISM OF TARGET MEMBRANE SELECTIVITY. **Lisa Dietel**, Quang Huynh, Sebastian Fiedler, Heiko Heerklotz

2244-Pos Board B260
MOLECULAR MECHANISM OF SYNERGY BETWEEN THE ANTIMICROBIAL PEPTIDES PGLA AND MAGAININ 2 IN MEMBRANES. **Erik Strandberg**, Jonathan Zerweck, Parvesh Wadhwani, Johannes Reichert, Jochen Bürck, Anne S. Ulrich

2245-Pos Board B261
SYSTEMATIC ANALYSIS OF HYBRID ANTIMICROBIAL PEPTIDES. **Heidi M. Wade**, Louise E. O. Darling, Donald E. Elmore

2246-Pos Board B262
AGGREGATION VS. FUSION OF NEGATIVELY CHARGED LIPID BILAYERS INDUCED BY BACTENECIN AND MAGAININ DERIVATIVES. **Mojtaba Bagheri**

2247-Pos Board B263
CONFORMATIONS AND DYNAMIC TRANSITIONS OF A MELITTIN DERIVATIVE IN LIPID BILAYER. **Anna E. Pittman**, Gavin M. King

2248-Pos Board B264
DYNAMIC MEMBRANE BOUND STRUCTURES OF MELITTIN AND ALAMETHICIN AS REVEALED BY SOLID-STATE NMR AND MD SIMULATION. **Akira Naito**, Takashi Nagao, Kazushi Norisada, Namsrai Javkhlantugs, Daisuke Mishima, Izuru Kawamura, Kazuyoshi Ueda

2249-Pos Board B265
IMPACT OF METALLATION AND OXIDIZED LIPIDS ON THE STRUCTURE AND MEMBRANE DISRUPTIVE EFFECTS OF HOST DEFENSE PEPTIDES PISCIDIN 1 AND PISCIDIN 3. **Myriam Cotten**, Ella Mihailescu, Anna De Angelis, Ratan Rai, Dana Moore, Yawei Xiong, Alfredo Angeles-Boza, Stanley Opella

2250-Pos Board B266
UNRAVELING THE ROLE OF PEPTIDOGLYCAN IN THE INTERACTION OF ANTIMICROBIAL PEPTIDES BP100 AND MSI-78 WITH BACTERIAL CELL ENVELOPES THROUGH ^{2}H NMR EXPERIMENTS. Nury Paula Santisteban, Michael Morrow, **Valerie Booth**

2251-Pos Board B267
GRAMICIDIN SUBUNITS THAT CROSS MEMBRANES AND FORM ION CHANNELS. **Matthew Brownd**, Matthew J. McKay, Denise V. Greathouse, Olaf S. Andersen, Roger E. Koeppe

2252-Pos Board B268
LIPID INTERDIGITATION PROMOTES THERMAL STABILIZATION OF LIPID POLYMORPHISMS INDUCED BY SURFACTANT PEPTIDE $B_{1\text{-}25}$. **Nhi T. Tran**, Justin Kurian, Avni Bhatt, Gail E. Fanucci, Joanna R. Long

2253-Pos Board B269
INFLUENCE OF SATURATION AND HYDROPHOBIC LENGTH OF LIPID BILAYERS ON TWIN-ARGININE CONTAINING HELICAL PEPTIDES. **Karli A. Lipinski**, Ashley N. Martfeld, Denise V. Greathouse, Roger E. Koeppe II

2254-Pos Board B270
LYSINE POSITION AFFECTS BINDING OF AIB-RICH MODEL ANTIBIOTICS TO LIPID VESICLES. **Jack M. Geiger**, Adrienne Loh

2255-Pos Board B271
UNDERSTANDING THE EFFECT OF CATIONIC RESIDUE IDENTITY ON LIPID INTERACTIONS OF TRANSLOCATING ANTIMICROBIAL PEPTIDES. **Shelby N. Kranc**, Donald E. Elmore

2256-Pos Board B272
HYDROPHOBIC INTERACTIONS MODULATE PEPTIDE CELL SPECIFICITY. Konstantin Andreev, Michael W. Martynowycz, Mia L. Huang, Kent Kirshenbaum, **David Gidalevitz**

2257-Pos Board B273
DEVELOPMENT OF NOVEL ANTIMICROBIAL PEPTIDES WITH IMPROVED HEMOCOMPATIBILITY VIA COMBINATORIAL LIBRARY SCREENING AND RATIONAL ENGINEERING. **Charles G. Starr**, William C. Wimley

2258-Pos Board B274
POPULATION DYNAMICS OF ANTIMICROBIAL PEPTIDES AND BACTERIA. **Paul Talledo**, Mehdi Snoussi, Nathan Del Rosario, Bae-Yeun Ha, Andrej Košmrlj, Sattar Taheri-Araghi

2259-Pos Board B275
FIRST EXAMPLE OF KINETIC MODELLING OF MULTI-STATE MEMBRANE BINDING, EXAPNSION AND DISRUPTION FOR AN ANTIMICROBIAL PEPTIDE. **Mibel Aguilar**, Daniel Hirst, Tzong-Hsien Lee

2260-Pos Board B276
CHARACTERIZING CHANGES IN ANTIMICROBIAL PEPTIDE MECHANISM AGAINST DIFFERENT BACTERIAL STRAINS. **Katrina P. Montales**, Heidi M. Wade, Dania M. Figueroa, Louise E. O. Darling, Donald E. Elmore

2261-Pos Board B277
EXPLORING CONFORMATIONS OF THE TEIXOBACTIN-LIPID II COMPLEX IN MEMBRANE. **Po-Chao Wen**, Juan M. Vanegas, Susan B. Rempe, Emad Tajkhorshid

2262-Pos Board B278
MACROMOLECULAR CROWDING EFFECTS ON ENERGETIC RESIDUE CONTRIBUTIONS TO PEPTIDE-NUCLEIC ACID INTERACTIONS. **Carla P. Perez**, Donald E. Elmore, Mala L. Radhakrishnan

2263-Pos Board B279
EFFECTS OF MACROMOLECULAR CROWDING ON ANTIMICROBIAL PEPTIDE ACTIVITY. **Hannah B. Schmidt**, Mala L. Radhakrishnan, Donald E. Elmore

General Protein-Lipid Interactions II (Boards B280–B303)

2264-Pos Board B280
SANS OBSERVATION OF PRECRYSTALLIZATION INTERMEDIATES OF BACTERIORHODOPSIN IN THE LIPIDIC CUBIC PHASE. **Thomas Edgar Cleveland**, Paul Butler

TUESDAY

2265-Pos Board B281
POLYMER NANODISCS AS NEW PLATFORMS FOR MEMBRANE PROTEINS. **Mariana C. Fiori**, Yunjiang Jiang, Wan Zheng, Miguel Anzaldua, Mario J. Borgnia, Guillermo A. Altenberg, Hongjun Liang

2266-Pos Board B282
THE ROLE OF ANGIOMOTIN COILED-COIL HOMOLOGY DOMAIN ARGININE/LYSINE RESIDUES IN VESICLE FUSION ACTIVITY. **Seth Sears**, Ann Kimble-Hill

2267-Pos Board B283
MEMBRANE SOLUBILIZATION BY STYRENE-MALEIC ACID COPOLYMERS: IMPORTANCE OF POLYMER LENGTH AND COMONOMER SEQUENCE. **Adrian H. Kopf**, Nelmari Harmzen, Juan J. Dominguez, Martijn C. Koorengevel, Rueben Pfukwa, Bert Klumperman, Antoinette J. Killian

2268-Pos Board B284
CHARACTERIZING THE LIPID ANNULUS SURROUNDING MEMBRANE PROTEINS WITH NATIVE MASS SPECTROMETRY OF NANODISCS. James E. Keener, Deseree J. Reid, Dane Evan Zambrano, Ciara Zak, **Michael T. Marty**

2269-Pos Board B285
HUMAN ATG3 BINDING TO LIPID BILAYERS. ROLE OF LIPID GEOMETRY AND ELECTRIC CHARGE. Javier H. Hervas, Ane Landajuela, Zurine Anton, Anna Shnyrova, Felix M Goni, **Alicia Alonso**

2270-Pos Board B286
DETECTION OF HELIX FRAYING OF A TRANSMEMBRANE PEPTIDE WITH TWO INTERFACIAL ARGININE RESIDUES. **Sara Sustich**, Fahmida Afrose, Denise V. Greathouse, Roger E. Koeppe II

2271-Pos Board B287
IONIZATION AND DYNAMIC PROPERTIES OF SINGLE AND MULTIPLE HISTIDINE RESIDUES ON A TRANSMEMBRANE HELICAL BACKBONE. **Fahmida Afrose**, Denise V. Greathouse, Roger E. Koeppe II

2272-Pos Board B288 **INTERNATIONAL TRAVEL AWARDEE**
HIV GP41 ENVELOPE PROTEIN EARLY AND LATE MEMBRANE FUSION STAGES ARE IMPAIRED BY A SPHINGANINE BASED LIPO-PEPTIDE. **Yoel A. Klug**, Avraham Ashkenazi, Mathias Viard, Ziv Porat, Robert Blumenthal, Yechiel Shai

2273-Pos Board B289
MOLECULAR SIMULATIONS DETAIL THE THERMAL EXPANSION OF THE PRE-ENDOSOMAL DENGUE VIRUS. **Jan K. Marzinek**, Roland G. Huber, Kamal K. Sharma, Thorsten Wohland, Chandra Verma, Peter J. Bond

2274-Pos Board B290
CHARACTERIZING MA INTERACTIONS WITH MIMETIC MEMBRANES IN THE PRESENCE AND ABSENCE OF $TRNA^{LYS3}$. **Emre Tkacik**, Christy Gaines, Michael Summers

2275-Pos Board B291
FUNCTION, PROPERTY, AND INTERACTION OF ARCHAEAL LIPIDS: A MOLECULAR DYNAMICS SIMULATION STUDY. **Shasha Feng**, Jeffery B. Klauda, Wonpil Im

2276-Pos Board B292
STRUCTURE-ACTIVITY CORRELATIONS OF AMPHIPATHIC CATIONIC AMPS: MD SIMULATIONS AND ANTIBACTERIAL MEASUREMENT. **Loan K. Huynh**, Roel Rabara, Jeanette Velasquez, Supratim Basu, Hau Nguyen, Goutam Gupta

2277-Pos Board B293
CONFORMATIONAL CHANGES IN MARBURG VIRUS VP40 UPON PLASMA MEMBRANE ASSOCIATION. **Nisha Bhattarai**, Prem P. Chapagain, Bernard S. Gerstman

2278-Pos Board B294
ORDERPHOBIC EFFECT OF PROTEINS IN MULTICOMPONENT MEMBRANES. **Clay H. Batton**, Shachi Katira, Kranthi K. Mandadapu

2279-Pos Board B295
CELL-SPACE CONFINEMENT EFFECTS ON MIN PROTEIN WAVES INSIDE MICRODROPLETS. **Shunshi Kohyama**

2280-Pos Board B296
NEW CONTINUUM APPROACHES TO STUDY HOW ARBITRARY SHAPE PROTEINS INDUCE MEMBRANE DEFORMATIONS. **David Argudo**, Michael Grabe, Neville Bethel, Frank Marcoline

2281-Pos Board B297
INVESTIGATING THE INFLUENCE OF TRANSMEMBRANE PROTEINS ON THE LOCAL MEMBRANE ENVIRONMENT. **Gergö Fülöp**

2282-Pos Board B298 **INTERNATIONAL TRAVEL AWARDEE**
A COMBINED COMPUTATIONAL AND EXPERIMENTAL STUDY TO INVESTIGATE THE ROLE OF COQ9 IN PROMOTING COQ BIOSYNTHESIS. **Deniz Aydin**, Danielle C. Lohman, David J. Pagliarini, Matteo Dal Peraro

2283-Pos Board B299
IDENTIFICATION OF CARDIOLIPIN BINDING SITES ON MEMBRANE PROTEINS USING AN ACCELERATED COMPUTATIONAL MEMBRANE MODEL. **Andres S. Arango**, Tao Jiang, Ricky Cheng, Merritt Maduke, Emad Tajkhorshid

2284-Pos Board B300
LIPID-DEPENDENT ALTERNATING ACCESS MECHANISM OF A BACTERIAL MULTIDRUG ABC TRANSPORTER: A MOLECULAR DYNAMICS STUDY. Jeevapani Hettige, **Seyed Hamid Tabari**, Mahmoud Moradi

2285-Pos Board B301
AT THE AIR-WATER INTERFACE, THE REVERSIBILITY OF THE PHOSPHOLIPID MONOLAYERS IN THE PRESENCE OF MINI-B, DEPENDS ON THE LIPID HEAD-GROUP CHARGE OF THE MIXTURES. **Aishik Chakraborty**, Saba Ghazvhini, Alan J. Waring, Prajnaparamita Dhar

2286-Pos Board B302
GIANT LIPID VESICLES WITH INNER COMPARTMENTS TO MIMIC EUKARYOTIC CELLS. **Naresh Yandrapalli**, Tabea Kirchhofer, Tom Robinson

2287-Pos Board B303
LIPOSOMES AS TARGETS FOR TOXINS. **Marcelo Ayllon**, Andy Bogard, Juliette Kay Tinker, Daniel Fologea

Membrane Receptors and Signal Transduction II (Boards B304–B321)

2288-Pos Board B304
MECHANISM OF TRK RECEPTOR DIMERIZATION AND ACTIVATION. **Fozia Ahmed**, Kalina Hristova

2289-Pos Board B305
INVESTIGATING THE ASSOCIATION OF EPHRIN TYPE-B RECEPTOR TYROSINE KINASES IN LIVE CELLS. **Taylor Patrick Light**, Kalina Hristova

2290-Pos Board B306
INVESTIGATING THE HETERO-INTERACTIONS OF RECEPTOR TYROSINE KINASES IN LIVE CELLS. **Michael D. Paul**, Kalina Hristova

2291-Pos Board B307 **CID TRAVEL AWARDEE**
INVESTIGATING THE INTERACTIONS BETWEEN VEGFR2 AND EGFR. **Hana N. Grubb**, Michael D. Paul, Kalina Hristova

2292-Pos Board B308
EGF ACTIVATION OF EGFR DRIVES CROSSTALK WITH RON AT THE PLASMA MEMBRANE. **Carolina Franco Nitta**, Ellen W. Hatch, Justine M. Keth, Rachel M. Grattan, Elton D. Jhamba, Mara P. Steinkamp, Bridget S. Wilson, Diane S. Lidke

2293-Pos Board B309
ACTIVATION OF PREFORMED EGFR DIMERS BY BINDING OF SINGLE EGF MOLECULES: NEGATIVE COOPERATIVITY. **Ei-ichiro Saita**, Ichiro N. Maruyama

2294-Pos Board B310
INTEGRATING MULTIPLEX SINGLE-MOLECULE PULL-DOWN (SIMPULL) DATA AND COMPUTATIONAL MODELING TO UNDERSTAND EGFR SIGNALING. **Emanuel Salazar-Cavazos**, Bridget S. Wilson, Keith A. Lidke, William S. Hlavacek, Diane S. Lidke

2295-Pos Board B311
BIOPHYSICAL CONTROL OF RECEPTOR RECYCLING USING ENGINEERED LIGANDS. **Andre D. DeGroot**, David J. Busch, Carl C. Hayden, Samuel A. Mihelic, Aaron T. Alpar, Marcelo Behar, Jeanne C. Stachowiak

2296-Pos Board B312
ANIONIC LIPIDS TAKE CHARGE: JUXTAMEMBRANE DOMAIN INTERACTIONS WITH CELLULAR MEMBRANE. Michael J. Hallock, Yekaterina A. Golubeva, **Taras V. Pogorelov**

2297-Pos Board B313
DIFFERENTIAL ASSOCIATION OF ADENYLYL CYCLASE ISOFORMS WITH MEMBRANE MICRODOMAINS REGULATES CAMP COMPARTMENTATION IN HUMAN AIRWAY SMOOTH MUSCLE CELLS. **Shailesh R. Agarwal**, Kathryn Miyashiro, Htun Latt, Chase Fiore, Rennolds S. Ostrom, Robert D. Harvey

2298-Pos Board B314
EFFECTS OF CELL CORTEX-BASED TRANSIENT CONFINEMENT ON TRANSMEMBRANE PROTEIN INTERACTIONS IN INTACT CELLS. **Michael Zucker**, Arnd Pralle

2299-Pos Board B315
THE ROLE OF CORTICAL ACTIN IN THE REGULATION OF EPH RECEPTOR SIGNALING. **Alessandro Bosco**, Erik Benson, Björn Högberg, Ana I. Teixeira

2300-Pos Board B316
CONTROL NEUROTROPHIN SIGNALING USING LIGHT DURING PC12 CELL DIFFERENTIATION AND XENOPUS EMBRYONIC DEVELOPMENT. Vishnu Krishnamurthy, John Khamo, Payel Mondal, Savanna Sharum, **Kai Zhang**

2301-Pos Board B317
STRUCTURAL BASIS FOR GROWTH DIFFERENTIATION FACTOR 5 (GDF5) SIGNALING INHIBITION BY REPULSIVE GUIDANCE MOLECULES (RGMS). **Tomas Malinauskas**, Benjamin Bishop, Thomas D. Mueller, Christian Siebold

2302-Pos Board B318
CELL SURFACE CALRETICULIN-LRP1 BINDING AND ITS ROLE IN APOPTOTIC CELL ENGULFMENT. Romone M. Fancy, Jun Li, Huixian Hong, John D. Mountz, Joanne E. Murphy-Ullrich, Santosh K. Katiyar, Jianyi Zhang, **Yuhua Song**

2303-Pos Board B319
PEPTOID JPT1A REDUCES RAGE EXPRESSION AND ATTENUATES INFLAMMATORY RESPONSE: A POTENTIAL AD THERAPEUTIC. **Lauren M. Wolf**, Melissa A. Moss, Shannon Servoss

2304-Pos Board B320
MECHANOTRANSDUCTION THROUGH HIGH-AFFINITY LFA-1 IS A MINIMUM REQUIREMENT TO INDUCE KINDLIN-3/RACK1/ORAI1 TO MEDIATE INTRACELLULAR CALCIUM FLUX AND OUTSIDE-IN SIGNALING. **Vasilios A. Morikis**, Scott I. Simon

2305-Pos Board B321
DEVELOPMENT OF SYNTHETIC NOTCH RECEPTORS FOR PHOTOACTIVATABLE GENE EXPRESSION. **Ryan E. Peace**, John Ngo

Calcium Signaling II (Boards B322–B336)

2306-Pos Board B322
CHANGES IN CALCIUM BEHAVIOR IN SMOOTH MUSCLE CELLS INDUCED BY BIDIRECTIONAL STRETCH. **Androniqi Qifti**

2307-Pos Board B323
NON-CANONICAL ROLE OF MITOFUSIN 2 IN REGULATING CA^{2+} HOMEOSTASIS IN THE ENDOPLASMIC RETICULUM VIA INTERACTION WITH SERCA PUMP. **Marina Balycheva**, Stephen Hurst, Jyotsna Mishra, Gyorgy Csordas, Shey-Shing Sheu

2308-Pos Board B324
CARDIAC OVEREXPRESSION OF HUMAN ADENYLYL CYCLASE TYPE 8 ELICITS WIDE SPREAD ADAPTATIONS TO LIMIT ADRENERGIC SIGNALING IN SINOATRIAL NODAL PACEMAKER CELLS THAT EXTEND WELL BEYOND DESENSITIZATION OF B-ADRENERGIC RECEPTORS. **Khalid Chakir**, Kirill Tarasov, Yelena Tarasova, Jack M. Moen, Michael G. Matt, Kenta Tsutui, Ismayil Ahmet, Thanh Huynh, Karel Pacak, Edward G. Lakatta

2309-Pos Board B325
REGULATION OF ATP PRODUCTION BY MITOCHONDRIAL CALCIUM SIGNALS IN HEART. **Andrew P. Wescott**, Joseph P. Kao, W. Jonathan Lederer, Liron Boyman

2310-Pos Board B326
CROSS TALK BETWEEN IP_3 AND ADENYLYL CYCLASE SIGNALING PATHWAYS IN CARDIAC ATRIAL MYOCYTES. **Derek A. Terrar**, Rebecca A. Capel, Thomas P. Collins, Skanda Rajasumdaram, Thamali Ayagamar, Rebecca AB Burton

2311-Pos Board B327
IDENTIFICATION OF CARDIOMYOCYTES' INNER WORKINGS RESPONSIBLE FOR DYNAMICAL CHANGES IN CALCIUM PROFILE IN RESPONSE TO MECHANICAL LOAD. **Zana Coulibaly**, Rafael Shimkunas, Zhong Jian, Ye Chen-Izu, Leighton T. Izu

2312-Pos Board B328
PHARMACOLOGICAL TARGETING OF SERCA MAY HAVE POTENTIAL FOR CELLULAR PROTECTION. Yuanzhao L. Darcy, Melanie Loulousis, Claudio G. Copello, Paula L. Diaz-Sylvester, **Julio A. Copello**

2313-Pos Board B329 **EDUCATION TRAVEL AWARDEE**
THE INTERPLAY BETWEEN FGF23- AND ANGIOTENSIN II- MEDIATED CALCIUM SIGNALING IN CARDIAC HYPERTROPHY. **Ketaki N. Mhatre**, Paulina Wakula, Burkert Pieske, Frank Heinzel

2314-Pos Board B330
CALMODULIN MUTATIONS ASSOCIATED WITH CONGENITAL CARDIAC DISEASE DISPLAY NOVEL BIOPHYSICAL AND BIOCHEMICAL CHARACTERISTICS. **Michail Nomikos**, Angelos Thanassoulas, Brian L. Calver, Konrad Beck, Vyronia Vassilakopoulou, Luke Buntwal, Iris Konotgianni, Adrian Smith, Bared Safieh-Garabedian, Evangelia Livaniou, Egon Steen Toft, George Nounesis, F. Anthony Lai

2315-Pos Board B331 **EDUCATION TRAVEL AWARDEE**
DYSTONIA-ASSOCIATED HIPPOCALCIN MUTANTS DYSREGULATE CELLULAR CALCIUM INFLUX. **Nordine Helassa**, Svetlana V. Antonyuk, Lu-Yun Lian, Lee P. Haynes, Robert D. Burgoyne

2316-Pos Board B332
ROLE OF NAADP FOR CALCIUM SIGNALING IN THE SALIVARY GLAND. **John F. Imbery**, David Giovannucci

2317-Pos **Board B333**
SPONTANEOUS CA^{2+} FLUCTUATIONS MEDIATED BY TRPM7 CHANNELS IN GROWTH PLATE CHONDROCYTES. **Nianchao Qian**, Atsuhiko Ichimura, Daisuke Takei, Hua Zhu, Miyuki Nishi, Hiroshi Takeshima

2318-Pos **Board B334**
CALMODULIN INTERACTION WITH GAP JUNCTION INTRACELLULAR LOOP PEPTIDES. **Silke Kerruth**, Catherine Coates, Syed Alireza Rezavi, Camillo Peracchia, Katalin Török

2319-Pos **Board B335**
MATHEMATICAL MODELING OF CALCIUM SIGNALING IN MICROGLIA. **Peter M. Kekenes-Huskey**, Brad D. Stewart, Darin D. Vaughan

2320-Pos **Board B336**
EFFECT OF CALCIUM FLUX ON FILOPODIA OF EPITHELIAL CELLS. Omolade M. Ademuyiwa, **Carol A. Heckman**

Excitation-Contraction Coupling I (Boards B337–B347)

2321-Pos **Board B337**
ARCHITECTURE OF TRANSVERSE TUBULES AND TRIADS IN HUNTINGTON'S DISEASE SKELETAL MUSCLE. **Shannon H. Romer**, Melissa Bautista, Daniel E. Hutcherson, Robert J. Talmadge, Andrew A. Voss

2322-Pos **Board B338**
CHARACTERISATION OF A NOVEL MOUSE MODEL CARRYING A NONSENSE MUTATION IN RYR1 EX36. **Francesco Zorzato**

2323-Pos **Board B339**
ALTERED EYE MUSCLE FUNCTION IN RYR3KO MICE. Jan Eckhardt, Hiroshi Takeshima, Miyuki Nishi, Jianjie Ma, Francesco Zorzato, **Susan Treves**

2324-Pos **Board B340**
MITOCHONDRIAL DYSFUNCTION IN MALIGNANT HYPERTHERMIA SUSCEPTIBLE SKELETAL MUSCLE. **Leon Chang**, Katie Nicoll Baines, Paul Denney Allen, Philip Morgan Hopkins, Marie-Anne Shaw, John Peter Boyle

2325-Pos **Board B341**
AEROBIC TRAINING PREVENTS HEAT-STROKES IN CALSEQUESTRIN 1 KNOCKOUT MICE BY REDUCING OXIDATIVE STRESS. Flavia A. Guarnier, Matteo Serano, Antonio Michelucci, Laura Pietrangelo, Simona Boncompagni, **Feliciano Protasi**

2326-Pos **Board B342**
EXERCISE PREVENTS FORMATION OF TUBULAR AGGREGATES IN AGEING SKELETAL MUSCLE FIBERS OF WILD-TYPE MICE. Claudia Pecorai, Antonio Michelucci, Laura Pietrangelo, Feliciano Protasi, **Simona Boncompagni**

2327-Pos **Board B343** **EDUCATION TRAVEL AWARDEE**
ATORVASTATIN ACTIVATES SKELETAL RYR1 CHANNELS: TOWARDS REDUCING STATIN SIDE-EFFECTS. **Chris Lindsay**, Abigail D. Wilson, Elisa Venturi, Angela J. Russell, Rebecca Sitsapesan

2328-Pos **Board B344**
CROSS-INFLUENCE OF HALOTHANE AND VOLTAGE ON INTRACELLULAR CA^{2+} IN ISOLATED MUSCLE FIBERS OF MICE EXPRESSING HUMAN RYR1 MUTATION Y522S. **Stefan Mall**, Philipp Elischer, Alberto Zullo, Martin Textor, Andreas Alt, Werner Klingler, Werner Melzer

2329-Pos **Board B345**
ROLE OF TRANSVERSE TUBULE PLASTICITY IN CALCIUM ENTRY UNIT DISASSEMBLY FOLLOWING ACUTE EXERCISE. **Antonio Michelucci**

2330-Pos **Board B346**
STIM2 AND STIM1 HAVE SIMILARITIES AND DIFFERENCES, BUT BOTH REGULATE CA^{2+} MOVEMENT IN SKELETAL MUSCLE. **Mi Ri Oh**, Keon Jin Lee, Mei Huang, Jin Ock Kim, Do Han Kim, Chung-Hyun Cho, Eun Hui Lee

2331-Pos **Board B347**
DYSFERLIN C2A DOMAIN IS INVOLVED IN RECOVERY OF VOLTAGE-INDUCED SR CALCIUM RELEASE AFTER OSMOTIC SHOCK IN MURINE MUSCLE FIBERS. **Valeriy Lukyanenko**, Joaquin Muriel, Robert J. Bloch

Cardiac, Smooth, and Skeletal Muscle Electrophysiology I (Boards B348–B362)

2332-Pos **Board B348**
A MATHEMATICAL MODEL OF A PIG VENTRICULAR MYOCYTE. **Bardia Ghayoumi**, Bence Hegyi, Ye Chen-Izu, Daisuke Sato

2333-Pos **Board B349**
A NOVEL APPROACH TO MEASURE SHORT TERM CARDIAC VENTRICULAR ACTION POTENTIAL MEMORY: COMPARISON BETWEEN FIVE NUMERICAL MODELS. **Massimiliano Zaniboni**

2334-Pos **Board B350**
IONIC CURRENTS ASSESSED BY VOLTAGE CLAMPING A MYOCYTE DIFFUSION-REACTION MODEL WITH EXPERIMENTAL ACTION POTENTIALS. Juan I. Felice, **Ariel L. Escobar**

2335-Pos **Board B351**
MEMORY ALTERS FORMATION OF VOLTAGE- AND CALCIUM-MEDIATED ALTERNANS IN A FRACTIONAL-ORDER CARDIOMYOCYTE MODEL. **Tien Comlekoglu**, Seth H. Weinberg

2336-Pos **Board B352**
HEART RATE VARIABILITY ALTERS CARDIAC ALTERNANS AND ELECTROMECHANICAL DYNAMICS. **Vrishti M. Phadumdeo**, Seth H. Weinberg

2337-Pos **Board B353**
NOVEL T1 MAPPING-BASED PRECLINICAL MODELS FOR CARDIAC ELECTROPHYSIOLOGY: A COMBINED EXPERIMENTAL AND THEORETICAL STUDY. Mengyuan Li, Maxime Sermesant, Sebastian Ferguson, Jen Barry, Graham Wright, **Mihaela Pop**

2338-Pos **Board B354**
POPULATION-BASED MECHANISTIC MODELING ALLOWS FOR QUANTITATIVE PREDICTIONS OF DRUG RESPONSES ACROSS CELL TYPES. **Jingqi Q.X. Gong**, Eric A. Sobie

2339-Pos **Board B355**
A COMPUTATIONAL ANALYSIS OF INTER-SUBJECT VARIABILITY IN INDUCED PLURIPOTENT STEM CELL-DERIVED CARDIOMYOCYTES. **Divya C. Kernik**, Stefano Morotti, Henry J. Duff, Junko Kurokawa, Jose Jalife, Joseph C. Wu, Eleonora Grandi, Clancy E. Colleen

2340-Pos **Board B356**
CALCIUM-DEPENDENT REGULATION OF POTASSIUM CHANNELS IN CARDIAC ELECTROPHYSIOLOGY: A COMPUTATIONAL STUDY. **Henry Sutanto**, Dobromir Dobrev, Eleonora Grandi, Paul G.A. Volders, Jordi Heijman

2341-Pos **Board B357**
EFFECTS OF MODULATION OF SMALL-CONDUCTANCE CALCIUM-ACTIVATED POTASSIUM CURRENT ON ATRIAL ELECTROPHYSIOLOGY AND ARRHYTHMOGENESIS: A POPULATION-BASED COMPUTATIONAL STUDY. **Stefano Morotti**, Nicholas Ellinwood, Haibo Ni, Jussi T. Koivumäki, Mary M. Maleckar, Jordi Heijman, Dobromir Dobrev, Eleonora Grandi

2342-Pos **Board B358**
INCREASED CONTRIBUTION OF FUNNY CURRENT TO SINOATRIAL NODE FIRING ACTIVITY AT SLOW HEART RATES. **Stefano Morotti**, Emily Sharpe, Pin W. Liu, Nicholas Ellinwood, Bruce P. Bean, Catherine Proenza, Eleonora Grandi

2343-Pos Board B359
IN SILICO ASSESSMENT OF ATRIAL FIBRILLATION-SELECTIVITY OF IKUR INHIBITORS: ROLE OF VARIABILITY IN DISEASE-ASSOCIATED REMODELING. **Nicholas Ellinwood**, Dobromir Dobrev, Stefano Morotti, Eleonora Grandi

2344-Pos Board B360
FACILITATION BY HERG CHANNEL BLOCKERS SUPPRESSES EARLY AFTERDEPOLARIZATION OF SIMULATED CARDIAC ACTION POTENTIALS. **Kazuharu Furutani**, Kunichika Tsumoto, Jon T. Sack, Yoshihisa Kurachi

2345-Pos Board B361
UNPERCEIVED PROPERTIES OF THE RELATIONSHIP BETWEEN NET MEMBRANE CURRENT AND ACTION POTENTIAL DURATION. **Antonio Zaza**

2346-Pos Board B362
SLOW DELAYED RECTIFIER K^+ CURRENT STABILIZES VENTRICULAR ACTION POTENTIALS ACROSS SPECIES. **Meera Varshneya**, Ryan A. Devenyi, Eric A. Sobie

Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating III (Boards B363–B391)

2347-Pos Board B363
A UNIVERSAL MOLECULAR MECHANISM FOR C-TYPE INACTIVATION IN POTASSIUM CHANNELS. **Jing Li**, Jared Jostmey, Eduardo Perozo, Benoit Roux

2348-Pos Board B364
CONVERTING THE DEPOLARIZATION-ACTIVATED SHAKER K_V CHANNEL INTO A HYPERPOLARIZATION-CONDUCTING CATION-SELECTIVE CHANNEL BY TWO PORE MUTATIONS. Evelyn Martinez-Morales, Laura C. Coonen, Dieter V. Van de Sande, **Dirk J. Snyders**, Alain J. Labro

2349-Pos Board B365
OBSERVATION OF STRUCTURAL CHANGES IN CLOSED K^+ CHANNELS BY VOLTAGE CLAMP SPECTROSCOPY. Sebastian Fletcher-Taylor, Parashar Thapa, Jon T. Sack, **Bruce E. Cohen**

2350-Pos Board B366
A CHARACTERISTIC EXTRACELLULAR LOOP OF PRESTIN MODULATES ITS VOLTAGE OPERATING POINT. **Makoto F. Kuwabara**, Koichiro Wasano, Satoe Takahashi, Justin Bodner, Tomotaka Komori, Sotaro Uemura, Jing Zheng, Tomohiro Shima, Kazuaki Homma

2351-Pos Board B367
QUANTUM CALCULATIONS ON A VOLTAGE SENSING DOMAIN OF $K_V1.2$: H^+ TRANSFER AND GATING CURRENT. Alisher M. Kariev, **Michael E. Green**

2352-Pos Board B368
QUANTUM CALCULATIONS ON AN INTERIOR SEGMENT OF THE $K_V1.2$ CHANNEL VOLTAGE SENSING DOMAIN. **Alisher M. Kariev**, Michael E. Green

2353-Pos Board B369
DOES VSP MULTIMERIZE AND DOES IT MATTER? **Vamseedhar Rayaprolu**, Perrine Royal, Guillaume Sandoz, Susy Kohout

2354-Pos Board B370
DETECTION OF VOLTAGE-SENSING RESIDUES IN MEMBRANE PROTEINS. **Marina A. Kasimova**, Erik Lindahl, Lucie Delemotte

2355-Pos Board B371
KEY RESIDUES IN THE INTERFACE BETWEEN VOLTAGE SENSOR AND PORE DOMAIN IN SHAKER POTASSIUM CHANNELS. **João L. Carvalho-de-Souza**, Francisco Bezanilla

2356-Pos Board B372
OBSERVING THE MOVEMENT OF HETEROGENEOUS VOLTAGE SENSING DOMAINS VIA INTERMOLECULAR FRET. **Lee Min Leong**, Bok Eum Kang, Bradley J. Baker

2357-Pos Board B373
TRACKING OF THE R1 OF THE S4 DURING VOLTAGE SENSOR DEACTIVATION UNDER IMPROVED OPTICAL CONDITIONS. **Elizabeth E. L. Lee**, Michael F. Priest, Francisco Bezanilla

2358-Pos Board B374
THE ROLE OF BACKBONE HYDROGEN BONDS IN THE VOLTAGE SENSOR OF K^+ CHANNELS. Daniel T. Infield, **Kimberly Matulef**, Jason D. Galpin, Christopher A. Ahern, Francis I. Valiyaveetil

2359-Pos Board B375
EXPLORING POSSIBLE CONVERSION BETWEEN ALPHA- AND 3_{10}-HELIX IN S4 OF SHAKER POTASSIUM CHANNEL. **Carlos Alberto Z. Bassetto Junior**, João L. Carvalho-de-Souza, Francisco Bezanilla

2360-Pos Board B376
DETERMINING THE TARGET OF MEMBRANE STEROLS ON THE GATING OF VOLTAGE-GATED POTASSIUM CHANNELS USING VOLTAGE-CLAMP FLUOROMETRY. Zakany Florina, Ferenc Papp, Gyorgy Panyi, **Zoltan Varga**

2361-Pos Board B377
FUNCTIONAL ANALYSIS OF THE VOLTAGE SENSOR DOMAIN PRESENT IN THE MAMMALIAN SPERM-SPECIFIC NA^+/H^+ EXCHANGER BY PATCH-CLAMP FLUOROMETRY OF CHIMERIC FLUORESCENT VOLTAGE SENSOR. **César Arcos Hernández**, Esteban Suarez, León Islas, Takuya Nishigaki

2362-Pos Board B378
SITE-SPECIFIC ENCODING OF CITRULLINE, A NEUTRAL ANALOG OF ARGININE, TO STUDY THE ATOMIC BASIS FOR VOLTAGE-DEPENDENT GATING IN ION CHANNELS. **Daniel T. Infield**, Jason D. Galpin, Grace D. Galles, Christopher A. Ahern

2363-Pos Board B379
USING UNNATURAL AMINO ACIDS TO PROBE THE INTERACTION BETWEEN TARANTULA TOXINS AND VOLTAGE SENSING DOMAINS IN KV CHANNELS. **Kanchan Gupta**, Kenton J. Swartz

2364-Pos Board B380
ORTHOGONALITY OF A SYNTHETIC PYRROLYSINE TRNA IN THE XENOPUS OOCYTE AND ITS USE TO ENCODE UNNATURAL AMINO ACIDS INTO ION CHANNELS. **Daniel T. Infield**, John D. Lueck, Jason D. Galpin, Grace D. Galles, Christopher A. Ahern

2365-Pos Board B381
COMBINING ELECTRICAL AND OPTICAL MEASUREMENTS TO REVEAL THE STRUCTURE-FUNCTION RELATIONSHIP OF VOLTAGE-GATED POTASSIUM CHANNELS. **Corianne VandenAkker**, Steven Boxer

2366-Pos Board B382
RECONSTITUTION OF VOLTAGE-ACTIVATED POTASSIUM CHANNEL INTO PHOSPHOLIPID BILAYER. **Chanhyung Bae**, Swartz J. Kenton

2367-Pos Board B383
IMAGING VOLTAGE GATING OF ENDOGENOUS NEURONAL ION CHANNELS WITH FLUORESCENT TARANTULA TOXIN. **Parashar Thapa**, Rebecka Sepela, Robert Stewart, Mark Lillya, Oscar Vivas, Laxmi Parajuli, Sebastian Fletcher-Taylor, Karen Zito, Bruce E. Cohen, Jon Sack

2368-Pos Board B384
LIPID-DEPENDENT ACTIVATION AND DESENSITIZATION MECHANISM OF MTHK. **Nattakan Sukomon**, Crina Nimigean

2369-Pos Board B385
ALPHA-B HELIX OF THE RCK1 DOMAIN IS A SHARED STRUCTURAL ELEMENT FOR BOTH VOLTAGE AND CALCIUM ACTIVATION OF BK CHANNELS. **Yanyan Geng**, Zengqin Deng, Guohui Zhang, Alice Butler, Jianmin Cui, Peng Yuan, Lawrence Salkoff, Karl L. Magleby

2370-Pos Board B386
ROLE OF AN INTRASUBUNIT CA^{2+} BRIDGE DEPENDENT ACTIVATION OF BK CHANNELS. **Alberto J. Gonzalez-Hernandez**, Aravind Kshatri, Teresa Giraldez

2371-Pos Board B387
COUPLING BETWEEN SENSORS AND THE ACTIVATION GATE IN BK CHANNELS PROBED BY A CHEMICAL COMPOUND. Guohui Zhang, Xianjin Xu, Hongwu Liang, Jingyi Shi, Kelli McFarland, Xiaoqin Zou, **Jianmin Cui**

2372-Pos Board B388
QUANTITATIVE ANALYSIS OF SUBCELLULAR NANODOMAINS FORMED BY BK AND VOLTAGE-GATED CALCIUM CHANNELS. **Alejandro Cerrada**, Aravind Kshatri, Roger Gimeno, Teresa Giráldez

2373-Pos Board B389
NOVEL TOPOLOGY OF BK CHANNEL BETA1 SUBUNIT PREDICTED ON THE BASIS OF THE "POSITIVE-INSIDE" RULE POINTS AT AN INTRACELLULAR LOCATION OF THE LOOP. Maria Simakova, Shivantika Bisen, Kelsey Cleland, Avia Rosenhouse-Dantsker, Alex Dopico, **Anna Bukiya**

2374-Pos Board B390
ELIMINATING WARRANTLESS ASSUMPTIONS FACILITATES CONSIDERATION OF AN ELECTROSTATIC MODEL OF ION-CHANNEL ACTIVATION. **H. Richard Leuchtag**

2375-Pos Board B391
MULTICOMPONENT CONDUCTION AND SELECTIVITY OF BIOLOGICAL CHANNELS. **Dmitry G. Luchinsky**, Will A T Gibby, Igor Kh Kaufman, Miroslav Barabash, Dogan A. Timucin, Peter V E McClintock

TRP Channels I (Boards B392–B416)

2376-Pos Board B392
DECRYPTING THE HEAT ACTIVATION MECHANISM OF TRPV1 CHANNEL BY MOLECULAR DYNAMICS SIMULATION. **Wenjun Zheng**, Han Wen

2377-Pos Board B393
HEAT SENSITIVE GATING MECHANISM OF TRPV1 CHANNEL REVEALED BY MOLECULAR DYNAMICS SIMULATION. **Soon Woo Park**, Soojin Jo, Moon Ki Kim

2378-Pos Board B394
THERMAL DIFFUSION PATHWAYS OF TRPV1. **Fernando D. Gonzalez-Nilo**, Ignacio Diaz-Franulic, Romina V. Sepulveda, Felipe A. Gomez-Becerra, German Miño-Galaz, Ramon Latorre

2379-Pos Board B395
ROLE OF HYDROPHOBIC SOLVATION IN TRPV1 TEMPERATURE SENSITIVITY. Marina Kasimova, Aysenur Yazici, Yevgen Yudin, Tibor Rohacs, **Vincenzo Carnevale**

2380-Pos Board B396
ROTATIONAL BROWNIAN MOTION OF TRPV1 CHANNEL OBSERVED BY SYNCHROTRON DIFFRACTED X-RAY TRACKING AND LABORATORY X-RAY BLINKING ANALYSIS. **Kazuhiro Mio**, Masahiro Kuramochi, Ken Matsubara, Keigo Ikezaki, Muneyo Mio, Hiroshi Sekiguchi, Tai Kubo, Yuji C. Sasaki

2381-Pos Board B397
A BIMODAL ACTIVATION MECHANISM UNDERLIES SCORPION TOXIN-INDUCED PAIN. Shilong Yang, **Fan Yang**, Bei Zhang, Bo Hyun Lee, Bowen Li, Lei Luo, Jie Zheng, Ren Lai

2382-Pos Board B398
THE GQ-GPCR PATHWAY EVOKES TIGHTLY CONTROLLED TRPV1 ACTIVATION. **Adina T. Hazan**

2383-Pos Board B399
ACTIVATION OF TRPV1 BY CAPSAICIN ANALOGS WITH A SHORTER OR LONGER NECK. **Simon Vu**, Vikrant Singh, Fan Yang, Heike Wulff, Jie Zheng

2384-Pos Board B400
EXPRESSION AND PURIFICATION OF THE PAIN RECEPTOR TRPV1 FOR SPECTROSCOPIC ANALYSIS. Phanindra Velisetty, Richard A. Stein, **Francisco J. Sierra Valdez**, Valeria Vásquez, Julio F. Cordero-Morales

2385-Pos Board B401
CELL UNROOFING TO STUDY THE PI3K-TRPV1 INTERACTION. **Gabriela Bergollo Drouyn**, Anastasiia Stratiievska, Sharona Gordon

2386-Pos Board B402
RECIPROCAL REGULATION OF PI3K BY TRPV1 DURING INFLAMMATION. **Anastasiia Stratiievska**, Gabriela Bergollo, Sara Nelson, Sharona Gordon

2387-Pos Board B403
BINDING OF CAPSAICIN SLOWS DOWN PROTON-INDUCED TRPV1 ACTIVATION. **Bo Hyun Lee**, Jie Zheng

2388-Pos Board B404
FUNCTIONAL ANALYSIS OF TRPV1 CHANNELS WITH A GENETICALLY ENCODED CROSS-LINKER. **Deny Cabezas-Bratesco**, Christopher A. Ahern, Sebastián Brauchi

2389-Pos Board B405
REGULATION OF $TRPV_1$ EXPRESSION IN NON-NEURONAL TISSUES BY BDNF, SP_1, AND SP_4. **Rebecca Brenner**, Padmamalini Baskaran, Baskaran Thyagarajan

2390-Pos Board B406
CHALCONES DERIVATIVES AS POTENT INHIBITORS OF TRPV1 ACTIVITY. **Bruna Benso**, Carolyne Lespay-Rebolledo, Lisandra Flores, Miguel Zárraga, Sebastian Brauchi

2391-Pos Board B407
MECHANISMS BY WHICH BOTULINUM NEUROTOXIN A SUPPRESSES PAIN. **Baskaran Thyagarajan**, Louis Premkumar, Padmamalini Baskaran

2392-Pos Board B408
SUB-CHRONIC ORAL SAFETY ANALYSIS OF METABOCIN™. Padmamalini Baskaran, Laurel Markert, Liesl Zimmerman, Jane Bennis, **Baskaran Thyagarajan**

2393-Pos Board B409
TRPV2 IS CRUCIAL FOR THE DEVELOPMENT OF EXCITATION-CONTRACTION COUPLING IN NEONATAL CARDIOMYOCYTES. **Yuki Katanosaka**, Yoshihiro Ujihara, Yumiko Chiba, Satoshi Mohri, Keiji Naruse

2394-Pos Board B410
MOLECULAR MECHANISM OF TRPV2 CHANNEL PORE DYNAMICS DURING LIGAND ACTIVATION. **Amrita Samanta**, Yuhang Liu, Franklin Mayca Pozo, George R. Dubyak, Taylor E.T. Hughes, Seungil Han, David T. Lodowski, Vera Y. Moiseenkova-Bell

2395-Pos Board B411
EVOLUTIONARY VARIATIONS IN HLH DOMAIN MODULATE THE FAST INACTIVATION PHASE IN CALCIUM SELECTIVE TRP CHANNELS. **Lisandra Flores Aldama**, Daniel Bustos, Juan G. Opazo, Wendy González, Sebastián Brauchi

2396-Pos Board B412
SELECTIVE INHIBITION OF THERMOSENSITIVE TRPV3 CHANNEL BY NATURAL COUMARIN OSTHOLE FOR ITCH RELIEF. **Xiaoying Sun**, Lilan Sun, Ningning Wei, Kewei Wang

2397-Pos Board B413
TARGETING INFLAMMATION IN POST-OPERATIVE ATRIAL FIBRILLATION: THE ROLE OF TRPV4 IN AUGMENT NEUTROPHIL INFILTRATION VIA UP-REGULATION IL6 AND CXCL2. **Shao-Shao Zhang**, Qiong-Feng Wu, Chen Qian, Huixia Liu, Bin-bin Wang, Jie Liao, Lei Chen, Yi-Mei Du

2398-Pos Board B414
BLOCKADE OF TRANSIENT RECEPTOR POTENTIAL VANILLOID 4 ENHANCES ANTIOXIDATIVE ACTIVITY AND ATTENUATES HYPOXIA/REOXYGENATION INJURY IN CARDIOMYOCYTES: INVOLVEMENT OF AKT/NRF2/ARE. **Qiong-Feng Wu**, Qian Dong, Shao-Shao Zhang, Bin-Bin Wang, Jie Liao, Lei Chen, Yi-Mei Du

2399-Pos Board B415
TRPV4 CHANNEL IS AN OSMOSENSOR AND MECHANOSENSOR IN PROXIMAL TUBULE CELLS. **Roberta Gualdani**, Francois Seghers, Xavier Yerna, Philippe Gailly

2400-Pos Board B416
MOLECULAR DYNAMICS INSIGHTS INTO TRPV5 CHANNEL INHIBITION BY SMALL MOLECULES. **Abhijeet Kapoor**, Taylor E.T. Hughes, David T. Lodowski, Vera Y. Moiseenkova-Bell, Marta Filizola

Ion Channels, Pharmacology, and Disease II (Boards B417–B439)

2401-Pos Board B417
STRUCTURAL MODELING OF HERG CHANNEL INTERACTIONS WITH DRUGS USING ROSETTA. **Aiyana M. Emigh**, Kevin R. DeMarco, Kazuharu Furutani, Slava Bekker, Jon T. Sack, Colleen E. Clancy, Igor Vorobyov, Vladimir Yarov-Yarovoy

2402-Pos Board B418
SUBUNIT ORGANIZATION OF K2P CHANNELS. **Guillaume Sandoz**

2403-Pos Board B419
INHIBITION OF NPC1 INCREASES NEURONAL EXCITABILITY BY CHANGING PHOSPHOINOSITIDE LEVELS. **Oscar Vivas**, Scott Tiscione, Eamonn Dickson

2404-Pos Board B420
MOLECULAR DETERMINANTS OF STEROID HORMONE AND DRUG INDUCED ARRHYTHMOGENESIS VIA HERG CHANNEL BLOCK. **Igor Vorobyov**, Brandon M. Brown, Kevin R. DeMarco, Sergei Y. Noskov, Vladimir Yarov-Yarovoy, Heike Wulff, Colleen E. Clancy

2405-Pos Board B421
INCREASED PANNEXIN 1 EXPRESSION AND ACTIVITY IN VENTRICLE OF MDX DYSTROPHIC HEARTS. **Frank J. Raucci, Jr**, Kyunsoo Kim, Sabine Huke, Bjorn C. Knollmann

2406-Pos Board B422
MECHANISM OF SELECTIVE ACTION OF A SMALL MOLECULE ACTIVATOR OF PHOSPHOINOSITIDE-DEPENDENT GIRK CHANNELS. **Yu Xu**, Lucas Noah Cantwell, Yuchen Yang, Sumanta Garai, Abhijit Kulkarni, Takeharu Kawano, Ganesh Thakur, Diomedes Logothetis

2407-Pos Board B423
ENGINEERED TRANSFER RNA SUPPRESSION OF CFTR NONSENSE MUTATIONS. **John D. Lueck**, Adam L. Mackey, Daniel T. Infield, Marshall R. Pope, Paul B. McCray, Christopher A. Ahern

2408-Pos Board B424
IPSC-DERIVED NEURONS HARBORING A KNOWN EPILEPSY MUTATION PROVIDE A 'DISEASE-IN-A-DISH' CAPABILITY THAT DISPLAYS ESTABLISHED AND NOVEL EPILEPTIC PHENOTYPES. **Kile P. Mangan**, Imran Quraishi, Yalan Zhang, Michael McLachlan, Benjamin Meline, Chris McMahon, Elisabeth Enghofer, Christian Kannemeier, Eugenia Jones, Leonard Kaczmarek

2409-Pos Board B425
IDENTIFICATION OF A MODULATORY SITE OF ACTION FOR THE VOLATILE ANESTHETIC ISOFLURANE IN TREK1 TANDEM PORE POTASSIUM CHANNELS. **Paul M. Riegelhaupt**, Kellie A. Woll, Thomas T. Joseph, Kiran A. Vaidya, Crina M. Nimigean, Roderic G. Eckenhoff

2410-Pos Board B426
VX-770-MEDIATED POTENTIATION OF NUMEROUS HUMAN CFTR DISEASE MUTANTS IS INFLUENCED BY PHOSPHORYLATION LEVEL. **Guiying Cui**, Brandon Stauffer, Barry Imhoff, Andras Rab, Nael McCarty

2411-Pos Board B427
FLOS MAGNOLIAE AND ITS CHEMICAL CONSTITUENTS MODULATE CL^- SECRETION *VIA* ANO1 CL^- CHANNEL INHIBITION IN HUMAN AIRWAY EPITHELIAL CELLS. **Hyun Jong Kim**, Yu-Ran Nam, Joo Hyun Nam, Woo Kyung Kim

2412-Pos Board B428
IDENTIFICATION OF POTENT AND SELECTIVE INHIBITORS TO INVESTIGATE THE ROLE OF EPITHELIAL SODIUM CHANNELS IN NEURODEGENERATION. **Victoria Miller**, John Atack, Martin Gosling

2413-Pos Board B429
DIVERSE PHARMACOLOGICAL EFFECTS OF CARBON MONOXIDE-RELEASING MOLECULES ON MITOCHONDRIAL BK CHANNEL. **Daria Rotko**, Piotr Bednarczyk, Adam Szewczyk

2414-Pos Board B430
FLEXIBILITY OF A TRANSMEMBRANE HELIX UNDERLIES DRAMATIC REVERSAL OF NET ANESTHETIC EFFECTS IN A PENTAMERIC LIGAND-GATED ION CHANNEL. **Stephanie A. Heusser**, Marie Lycksell, Xueqing Wang, Rebecca J. Howard, Erik Lindahl

2415-Pos Board B431
OPTOGENETIC TECHNOLOGIES ENABLE HIGH THROUGHPUT ION CHANNEL DRUG DISCOVERY AND TOXICITY SCREENING. **Riccardo Rizzetto**, Viviana Agus, Sara Pizzi, Jean-Francois Rolland, Lia Scarabottolo, Susanne Renhelt, Daniela Malan, Tobias Bruegmann, Philipp Sasse, Krisztina Juhasz, Leo Doerr, Matthias Beckler, Michael George, Andrea Brüggemann, Niels Fertig

2416-Pos Board B432
MECHANISMS UNDERLYING RATE-DEPENDENT EFFECTS OF STATE-SPECIFIC BINDING OF SODIUM CHANNEL BLOCKERS IN CARDIAC TISSUE: INSIGHTS FROM IDEALIZED MODELS. **Steffen S. Docken**, Timothy J. Lewis, Colleen E. Clancy

2417-Pos Board B433
HIGHLY PARALLEL ALL-OPTICAL REAL-TIME INTERROGATION OF FAST VOLTAGE-GATED ION CHANNELS USING MOLECULAR WIRE VOLTAGE-SENSING COMPOUNDS. Thomas Lila, Jay Trautman, Stephen Smith, **Andrew Blatz**

2418-Pos Board B434
BUNYAVIRUSES ARE DEPENDENT ON K_{2P} CHANNELS TO INFECT CELLS. **Samantha Hover**, John N. Barr, Steve AN Goldstein, Jamel Mankouri

2419-Pos Board B435
MINOCYCLINE AND DOXYCYCLINE INHIBIT ASIC CURRENTS IN DORSAL ROOT GANGLION NEURONS. **Laura C. Caba Sánchez**, Rosario Vega, Audrey M. Ortega, Ricardo Félix, Enrique Soto

2420-Pos Board B436
AN *SCN1B* VARIANT FOUND IN A CHILD DIAGNOSED WITH EPILEPSY AND BRUGADA SYNDROME MODIFIES BRAIN-TYPE ($NA_V1.1$) AND CARDIAC-TYPE ($NA_V1.5$) SODIUM CURRENTS. **Rebecca Martinez-Moreno**, Helena Riuró, Elisabeth Selga, Michael F. Wangler, Ramon Brugada, Guillermo J. Pérez, Fabiana S. Scornik

TUESDAY

2421-Pos Board B437
NOVEL CNG CHANNELOPATHY MODEL GENERATED USING CRISPR/CAS9-MEDIATED GENOME EDITING IN ZEBRAFISH. **Michael D. Varnum**, Peter C. Meighan, Samuel S. Hunter, Lindsey M. Morey, Tshering Sherpa

2422-Pos Board B438
ACIDOSIS PROLONGS APD IN OPTICALLY MAPPED ADULT ZEBRAFISH WHOLE HEARTS AS A RESULT OF HERG CHANNEL BLOCK. **Yu P. Shi**, Cherlene Chang, Marvin Gunawan, Eric Lin, Sanam Shafaattalab, Glen Tibbits, Tom Claydon

2423-Pos Board B439
STREPTOMYCIN ENTRY IS MEDIATED BY THE MECHANOSENSITIVE CHANNEL MSCCG OF *CORYNEBACTERIUM GLUTAMICUM*. **Yoshitaka Nakayama**, Kosuke Komazawa, Navid Bavi, Kazuhiro Nobata, Ken-ichi Hashimoto, Hisashi Kawasaki, Boris Martinac

Other Channels II (Boards B440–B461)

2424-Pos Board B440
UNDERSTANDING THE STRUCTURE AND FUNCTION OF THE DCAP CHANNEL FROM *ACINETOBACTER BAUMANNII* USING MD SIMULATIONS. **Jigneshkumar D. Prajapati**, Satya Prathyusha Bhamidimarri, Michael Zahn, Dirk Bumann, Mathias Winterhalter, Bert van den Berg, Ulrich Kleinekathöfer

2425-Pos Board B441
GLIAL CHANNELS AND TRANSPORTERS THAT MEDIATE EXCRETION OF K^+ IN THE MICROENVIRONMENT BETWEEN GLIA AND NEURONS SHAPE NEURONAL OUTPUT IN *C. ELEGANS*. **Christina Johnson**, Ying Wang, Lu Han, Laura Bianchi

2426-Pos Board B442
THE HUMAN ERYTHROCYTE MECHANO-ACTIVATED K^+ CHANNEL A (HEMKCA): EFFECT OF BA^{2+} ON BURST ACTIVITY. Yeimar Rortillo, Alejandro Mata, **Jesus G. Romero**

2427-Pos Board B443
THE ANNEXIN V TRANSMEMBRANE CHANNEL. **Yichih Lin**, Atsushi Miyagi, Simon Scheuring

2428-Pos Board B444
GAIN-OF-FUNCTION OF TMEM16E/ANO5 SCRAMBLING ACTIVITY CAUSED BY A MUTATION ASSOCIATED WITH THE BONE GENETIC DISEASE GNATHODIAPHYSEAL DYSPLASIA. Eleonora Di Zanni, Antonella Gradogna, Joachim Scholz-Starke, **Anna Boccaccio**

2429-Pos Board B445
SPHINGOSINE-1-PHOSPHATE-INDUCED ATP SECRETION IN MICROGLIA IS MEDIATED BY LRRC8 PROTEINS OF VOLUME-REGULATED ANION CHANNELS. Philipp Burow, Manuela Klapperstück, **Fritz Markwardt**

2430-Pos Board B446
ZINC INHIBITION OF AN INSECT VOLTAGE-GATED PROTON CHANNEL. Gustavo Chaves, Stefanie Bungert-Plümke, Arne Franzen, **Boris Musset**

2431-Pos Board B447
OPTICALLY ACTIVE, SELF-ASSEMBLED SOLID-STATE NANOPORES FOR SINGLE PARTICLE DETECTION. **Andreas Schlegel**, Paul V. Gwozdz, Christian Heyn, August Dorn, André Drews, Wolfgang Hansen, Robert H. Blick

2432-Pos Board B448
EXP2 IN THE ROLE OF THE SMALL MOLECULE PORE IN THE PARASITOPHOROUS VACUOLE MEMBRANE OF *PLASMODIUM FALCIPARUM*. **Matthias Garten**, Josh R. Beck, Svetlana Glushakova, Armiyaw S. Nasamu, Jacquin C. Niles, Daniel E. Goldberg, Joshua Zimmerberg

2433-Pos Board B449
UNITARY WATER PERMEABILITY MEASUREMENTS VIA LIPID VESICLE SYSTEMS. **Andreas Horner**, Thomas Barta, Christof Hannesschläger, Peter Pohl

2434-Pos Board B450 **CID TRAVEL AWARDEE**
CONTROL OF MEMBRANE PERMEABILITY VIA VOLTAGE REGULATED LYSENIN CHANNELS. **Philip Belzeski**, Sheenah Bryant, Nisha Shrestha, Daniel Prather, Samuel Kosydar, Daniel Fologea

2435-Pos Board B451
ACCESS RESISTANCE IN ATOMICALLY THIN NANOPORES. **Subin Sahu**, Michael P. Zwolak

2436-Pos Board B452
BACKBONE AMIDE NITROGEN ATOMS ARE KEY DETERMINANTS OF INTER-ANION DISCRIMINATION IN CLCS. **Lilia Leisle**, Eva Fortea, Jason Galpin, Christopher Ahern, Alessio Accardi

2437-Pos Board B453
SIMULATING THE PERMEATION OF FOSFOMYCIN FROM THE EXTRACELLULAR SPACE TO THE SITE OF ACTION IN GRAM-NEGATIVE BACTERIA. **Vinaya Kumar Golla**, Karunakar Reddy Pothula, Ulrich Kleinekathöfer

2438-Pos Board B454
UNITARY WATER CHANNEL PERMEABILITY AND ARRHENIUS ACTIVATION ENERGY ARE INTRICATELY LINKED. Andreas Horner, **Peter Pohl**

2439-Pos Board B455
RECTIFYING IONIC CURRENT IN CONICAL SUB-MICROPORES FUNCTIONALIZED WITH POLY-L-LYSINE. **Chih-Yuan Lin**, Cody Combs, Zuzanna S. Siwy

2440-Pos Board B456
PHOSPHATIDYLINOSITOL-(4,5)-BISPHOSPHATE IS A NECESSARY COFACTOR FOR TMEM16F ION CHANNEL ACTIVITIES. **Wenlei Ye**, Tina W. Han, Layla M. Nassar, Mario Zubia, Yuh Nung Jan, Lily Y. Jan

2441-Pos Board B457
COOPERATIVITY AND FLEXIBLE DOMAINS PARTICIPATION IN PIP AQUAPORIN GATING. **Karina Alleva**, Florencia Scochera, Agustina Canessa Fortuna, CINTIA JOZEFKOWICZ, Victoria Vitali, Gerardo Zerbetto de Palma, Gabriela Soto, F. Luis Gonzalez Flecha

2442-Pos Board B458
A NEW METHOD TO STUDY THE LYSOMAL ELECTRICAL ACTIVITY IN LIVING CELLS. **Ella Matamala**, Cristian Castillo, Kirill Kiselyov, Sebastian Brauchi

2443-Pos Board B459
CRYO ELECTRON TOMOGRAPHY AND REACTION-DIFFUSION SIMULATIONS REVEAL A MOLECULAR AND EVOLUTIONARY BASIS FOR CHARGED ARCHAEAL SURFACE LAYER PROTEINS. **Po-Nan Li**, Jonathan R. Herrmann, Frederic PB Poitevin, Rasika Ramdasi, Bradley B. Tolar, John Barger, David Stahl, Grant Jensen, Soichi Wakatsuki, Henry van den Bedem

2444-Pos Board B460
SUBUNIT DEPENDENT REGULATION OF LRRC8 MEDIATED VRAC CURRENTS BY OXIDATION. Antonella Gradogna, Paola Gavazzo, Anna Boccaccio, **Michael Pusch**

2445-Pos Board B461
SUBTLE MODIFICATIONS OF THE PANNEXIN-1 N-TERMINUS RESULTS IN ALTERED CHANNEL ACTIVITY. **Kevin Michalski**, Toshi Kawate

Cardiac Muscle Mechanics and Structure II (Boards B462–B480)

2446-Pos Board B462
PATHOGENIC MECHANISMS OF THE CARDIOMYOPATHY-ASSOCIATED ALPHA-TROPOMYOSIN VARIANT E192K AS REVEALED BY MULTISCALE MODELING AND EXPERIMENTS. **Lorenzo R. Sewanan**, Jinkyu Park, Michael J. Rynkiewicz, Stephen M. Hollenberg, Nikolaos Papoutsidakis, Daniel L. Jacoby, Jeffrey R. Moore, William Lehman, Yibing Qyang, Stuart G. Campbell

2447-Pos Board B463
NATIVE REDOX POSTTRANSLATIONAL MODIFICATIONS AS REGULATORS OF TITIN MECHANICAL PROPERTIES. **Elías Herrero-Galán**, Cristina Sánchez-González, Diana Velázquez-Carreras, Elena Bonzón-Kulichenko, Enrique Calvo, Jesús Vázquez, Jorge Alegre-Cebollada

2448-Pos Board B464
HIGH-RESOLUTION STRUCTURAL BASIS OF A DUAL TITIN/OBSCURIN COMPLEX WITH TWO WELL-SEPARATED SITES. **Philipp Hornburg**, Atsushi Fukuzawa, Mathias Gautel, Matthias Wilmanns

2449-Pos Board B465 EDUCATION TRAVEL AWARDEE
IMPACT OF DILATED CARDIOMYOPATHY MUTATION AND SMALL MOLECULE REGULATOR ON HUMAN BETA-CARDIAC MYOSIN. **Wanjian Tang**, William C. Unrath, Rohini Desetty, Christopher M. Yengo

2450-Pos Board B466
THE GIANT PROTEIN TITIN REGULATES THE LENGTH OF THE STRIATED MUSCLE THICK FILAMENT-TITIN RULES. **Henk Granzier**, Paola Tonino, Balazs Kiss, Joshua Strom, John Smith, Mei Methawasin, Justin Kolb

2451-Pos Board B467
SIMILAR EFFECTS OF HUMORAL OR MECHANICAL STRESS ON CELL-CELL CONTACTS IN CULTURED CARDIOMYOCYTES. Oliver Koldyka, Pragati Pandey, Thomas Iskratsch, **Elisabeth Ehler**

2452-Pos Board B468
MECHANOBIOLOGY OF MYOSIN MUTATIONS AND MYOFIBRIL REMODELING IN IPSC-CARDIOMYOCYTES. **Alison Schroer**, Kristina Kooiker, Arjun Adhikari, Kathleen Ruppel, Daniel Bernstein, James Spudich, Beth Pruitt

2453-Pos Board B469
THE ROLE OF CTNT ISOFORM SWITCHING IN MODULATING SARCOMERIC CARDIOMYOPATHIES. **Melissa L. Lynn**, Teryn A. Holeman, Grace Benitez, Mark T. McConnell, Lauren Tal-Grinspan, Jil C. Tardiff

2454-Pos Board B470
DIFFERENCES IN MYOFILAMENT INTERACTIONS AND STRUCTURAL DYNAMICS BETWEEN MOUSE AND HUMAN CARDIAC MYOSIN-BINDING PROTEIN C. Thomas C. Bunch, Victoria C. Lepak, **Brett A. Colson**

2455-Pos Board B471
GENETICALLY ENGINEERED HUMAN STEM-CELL DERIVED CARDIOMYOCYTES TO INVESTIGATE THE FUNCTION OF CRONOS TITIN. **Rebecca Zaunbrecher**, Kevin Beussman, Andrea Leonard, Marion von Frieling-Salewsky, Lil Pabon, Hans Reinecke, Xiulan Yang, Wolgang A. Linke, Nathan J. Sniadecki, Charles E. Murry, Michael Regnier

2456-Pos Board B472
ULTRASTRUCTURAL SURVEYS OF CARDIOMYOCYTES ISOLATED FROM FAILING HUMAN HEARTS. **Patrick Robison**, Christina Yingxian Chen, Matthew A. Caporizzo, Kenneth Bedi, Kenneth B. Margulies, Benjamin L. Prosser

2457-Pos Board B473
UNIQUE STRUCTURAL AND FUNCTIONAL EFFECTS OF ALPHA-TROPOMYOSIN MUTATIONS IN HCM AND DCM. **Teryn A. Holeman**, Melissa L. Lynn, Jil C. Tardiff

2458-Pos Board B474
NEONATAL PERMEABILITY TRANSITION PORE CLOSURE IS ASSOCIATED WITH INCREASED CARDIAC FUNCTION. **Ryan E. Alanzalon**, George A. Porter

2459-Pos Board B475
EFFECT OF TRUNCATED MUTATIONS IN THE TITIN GENE ON CARDIAC FUNCTION. **Petr G. Vikhorev**, AMY Li, Sean Lal, Cristobal G. dos Remedios, Steven B. Marston

2460-Pos Board B476 CID TRAVEL AWARDEE
CARDIAC LIGHT CHAIN AMYLOIDOSIS, UNDERSTANDING THE IMPLICATIONS OF CELLULAR TOXICITY IN A 3D MODEL. **Keely Redhage**, Chris Dick, Yi Lin, Marta Marin-Argany, Angela Williams, John S. Wall, Marina Ramirez-Alvarado

2461-Pos Board B477
SOLVING FOR THE RATE OF DIFFUSION IN CARDIAC TRANSVERSE TUBULES FROM FLUORESCENCE RECOVERY AFTER PHOTOBLEACHING EXPERIMENTS. Cherrie HT Kong, Clive H. Orchard, **Mark B. Cannell**

2462-Pos Board B478
QUANTIFYING THE CONTRIBUTION OF CARDIOMYOCYTE METABOLIC DYSFUNCTION TO THE HEART MECHANICAL FUNCTION. **Rachel Lopez**, Xin Gao, Francoise Van den Bergh, Santosh Dasika, Daniel Beard

2463-Pos Board B479
COMPUTATIONAL AND EXPERIMENTAL INVESTIGATION OF TROPOMYOSIN D230N AND S215L MUTATION SPECIFIC CORRELATES TO DISEASE. **Andrea Deranek**, Anthony Baldo, Melissa L. Lynn, Mark T. McConnell, Michael R. Williams, Steven D. Schwartz, Jil C. Tardiff

2464-Pos Board B480
QUANTIFYING NUCLEAR REMODELING IN HEART FAILURE. **Logan Bailey**, Danny Smyl, Sven Bossuyt, Julie Bossuyt

Cardiac Muscle Regulation II (Boards B481–B496)

2465-Pos Board B481
DEFINING A UNIFYING MECHANISM FOR SELECT CARIOMYOPATHY-LINKED VARIANTS OF DESMOPLAKIN. **Heather R. Manring**, Ronald Ng, Taylor Albertelli, Prameela Jyothi Bobbili, Olivia Carter, Tyler Stevens, Daniel Jacoby, Paul M. L. Janssen, Ahmet Kilic, Nathan Wright, Stuart Campbell, Maegen A. Ackermann

2466-Pos Board B482
TNNT2 RESTRICTIVE AND HYPERTROPHIC CARDIOMYOPATHY MUTATIONS DEPRESS THE INHIBITORY PROPERTIES OF THE TROPONIN-T1 FRAGMENT, *IN VITRO*. **Aditi Madan**, Sineej Madathil, William Schmidt, Larry S. Tobacman, Anthony Cammarato

2467-Pos Board B483
DEFINING A NOVEL MECHANISM MEDIATING THE RATE OF HEART FAILURE PROGRESSION. **Heather R. Manring**, Prameela Jyothi Bobbili, Abigail Beer, Paul M. L. Janssen, Ahmet Kilic, Maegen A. Ackermann

2468-Pos Board B484
INFLUENCE OF CTN CA^{2+} BINDING PROPERTIES AND COOPERATIVE MECHANISMS ON CARDIAC MUSCLE CONTRACTILE DYNAMICS. **Srboljub M. Mijailovich**, Djordje Nedic, Boban Stojanovic, Joseph D. Powers, Jennifer Davis, Michael A. Geeves, Michael Regnier

2469-Pos Board B485
CARDIAC MYOSIN STRUTURAL KINETICS ARE MODULATED BY MYK461. John Rohde, David D. Thomas, **Joseph M. Muretta**

2470-Pos Board B486
ALTERED SIGNALING PATHWAYS IN HEARTS OF AMES DWARF MICE. **Emily Eijansantos**, Shuchita Tiwari, Aldrin Gomes

2471-Pos Board B487
TRIBUTYTIN INDUCES NEGATIVE INOTROPIC EFFECT, REDUCES CARDIAC SR CALCIUM CONTENT AND INCREASES CALCIUM SPARKS FREQUENCY IN CARDIOMYOCYTES. **Ivanita Stefanon**, Cleydianne Luiza Vieira Pereira, Bruno Barcellos Jacobsen, Rogério Faustino Ribeiro Junior, Donald M. Bers

2472-Pos Board B488
BIOPHYSICS OF SERCA2A/DWORF COMPLEX AND IMPLICATIONS FOR THERAPEUTIC DESIGN. **Ang Li**, Daniel R. Stroik, Tory M. Schaaf, Benjamin D. Grant, David D. Thomas

2473-Pos Board B489
STOPPED-FLOW CALCIUM ASSOCIATION KINETICS OF HYPERTROPHIC CARDIOMYOPATHY ASSOCIATED TROPONIN T MUTATIONS. **Matthew M. Klass**, Sarah J. Lehman, Jil C. Tardiff

2474-Pos Board B490
MEMBRANE DOMAINS AND CAMP COMPARTMENTATION IN CARDIAC MYOCYTES. **Shailesh R. Agarwal**, Jackson Gratwohl, Mia Cozad, Pei-Chi Yang, Colleen E. Clancy, Robert D. Harvey

2475-Pos Board B491
ABERRANT CARDIAC MUSCLE MECHANICS IN A HYPERTROPHIC CARDIOMYOPATHY TROPONIN T ILE79ASN TRANSGENIC MOUSE. **Karissa M. Dieseldorff Jones**, David Gonzalez-Martinez, Maicon Landim-Vieira, Yeojung Koh, Bjorn C. Knollmann, P. Bryant Chase, Hyun S. Hwang, Jose R. Pinto

2476-Pos Board B492
KINETIC IMPLICATIONS FROM A MODEL OF CARDIAC LENGTH-DEPENDENT ACTIVATION. **William C. Hunter**, Timothy Alcid

2477-Pos Board B493
TIME-RESOLVED FRET DETECTION OF THE MYOSIN SUPER-RELAXED OFF STATE IN CARDIAC THICK FILAMENT. **Sami Chu**, Lien A. Phung, Joseph M. Muretta, David D. Thomas

2478-Pos Board B494
TURNING THE AZIMUTHAL MOTIONS OF ADJACENT TROPOMYOSINS INTO A COUPLED N-BODY PROBLEM IN A BROWNIAN MODEL OF CARDIAC THIN FILAMENT ACTIVATION. **Yasser Aboelkassem**, Kimberly J. McCabe, Gary Huber, Joakim Sundnes, Andrew D. McCulloch

2479-Pos Board B495
PROTEIN KINASE D MODULATION OF CARDIAC PROTEIN PHOPHATASES. **Marie R. L. Verberckmoes**, Bruno B. Jackobsen, Logan R. J. Bailey, Brent M. Wood, Julie Bossuyt

2480-Pos Board B496
METHYLGLYOXAL MODIFICATIONS ARE ELEVATED IN THE MYOFILAMENT OF DIABETIC CARDIOMYOPATHY PATIENTS AND REDUCE MYOFILAMENT FUNCTION. **Maria Papadaki**, Ronald J. Holewinski, Nikolai Smolin, Marisa J. Stachowski, Cheavar A. Blair, Kenneth S. Campbell, Seth L. Robia, Jonathan A. Kirk

Microtubules, Structure, Dynamics and Associated Proteins (Boards B497–B526)

2481-Pos Board B497
COMPUTATIONAL MODELING OF TUBULIN-TUBULIN LATERAL INTERACTION: MOLECULAR DYNAMICS AND BROWNIAN DYNAMICS. **Mahya Hemmat**, David J. Odde

2483-Pos Board B499
ALL TUBULINS ARE NOT ALIKE: DIMER DISSOCIATION AND MONOMER EXCHANGE DIFFER DEPENDING ON THE BIOLOGICAL SOURCE OF TUBULIN. Felipe Montecinos-Franjola, Sumit Chaturvedi, Peter Schuck, **Dan L. Sackett**

2482-Pos Board B498
BINDING INTERACTIONS WITH TUBULIN'S C-TERMINAL TAIL AS STUDIED BY SOLUTION NMR. **Allison M. Whited**, Kathryn P. Wall, Scott Tilden, Loren E. Hough

2484-Pos Board B500
NUCLEOTIDE-DEPENDENT CONFORMATIONAL DYNAMICS AND ENERGETICS OF TUBULIN. **Maxim Igaev**, Helmut Grubmüller

2485-Pos Board B501
NACL AFFECTS MICROTUBULE PERSISTENCE LENGTH. **Brandon J. Harris**, Jennifer L. Ross, Taviare L. Hawkins

2486-Pos Board B502
MICROTUBULE SELF-ORGANIZATION IN THE PRESENCE OF CROWDING AGENTS. **Carline A. Fermino do Rosario**

2487-Pos Board B503
MICROTUBULE PATTERNS THROUGH GROWTH AND CROSSLINKING. **Bianca Edozie**

2488-Pos Board B504
LABEL FREE HIGH SPEED WIDE FIELD IMAGING OF SINGLE MICROTUBULES USING INTERFERENCE REFLECTION MICROSCOPY. **Mohammed Mahamdeh**, Steve Simmert, Anna Łuchniak, Erik Schäffer, Jonathon Howard

2489-Pos Board B505
CATASTROPHIC DEPOLYMERIZATION OF MICROTUBULES DRIVEN BY SUBUNIT SHAPE CHANGE. **Jonathan A. Bollinger**, Mark J. Stevens

2490-Pos Board B506
MICROTUBULE DEPOLYMERIZATION INHIBITED BY MACROMOLECULAR CROWDING. **Virginia VanDelinder**, nathan Bouxsein, Randy Ko, George Bachand, Rishi Jain

2491-Pos Board B507
AGE-DEPENDENT CATASTROPHES AND MACROSCOPIC SWITCHING TRANSITION IN DYNAMIC MICROTUBULES. **Aparna J S**, Ranjith Padinhateeri, Dibyendu Das

2492-Pos Board B508
AFM STUDIES OF THE STRUCTURE AND PHYSICAL PROPERTIES OF MICROTUBULES PRODUCED WITH DRUGS AND GTP ANALOGUES. Karen Richardson, Hsein-Shu Liao, Maryam Raftari, Citlally Garcia, Dan Sackett, **Albert J. Jin**

2493-Pos Board B509
SKELETAL MUSCLE CONTRACTION ALTERS MICROTUBULE PROPERTIES THAT IMPACT FUNCTION. Camilo Vanegas, Humberto Joca, Jack Vandermeulen, Ramzi Khairallah, W Jonathan Lederer, Joseph Stains, **Christopher W. Ward**

2494-Pos Board B510
GENERATION OF ELECTRICAL OSCILLATIONS BY DIFFERENT MICROTUBULE STRUCTURES. **Maria del Rocio Cantero**, Paula L. Perez, Cecilia Villa Etchegoyen, Noelia Scarinci, Horacio F. Cantiello

2495-Pos Board B511
MICRORHEOLOGY OF MICROTUBULE AQUEOUS SOLUTION. **Kazutaka Satou**, Daisuke Takeuchi, Syuzi Fujii, Hiroshi Orihara, Kentarou Kayano, Arif Md Rashedul Kabir, Ituki Kunita, Akira Kakugo

2496-Pos Board B512
FORMATION OF SHEAR BAND IN A MICROTUBULE SOLUTION. **Kei Hamasaki**, Daisuke Takeuchi, Shuji Fujii, Hiroshi Orihara, Katsuhiko Sato, Itsuki Kunita, Kentaro Kayano, Arif Md. Rashedul Kabir, Akira Kakugo

2497-Pos Board B513
NUMA RECRUITS DYNEIN ACTIVITY TO MICROTUBULE MINUS-ENDS AT MITOSIS. **Christina L. Hueschen**, Samuel J. Kenny, Ke Xu, Sophie Dumont

2498-Pos Board B514
GEOMETRICAL PROPERTIES OF ANTIPARALLEL ARRAYS REGULATE MICROTUBULE SLIDING AND STALLING BY PRC1 AND KIF4A. **Sithara Wijeratne**, Radhika Subramanian

2499-Pos Board B515
KINESIN BINDING EXPANDS AND STABILISES THE GDP-MICROTUBULE LATTICE. Daniel Peet, Nigel Burroughs, **Robert A. Cross**

2500-Pos Board B516 EDUCATION TRAVEL AWARDEE
MECHANISM OF MICROTUBULE STABILIZATION BY KINESIN-5. **Geng-Yuan Chen**, Ana B. Asenjo, Hernando J. Sosa, William O. Hancock

2501-Pos Board B517
MOLECULAR REQUIREMENTS FOR THE TRANSITION FROM LATERAL TO END-ON MICROTUBULE BINDING AND DYNAMIC COUPLING. **Ekaterina L. Grishchuk**, Manas Chakraborty, Anatoly V. Zaytsev, Maxim Godzi, Ekaterina Tarasovetc, Ana C. Figueiredo, Fazly I. Ataullakhanov

2502-Pos Board B518
MICROTUBULE STRUCTURAL STATE RECOGNITION BY END BINDING PROTEIN 1. **Taylor A. Reid**, Courtney Coombes, Holly Goodson, Melissa K. Gardner

2503-Pos Board B519
STRUCTURAL MODEL FOR PREFERENTIAL MICROTUBULE MINUS END BINDING BY CAMSAP CKK DOMAINS. Joseph Atherton, , Kai Jiang, Marcel Stangier, Yanzhang Luo, Shasha Hua, Klaartje Houben, Guido Scarabelli, Agnel Joseph, Anthony Roberts, Barry Grant, Maya Topf, Michel Steinmetz, Marc Baldus, Anna Akhmanova, **Carolyn Moores**

2504-Pos Board B520
STRUCTURAL CHANGES IN TAU UNDERLIE STATIC AND DIFFUSIVE BINDING TO THE MICROTUBULE LATTICE. **Alisa Cario**, Jamie Stern, Christopher L. Berger

2505-Pos Board B521
THE EFFECT OF SITE-SPECIFIC TAU MUTATIONS ON MICROTUBULE BUNDLE STRUCTURES. **Christine Tchounwou**

2506-Pos Board B522 EDUCATION TRAVEL AWARDEE
ROLE OF ANTI-TAU ANTIBODIES ON MICROTUBULE POLYMERIZATION AND STABILITY. **Iva Ziu**, Matthew Imhof, Saba Anwar, Sanela Martic*

2507-Pos Board B523
N-TERMINAL INSERTS IMPACT THE GLOBAL CONFORMATION OF TAU AND THE TAU-TUBULIN COMPLEX. **Kristen McKibben**, Elizabeth Rhoades

2508-Pos Board B524
DISPARATE ROLES OF ALPHA AND BETA CTTS IN MICROTUBULE SEVERING. **Rohith Anand Varikoti**

2509-Pos Board B525
MODULATION OF MACROMOLECULAR BIOLOGICAL STRUCTURES BY DIVALENT IONS. **Bretton J. Fletcher**, Chaeyeon Song, Phillip Kohl, Peter Chung, Herbert P. Miller, Youli Li, Myung Chul Choi, Leslie Wilson, S.C. Feinstein, Cyrus R. Safinya

2510-Pos Board B526
DETERMINING THE IMPORTANT PARAMETERS IN BIOLOGICAL MODELS USING NUMERICAL PARAMETER COMPRESSION. **Chieh-Ting Hsu**, Gary Brouhard, Paul Francois

Kinesins, Dyneins, and Other Microtubule-based Motors I (Boards B527–B545)

2511-Pos Board B527
BIASED BINDING MECHANISM ALONE CAN EXPLAIN THE PREFERENTIAL FORWARD STEPPING OF KINESIN-1. Kohei Matsuzaki, Hiroshi Isojima, Hiroyuki Noji, **Michio Tomishige**

2512-Pos Board B528
NONEQUILIBRIUM ENERGETICS OF SINGLE MOLECULE MOTOR, KINESIN-1. **Takayuki Ariga**, Michio Tomishige, Daisuke Mizuno

2513-Pos Board B529
A FLUID MEMBRANE ENHANCES THE VELOCITY OF CARGO TRANSPORT BY SMALL TEAMS OF KINESIN-1. **Qiaochu Li**, Kuo-Fu Tseng, Stephen J. King, Weihong Qiu, Jing Xu

2514-Pos Board B530
KINESIN ROTATES UNIDIRECTIONALLY WHILE WALKING ON MICROTUBULES TRANSFERRING TORQUE ONTO CARGO. Avin Ramaiya, Basudev Roy, Michael Bugiel, **Erik Schäffer**

2515-Pos Board B531
NEW STRUCTURE AND ENERGY CYCLES OF KINESIN DIMERS WALKING ON MICROTUBULES REVEALED FROM MOLECULAR SIMULATIONS. Allicia Pan, Allen Pan, Bernard R. Brooks, **Xiongwu Wu**

2516-Pos Board B532
MICROTUBULES CAN INFLUENCE KINESIN'S FORESTEP-BACKSTEP DECISION. **Algirdas Toleikis**, Nicholas J. Carter, Robert A. Cross

2517-Pos Board B533
STRUCTURAL CHARACTERIZATION OF THE ATP-WAITING AND POST-HYDROLYSIS STATES OF DIMERIC KINESIN-1 USING CRYO-EM. **Hyo Keun Cha**, Xueqi Liu, Garrett Debs, Daifei Liu, Charles Sindelar

2518-Pos Board B534
ENHANCED STABILITY OF KINESIN-1 AS A FUNCTION OF TEMPERATURE. **Katelyn J. Chase**, Florence Doval, Michael Vershinin

2519-Pos Board B535
ATOMIC FORCE SIMULATIONS REVEAL THAT THE LEADING HEAD OF KINESIN DIMERS GENERATES THE CARGO MOVING FORCE. **Alicia Pan**, Allen Pan, Xiongwu Wu

2520-Pos Board B536
COMPUTATIONAL AND BIOCHEMICAL ANALYSIS OF DISEASE-CAUSING MUTATIONS AT THE KINESIN-MICROTUBULE INTERFACE. Chelsea Kelland, Lauren Thornton, Hana Alkhafaf, Madhusoodanan Mottamal, **Thomas M. Huckaba**

2521-Pos Board B537
KINESIN-2 MOTORS ADAPT THEIR STEPPING BEHAVIOR FOR PROCESSIVE TRANSPORT ON AXONEMES AND MICROTUBULES. **Willi L. Stepp**, Georg Merck, Felix Mueller-Planitz, Zeynep Ökten

2522-Pos Board B538
NOVEL KINESIN-3 MOTOR BEHAVIOR IS REGULATED BY TAU. **Dominique V. Lessard**, Christopher L. Berger

2523-Pos Board B539
MORELLOFLAVONE AS A NOVEL INHIBITOR FOR KINESIN EG5. Tomisin Happy Ogunwa, Kenichi Taii, Shuya Yano, Kei Sadakane, Yuka Kawata, Shinsaku Maruta, **Takayuki Miyanishi**

2524-Pos Board B540
NOVEL PHOTOCHROMIC POTENT INHIBITOR OF MITOTIC KINESIN EG5 COMPOSED OF SPIROPYRAN DERIVATIVES. Kei Sadakane, Kenichi Taii, **Shinsaku Maruta**

2525-Pos Board B541
PHOTO-REGULATION OF MITOTIC KINESIN EG5 USING NOVEL PHOTOCHROMIC INHIBITOR THAT FORMS THREE ISOMERIZATION STATES. **Islam M.D. Alrazi**, Kei Sadakane, Shinsaku Maruta

2526-Pos Board B542
TWO OPPOSING MODES OF CYTOPLASMIC DYNEIN REGULATION BY LIS1. **Zaw M. Htet**, Morgan E. DeSantis, Michael A. Cianfrocco, Phuoc T. Tran, Andres E. Leschziner, Samara L. Reck-Peterson

2527-Pos Board B543
CARGO ADAPTORS REGULATE THE MECHANICAL PROPERTIES OF DYNEIN/DYNACTIN COMPLEX. **Mohamed Elshenawy**, Ahmet Yildiz

2528-Pos Board B544
STEPPING BEHAVIOR OF MAMMALIAN DYNEIN-DYNACTIN COMPLEXES. **Liya F. Oster**, John Canty, Mohamed Elshenawy, Ahmet Yildiz

2529-Pos Board B545
SINGLE MOLECULE STUDY OF LONG-RANGE ELECTROSTATIC BINDING AFFINITY OF CYTOPLASMIC DYNEIN'S MICROTUBULE BINDING DOMAIN. **Subash C. Godar**, Hailey Lovelace, Jared Eller, Mattheu Spencer, Lin Li, George Hamilton, Hugo Sanabria, Emil Alexov, Joshua Alper

Cell Mechanics, Mechanosensing, and Motility II (Boards B546–B579)

2530-Pos Board B546
DESMOPLAKIN BEARS TENSION UNDER EXTERNALLY APPLIED LOAD BUT NOT DURING EPITHELIAL MONOLAYER HOMEOSTASIS. **Andrew J. Price**, Anna-Lena Cost, Carsten Grashoff, Alexander R. Dunn

2531-Pos Board B547
ANISOTROPIC MECHANICAL PROPERTIES OF LIVING CELLS REVEALED BY INTEGRATED SPINNING DISK CONFOCAL AND ATOMIC FORCE MICROSCOPY. **Yuri M. Efremov**, Mirian Velay-Lizancos, Daniel M. Suter, Pablo D. Zavattieri, Arvind Raman

2532-Pos Board B548
TUMOR-ASSOCIATED MACROPHAGES DRIVE ASTROCYTOMA SPHEROID FORMATION THROUGH MECHANOSIGNAL TRANSMISSION. **Hsiao-Ming Chang**, Yung-Chu Chuang, Kuo-Hsiang Hung, Yu-Ming Chen, Chiao-Lun Chen, Shun-Chi Wu, Chi-Shuo Chen

2533-Pos Board B549
NUCLEAR LAMINA STRESS MEASURED WITH FRET BASED STRESS SENSOR. **Thomas M. Suchyna**, Fanjie Meng, Frederick Sachs, Wilma Hofmann

2534-Pos Board B550
SWARMING MIGRATION OF CO-ATTRACTING MESENCHYMAL CELLS INTO FRACTAL-LIKE EPITHELIAL CLUSTERS. **Susan E. Leggett**, Zachary J. Neronha, Dhananjay Bhaskar, Theodora M. Perdikari, Ian Y. Wong

2535-Pos Board B551
EFFECTS OF IONIZING RADIATION ON THE MECHANOSENSITIVITY OF SINGLE CELLS. **Andrew E. Ekpenyong**, Michael Mimlitz, Noah Zetocha, Kaamil Abid, Bong Han Lee

2536-Pos Board B552
EXOPOLYMER DYNAMICS DRIVEN BY SESSILE FLAGELLATES. **Tyler N. Shendruk**, Andrew K. Balin, Andreas Zöttl, Julia M. Yeomans

2537-Pos Board B553
MECHANICAL ANALYSIS OF CELLS VIA ELECTRODEFORMATION-RELAXATION. **Yasir Demiryurek**, Miao Yu, David I. Shreiber, Jeffrey D. Zahn, Ramsey Foty, Jerry W. Shan, Liping Liu, Hao Lin

2538-Pos Board B554
LIVE CELL TRACKING OF HUMAN NK CELL PRECURSORS IDENTIFIES COMPLEX MODES OF CELL MIGRATION THROUGHOUT DIFFERENTIATION. **Barclay Lee**, Emily Mace

2539-Pos Board B555
SINGLE-CELL ANALYSIS OF COMPLEMENT-MEDIATED CHEMOTAXIS: ANAPHYLATOXIC CLOUDS, AND NEUTROPHIL SENSITIVITY TO CHEMOATTRACTANT. **Emmet A. Francis**, Volkmar Heinrich

2540-Pos Board B556
THREE-DIMENSIONAL TRACTION FORCE MEASUREMENT USING PLANAR EPIFLUORESCENCE MICROSCOPY FOR CELL MECHANICS STUDIES. **Mohak Patel**, Susan E. Leggett, Ian Y. Wong, Christian Franck

2541-Pos Board B557
NEURAL SIGNALING REGULATES CANCER CELL PHYSICAL PHENOTYPES. **Amy C. Rowat**, Tae-Hyung Kim, Erica K. Sloan

2542-Pos Board B558
MATRIX RIGIDITY MYOSIN-II AND LAMIN-A REGULATE CURVATURE INDUCED NUCLEAR RUPTURE CAUSING REPAIR FACTOR MISLOCALIZATION AND DNA DAMAGE. **Yuntao Xia**, Jerome Irianto, Kuangzheng Zhu, Cory Alvey, Lucas Smith, Charlotte Pfeifer, Dennis Discher

2543-Pos Board B559
STRESS FIBER SUBPOPULATIONS HAVE DISTINCT VISCOELASTIC PROPERTIES AND ROLES IN MAINTAINING CYTOSKELETAL TENSION. **Stacey Lee**, Sanjay Kumar

2544-Pos Board B560
MULTISCALE MODELING OF TIP-FORMATION AND DAMAGE OF RED BLOOD CELLS SQUEEZING THROUGH SUBMICRON SLITS. **Huijie Lu**, Zhangli Peng

2545-Pos Board B561
INFLUENCE OF EXTRACELLULAR MATRIX STIFFNESS ON MODULATING THE PHENOTYPE OF MACROPHAGE. **Yung-Chu Chuang**, Hsaio-Ming Chang, Yu-Ming Chen, Chong-Chun Liao, Hou-Chun Huang, Shan-Rong Wu, Chi-Shuo Chen

2546-Pos Board B562
ROTATIONAL MICROSCOPE VISUALIZES CELL MECHANICS UNDER HIGH GRAVITY CONDITION. **Masatoshi Morimatsu**, Keiji Naruse

2547-Pos Board B563
MECHANOSENSING TO PROTECT THE GENOME FROM DNA DAMAGE DURING DEVELOPMENT. **Sangkyun Cho**, Stephanie Majkut, Amal Abbas, Ken Vogel, Manasvita Vashisth, Jerome Irianto, Manorama Tewari, Andrea Liu, Ben Prosser, Dennis E. Discher

2548-Pos Board B564 **EDUCATION TRAVEL AWARDEE**
MAPPING THE MECHANICAL CROSS-TALK BETWEEN EPIDERMAL GROWTH FACTOR RECEPTOR AND FOCAL ADHESION FORMATION. **Tejeshwar C. Rao**, Tara M. Urner, Victor Pui-Yan Ma, Khalid Salaita, Alexa L. Mattheyses

2549-Pos Board B565
SINGLE-CELL MECHANICAL PHENOTYPE IS AN INTRINSIC MARKER OF REPROGRAMMING AND DIFFERENTIATION ALONG THE NEURAL LINEAGE. **Marta Urbanska**, Maria Winzi, Katrin Neumann, Shada Abuhattum, Philipp Rosendahl, Paul Müller, Anna Taubenberger, Konstantinos Anastassiadis, Jochen Guck

2550-Pos Board B566
IS SUN2 AUTOINHIBITED? **Zeinab Jahed**, Uyen T. Vu, Darya Fadavi, Samuel C.J. Kim, Mohammad R.K. Mofrad

2551-Pos Board B567
CORRELATION AND DIFFERENTIATION BASED ALGORITHMS FOR CELL MOBILITY QUANTIFICATION. **Andreas W. Henkel**, Lulwa Al Abdullah, Zoran B. Redzic

2552-Pos Board B568
MIGRATION AND CONTRACTION OF FIBROBLASTS FROM NORMAL AND SCAR VOCAL FOLDS WITH APPLICATIONS TO WOUND HEALING. **Anete Branco**, Aashrith Saraswathibhatla, Jacob Notbohm, Susan Thibeault

2553-Pos Board B569
CONTROLLING CANDIDATE PHYSICAL INPUTS TO THE SPINDLE ASSEMBLY CHECKPOINT. **Jonathan A. Kuhn**, Eline G. Ter Steege, Sophie Dumont

2554-Pos Board B570
MECHANICAL RELAXATION OF ALPHA-ACTININ IN THE CELLULAR CYTOPLASM PROBED WITH MAGNETIC TWEEZERS. **Christopher C. Sitaras**, Allen J. Ehrlicher

2555-Pos Board B571
PROBING HOW THE MAMMALIAN KINETOCHORE HOLDS ON TO GROWING VERSUS SHRINKING MICROTUBULES. **Alexandra F. Long**, Dylan B. Udy, Pooja Suresh, Sophie Dumont

2556-Pos Board B572
INERTIAL MICROCAVITATION AS A NEURAL CELL DAMAGE MECHANISM IN A 3D *IN VITRO* MODEL OF BLAST TRAUMATIC BRAIN INJURY. **Harry C. Cramer III**, Jonathan B. Estrada, Mark T. Scimone, Christian Franck

2557-Pos Board B573
CELLULAR CONTRACTION CAN DRIVE RAPID EPITHELIAL FLOWS. **Alex Hamby**

2558-Pos Board B574
DISTINCT RELAXATION TIMESCALES OF NEURITES REVEALED BY MICRORHEOLOGY AND RELAXATION TESTS. **Chao Fang**

2559-Pos Board B575
INFLUENCE OF MECHANICAL ENVIRONMENTAL FACTORS ON CELL MIGRATION PHENOMENON. **Zbigniew Baster**, Tomasz Witko, Zenon Rajfur

2560-Pos Board B576
ELECTROTACTIC MIGRATION OF CHONDROCYTES IN A 3D COLLAGEN MATRIX. **Joshua Bush**, Xavier Palmer, Anthony Asmar, Michael Stacey

2561-Pos Board B577
USING FLIM-FRET TO MEASURE FORCE IN ZEBRAFISH EMBRYOS USING AN EPCAM-EMBEDDED MOLECULAR TENSION SENSOR. **Melanie R. Malinas**

2562-Pos Board B578
MODELLING THE DYNAMICS AND DISTRIBUTIONS OF FOCAL ADHESIONS. **Laurent MacKay**

2563-Pos Board B579
SPATIOTEMPORAL CHANGE IN CELL STIFFNESS DURING EARLY EMBRYOGENESIS INVESTIGATED BY ATOMIC FORCE MICROSCOPY. **Yuki Fujii**, Taichi Imai, Wataru Koizumi, Kohji Hotta, Kotaro Oka, Takaharu Okajima

Energy Transduction Involving Light Harvesting, and Electron and Proton Transfer (Boards B580–B600)

2564-Pos Board B580
EVOLUTIONARY TRADEOFFS IN EFFICIENCY AND TURNOVER RATE FOR F0F1-ATPASE. **Jason A. Wagoner**, Ken Dill

2565-Pos Board B581
A THEORY FOR RATE CONSTANTS IN ROTATION TRAJECTORIES OF F1-ATPASE. **Sandor Volkan-Kacso**, Rudolph Marcus

2566-Pos Board B582
ISOLATION AND CHARACTERIZATION OF A NOVEL ATPASE-PHOTOSYSTEM I REACTION CENTER COMPLEX IN THE CHLOROPLAST THYLAKOID MEMBRANE. **Satarupa Bhaduri**

2567-Pos Board B583
STRUCTURAL DETERMINATION OF BEEF HEART MITOCHONDRIAL CYTOCHROME *C* OXIDASE IN SMALL UNILAMELLAR LIPOSOMES USING SMALL-ANGLE NEUTRON SCATTERING (SANS). **Lawrence J. Prochaska**, Kenneth A. Rubinson, Christine N. Pokalsky

2568-Pos Board B584
FLUORESCENCE LIFETIME IMAGINGS SHOWS THAT RESPIRATORY SUPERCOMPLEXES CHANGE WITH DIFFERENT METABOLIC CONDITIONS. **Karin B. Busch**

2569-Pos Board B585
EPR DETECTION OF RADICAL(S) IN CYTOCHROME C OXIDASE. **Daniel Jancura**, Marian Fabian

2570-Pos Board B586
O-O BOND FORMATION IN PHOTOSYSTEM II OXYGEN EVOLVING COMPLEX. **Yulia Pushkar**, Scott Jensen, Katherine Davis

2571-Pos Board B587
GRAVITATIONAL STRAIN AS A DRIVING MECHANISM FOR CELL METABOLISM. **Steve Thorne**

2572-Pos Board B588
ELUCIDATING THE 30-YEAR-LONGSTANDING BIOENERGETIC MYSTERY IN ALKALOPHILIC BACTERIA. **James W. Lee**

2573-Pos Board B589
ATOMIC-LEVEL CHARACTERIZATION OF THE STRUCTURAL DYNAMICS OF AZURIN VARIANTS WITH TUNED REDUCTION POTENTIALS. Anthony T. Meger, Steven M. Berry, **Alessandro Cembran**

2574-Pos Board B590
DISSIPATION IN A SEQUENCE OF RELAXATIONS: THE LADDER THEOREM. **Peter Salamon**, Ty N.F. Roach, Forest L. Rohwer

2575-Pos Board B591
DIRECT OBSERVATION OF POLARIZATION IN SHORT HYDROGEN BONDS DUE TO PROTON DELOCALIZATION. **Chi-Yun Lin**, Steven G. Boxer

2576-Pos Board B592
MIMICKING NATURAL PHOTOSYNTHESIS: CHARGE TRANSFER IN PPCA-RU(BPY)$_3$ COMPLEXES. **Daniel R. Marzolf**, Matthew O'Malley, Coleman Swaim, Oleksandr Kokhan

2577-Pos Board B593
REGULATING PHOTONIC PROPERTIES OF LAMELLAR CHLOROPLAST AND THE ENVIRONMENTAL ADAPTION. **Ming-Chih Shih**, Ping-Yun Tsai, Ming-Huang Wu, Jiannyeu Chen, Chiou-Rong Sheue

2578-Pos Board B594
IDENTIFICATION OF RED PIGMENTS IN THE PHOTOSYSTEM I COMPLEX OF OXYGENIC PHOTOSYNTHESIS. **Yuval Mazor**, Hila Toporik, Su Lin

2579-Pos Board B595
Education Travel Awardee
A MULTISCALE MODEL OF PHOTOSYNTHESIS. **Doran I.G. Bennett**, Graham R. Fleming, Kapil Amarnath

2580-Pos Board B596
MOLECULAR DYNAMCIS OF LIGHT-HARVESTING COMPLEX II EMBEDDED IN THE THYLAKOID MEMBRANE. **Sebastian Thallmair**, Petteri A. Vainikka, Siewert-Jan Marrink

2581-Pos Board B597 **EDUCATION TRAVEL AWARDEE**
INCREASE IN DYNAMICAL COLLECTIVITY AND DIRECTIONALITY OF ORANGE CAROTENOID PROTEIN IN THE PHOTO-PROTECTIVE STATE. **Yanting Deng**, Catherine H. Luck, Tod D. Romo, Alan M. Grossfield, Sepalika Bandara, Zhong Ren, Xiaojing Yang, Andrea G. Markelz

2582-Pos Board B598
SINGLE-MOLECULE MEASUREMENTS OF QUENCHING AND PHOTOPHYSICAL HETEROGENEITY IN PHYCOBILIPROTEINS. **Allison H. Squires**, Peter D. Dahlberg, Haijun Liu, Robert E. Blankenship, W.E. Moerner

2583-Pos Board B599
REMOVAL OF B800 BACTERIOCHLOROPHYLL *A* FROM TWO STRUCTURE-DETERMINED LIGHT-HARVESTING PROTEINS 2 IN PURPLE PHOTOSYNTHETIC BACTERIA. **Yoshitaka Saga**, Keiya Hirota

2584-Pos Board B600
QUANTUM DOT-BASED FLUORESCENCE RESONANCE ENERGY TRANSFER THROUGH EXCITON DYNAMICS IN DNA-TEMPLATED J-AGGREGATES. **Sarthak Mandal**, Xu Zhou, Nour Eddine Fahmi, Su Lin, Hao Yan, Neal Woodbury

Diffraction and Scattering Techniques (Boards B601–B606)

2585-Pos Board B601
DEVELOPMENT OF ADVANCED DIFFRACTED X-RAY TRACKING FOR SINGLE MOLECULE INTRA- DYNAMICS WITH LOW DOSE AND WIDE ANGULAR DYNAMIC RANGE. **Hiroshi Sekiguchi**, Koki Aoyama, Yuji C. Sasaki

2586-Pos Board B602
NOVEL IN VIVO OBSERVATIONS OF SINGLE PROTEIN MOTIONS USING LABORATORY X-RAY SOURCE. **Yuji C. Sasaki**, M Kuramochi, H. Sekiguchi, K. Mio

2587-Pos Board B603
DYNAMICS OF MULTICELLULAR ASSEMBLIES MEASURED BY COHERENT LIGHT SCATTERING. **Benjamin Brunel**

2588-Pos Board B604
ULTRA-EFFICIENT MICROMIRROR TOTAL INTERNAL REFLECTION MICROSCOPE WITH NM SPATIAL PRECISION AND MICROSECOND TEMPORAL RESOLUTION. **Xuanhui Meng**, Daniel Cole, Gavin Young, Anne Schumacher, Philipp Kukura

2589-Pos Board B605
THE HIGH RESOLUTION DIFFRACTION BEAMLINE P08 AT PETRA III EXPANDED TOWARDS A PLATFORM FOR STRUCTURE CHARACTERIZATION OF ORGANIC LIQUID SURFACES–RESULTS FROM LIPID MONOLAYERS. Florian Bertram, Gerald Brezesinski, Olof Gutowski, Beate Klösgen, Milena Lippmann, Uta Ruett, **Chen Shen**

2590-Pos Board B606
NE-CAT: CRYSTALLOGRAPHY BEAMLINES FOR CHALLENGING STRUCTURAL BIOLOGY RESEARCH. **Surajit Banerjee**, Malcolm Capel, Igor Kourinov, Anthony Lynch, Frank Murphy, David Neau, Kay Perry, Kanagalaghatta Rajashankar, Cynthia Salbego, Jonathan Schuermann, Narayanasami Sukumar, James Withrow, Steve Ealick

Molecular Dynamics II (Boards B607–B632)

2591-Pos Board B607
A DYNAMICAL MODEL FOR INSULIN DEGRADING ENZYME CONFORMATIONAL TRANSITION BETWEEN CLOSED AND OPEN STATES. **Michael F. Cronin**, Wookyung Yu, Wei-Jen Tang, Esmael J. Haddadian

2592-Pos Board B608
CHARACTERIZATION OF THE CLUSTERING OF PI(4,5)P_2-CLUSTERS: ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS AND GRAPH-THEORETIC ANALYSIS. **Kyungreem Han**, Richard M. Venable, Katrice McLoughlin, Arne Gericke, Richard W. Pastor

2593-Pos Board B609
THE ROLE OF HYDROPHOBIC INTERACTIONS AND WATER DYNAMICS AROUND DYSTROPHIN SPECTRIN REPEATS. **Sarah Moe**, Alessandro Cembran

2594-Pos Board B610
SOLVENT IONS ADVERSELY AFFECT BINDING OF PHLIP TO BILAYER SURFACES. **Chitrak Gupta**, Blake Mertz

2595-Pos Board B611
SOLUTION PROPERTIES OF COMPLEX SHAPE POLYMERS. **Beatriz Pazmino Betancourt**

2596-Pos Board B612
RAPID FOLDING OF TRP-CAGE IN IONIC LIQUID: IMPLICATIONS IN PROTEIN RENATURATIONS. **Mohammad H. Rahman**, Kalpanna Manne, Sanjib Senapati

2597-Pos Board B613
ELECTRIC FIELDS AND FAST PROTEIN DYNAMICS IN ENZYMES. **Ioanna Zoi**, Steven Schwartz

2598-Pos Board B614
A MULTI-SCALE MODEL FOR INSULIN SELF-ASSOCIATION RATES AND OLIGOMERIZATION KINETICS . **Rit P. Mishra**, Richa Singh, Tirumalarao Kotni, Gaurav Goel

2599-Pos Board B615 **EDUCATION TRAVEL AWARDEE**
ACCURATE REFOLDING OF EXPERIMENTALLY DETERMINED PROTEIN MECHANICAL UNFOLDING INTERMEDIATES VIA ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS. **David Wang**, Piotr Marszalek

2600-Pos Board B616
RING OPENING MECHANISM OF EPOXIDE INHIBITORS IN ASPARTATE PROTEASES: A QM/MM STUDY. **Mohd Ahsan**, Sanjib Senapati

2601-Pos Board B617
FREE-ENERGY LANDSCAPE OF AMYLOID-BETA PEPTIDES. **Apichart Linhananta**

2602-Pos Board B618
THE CHANGE IN REACTION COORDINATE INDUCED BY DIRECTED EVOLUTION OF SYNTHETIC ENZYMES. **Xi Chen**

2603-Pos Board B619
COMPUTATIONAL ANALYSIS OF SMALL BIOLOGICAL MOLECULES AS A PHYSICS PROBLEM. **Yuly E. Sánchez**, Jose M. Jimenez

2604-Pos Board B620
COLLOIDAL NANOPARTICLE TRANSLOCATION THROUGH NANOPORES: EFFECT OF EXTERNAL ELECTRIC FIELD. **Nazar Ileri-Ercan**

2605-Pos Board B621
INVESTIGATING THE DYNAMICS OF DESIGNED LIGAND-BINDING PROTEINS. **Emilia Pecora de Barros**, Rommie E. Amaro

2606-Pos Board B622
THE LOCALIZATION OF BIOLOGICAL COMPOUNDS ON THE SOFT INTERFACE OF MICRODROPLET MAY ANSWER THE ACCELERATED REACTION RATES INSIDE MICRODROPLET. **SangMoon Lhee**, Sunhee Kim, Hong Gil Nam

2607-Pos Board B623
DIFFUSION OF PROTEINS AND LIPIDS IN MEMBRANES CORRECTED FOR FINITE-SIZE EFFECTS. **Martin Vögele**, Jürgen Köfinger, Gerhard Hummer

2608-Pos Board B624
THERMODYNAMICS OF MEMBRANE PARTITIONING AND FOLDING OF AN ANIONIC CELL-PENETRATING PEPTIDE. **Austin R. Clark**, Zachary Bonham, Blake Mertz

2609-Pos Board B625
MOLECULAR SIMULATIONS OF LIPID ELECTROPORE FORMATION AND PORE-MEDIATED CALCIUM TRANSPORT WITH AN IMPROVED CA^{2+} MODEL. **Federica Castellani**, P. Thomas Vernier

2610-Pos Board B626
COMPARING STRUCTURE STABILITY BETWEEN EARTH AND SUBSURFACE OCEAN ON TITAN USING MOLECULAR DYNAMICS SIMULATION. **Kyle Martin**, Shannon MacKenzie, Jason Barnes, F. Marty Ytreberg

2611-Pos Board B627
A COMPUTATIONAL AND EXPERIMENTAL STUDY OF CRYSTALLIZATION-DRIVEN SELF-ASSEMBLY AND MICELLE FORMATION IN POLY(ETHYLENE GLYCOL)-B-OLIGO(ETHYLENE SULFIDE). **Emre S. Sevgen**, Juan J. de Pablo, Jeffrey A. Hubbell

2612-Pos Board B628
SIMULATED STRAIN RESPONSE OF TWO-DIMENSIONAL BETA-SOLENOID PROTEIN LATTICE. **Rachel A. Baarda**, Daniel L. Cox

2613-Pos Board B629
DEVELOPED POTENTIAL ACROSS THE BILAYERS UNDER EXTERNAL ELECTRIC FIELD CAUSES ELECTROPORATION. **Amit Kumar Majhi**

2614-Pos Board B630
MOLECULAR DYNAMIC AND FREE ENERGY ANALYSIS OF DOXORUBICIN AND DNA COMPLEX. **Bahaa Jawad**, Lokendra Poudel, Wai-Yim Ching

2615-Pos Board B631
ANOMALOUS DIFFUSION AS SEEN THROUGH THE LENS OF INVERTED VARIABLE LENGTH SCALE FCS. **Michael Stolle**, Cecile Fradin

2616-Pos Board B632
DETERMINING THE INTERACTION ENTHALPY OF SIDE CHAIN AND BACKBONE AMIDES IN POLYGLUTAMINE MONOMERS AND FIBRILS. **Riley J. Workman**, Jeffrey D. Evanseck

Optical Microscopy and Superresolution Imaging: Novel Approaches and Analysis II (Boards B633–B657)

2617-Pos Board B633
IDENTIFYING THE AXIAL LOCATION OF PROTEINS AT THE NUCLEAR ENVELOPE WITH NANOMETER RESOLUTION. **Siddarth Reddy Karuka**, Jared Hennen, G. W. Gant Luxton, Joachim D. Mueller

2618-Pos Board B634
STUDYING BIOMOLECULAR SYSTEMS BEYOND THE DIFFRACTION LIMIT WITH MOLECULAR RESOLUTION BY STED-MFIS MICROSCOPY. **Jan H. Budde**, Ralf Kühnemuth, Claus A. M. Seidel

2619-Pos Board B635
SUPER RESOLUTION METHOD FOR FLUORESCENT IMAGE DECONVOLUTION. Sandra R. Martínez, **Micaela Toscani**, Oscar E. Martínez

2620-Pos Board B636
A PROTEIN TAG-SPECIFIC APTAMER FOR USE IN DSTORM AND PAINT BASED SUPERRESOLUTION IMAGING. **Juan Wang**, Avtar Singh, Warren Zipfel

2621-Pos Board B637
A RED FLUORESCENT PROTEIN FOR CRYOGENIC SINGLE-MOLECULE SUPERRESOLUTION IMAGING. **Annina M. Sartor**, Peter D. Dahlberg, Jiarui Wang, Lucy Shapiro, W. E. Moerner

2622-Pos Board B638
FLUORESCENCE MICROSPECTROSCOPY WITH NANOMETER PEAK POSITION RESOLUTION: NOVEL APPLICATIONS OF ENVIRONMENT-SENSITIVE PROBES. **Zoran Arsov**, Iztok Urbancic

2623-Pos Board B639
BOOSTING THE LOCALIZATION PRECISION IN SUPERRESOLUTION MICROSCOPY: BOOSTORM. **Hannah S. Heil**, Benjamin Schreiber, Marie-Christine Dabauvalle, Georg Krohne, Sven Höfling, Martin Kamp, Markus Sauer, Katrin G. Heinze

2624-Pos Board B640
FORCE SPECTROSCOPY OF PHAGOCYTOSIS WITH HIGH FRAME RATE 3D LIGHT SHEET IMAGING. **Evan Nelsen**, Chad Hobson, Joe Hsiao, Michael Falvo, Edward T. O'Brien III, Takashi Watanabe, Klaus Hahn, Richard Superfine

2625-Pos Board B641
BACTERIAL PROTEINS ASSOCIATED WITH CELL SHAPE HOMEOSTASIS LOCALIZE TO SPECIFIC 3D GEOMETRIES. **Benjamin P. Bratton**, Zemer Gitai, Joshua W. Shaevitz

2626-Pos Board B642
UNCOVERING HIDDEN DYNAMICS IN LIVE-CELL SINGLE MOLECULE DATA WITH BAYESIAN STATISTICS. **Josh D. Karslake**, Lucas Demey, Victor DiRita, Julie S. Biteen

2627-Pos Board B643
INVESTIGATING THE HETEROMERIZATION OF METABOTROPIC GLUTAMATE RECEPTORS USING A NOVEL SINGLE MOLECULE IMAGING METHOD. **Alexander L. Van Slyke**, Avtar Singth, Nitya Deshmukh, Paul J. Kammermeier, Warren R. Zipfel

2628-Pos Board B644
COORDINATION OF MOLECULAR MOTORS DURING LONG-DISTANCE AXONAL TRANSPORT. **Bianxiao Cui**, Luke Kaplan, Praveen Chowdary

2629-Pos Board B645
QUANTITATIVE ULTRA-FAST FLIM. **Marcelle Koenig**, Rhys Dowler, Paja Reisch, Ben Kraemer, Sandra Orthaus, Marcus Sackrow, Matthias Patting, Tino Roehlicke, Hans-Juergen Rahn, Michael Wahl, Felix Koberling, Rainer Erdmann

2630-Pos Board B646
SINGLE-MOLECULE PROTEIN IDENTIFICATION THROUGH PEPTIDE CHAIN BARCODING AND OPTICAL READOUT. **Mingjie Dai**, James MacDonald, Fred Vigneault, Erik Hernandez, Darren Yang, Wesley Wong, Peng Yin

2631-Pos Board B647
MULTIPLE EMITTER FITTING AND STRUCTURED BACKGROUND DETECTION USING REVERSIBLE JUMP MARKOV CHAIN MONTE CARLO. **Mohamadreza Fazel**, Marjolein B.M. Meddens, Michael J. Wester, Keith A. Lidke

2632-Pos Board B648
LIGHT FIELD LC-POLSCOPE. **Mai Tran**, Rudolf Oldenbourg

2633-Pos Board B649
FLIM-FRET OF CHROMATIN IN LIVE CELLS USING TWO DNA-BINDING DYES. **Simone Pelicci**, Michele Oneto, Melody Di Bona, Alberto Diaspro, Luca Lanzanò

2634-Pos Board B650
LOCKED EXPANSION MICROSCOPY TO IN SITU ANALYZE MICROBIAL COMMUNITIES. **Youngbin Lim**, Margarita Khariton, Samuel Bray, Katharine Ng, Anthony Shiver, Kerwyn C. Huang, Bo Wang

2635-Pos Board B651
HIGH-DIMENSIONAL MRNA AND PROTEIN CONTENT MEASUREMENTS IN SINGLE CELLS WITH SINGLE-MOLECULE SENSITIVITY. **Daniel M. Kalb**, Samantha Hiroshini Adikari, Pulak Nath, Elizabeth Hong-Geller, James H. Werner

2636-Pos Board B652
A MATLAB-BASED INSTRUMENT CONTROL PACKAGE FOR FLUORESCENCE IMAGING. **Sandeep Pallikkuth**, Marjolein Meddens, Mohamad Fazel, Hanieh Farsibaf, Farzin Farzam, Michael Wester, Keith Lidke

TUESDAY

2637-Pos Board B653
SCATTERING OF EVANESCENT ILLUMINATION BY SAMPLE INHOMOGENEITIES IN TIRF MICROSCOPY: A THEORETICAL STUDY. Jeremy J. Axelrod, **Daniel Axelrod**

2638-Pos Board B654
ADAPTIVE OPTICS IN DEEP TISSUE MICROSCOPY. **Simon W. Leemans**, Alexander Dvornikov, Enrico Gratton

2639-Pos Board B655
QUANTITATIVE IMAGE RESTORATION IN BRIGHT FIELD MICROSCOPY. **Braulio Gutierrez-Medina**

2640-Pos Board B656
PRIMED GREEN-TO-RED PHOTOCONVERSION OF FLUORESCENT PROTEINS OCCURS VIA A TRIPLET STATE. **Karin Nienhaus**, Manuel A. Mohr, Andrei Yu. Kobitski, Lluc Rullan Sabater, Christopher J. Obara, Jennifer Lippincott-Schwartz, G. Ulrich Nienhaus, Periklis Pantazis

2641-Pos Board B657
AIRYSCAN COMPREHENSIVE SUPERRESOLUTION CORRELATION ANALYSIS. **Lorenzo Scipioni**, Alberto Diaspro, Luca Lanzanò, Enrico Gratton

Optical Microscopy and Superresolution Imaging: Applications to Cellular Molecules II (Boards B658–B687)

2642-Pos Board B658
CYTOSOLIC ASSEMBLY AMONG BACTERIAL TYPE 3 SECRETION SYSTEM PROTEINS REVEALED BY HIGH-THROUGHPUT SINGLE-MOLECULE TRACKING. **Julian Rocha**, Charles Richardson, Mingxing Zhang, Andreas Diepold, Andreas Gahlmann

2643-Pos Board B659
EFFECT OF EPITHELIAL-MESENCHYMAL TRANSITION ON EGFR DYNAMICS REVEALED BY SINGLE-PARTICLE TRACKING. **Yen-Liang Liu**, Chao-Kai Chou, Mirae Kim, Rohan Vasisht, Cong Liu, Evan P. Perillo, Hannah Horng, Mien-Chie Hung, Andrew K. Dunn, Tim Yeh

2644-Pos Board B660
NANOSCALE DYNAMICS AND NUCLEAR ENVELOPE ORGANIZATION OF THE MUSCULAR DYSTROPHY RELATED PROTEIN EMERIN. **Anthony M. Fernandez**, Markville Bautista, Fabien Pinaud

2645-Pos Board B661
VARIABLE-ANGLE TOTAL INTERNAL REFLECTION FLUORESCENCE MICROSCOPY: EXPLORING INTEGRIN-MEDIATED ADHESION. **Dalia El Arawi**, Cyrille Vézy, Monique Dontenwill, Maxime Lehmann, Rodolphe Jaffiol

2646-Pos Board B662
SUPERRESOLUTION MICROSCOPY OF THE T CELL RECEPTOR IN THE IMMUNOLOGICAL SYNAPSE. **Florian Baumgart**, Benedikt K. Rossboth, Andreas M. Arnold, Mario Brameshuber, Haisen Ta, René Platzer, Johannes B. Huppa, Gerhard J. Schütz

2647-Pos Board B663
STUDY OF TUMOR CELLULAR DAMAGE INDUCED BY PHOTOSENSITIZING MOLECULES. **Marco Cozzolino**, Luca Pesce, Michele Oneto, Chiara Montali, Paolo Bianchini, Stefania Abbruzzetti, Cristiano Viappiani, Alberto Diaspro

2648-Pos Board B664
MANNAN MOLECULAR SUB-STRUCTURES CONTROL NANOSCALE GLUCAN EXPOSURE IN CANDIDA. Matthew S. Graus, Michael Wester, Douglas W. Lowman, David L. Williams, Michael D. Kruppa, Jesse M. Young, Harry C. Pappas, Keith A. Lidke, **Aaron K. Neumann**

2649-Pos Board B665
STED NANOSCOPY OF THE CENTROSOME LINKER REVEALS A CEP68-ORGANIZED, PERIODIC ROOTLETIN NETWORK ANCHORED TO A C-NAP1 RING AT CENTRIOLES. **Rifka Vlijm**, Xue Li, Marko Panic, Diana Rüthnick, Shoji Hata, Frank Herrmannsdörfer, Thomas Kuner, Mike Heilemann, Johann Engelhardt, Stefan W. Hell, Elmar Schiebel

2650-Pos Board B666
QUANTITATIVE MICROSCOPY PIPELINE FOR BUILDING A MODEL OF THE HUMAN CELL. **Winfried Wiegraebe**, Allen Institute for Cell Science Team

2651-Pos Board B667
EXPANSION MICROSCOPY: A TOOL TO INVESTIGATE HUTCHINSON-GILFORD PROGERIA SYNDROME AT MOLECULAR LEVEL. **Luca Pesce**, Marco Cozzolino, Luca Lanzanò, Alberto Diaspro, Paolo Bianchini

2652-Pos Board B668
SINGLE MOLECULE IMAGING OF CHROMATIN REMODELING IN LIVE CELLS. Charles A. Kenworthy, Vincent Wong, Patrycja Dziuba, Luke D. Lavis, Wei-Li Liu, Robert H. Singer, **Robert A. Coleman**

2653-Pos Board B669
STUDYING VARIATIONS IN CEACAM1 NANOSCALE ORGANIZATION, STRUCTURE, AND DYNAMICS. **Amine Driouchi**, Christopher M. Yip

2654-Pos Board B670
SINGLE MOLECULE STUDY OF THE MECHANISM OF ATTACK OF THE HUMAN ANTIMICROBIAL PEPTIDE LL-37 ON *E. COLI*. **Yanyu Zhu**, Sonisilpa Mohapatra, James Weisshaar

2655-Pos Board B671
SPATIAL DISTRIBUTION OF H-NS IN E.COLI UNDER ENVIRONMENTAL STRESS. **Nafiseh Rafiei**, William Navarre, Joshua N. Milstein

2656-Pos Board B672
3D SINGLE-MOLECULE TRACKING OF CONFINED DIFFUSERS: RESOLVING INTRACELLULAR DIFFUSIVE STATES IN LIVING BACTERIAL CELLS. Ting Yan, Julian Rocha, Alecia Marie Achimovich, **Andreas Gahlmann**

2657-Pos Board B673 **INTERNATIONAL TRAVEL AWARDEE**
SINGLE VIRION SUPERRESOLUTION MICROSCOPY UNVEILS MECHANISTIC DETAILS OF ENV GLYCOPROTEIN RECOGNITION BY THE BROADLY NEUTRALIZING HIV-1 ANTIBODIES 4E10 AND 10E8. **Pablo Carravilla**, Edurne Rujas, Itziar R Oar-Arteta, Sara Insausti, Eneko Largo, Jakub Chojnacki, Taylor Sicard, Jean-Philippe Julien, Christian Eggeling, Nerea Huarte, José Requejo-Isidro, José L Nieva

2658-Pos Board B674
STRUCTURE AND DYNAMICS OF THE TRYPANOSOME PLASMA MEMBRANE. Marius Glogger, Markus Engstler, **Susanne Fenz**

2659-Pos Board B675
BIOLUMINESCENCE RESONANCE ENERGY TRANSFER (BRET)-BASED IMAGING OF G-PROTEIN COUPLED RECEPTOR SIGNALING AND TRAFFICKING. **Hiroyuki Kobayashi**, Louis-Philippe Picard, Anne-Marie Schönegge, Michel Bouvier

2660-Pos Board B676
QUANTITATIVE SUPERRESOLUTION IMAGING REVEALS MAMMALIAN GLYCOCALYX DYNAMICS. **Leonhard Moeckl**, Kayvon Pedram, Anish Roy, Carolyn Bertozzi, William Esco Moerner

2661-Pos Board B677
TIME RESOLVED INTENSITY PHOTOBLEACHING–A NOVEL METHOD FOR STUDYING PROTEINS IN LIVE CELLS. **Yuval Garini**, Eugene Brozgol

2662-Pos Board B678 **INTERNATIONAL TRAVEL AWARDEE**
THE MICROSCOPIC STRUCTURE OF CRUNCHY AND CRISPY JELLYFISH. Mie T. Pedersen, Morten Christensen, Lars Duelund, Per L. Hansen, Jonathan R. Brewer, **Mathias P. Clausen**

2663-Pos Board B679
MOLECULAR MECHANISM OF ANTIMICROBIAL ACTIVITY OF LOW DC VOLTAGE AGAINST E.COLI. **Venkata Rao Krishnamurthi**, Ariel Rogers, Janet Peifer, Yong Wang

2664-Pos Board B680
DETERMINING HOW PEMPHIGUS VULGARIS IMPACTS THE NANOSCALE ARCHITECTURE OF DESMOSOMES. **Tara Urner**, Emily Bartle, Tejeshwar Rao, Andrew Kowalczyk, Alexa Mattheyses

2665-Pos Board B681
SUPERRESOLUTION IMAGING OF DNA REPLISOME DYNAMICS IN LIVE *BACILLUS SUBTILIS*. **Yilai Li**, Jeremy W. Schroeder, Yi Liao, Ziyuan Chen, Lyle A. Simmons, Julie S. Biteen

2666-Pos Board B682
3D ARCHITECTURAL RECONSTRUCTION OF MAMMALIAN CENTRIOLE DISTAL APPENDAGES USING SUPERRESOLUTION MICROSCOPY. T Tony Yang, Weng Man Chong, Zhengmin Chen, Meng-Fu Bryan Tsou, **Jung-Chi Liao**

2667-Pos Board B683
IN SITU IMAGING OF SPATIAL ORGANIZATION OF ACCESSIBLE CHROMATIN AT THE NANOSCALE WITH ATAC-SEE AND SINGLE-MOLECULE SUPERRESOLUTION FLUORESCENCE MICROSCOPY. **Maurice Y. Lee**, Xingqi Chen, Anna-Karin Gustavsson, Howard Y. Chang, W. E. Moerner

2668-Pos Board B684
QUANTITATIVE SUPERRESOLUTION MICROSCOPY OF PROTEINS AT THE SYNAPTIC LEVEL. **Silvia Scalisi**, Andrea Barberis, Enrica Maria Petrini, Alberto Diaspro, Francesca Cella Zanacchi

2669-Pos Board B685
STUDYING PROTEIN DYNAMICS AND ORGANIZATION IN LIVE CELL MEMBRANES BY IMAGING FCS AND SOFI/SRRF ANALYSES. **Xue Wen Ng**, George Barbastathis, Thorsten Wohland

2670-Pos Board B686
QUANTITATIVE SUPERRESOLUTION MICROSCOPY DETECTS HER2 REORGANIZATION FOLLOWING MEDITOPE-ANTIBODY TREATMENT. **Devin L. Wakefield**, Raphael Jorand, Cindy Zer, John C. Williams, Tijana Jovanovic-Talisman

2671-Pos Board B687
DIRECT DETECTION OF ER-MITOCHONDRIAL CONTACTS WITH FULLY QUANTIFIED FLUORESCENCE MICROSCOPY. **Christopher R. King**, Jennifer Lippincott-Schwartz

Bioengineering II (Boards B688–B696)

2672-Pos Board B688
QUANTITATIVE CHARACTERIZATION OF GEL ELECTROPHORESIS IMAGES. **Riccardo Ziraldo**, Massa J. Shoura, Stephen D. Levene

2673-Pos Board B689
FRACTIONATION OF HUMAN RED BLOOD CELLS BASED ON INTRINSIC MAGNETIZATION. **Jeffrey Chalmers**

2674-Pos Board B690
BLOOD CLOT CONTRACTION IS REDUCED IN SICKLE CELL DISEASE DUE TO INCREASED RIGIDITY OF ERYTHROCYTES. **Valerie Tutwiler**, Rustem I. Litvinov, Anna D. Protopopova, Chandrasekaran Nagaswami, J Eric Russell, Donald L. Siegel, Carlos H. Villa, Daniel Pan, Vladimir R. Muzykantov, John W. Weisel, John W. Weisel

2675-Pos Board B691
MECHANICAL PHENOTYPING OF ACUTE MYELOID LEUKEMIAS FOR PREDICTING RESPONSE TO RETINOIC ACID. **Brian Li**, Junghyun Kim, Lydia L. Sohn

2676-Pos Board B692
MICROFLUIDIC RHEOLOGY TO STUDY EFFECTS OF CELL CYCLE TO VISCOELASTIC PROPERTIES OF EPITHELIAL CELLS. **Youngbin Kim**, Junghyun Kim, Oliva Scheideler, Emma Cimenelli, Lydia L. Sohn

2677-Pos Board B693
A MARKOV STATE MODEL OF THE SARCOMERE TO EXPLAIN THE EFFECTS OF DATP ON CARDIAC CONTRACTION. **Kimberly J. McCabe**, Yasser Aboelkassem, Sukriti Dewan, Michael Regnier, Andrew D. McCulloch

2678-Pos Board B694
AAV-MEDIATED DELIVERY OF RIBONUCLEOTIDE REDUCTASE AND MICRODYSTROPHIN RESCUES FUNCTION IN DYSTROPHIC MICE. **Jason Murray**, Guy Odom, Sigurast Olafsson, Stephen Hauschka, Jeffrey Chamberlain, Farid Moussavi-Harami, Michael Regnier

2679-Pos Board B695
MICROSCOPY ELECTROPORATION PROBE. Tayyebeh (Azita) Sberbaghi Sberbaghi, **Ebrahim Ghafar-Zadeh**

2680-Pos Board B696
ENHANCING ELECTROTRANSFECTION EFFICIENCY THROUGH IMPROVEMENT IN NUCLEAR ENTRY OF PLASMID DNA. **Lisa D. Cervia**, Chun-Chi Chang, Liangli Wang, Mao Mao, Fan Yuan

Biosurfaces (Boards B697–B704)

2681-Pos Board B697
SPONTANEOUS REDUCTION OF BIOMOLECULES ON THE SURFACE OF WATER DROPLETS. **Jae Kyoo Lee**, Devleena Samanta, Inho Nam, Hong Gil Nam, Richard N. Zare

2682-Pos Board B698
UNRAVELLING THE SECRETS OF CATECHOL-CATION BINDING SYNERGY. **George Degen**, Jacob Israelachvili

2683-Pos Board B699
ROLE OF SALTS AND SURFACES ON ECM CONSTITUENTS IN BIOLOGICAL MEDIA. **Matt McKenzie**, Aravind Rammohan

2684-Pos Board B700
VAPOR-DEPOSITED POROUS POLYMERS FOR THE FABRICATION OF GIANT LIPID VESICLES. **Nareh Movsesian**, Noah Malmstadt, Malancha Gupta

2685-Pos Board B701
ANCHORING GIANT PLASMA MEMBRANE VESICLES TO A SURFACE FOR NOVEL BIOSENSING. **Aomeng Cui**, Daniel E. Oseid, Julie N. L. Albert, Anne S. Robinson

2686-Pos Board B702
TETHERING ANTIBODY ON A PEGYLATED LIPOSOME-LIPID BILAYER TO PROMOTE FLEXIBLE CHAIN MOVEMENT FOR MULTIVALENT ANTIBODY-ANTIGEN INTERACTIONS AND TO MINIMIZE APPLIED FORCE ON CELLS UPON RELEASE. **Po-Ying Yeh**

2687-Pos Board B703
CLK-PEPTIDES AS SUPERIOR SURFACE STABILIZERS FOR SILVER NANO STRUCTURES: ROLE OF PEPTIDE CHAIN LENGTH AND APPLICATIONS IN NANOMEDICINE. **Horacio Poblete**, Manuel Manuel Ahumada, Erik Jacques, Cristina Andronic, Jeffrey Comer, Emilio Alarcon

2688-Pos Board B704
QUANTITATION OF SURFACE-CONJUGATED DNA DENSITY FOR SINGLE-MOLECULE APPLICATIONS. **Theodore Yu**, Yuchen Liang, Stephen D. Levene, Walter Hu

Wednesday, February 21, 2018

Daily Program Summary

All rooms are located in the *Moscone Center* unless noted otherwise.

8:00 AM-11:00 AM	**New Council Meeting**	**South, Level Three, Room 314**
8:00 AM-3:00 PM	**Poster Viewing**	**Exhibit Hall ABC**
8:15 AM-10:15 AM	**Symposium: Transmembrane Signals and Signaling Mechanisms** **Co-Chairs** *William Cramer, Purdue University* *Lynmarie Thompson, University of Massachusetts, Amherst* STRUCTURE AND DYNAMICS OF FUNCTIONAL CHEMOTAXIS RECEPTOR NANOARRAYS BY NMR AND HYDROGEN EXCHANGE. *Lynmarie K. Thompson* TUNING THE SIGNALING OUTPUT OF PROTEIN KINASE C. *Alexandra C. Newton* REDOX DEPENDENT TRANS-MEMBRANE SIGNALING. *William A. Cramer* SERIAL FEMTOSECOND CRYSTALLOGRAPHY OF G PROTEIN-COUPLED RECEPTORS. *Vadim Cherezov*	**North, Lower Lobby, Room 24**
8:15 AM-10:15 AM	**Symposium: Protein Dynamics, Folding, and Allostery II: Dynamics and Function** **Co-Chairs** *Walter Chazin, Vanderbilt University* *Christina Redfield, University of Oxford, United Kingdom* STRUCTURE AND DYNAMICS OF THE CHEY RESPONSE REGULATORS FROM *RHODOBACTER SPHAEROIDES*. *Christina Redfield* PROTEOSTASIS FUNCTION AND DISFUNCTION: THE FOLDING MACHINES THAT MAINTAIN PROTEOME HEALTH. *Judith Frydman* STRUCTURE AND DYNAMICS OF HIV-1 CAPSID ASSEMBLIES: INSIGHTS FROM AN INTEGRATED APPROACH. *Tatyana Polenova* FUNCTIONAL DYNAMICS OF MODULAR MULTI-DOMAIN PROTEINS. *Walter J. Chazin*	**North, Lower Lobby, Room 25**
8:15 AM-10:15 AM	**Platforms: Voltage-gated K Channels II**	**South, Level Two, Room 207/208**
8:15 AM-10:15 AM	**Platform: Optical Microscopy and Superresolution Imaging: Applications**	**South, Level Two, Room 215/216**
8:15 AM-10:15 AM	**Platform: Cardiac Muscle Mechanics, Structure, and Regulation II**	**Esplanade, Room 153**
8:15 AM-10:15 AM	**Platform: Membrane Dynamics and Fusion II**	**Esplanade, Room 154**
8:15 AM-10:15 AM	**Platform: Chaperone-assisted Protein Folding**	**Esplanade, Room 155**
8:15 AM-10:15 AM	**Platform: Endocytosis, Exocytosis, and Intracellular Transport**	**Esplanade, Room 156**
10:30 AM-12:30 PM	**Poster Presentations and Late Posters**	**Exhibit Hall ABC**
1:00 PM-3:00 PM	**Symposium: Biophysical Insights from Surface Engineering** **Co-Chairs** *Deborah Leckband, University of Illinois at Urbana-Champaign* *Kathleen Stebe, University of Pennsylvania* INTERCELLULAR MECHANOTRANSDUCTION. *Deborah Leckband* CELLS SENSE AND RESPOND TO CURVATURE BY PATTERNING STRESS FIBERS AND UNDERGOING CURVATURE GUIDED MIGRATION. *Kathleen Stebe* SPATIO-TEMPORAL CONTROL OF CELLULAR DYNAMICS USING A CELL-FRIENDLY PHOTORESIST. *Junsang Doh* THE INFLUENCE OF MONOLAYER MORPHOLOGY AND DYNAMICS ON LUNG STABILITY. *Joseph A. Zasadzinski*	**North, Lower Lobby, Room 24**

1:00 PM-3:00 PM	**Symposium: Cytoskeletal Motors** **North, Lower Lobby, Room 25** **Co-Chairs** William Hancock, Pennsylvania State University Erica Holzbaur, University of Pennsylvania SINGLE-MOLECULE NANOMECHANICS OF KINESIN AND KINESIN-FAMILY PROTEINS. *Steven M. Block* ALLOSTERIC TUNING OF MYOSIN FORCE GENERATION: NEW AVENUES TOWARDS THERAPEUTICAL TREATMENT. *Anne Houdusse* KINESIN MOTOR DOMAIN DYNAMICS DURING SINGLE-MOTOR STEPPING AND MULTI-MOTOR TRANSPORT. *William O. Hancock* ONE MOTOR, MANY FUNCTIONS: LOCALIZED REGULATION OF CYTOPLASMIC DYNEIN IN NEURONS BY EFFECTOR PROTEINS. *Erika Holzbaur*
1:00 PM-3:00 PM	**Symposium: New and Notable** **South, Level Two, Room 207/208** Co-Chairs Anne Kenworthy, Vanderbilt University School of Medicine Francesca Marassi, Sanford Burnham Prebys Medical Discovery Institute ULTRAFAST GLUTAMATE SENSORS RESOLVE SYNAPTICSHORT-TERM PLASTICITY. *Katalin Torok* THE DYNAMIC ORGANIZATION OF MODIFIED CHROMATINFIBERS REVEALED BY SINGLE-MOLECULE FRET. *Beat Fierz* FUNDAMENTAL TRADE-OFFS BETWEEN INFORMATION FLOWIN SINGLE CELLS AND CELLULAR POPULATIONS. *Eric J. Deeds* NEW TOOLS AND TECHNIQUES FOR MEASURING ANDMANIPULATING CHAIN COLLAPSE IN INTRINSICALLY DISORDERED PROTEINS. *Patricia L. Clark* STRUCTURE OF THE COLD AND MENTHOL SENSOR TRPM8. *Seok-Yong Lee* INTEGRATING X-RAY SCATTERING INTO PROTEINSTRUCTURE PREDICTION. *Susan Tsutakawa*
1:00 PM-3:00 PM	**Platform: Molecular Dynamics II** **South, Level Two, Room 215/216**
1:00 PM-3:00 PM	**Platform: Membrane Protein Dynamics** **Esplanade, Room 153**
1:00 PM-3:00 PM	**Platform: Intrinsically Disordered Proteins (IDP) and Aggregates II** **Esplanade, Room 154**
1:00 PM-3:00 PM	**Platform: Membrane Physical Chemistry II** **Esplanade, Room 155**
1:00 PM-3:00 PM	**Platform: Chromatin and the Nucleoid** **Esplanade, Room 156**

Wednesday, February 21

New Council Meeting

8:00 AM–11:00 AM, South, Level Three, Room 314

Poster Viewing

8:00 AM–3:00 PM, Exhibit Hall ABC

Symposium
Transmembrane Signals and Signaling Mechanisms

8:15 AM–10:15 AM, North, Lower Lobby, Room 24

Co-Chairs
William Cramer, Purdue University
Lynmarie Thompson, University of Massachusetts, Amherst

2689-Symp 8:15 AM
STRUCTURE AND DYNAMICS OF FUNCTIONAL CHEMOTAXIS RECEPTOR NANOARRAYS BY NMR AND HYDROGEN EXCHANGE. Maryam Kashefi, Xuni Li, Elizabeth R. Haglin, **Lynmarie K. Thompson**

2690-Symp 8:45 AM
TUNING THE SIGNALING OUTPUT OF PROTEIN KINASE C. **Alexandra C. Newton**

2691-Symp 9:15 AM
REDOX DEPENDENT TRANS-MEMBRANE SIGNALING. **William A. Cramer**

2692-Symp 9:45 AM
SERIAL FEMTOSECOND CRYSTALLOGRAPHY OF G PROTEIN-COUPLED RECEPTORS. **Vadim Cherezov**

Symposium
Protein Dynamics, Folding, and Allostery II: Dynamics and Function

8:15 AM–10:15 AM, North, Lower Lobby, Room 25

Co-Chairs
Walter Chazin, Vanderbilt University
Christina Redfield, University of Oxford, United Kingdom

2693-Symp 8:15 AM
STRUCTURE AND DYNAMICS OF THE CHEY RESPONSE REGULATORS FROM *RHODOBACTER SPHAEROIDES*. Lorena Varela, Matt Smith, Lukas Stelzl, Christian Bell, Judith Armitage, **Christina Redfield**

2694-Symp 8:45 AM
PROTEOSTASIS FUNCTION AND DISFUNCTION: THE FOLDING MACHINES THAT MAINTAIN PROTEOME HEALTH. **Judith Frydman**

2695-Symp 9:15 AM
STRUCTURE AND DYNAMICS OF HIV-1 CAPSID ASSEMBLIES: INSIGHTS FROM AN INTEGRATED APPROACH. **Tatyana Polenova**

2696-Symp 9:45 AM
FUNCTIONAL DYNAMICS OF MODULAR MULTI-DOMAIN PROTEINS. **Walter J. Chazin**

Platforms
Voltage-gated K Channels II

8:15 AM–10:15 AM, South, Level Two, Room 207/208

Co-Chairs
Ramón Latorre, University of Valparaíso, Chile
Antonios Pantazis, University of California, Los Angeles

2697-Plat 8:15 AM
DETERMINATION OF THE STOICHIOMETRY BETWEEN A AND Γ1 SUBUNITS OF THE BK CHANNEL USING LRET. **Willy R. Carrasquel-Ursulaez**, Osvaldo Alvarez, Francisco Bezanilla, Ramon Latorre

2698-Plat 8:30 AM
RESOLVING THE BK CHANNEL VOLTAGE SENSOR ACTIVATION TRANSITION WITH RELATIVE ATOMIC COORDINATES UNDER PHYSIOLOGICALLY-RELEVANT CONDITIONS. **Antonios Pantazis**, Riccardo Olcese

2699-Plat 8:45 AM
GATING OF BK CHANNELS: ROLES OF THE C-LINKER AND A POTENTIAL HYDROPHOBIC GATE. **Zhiguang Jia**, Guohui Zhang, Mahdieh Yanzdani, Jianmin Cui, Jianhan Chen

2700-Plat 9:00 AM
MODE SHIFT OF SHAKER ISOLATED-VOLTAGE SENSING DOMAIN. **Juan Zhao**, Rikard Blunck

2701-Plat 9:15 AM
MEASURING THE KINETICS OF ION PERMEATION IN LOW CONDUCTANCE ION CHANNELS. **Neville P. Bethel**, Sara Capponi, John M. Rosenberg, Michael Grabe

2702-Plat 9:30 AM
REVISITING THE ROLE OF GLYCINE 77 WITHIN KCSA'S SELECTIVITY FILTER: A FUNCTIONAL AND CRYSTALLOGRAPHIC STUDY. Cholpon Tilegenova, D. Marien Cortes, **Luis G. Cuello**

2703-Plat 9:45 AM
CALCIUM BINDING TO THE TURRET REGION CONTROLS INACTIVATION GATING OF A VOLTAGE-GATED K^+ CHANNEL. **William S. Tobelaim**, Asher S. Peretz, Daniel Yakubovich, Yoav Paas, Bernard Attali

2704-Plat 10:00 AM
Education Travel Awardee
PROPERTIES OF THE VOLTAGE-GATED PROTON CHANNEL GATING CURRENTS. **Emerson M. Carmona**, David Baez-Nieto, AMaury Pupo, Karen Castillo, Osvaldo Alvarez, Alan Neely, Ramon Latorre, Carlos Gonzalez

Platform
Optical Microscopy and Superresolution Imaging: Applications

8:15 AM–10:15 AM, South, Level Two, Room 215/216

Co-Chairs
Alex Diezmann, Stanford University
Xiaoyu Shi, University of California

2705-Plat 8:15 AM
SUPER-LONG SINGLE FLUORESCENT-MOLECULE TRACKING REVEALED TENSION-DEPENDENT DYNAMIC ANCHORAGE OF INTEGRIN FOR CELL ADHESION. **Taka A. Tsunoyama**, Kenichi GN Suzuki, Takahiro K. Fujiwara, Akihiro Kusumi

2706-Plat 8:30 AM
CADHERIN ORDER AND DYNAMICS IN CALCIUM-DEPENDENT AND INDEPENDENT DESMOSOMES. **Emily Bartle**, Tara Urner, Tejeshwar Rao, Alexa Mattheyses

2707-Plat 8:45 AM
SUPER RESOLUTION IMAGING OF START TRANSCRIPTION FACTORS IN YEAST. **Labe Black**, Jean-Bernard Fiche, Sylvain Tollis, Jing Cheng, Stephen Notley, Ben Crevier, Michael Tyers, Marcelo Nollmann, Catherine Royer

2708-Plat 9:00 AM
TWO-COLOR 3D STORM REVEALS CILIARY TRANSITION ZONE ARCHITECTURE AND ITS ROLE IN CILIARY SIGNALING. **Xiaoyu Shi**, Galo Garcia, Jeremy F. Reiter, Bo Huang

2709-Plat 9:15 AM
VISUALIZING DYNAMIC MICROVILLAR SEARCH AND STABILIZATION DURING LIGAND DETECTION BY T CELLS. **En Cai**, Kyle Marchuk, Peter Beemiller, Casey Beppler, Matthew G. Rubashkin, Valerie M. Weaver, Audrey Gérard, Tsung-Li Liu, Bi-Chang Chen, Eric Betzig, Frederic Bartumeus, Matthew F. Krummel

2710-Plat 9:30 AM
LIGHT-SHEET MICROSCOPY ALLOWS SIMULTANEOUS IMAGING OF SECOND MESSENGERS IN INTACT PANCREATIC ISLETS. **Zeno Lavagnino**, Michael DiGruccio, David W. Piston

2711-Plat 9:45 AM
ROTOR-BASED ORGANELLE VISCOSITY IMAGING. **Markéta Kubánková**, Joseph E. Chambers, Stefan J. Marciniak, Marina K. Kuimova

2712-Plat 10:00 AM
A POLAR MATRIX MICRODOMAIN CONSTRAINS DIFFUSION AND REGULATES INTRACELLULAR SIGNALING. **Alex von Diezmann**, Keren Lasker, Thomas H. Mann, Daniel G. Ahrens, Lucy Shapiro, W. E. Moerner

Platform
Cardiac Muscle Mechanics, Structure, and Regulation II

8:15 AM–10:15 AM, Esplanade, Room 153

Co-Chairs
Jonathan Kirk, Loyola University Chicago
Matthew Caporizzo, The University of Pennsylvania

2713-Plat 8:15 AM
LENGTH-DEPENDENT ACTIVATION IS REDUCED IN MYOCARDIUM FROM PATIENTS WITH NON-ISCHEMIC HEART FAILURE. **Bertrand C.W. Tanner**, Peter O. Awinda, Cheavar A. Blair, Maya A. Guglin, Kenneth S. Campbell

2714-Plat 8:30 AM
CARDIAC MUSCLE REGULATORY UNITS ARE PREDICTED TO INTERACT STRONGER THAN NEIGHBORING CROSS-BRIDGES. **Mari Kalda**, Marko Vendelin

2715-Plat 8:45 AM
HUMAN EMBRYONIC STEM-CELL DERIVED CARDIOMYOCYTES: SINGLE-CELL MAPPING TO RELATE TWITCH KINETICS TO MYOSIN HEAVY CHAIN PROTEIN AND MRNA-EXPRESSION. Natalie Weber, Kathrin Kowalski, Tim Holler, Ante Radocaj, Kristin Schwanke, Alexander Lingk, Uwe Krumm, Meike Wendland, Urs Zywietz, Boris Chichkov, Ulrich Martin, Robert Zweigerdt, Bernhard Brenner, **Theresia Kraft**

2716-Plat 9:00 AM
LIVE CELL PALM TECHNIQUES FOR SUPER RESOLUTION IMAGING OF MURINE CARDIAC MYOCYTES. **Yufeng Hou**, Ornella Manfra, Jia Li, Xin Shen, William E. Louch

2717-Plat 9:15 AM
UNDERSTANDING CARDIAC TUBE FORMATION IN DEVELOPING *DROSOPHILA* EMBRYOS USING LIGHT SHEET MICROSCOPY AND CARDIAC DRUG SCREENING. **Christopher MJ McFaul**, Rodrigo Fernandez-Gonzalez, Christopher M. Yip

2718-Plat 9:30 AM
IN SITU REPLACEMENT OF CMYBP-C N'-TERMINAL DOMAINS USING THE NOVEL SPY-C METHOD. Katia Touma, Sabine J. van Dijk, Joshua Strom, **Samantha P. Harris**

2719-Plat 9:45 AM
ENGINEERED HEART TISSUES EXPRESSING MUTANT DESMOPLAKIN EXHIBIT ALTERED TWITH KINETICS. **Ronald Ng**, Xia Li, Heather Manring, Jinkyu Park, Jiesi Luo, Daniel Jacoby, Maegen A. Ackermann, Stuart Campbell

2720-Plat 10:00 AM
CREATINE-KINASE SHUTTLE AND RAPID MITOCHONDRIAL MEMBRANE POTENTIAL CONDUCTIVITY ARE NEEDED SIMULTANEOUSLY TO MAINTAIN UNIFORM METABOLITE DISTRIBUTIONS IN THE CARDIAC CELL CONTRACTION CYCLE. **Shouryadipta Ghosh**, Kenneth Tran, Edmund Crampin, Eric Hanssen, Vijay Rajagopal

Platform
Membrane Dynamics and Fusion II

8:15 AM–10:15 AM, Esplanade, Room 154

Co-Chairs
Ilya Levental, University of Texas Medical School at Houston
David Weliky, Michigan State University

2721-Plat 8:15 AM
SPATIO-TEMPORAL DYNAMICS AND TURNOVER OF LIPOPOLYSACCHARIDE IN THE BACTERIAL OUTER MEMBRANE. **Sam Lenton**, Rosalyn M. Leaman, Richard J. Spears, Martin A. Fascione, Dmitri O. Pushkin, Mark C. Coles, Christoph G. Baumann

2722-Plat 8:30 AM Education Travel Awardee
THE BIOPHYSICAL ASYMMETRY OF MAMMALIAN PLASMA MEMBRANES. **Joseph H. Lorent**, Eric Malmberg, Ilya Levental

2723-Plat 8:45 AM
FORMATION AND STABILITY OF MEMBRANE NECKS FROM MOLECULAR SIMULATION. **Rikhia Ghosh**, Andrea Grafmüller, Reinhard Lipowsky

2724-Plat 9:00 AM
DIFFUSION OF PROTEINS AND LIPIDS IN PROTEIN-RICH MEMBRANES. Matti Javanainen, Hector Martinez-Seara, Ralf Metzler, **Ilpo Vattulainen**

2725-Plat 9:15 AM
GENERAL NON-AXISYMMETRIC SHAPES OF BIOLOGICAL MEMBRANES AND THEIR IMPORTANCE IN UNDERSTANDING ENDOCYTOSIS. **Kranthi K. Mandadapu**, Yannick Omar, Amaresh Sahu, Roger Sauer

2726-Plat 9:30 AM CID Travel Awardee
MOLECULAR MECHANISM OF MICRODOMAIN DEPENDENT PROTEIN TRAFFICKING. **Blanca B. Diaz-Rohrer**, Kandice R. Levental, Ilya Levental

2727-Plat 9:45 AM
CAPACITIVE DETECTION OF LOW-ENTHALPY, HIGHER-ORDER PHASE TRANSITIONS IN SYNTHETIC AND NATURAL LIPID MEMBRANES. **Graham J. Taylor**, Frederick A. Heberle, John Katsaras, C. Patrick Collier, Stephen A. Sarles

2728-Plat 10:00 AM
NMR CONTACTS BETWEEN THE HIV FUSION PEPTIDE AND LIPID SUPPORT A BETA-BOWL MEMBRANE TOPOLOGY OF THE PEPTIDE WITH THERMODYNAMIC PREFERENCE FOR PEPTIDE/CHOLESTEROL CONTACT. **David Weliky**

Platform
Chaperone-assisted Protein Folding

8:15 AM–10:15 AM, ESPLANADE, ROOM 155

Co-Chairs
Christian Kaiser, Johns Hopkins University
Shu-ou Shan, California Institute of Technology

2729-PLAT 8:15 AM
EXPLAINING COOPERATIVE FOLDING OF INTERACTING PROTEINS BY A FOLDING SUPERFUNNEL. **Laszlo Smeller**

2730-PLAT 8:30 AM
DUAL FUNCTION OF THE TRIGGER FACTOR CHAPERONE IN NASCENT PROTEIN FOLDING. Kaixian Liu, Kevin Maciuba, **Christian M. Kaiser**

2731-PLAT 8:45 AM
UNRAVELLING THE MECHANICS OF A MOLECULAR CHAPERONE. **Katarzyna M. Tych**, Markus Jahn, Hannah Girstmair, Thorsten Hugel, Johannes Buchner, Matthias Rief

2732-PLAT 9:00 AM
THE EXCLUSIVE EFFECTS OF CHAPERONIN ON THE FREE ENERGY LANDSCAPE OF PROTEINS WITH COMPLEX KNOTS. **Joanna I. Sulkowska**, Yani Zhao, Paweł Dabrowski-Tumanski, Szymon Niewieczerzal

2733-PLAT 9:15 AM
A NOVEL CONFORMATION OF THE POLYPEPTIDE-BINDING POCKET SUPPORTS AN ACTIVE SUBSTRATE RELEASE FROM HSP70S. Jiao Yang, Yinong Zong, Jiayue Su, Hongtao Li, huanyu zhu, Linda Columbus, Lei Zhou, **Qinglian Liu**

2734-PLAT 9:30 AM
UNDERSTANDING THE REGULATION OF THE HSC70 CHAPERONE MACHINE. **Felipe Ossa**, Jason R. Schnell

2735-PLAT 9:45 AM
KINETIC MECHANISM OF ATP-DEPENDENT DISAGGREGATING MOTOR *SACCHAROMYCES CEREVISIAE* HSP104. **Clarissa L. Weaver**, Meredith E. Jackrel, JiaBei Lin, Korrie L. Mack, Elizabeth Sweeny, Elizabeth C. Duran, James Shorter, Aaron L. Lucius

2736-PLAT 10:00 AM
A PROTEAN CLAMP GUIDES MEMBRANE TARGETING OF TAIL-ANCHORED PROTEINS. **Shu-ou Shan**, Un Seng Chio

Platform
Endocytosis, Exocytosis, and Intracellular Transport

8:15 AM–10:15 AM, ESPLANADE, ROOM 156

Co-Chairs
Elena Koslover, University of California, San Diego
Johannes Schöneberg, University of California, Berkeley

2737-PLAT 8:15 AM
NANOPOROSITY INFLUENCES MEMBRANE CURVATURE AND SUBSEQUENT ENDOCYTOSIS. **Alexis Belessiotis-Richards**, Molly M. Stevens, Alfredo Alexander-Katz

2738-PLAT 8:30 AM
THE SH3 DOMAIN OF UNCONVENTIONAL MYOSIN IB FROM *E. HISTOLYTICA* INTERACTS WITH A GEF (EHFP10) AND REGULATES PHAGOCYTOSIS BY AFFECTING ACTIN BUNDLING. **Gunjan Gautam**

2739-PLAT 8:45 AM
ACTIN-GENERATED FORCES DURING MAMMALIAN ENDOCYTOSIS. **Matthew Akamatsu**, Ritvik Vasan, Padmini Rangamani, David G. Drubin

2740-PLAT 9:00 AM CPOW TRAVEL AWARDEE
ALL IN ONE: GTP-MEDIATED MEMBRANE STRANGLING, FISSION, AND DYNAMIN SCAFFOLD DISASSEMBLY. **Martina Pannuzzo**, Zachary McDargh, Markus Deserno

2741-PLAT 9:15 AM
ESCRT MEMBRANE SCISSION REVEALED BY OPTICAL TWEEZERS. **Johannes Schöneberg**, Shannon Yan, Amir Bahrami, Maurizio Righini, Il-Hyung Lee, Mark Remec Pavlin, Lars-Anders Carlson, Daniel Goldman, Gerhard Hummer, Carlos Bustamante, James Hurley

2742-PLAT 9:30 AM
MOLECULAR MECHANISMS CONTROLLING NEUROTRANSMITTER RELEASE BY THE PRIMED SNARE-COMPLEXIN-SYNAPTOTAGMIN COMPLEX. **Qiangjun Zhou**, Peng Zhou, Thomas C. Südhof, Axel T. Brunger

2743-PLAT 9:45 AM
RUN, WANDER, AND DRIFT: MULTI-MODAL TRANSPORT IN THE EUKARYOTIC CYTOPLASM. **Elena F. Koslover**

2744-PLAT 10:00 AM
THE NATURE'S SUPERVISCOUS NANO-CHANNEL: INSIGHT FROM BIG DATA-DRIVEN BIOPHYSICAL MODELING. **Ruhollah Moussavi-Baygi**, Mohammad Mofrad

Poster Presentations and Late Posters

10:30 AM–12:30 PM, EXHIBIT HALL ABC

Symposium
Biophysical Insights from Surface Engineering

1:00 PM–3:00 PM, NORTH, LOWER LOBBY, ROOM 24

Co-Chairs
Deborah Leckband, University of Illinois at Urbana-Champaign
Kathleen Stebe, University of Pennsylvania

2745-SYMP 1:00 PM
INTERCELLULAR MECHANOTRANSDUCTION. **Deborah Leckband**

2746-SYMP 1:30 PM
CELLS SENSE AND RESPOND TO CURVATURE BY PATTERNING STRESS FIBERS AND UNDERGOING CURVATURE GUIDED MIGRATION. **Kathleen Stebe**

2747-SYMP 2:00 PM
SPATIO-TEMPORAL CONTROL OF CELLULAR DYNAMICS USING A CELL-FRIENDLY PHOTORESIST. **Junsang Doh**

2748-SYMP 2:30 PM
THE INFLUENCE OF MONOLAYER MORPHOLOGY AND DYNAMICS ON LUNG STABILITY. **Joseph A. Zasadzinski**, Amit K. Sachan, Benjamin Stottrup

Symposium
Cytoskeletal Motors

1:00 PM–3:00 PM, NORTH, LOWER LOBBY, ROOM 25

Co-Chairs
William Hancock, Pennsylvania State University
Erica Holzbaur, University of Pennsylvania

2749-SYMP 1:00 PM
SINGLE-MOLECULE NANOMECHANICS OF KINESIN AND KINESIN-FAMILY PROTEINS. **Steven M. Block**

2751-SYMP 2:00 PM
ALLOSTERIC TUNING OF MYOSIN FORCE GENERATION: NEW AVENUES TOWARDS THERAPEUTICAL TREATMENT. **Anne Houdusse**

2750-Symp 1:30 pm
KINESIN MOTOR DOMAIN DYNAMICS DURING SINGLE-MOTOR STEPPING AND MULTI-MOTOR TRANSPORT. **William O. Hancock**

2752-Symp 2:30 pm
ONE MOTOR, MANY FUNCTIONS: LOCALIZED REGULATION OF CYTOPLASMIC DYNEIN IN NEURONS BY EFFECTOR PROTEINS. **Erika Holzbaur**

Symposium
New and Notable

1:00 pm–3:00 pm, South Lobby, South, Level Two, Room 297/208

Co-Chairs
Anne Kenworthy, Vanderbilt University School of Medicine
Francesca Marassi, Sanford Burnham Prebys medical Discovery Institute

No Abstract 1:00 pm
ULTRAFAST GLUTAMATE SENSORS RESOLVE SYNAPTIC SHORT-TERM PLASTICITY. **Katalin Torok**

No Abstract 1:20 pm
THE DYNAMIC ORGANIZATION OF MODIFIED CHROMATIN FIBERS REVEALED BY SINGLE-MOLECULE FRET. **Beat Fierz**

No Abstract 1:40 pm
FUNDAMENTAL TRADE-OFFS BETWEEN INFORMATION FLOWIN SINGLE CELLS AND CELLULAR POPULATIONS. **Eric J. Deeds**

No Abstract 2:00 pm
NEW TOOLS AND TECHNIQUES FOR MEASURING AND MANIPULATING CHAIN COLLAPSE IN INTRINSICALLY DISORDERED PROTEINS. **Patricia L. Clark**

No Abstract 2:20 pm
STRUCTURE OF THE COLD AND MENTHOL SENSOR TRPM8. **Seok-Yong Lee**

No Abstract 2:40 pm
INTEGRATING X-RAY SCATTERING INTO PROTEINSTRUCTURE PREDICTION. **Susan Tsutakawa**

Platform
Molecular Dynamics II

1:00 pm–3:00 pm, South, Level Two, Room 215/216

Co-Chairs
Albert Pan, D.E. Shaw Research
Lukas Stelzl, University of Oxford, United Kingdom

2753-Plat 1:00 pm
SIMULATION OF GEOMETRICALLY ACCURATE, MULTIBILLION ATOM CELLULAR MEMBRANE STRUCTURES. **Noah Trebesch**, Emad Tajkhorshid

2754-Plat 1:15 pm
COMPUTATIONAL HIGH-THROUGHPUT SCREENING OF DRUG-MEMBRANE THERMODYNAMICS. **Tristan Bereau**

2755-Plat 1:30 pm
ATOMIC-LEVEL CHARACTERIZATION OF PROTEIN-PROTEIN ASSOCIATION. **Albert C. Pan**, Daniel Jacobson, Konstantin Borisov, Duluxan Sritharan, Thomas M. Weinreich, David E. Shaw

2756-Plat 1:45 pm
A MINIMAL COARSE-GRAINED MOLECULAR DYNAMICS MODEL OF AXON PLASMA MEMBRANE WITH ITS IMPLICATION ON THE DIFFUSION BEHAVIOR OF AXON MEMBRANE PROTEINS. **Yihao Zhang**, George Lykotrafitis

2757-Plat 2:00 pm
DYNAMIC HISTOGRAM ANALYSIS TO DETERMINE FREE ENERGIES AND RATES FROM BIASED SIMULATIONS. **Lukas S. Stelzl**, Adam Kells, Edina Rosta, Gerhard Hummer

2758-Plat 2:15 pm
WEIGHTED ENSEMBLE SIMULATION STUDIES OF MILLISECOND FOLDER NTL9. **Upendra Adhikari**, Barmak Mostofian, Daniel M. Zuckerman

2759-Plat 2:30 pm
ENHANCED SAMPLING AND BAYESIAN INFERENCE TO MODEL THE CONFORMATIONAL DYNAMICS OF PEPTOID MACROCYCLES.
Matthew Hurley, JD Northrup, Vincent Voelz, Chris Schafmeister

2760-Plat 2:45 pm
TOWARDS DYNAMIC PHARMACOPHORE MODELS BY COARSE GRAINED MOLECULAR DYNAMICS. **Nicholas Michelarakis**, Zara A. Sands, Mark S.P. Sansom, Phillip J. Stansfeld

Platform
Membrane Protein Dynamics

1:00 pm–3:00 pm, Esplanade, Room 153

Co-Chairs
Ekaterina Nestorovich, The Catholic University of America
Paola Bisignano, University of California, San Francisco

2761-Plat 1:00 pm
CONFORMATIONAL LANDSCAPE OF SODIUM GLUCOSE TRANSPORTERS. **Paola Bisignano**, Sara Capponi, John M. Rosenberg, Michael Grabe

2762-Plat 1:15 pm
SINGLE-MOLECULE ANALYSIS OF PHOSPHOLIPID SCRAMBLING BY TMEM16F. **Rikiya Watanabe**, Takaharu Sakuragi, Hiroyuki Noji, Shigekazu Nagata

2763-Plat 1:30 pm
MEASURING MEMBRANE SURFACE REACTIONS BY DIFFUSION: DIMERIZATION OF BTK PH DOMAIN AND K-RAS. **Jean K. Chung**, Laura M. Nocka, Young Kwang Lee, John Kuriyan, Jay T. Groves

2764-Plat 1:45 pm
A COMBINED SIMULATION AND SAXS STUDY OF THE DYNAMICS OF LIPID NANODISCS. **Tone Bengtsen**, Viktor L. Holm, Søren R. Midtgaard, Lise Arleth, Kresten Lindorff-Larsen

2765-Plat 2:00 pm
EFFECT OF THE ENDOSOMAL ACIDIFICATION ON SMALL ION TRANSPORT THROUGH THE ANTHRAX TOXIN PA_{63} CHANNEL. Nnanya Kalu, Antonio Alcaraz, Goli Yamini, Sanaz Momben Abolfath, Laura Lucas, Clare Kenney, Vicente M. Aguilella, **Ekaterina M. Nestorovich**

2766-Plat 2:15 pm
COMBINED HIGH-SPEED SINGLE PARTICLE TRACKING OF MEMBRANE PROTEINS AND SUPERRESOLUTION OF MEMBRANE-ASSOCIATED STRUCTURES. **Hanieh Mazloom-Farsibaf**, Keith Lidke

2767-Plat 2:30 pm
EXAMINING LENGTH AND CHARGE DISTRIBUTION OF THE PERIPLASMIC N-TAIL OF BITOPIC MODEL PROTEINS AS DETERMINANTS OF ITS YIDC AND SEC REQUIREMENT IN *E.COLI*. **Sri Karthika Shanmugam**, Ross E. Dalbey

2768-Plat 2:45 pm
DYNAMICS OF P-TYPE ATPASE TRANSPORT CYCLE REVEALED BY SINGLE-MOLECULE FRET. **Mateusz Dyla**, Daniel S. Terry, Magnus Kjaergaard, Thomas L-M Sørensen, Jacob Lauwring Andersen, Jens Peter Andersen, Charlotte Rohde Knudsen, Roger B. Altman, Poul Nissen, Scott C. Blanchard

Platform
Intrinsically Disordered Proteins (IDP) and Aggregates II

1:00 PM–3:00 PM, Esplanade, Room 154

Co-Chairs
Martina Huber, Leiden University, The Netherlands
Rebecca Berlow, The Scripps Research Institute

2769-Plat 1:00 PM
THE CONFORMATION OF ALPHA-SYNUCLEIN ON THE NATURAL MEMBRANE MIMICS INNER MITOCHONDRIAL MEMBRANE (IMM) AND NEURONAL PLASMA MEMBRANE (NPM) REVISITED BY BAYESIAN ANALYSIS OF DOUBLE ELECTRON ELECTRON RESONANCE (DEER) DISTANCE DISTRIBUTIONS. Pravin Kumar, Thomas H. Edwards, Stefan Stoll, **Martina Huber**

2770-Plat 1:15 PM EDUCATION TRAVEL AWARDEE
HYPERSENSITIVE TERMINATION OF THE HYPOXIC RESPONSE BY A DISORDERED PROTEIN SWITCH. **Rebecca B. Berlow**, H. Jane Dyson, Peter E. Wright

2771-Plat 1:30 PM
CATARACTS CONTAIN AMYLOID B-SHEETS: A 2D IR STUDY OF HUMAN CATARACT TISSUE. **Ariel M. Alperstein**, Joshua S. Ostrander, Tianqi O. Zhang, Martin T. Zanni

2772-Plat 1:45 PM
THE SMALL MOLECULE ANLE138B SHOWS INTERACTION WITH A-SYNUCLEIN OLIGOMERS IN PHOSPHOLIPID MEMBRANES. **Leif Antonschmidt**, Riza Dervisoglu, Sergey Ryazanov, Andrei Leonov, Melanie Wegstroth, Karin Giller, Stefan Becker, Joon Lee, Ratneshwar Lal, Gregor Eichele, Andre Fischer, Armin Giese, Loren Andreas, Christian Griesinger

2773-Plat 2:00 PM
GELATION AND VITRIFICATION OF TARDIGRADE IDPS. **Thomas C. Boothby**, Samantha Piszkiewicz, Aakash Mehta, Alexandra Brozena, Hugo Tapia, Doug Koshland, Alex Holehouse, Rohit Pappu, Bob Goldstein, Gary Pielak

2774-Plat 2:15 PM
HIERARCHICAL CLUSTERING OF MARKOV STATE MODELS REVEALS SEQUENCE EFFECTS IN P53-CTD DYNAMIC BEHAVIOR. **Hannah K. Wayment-Steele**, Carlos X. Hernandez, Brooke E. Husic, Vijay S. Pande

2775-Plat 2:30 PM
MOLECULAR GRAMMAR GOVERNING PHASE BEHAVIOR OF INTRINSICALLY DISORDERED PROTEINS WITH PRION-LIKE DOMAINS. **Jeong-Mo Choi**, Jie Wang, Alex S. Holehouse, Simon Alberti, Anthony A. Hyman, Rohit V. Pappu

2776-Plat 2:45 PM
FOLDING FUNNELS (OR LACK THEREOF) IN AMYLOID AGGREGATION. **Jeremy D. Schmit**

Platform
Membrane Physical Chemistry II

1:00 PM–3:00 PM, Esplanade, Room 155

Co-Chairs
Horia Petrache, Indiana University-Purdue University Indianapolis
Raya Sorkin, Vrije Universiteit Amsterdam, The Netherlands

2777-Plat 1:00 PM
POLYMERIC EFFECTS VS. CHEMICAL SPECIFICITY -- EFFECTS OF HYALURONIC ACID ON LUNG SURFACTANT MONOLAYERS. **Benjamin R. Slaw**, Ka Yee C. Lee

2778-Plat 1:15 PM
EMERGENCE OF MEMBRRANE MATERIAL PARAMETERS REVEALED BY SOLID-STATE ^{2}H NMR SPECTROSCOPY. Jacob J. Kinnun, K. J. Mallikarjunaiah, **Horia I. Petrache**, Michael F. Brown

2779-Plat 1:30 PM
DETERMINING THE BENDING MODULI OF ASYMMETRIC BILAYERS BY SIMULATION. **Sophia Wheeler**, Marley Samways, Jonathan Essex

2780-Plat 1:45 PM CPOW TRAVEL AWARDEE
THE SOFT SIDE OF EXTRACELLULAR VESICLES. **Raya Sorkin**, Rick Huisjes, Filip Bošković, Daan Vorselen, Silvia Pignatelli, Yifat Ofir-Birin, Joames K. F. Leal, Jürgen Schiller, Wouter H. Roos, Giel Bosman, Neta Regev-Rudzki, Raymond M. Schiffelers, Gijs J. L. Wuite

2781-Plat 2:00 PM
FORMATION OF MEMBRANE TUBULAR PROTRUSIONS UPON LOCALIZED APPLICATION OF CALCIUM IONS TO THE SURFACE OF GIANT LIPID VESICLES. **Tatsiana Lobovkina**, Baharan Ali Doosti, Weria Pezeshkian, Dennis S. Bruhn, John H. Ipsen, Himanshu Khandeli, Gavin D. M. Jeffries

2782-Plat 2:15 PM
PUNCHING MEMBRANES: HOW LIPID BILAYERS WITHSTAND AND PROPAGATE MECHANICAL LOAD. **Florian Franz**, Camilo Aponte-Santamaría, Sergi Garcia-Manyes, Frauke Gräter

2783-Plat 2:30 PM
REGULATION OF LIPID DROPLET FORMATION BY MEMBRANE TENSION. **Abdou Rachid Thiam**

2784-Plat 2:45 PM
NUCLEATION AND DYNAMICS OF RUPTURE AND CHROMATIN HERNIATION IN DEFORMED NUCLEI. **Dan Deviri**

Platform
Chromatin and the Nucleoid

1:00 PM–3:00 PM, Esplanade, Room 156

Co-Chairs
Aakash Basu, Johns Hopkins University School of Medicine
Razvan Chereji, NIH

2785-Plat 1:00 PM
ARCHITECTURE OF THE HETEROCHROMATIN UNIT REVEALED BY CRYO-EM. **Yoshimasa Takizawa**, Shinichi Machida, Masakazu Ishimaru, Satoshi Sekine, Yukihiko Sugita, Jun-ichi Nakayama, Hitoshi Kurumizaka, Matthias Wolf

2786-Plat 1:15 PM
A POLYMER PHYSICS MODEL FOR EPIGENETIC CONTROL OF CHROMATIN COMPACTION. **Quinn MacPherson**, Sarah Sandholtz, Andrew Spakowitz

2787-Plat 1:30 PM INTERNATIONAL TRAVEL AWARDEE
PROBING CHROMATIN ORGANIZATION BY SORTING OF SHORT SEQUENCE FLUORESCENCE CORRELATION SPECTROSCOPY. **Melody Di Bona**, Simone Pelicci, Giuseppe Vicidomini, Eugenia Cammarota, Davide Mazza, Alberto Diaspro, Luca Lanzanò

2788-Plat 1:45 PM
INTERPHASE CHROMATIN DYNAMICS IN RESPONSE TO DOUBLE STRANDED DNA BREAKS. **Jonah Eaton**, Alexandra Zidovska

2789-Plat 2:00 PM
HIGH-SPEED ATOMIC FORCE MICROSCOPY OF SMC PROTEINS. **Je-Kyung Ryu**, Allard Katan, Masashi Minamino, Celine Bouchoux, Shveta Bisht, Jorine Eeftens, Christian Hearing, Frank Uhlmann, Cees Dekker

2790-Plat 2:15 pm
SLIDE-SEQ: PROBING SEQUENCE-DEPENDENCE OF CHROMATIN REMODELING ACTIVITIES IN HIGH THROUGHPUT. **Sangwoo Park**, Jessica Winger, Gregory Bowman, Taekjip Ha

2791-Plat 2:30 pm
LOCAL DNA SEQUENCE CONTROLS THE ASYMMETRY OF DNA UNWRAPPING FROM NUCLEOSOME CORE PARTICLES. **Alexander Mauney**, Lois Pollack

2792-Plat 2:45 pm
PRECISE GENOME-WIDE MAPPING OF SINGLE NUCLEOSOMES AND LINKERS IN VIVO. **Razvan V. Chereji**, Srinivas Ramachandran, Terri D. Bryson, Steven Henikoff

WEDNESDAY POSTER SESSIONS

10:30 AM–12:30 PM, HALL ABC

Below is the list of poster presentations for Wednesday of abstracts submitted by October 2. The list of late abstracts scheduled for Wednesday is available in the Program Addendum, and those posters can be viewed on boards beginning with L.

Posters should be mounted beginning between 7:00 AM and 8:00 AM on Wednesday and removed by 3:00 PM. Poster numbers shown refer to the program order of abstracts as they appear in the online Abstracts Issue. Board numbers indicate where boards are located in the Exhibit Hall.

ODD-NUMBERED BOARDS 10:30 AM–11:30 AM | EVEN-NUMBERED BOARDS 11:30 AM–12:30 PM

Board Numbers	Category
B1–B16	Protein Structure and Conformation: Experimental Methods
B17–B46	Protein Structure and Conformation III
B47–B64	Protein Structure, Prediction, and Design II
B65–B92	Protein Stability, Folding, and Chaperones III
B93–B112	Enzyme Function, Cofactors, and Post-translational Modifications
B113–B141	Poster: Intrinsically Disordered Proteins (IDP) and Aggregates III
B142–B161	Ribosomes & Translation
B162–B181	DNA Structure and Dynamics II
B182–B200	Membrane Dynamics II
B201–B229	Membrane Fusion and Non-Bilayer Structures
B230–B243	Protein-Lipid Interactions: Channels
B244–B271	Protein-Lipid Interactions: Structures
B272–B293	Excitation-Contraction Coupling II
B294–B316	Cardiac, Smooth and Skeletal Muscle Electrophysiology II
B317–B322	Muscle Regulation
B323–B334	Intracellular Transport
B335–B362	Voltage-gated Na Channels
B363–B378	Voltage-gated Ca Channels
B379–B398	TRP Channels II
B399–B411	Skeletal Muscle Mechanics, Structure, and Regulation II
B412–B418	Kinesins, Dyneins, and Other Microtubule-based Motors II
B419–B432	Cytoskeletal Assemblies and Dynamics
B433–B456	Cell Mechanics, Mechanosensing, and Motility III
B457–B465	Cytoskeletal-based Intracellular Transport
B466–B492	Mitochondria in Cell Life and Death
B493–B508	Systems Biology and Disease
B509–B517	Emerging Techniques and Synthetic Biology
B518–B542	Neuroscience: Experimental Approaches and Tools
B543–B566	Molecular Dynamics III
B567–B585	Computational Methods and Bioinformatics II
B586–B604	Single-Molecule Spectroscopy II
B605–B622	Biosensors II
B623–B645	Micro- and Nanotechnology II

It is the responsibility of the poster presenters to remove print materials from the board after their presentations. Please do not leave materials or belongings under poster boards or in the poster area. Posters will not be collected or stored for pick-up at a later time. The Biophysical Society is not responsible for any articles left in the poster area.

Protein Structure and Conformation: Experimental Methods (Boards B1–B16)

2793-Pos Board B1
LOCAL CONFORMATIONAL DYNAMICS OF BACTERIORHODOPSIN AS REVEALED BY IN-SITU ISOTOPIC LABELED ULTRAFAST TWO-DIMENSIONAL INFRARED SPECTROSCOPY. **Jianping Wang**

2794-Pos Board B2
TRANSIENT INTERACTIONS IN MULTIDOMAIN PROTEINS IDENTIFIED BY FRET. Inna S. Yanez Orozco, Junyan Ma, Feng Ding, Mark E. Bowen, **Hugo Sanabria**

2795-Pos Board B3
TAKING THE NEXT STEP IN STRUCTURAL BIOLOGY: ENABLING CELLULAR STRUCTURAL BIOLOGY IN SITU WITH CRYO-FIB SAMPLE PREPARATION. **Gregor Heiss**, Alex Rigort

2796-Pos Board B4
QUANTIFYING BINDING-INDUCED CONFORMATIONAL CHANGES OF PROTEINS USING HYDRODYNAMIC PROTEIN SIZE MEASUREMENTS. **Joanna Deek**, Friederike Moeller, Thomas Weber, Daisylea de Souza Paiva, Ulrich Rant, Wolfgang Kaiser

2797-Pos Board B5
CONVERSION OF A PEPTIDE TAG TO SUB-NANOMOLAR AFFINITY FOR SINGLE-MOLECULE ANALYSIS OF PROTEIN MACHINERY. **Wei-hau Chang**

2798-Pos Board B6
STRUCTURE AND ORIENTATION OF A SMALL PROTEIN ON A GOLD NANOPARTICLE SURFACE. **Nicholas C. Fitzkee**, Y. Randika Perera

2799-Pos Board B7
INVESTIGATION OF OPTIMAL COOLING METHODS IN MACROMOLECULAR CRYOCRYSTALLOGRAPHY. Kaitlin Harrison, Brian Wu, **Douglas H. Juers**

2800-Pos Board B8
INVESTIGATING THE PROTEASE ACTIVE SITE ENVIRONMENT WITH VIBRATIONAL REPORTERS AND X-RAY CRYSTALLOGRAPHY. **Christopher N. Eaton**, Meiqi Lou, Gwendolyn Fowler, Scott H. Brewer, Edward E. Fenlon, Christine M. Phillips-Piro

2801-Pos Board B9
THE E.COLI SEC REACTION PATHWAY FOR CELLULAR PROTEIN SORTING UNDER A SINGLE MOLECULE LOUPE. **Niels Vandenberk**

2802-Pos Board B10
PROBING THE CONFORMATIONAL CHANGES OF A MODEL PROTEIN BY IN-CELL FOOTPRINTING COUPLED WITH MASS SPECTROMETRY. **Lisa M. Jones**, Dante Johnson

2803-Pos Board B11
CHARACTERIZATION OF REVERSE MICELLE SURFACTANT MIXTURE FOR BIOPHYSICAL AND BIOMEDICAL APPLICATIONS. Cara Mawson, Joshua Berg, Hannah Work, Charles Hughes, **Nathaniel V. Nucci**

2804-Pos Board B12
ENHANCED PROTEIN STRUCTURAL CHARACTERIZATION USING MICROFLUIDIC MODULATION SPECTROSCOPY. **Jeffrey A. Zonderman**, Eugene MA

2805-Pos Board B13
THE FUNCTIONAL CHARACTERIZATION OF THE HETEROLOGOUS ACID PHOSPHATASE FROM *TRICHODERMA HARZIANUM*. **Amanda A. Souza**, Viviane Castelo Reis, Marcelo Soller Henrique Ramada, Gideane Mendes Oliveira, Azadeh Mehdad, Fernando Araripe Torres, Cirano José Ulhoa, Raphaela De Castro Georg, Sonia Maria De Freitas

2806-Pos Board B14
CHARACTERIZATION OF THE MOLECULAR TARGET KRE2 OF *PARACOCIDIOIDES LUTZII* AIMING AT DEVELOPMENT OF NEW ANTIFUNGAL THERAPIES. **Patrícia Alves Silva**, Thyago José Arruda Pacheco, Ana Karina Rodrigues Abadio, Erika Seki Kioshima, Nahum Hernandéz Valente, Hector Mora Montes, Sônia Maria de Freitas, Maria Sueli Soares Felipe, João Alexandre Ribeiro Gonçalves Barbosa

2807-Pos Board B15
STRUCTURAL CHARACTERIZATION AND CRYSTALLIZATION OF HUMAN TMPRSS2 PROTEASE. **Gideane Mendes de Oliveira**, Aisel Valle Garay, Amanda Araújo Souza, Jonatas Cunha Barbosa Lima, Napoleão Fonseca Valadares, Sonia Maria de Freitas, João Alexandre Ribeiro Gonçalves Barbosa

2808-Pos Board B16
CHICKEN NANOG PROTEIN SELF-ASSOCIATES VIA A NOVEL FOLDING-UPON-BINDING MECHANISM. **Jeong-Yong Suh**

Protein Structure and Conformation III (Boards B17–B46)

2809-Pos Board B17
UNIQUE CONFORMATIONAL DYNAMICS AND DIMER TUNING OF MGLUR7. **Chris Habrian**

2810-Pos Board B18
TOWARDS THE STRUCTURE OF DNASE1L3. **Jon J. McCord**, Faraz Harsini, Sukanyalakshmi Chebrolu, Peter Keyel, Roger Bryan Sutton

2811-Pos Board B19
PROTEOLYTICALLY RESISTANT CELLULAR PRION PROTEIN CONSTRUCT RETAINS METAL DRIVEN *CIS*-INTERACTION WHILE GENERATING TOXICITY IN CELLS. **Graham P. Roseman**, Alex J. McDonald, Bei Wu, David A. Harris, Glenn L. Millhauser

2812-Pos Board B20
STRUCTURAL AND BIOCHEMICAL ASSAY OF DYNAMIN-LIKE GTPASES. **Andrew Kehr**, Leopold Kong, Huaibin Wang, Shunming Fang, Matt Martin, Jenny Hinshaw

2813-Pos Board B21
CLINICAL AND BIOPHYSICAL CHARACTERIZATION OF A MUTATION IN THE N-HELIX REGION OF CARDIAC TROPONIN C: EVIDENCE FOR AN ALLOSTERIC MECHANISM OF CONTRACTILE DYSFUNCTION. **Jamie R. Johnston**, Mayra de A. Marques, David Gonzalez-Martinez, Guilherme A. P. de Oliveira, Einat Birk, Nili Zucker, Maicon Landim-Vieira, Adolfo H. Moraes, P. Bryant Chase, Jerson L. Silva, Yael Wilnai, Jose R. Pinto

2814-Pos Board B22
COMPUTATIONAL AND EXPERIMENTAL STUDIES OF DIVERGENT CLINICAL EFFECTS IN PROXIMATE THIN FILAMENT MUTATIONS. **Anthony Baldo**, Salwa Abdullah, Andrea Deranek, Melissa Lynn, Michael Williams, Jil C. Tardiff, Steven D. Schwartz

2815-Pos Board B23 EDUCATION TRAVEL AWARDEE
MAGIC ANGLE SPINNING SOLID STATE NMR STUDIES OF OXIDIZED APOLIPOPROTEIN A-I AGGREGATES. **Jennifer C. Boatz**, Gary Chan, Andrzej Witkowski, Patrick C. A. van der Wel, Giorgio Cavigiolio

2816-Pos Board B24
CHARACTERIZATION OF THE NOVEL DNA BINDING ACTIVITY OF THE BRG1 AT-HOOK-BROMODOMAIN AND EFFECT OF CANCER MUTATIONS. **Julio C. Sanchez**, Liyang Zhang, Amber Liu, Miles A. Pufall, Catherine A. Musselman

2817-Pos Board B25
PRION PROTEIN'S ZN^{2+}DRIVEN *CIS* INTERACTION WEAKENED BY N-TERMINAL DELETIONS. **Kate Markham**, Glenn Millhauser

2818-Pos Board B26
SINGLE-MOLECULE ATOMIC FORCE MICROSCOPY OF BLOOD COAGULATION FACTOR XIII AND ITS SUBUNITS. Anna D. Protopopova, Andrea Ramirez, **Rustem I. Litvinov**, John W. Weisel

2819-Pos Board B27
CRYO-EM STUDIES OF ATPASES AND SUBSTRATE ENGAGEMENT. **Colby Sandate**

2820-Pos Board B28
SHEDDING LIGHT ON NIGHT OWL BEHAVIOR: HOW THE DISORDERED C-TERMINAL TAIL OF CRY1 MODULATES CIRCADIAN TIMEKEEPING. **Gian Carlo Parico**, Ivette Perez, Carrie Partch

2821-Pos Board B29
ROLE OF THE DILEUCINE MOTIF IN NEF-INDUCED TRIMERIZATION OF THE ARF1:AP-1 CLATHRIN ADAPTOR COMPLEX. **Cosmo Z. Buffalo**, Kyle L. Morris, Xuefeng Ren, James H. Hurley

2822-Pos Board B30
BIOCHEMICAL CHARACTERISATION OF LECTIN FROM INDIAN HYACINTH PLANT BULBS WITH POTENTIAL INHIBITORY ACTION AGAINST HUMAN CANCER CELLS. **Sanjit Kumar**, Sanjay Naik, Ravindra Singh Rawat

2823-Pos Board B31
STRUCTURAL STUDIES OF MAGNESIUM TRANSPORTER CNNM. **Yu Chen**, Meng Yang, Rayan Fakih, Guennadi Kozlov, Kalle Gehring

2824-Pos Board B32
INSIGHT INTO LIGAND BINDING AND CONFORMATIONAL DYNAMICS OF KYNURENINE 3-MONOOXYGENASE. **Rajni Verma**, Katie Mitchell-Koch

2825-Pos Board B33
INVESTIGATING THE ROLE OF THROMBOMODULIN IN THE ACTIVATION OF COMPLEMENT. **Julia R. Koeppe**, Gary Ellis, Nicholas Joannides, Vanessa Wiltsie

2826-Pos Board B34
HOST-PATHOGEN INTERACTIONS VIA UBIQUITINATION PATHWAYS. **Kathy Wong**, Guennadi Kozlov, John D. Perpich, Miroslaw Cygler, Yousef Abu Kwaik, Kalle Gehring

2827-Pos Board B35
INTERACTIONS OF FRATAXIN WITH ISCU AND FERREDOXIN ON THE CYSTEINE DESULFURASE COMPLEX LEADING TO FE-S CLUSTER ASSEMBLY. **Kai Cai**

2828-Pos Board B36
STRUCTURE AND MEMBRANE BINDING OF R9AP, A MEMBRANE-ANCHOR PROTEIN. **Sarah Bernier**, Marc-Antoine Millette, Line Cantin, Christian Salesse

2829-Pos Board B37
Education Travel Awardee
STRUCTURE-FUNCTION STUDIES OF THE HYPOXIA-INDUCIBLE PROYLY HYDROXYLASES. **Pamela N. Gallo**, Kayla Schardien, Taylor Keagy, Nathaniel V. Nucci

2830-Pos Board B38
UNDERSTANDING AAV PACKAGING. **Vishaka Santosh**

2831-Pos Board B39
SIMULTANEOUS REAL-TIME OBSERVATION OF DNA UNWINDING AND NUCLEASE DOMAIN ACTIVATION IN CAS9-RNA-DNA COMPLEX VIA THREE-COLOR SINGLE MOLECULE FRET. **Yanbo Wang**, Digvijay Singh, John Mallon, Boyang Hua, Scott Bailey, Taekjip Ha

2832-Pos Board B40
STRUCTURAL AND KINETIC CHARACTERIZATION OF HIGH-AFFINITY LEAD(II)-SYNAPTOTAGMIN I INTERACTIONS. **Sachin Katti**, Bin Her, Atul Srivastava, Alexander B. Taylor, P. John Hart, Steve Lockless, Tatyana Igumenova

2833-Pos Board B41
DISSECTING THE DIVERGENT FUNCTIONS AND DYNAMICS OF ZAP-70 AND SYK. **Helen T. Hobbs**, Neel Shah, Susan Marqusee, John Kuriyan

2834-Pos Board B42
USING PH CHANGES TO OBTAIN TIME-RESOLVED CRYSTALLOGRAPHIC STRUCTURES OF HMG-COA REDUCTASE. **Vatsal Purohit**, Tony Rosales, Chandra Duncan, Calvin Steussy, Cynthia Stauffacher

2835-Pos Board B43
ROLE OF EXPORT CHAPERONES IN REGULATION OF FLAGELLUM ASSEMBLY. **Nandish K. Khanra**, Paolo Rossi, Charalampos Kalodimos

2836-Pos Board B44
EFFECTS OF NATURAL POLYMORPHISMS OF NON-B HIV-1 PROTEASE ON PROTEIN CONFORMATIONS. **Trang Tran**, Zhanglong Liu, Gail Fanucci

2837-Pos Board B45
STRUCTURAL AND MECHANISTIC INSIGHT INTO HOW PATHOGENIC BACTERIA ASSEMBLE ADHESIVE SURFACE PILI VIA ISOPEPTIDE BONDS. **Scott A. McConnell**

2838-Pos Board B46
SOLUTION NMR STUDY OF A CYTOCHROME C MUTANT(A44C) WITH ENHANCED APOPTOTIC ACTIVITY. **Manoj Saxena**, Johnathan Dallman, Ana B. Castaner, Marvin J. Bayro, Kai Griebenow

Protein Structure, Prediction, and Design II (Boards B47–B64)

2839-Pos Board B47
PREDMP: A WEB RESOURCE FOR COMPUTATIONALLY PREDICTED MEMBRANE PROTEINS VIA DEEP LEARNING. **Sheng Wang**, Shiyang Fei, Wang Zongan, Yu Li, Feng Zhao, Xin Gao

2840-Pos Board B48
HOMOLOGY MODELLING OF SODIUM IODIDE SYMPORTER. **Hristina R. Zhekova**, Igor Zdravkovic, Sergei Yu. Noskov, Toshie Sakuma, Susanna C. Concilio, Ryan Johnson, Stephen J. Russell, Kah-Whye Peng

2841-Pos Board B49
DE NOVO PROTEIN STRUCTURE PREDICTION BY COMBINING REPLICA EXCHANGE SIMULATIONS WITH COEVOLUTIONARY DATA. **Arthur Voronin**, Alexander Schug

2842-Pos Board B50
MELD FOLDS NONTHREADABLE PROTEINS. **James Robertson**, Alberto Perez, Ken Dill

2843-Pos Board B51
EFFICIENT SAMPLING FOR THE PREDICTION OF LONG AND MULTIDOMAIN PROTEIN STRUCTURES. **Clare E. West**, Saulo H P de Oliveira, Eleanor C. Law, Sebastian Kelm, Jiye Shi, Charlotte M. Deane

2844-Pos Board B52
NOVEL COARSE-GRAINING APPROACHES FOR LARGE SCALE PROTEIN MODELING. Aleksandra E. Dawid, Andrzej Koliński, **Dominik Gront**

2845-Pos Board B53
COMPENSATORY MUTATIONS IN PROTEIN SEQUENCES FROM BIG-DATA. **Kejue Jia**, Robert L. Jernigan

2846-Pos Board B54
PROTEIN STRUCTURE REFINEMENT VIA MOLECULAR DYNAMICS SIMULATIONS. **Michael Feig**, Lim Heo

2847-Pos Board B55
FROM SINGLE STRUCTURES TO ENSEMBLES: APPLICATION OF THE GALAXY PROGRAM SUITE TO UBIQUITIN, CYCLOPHILIN A AND PTP1B. Gyu Rie Lee, Chaok Seok, **Matthias Buck**

2848-Pos Board B56
ITERATIVE MOLECULAR DYNAMICS–ROSETTA MEMBRANE PROTEIN STRUCTURE REFINEMENT GUIDED BY CRYO-EM DENSITIES. Sumudu Leelananda, **Steffen Lindert**

2849-Pos Board B57
COMPUTATIONAL DESIGN OF HIGH-RESOLUTION PROTEIN CRYSTALS. **Jeliazko R. Jeliazkov**, Aaron C. Robinson, James M. Berger, Bertrand García-Moreno E., Jeffrey J. Gray

2850-Pos Board B58
RELATIVE CONTRIBUTION OF THE REFINEMENT STEPS TO THE PROTEIN-PROTEIN DOCKING SUCCESS RATE. **Taras Dauzhenka**, Ivan Anishchenko, Petras J. Kundrotas, Ilya A. Vakser

2851-Pos Board B59
STRUCTURE MODELING OF DISORDERED PROTEIN INTERACTIONS. Lenna X. Peterson, Amitava Roy, Charles Christoffer, Genki Terashi, **Daisuke Kihara**

2852-Pos Board B60
A NOVEL SET OF QUANTITATIVE RULES FOR BIOLOGICAL OR BIOCHEMICAL SELF-ASSEMBLY IN WATER. **Xian Cheng**, Irina Shkel

2853-Pos Board B61
COMPARISON OF FULL AND INTERFACE STRUCTURE ALIGNMENT IN TEMPLATE-BASED PROTEIN DOCKING. **Devlina Chakravarty**

2854-Pos Board B62
PREDICTING THE EFFECT OF MUTATIONS IN THE KRAS/C-RAF-RBD PROTEIN-PROTEIN INTERFACE. **Anna Lowegard**, Marcel Frenkel, Bruce Donald

2855-Pos Board B63
SMALL ANGLE X-RAY SCATTERING FOR DATA-ASSISTED STRUCTURE PREDICTION IN CASP12 WITH PROSPECTS TO IMPROVE ACCURACY. Tadeusz L. Ogorzalek, Greg L. Hura, Andriy Kryshtafovych, John A. Tainer, Krzysztof Fidelis, **Susan E. Tsutakawa**

2856-Pos Board B64 **EDUCATION TRAVEL AWARDEE**
MIMICKING MICROBIAL RHODOPSIN ISOMERIZATION. **Alireza Ghanbarpour**, Muath Nairat, Meisam Nosrati, Elizabeth Santos, Chrysoula Vasileiou, Babak Borhan, James Geiger

Protein Stability, Folding, and Chaperones III (Boards B65–B92)

2857-Pos Board B65
STRUCTURAL-ELASTIC DETERMINATION OF THE LIFETIME OF BIOMOLECULES UNDER FORCE. Shiwen Guo, **Jie Yan**

2858-Pos Board B66
EQUILIBRIUM AND NON-EQUILIBRIUM STUDIES OF PROTEIN G USING HIGH-RESOLUTION OPTICAL TRAPPING UNVEIL HETEROGENEOUS UNFOLDING PATHWAYS. **Yujie Chen**, Dena Izadi, Miles L. Whitmore, Joseph D. Slivka, Lisa J. Lapidus, Matthew J. Comstock

2859-Pos Board B67
MECHANICAL UNFOLDING AND FOLDING OF A SLIPKNOT PROTEIN OBSERVED BY USING OPTICAL TWEEZERS. **Han Wang**, Chengzhi He, Chunguang Hu, Hongbin Li

2860-Pos Board B68
AN EVOLUTIONARY TREND TOWARDS KINETIC STABILITY IN THE FOLDING TRAJECTORY OF RIBONUCLEASES H. **Shion A. Lim**, Eric R. Bolin, Kathryn M. Hart, Michael J. Harms, Susan Marqusee

2861-Pos Board B69
SINGLE-MOLECULE ASSAY FOR PROTEOLYTIC SUSCEPTIBILITY: FORCE-INDUCED DESTABILIZATION OF COLLAGEN'S TRIPLE HELIX. Michael W.H. Kirkness, **Nancy R. Forde**

2862-Pos Board B70
COMPARISON OF THE STABILITY AND REDUCTION POTENTIAL OF CYTOCHROME C_6 PROTEINS FROM A PSYCHROPHILIC AND A MESOPHILIC DIATOM. Logan Tillery, **Miranda Wilson**, Nayandeep Parmar, Katherine Frato

2863-Pos Board B71
PARAMETER OPTIMIZATION FOR A NEW REACTION PATHWAY SAMPLING METHOD: ACTION-CSA. **Naohiro Nishikawa**, Juyong Lee, Bernard R. Brooks

2864-Pos Board B72
EXAMINATION OF THE EFFECT OF A HISTIDINE TAG ON THE ENERGY LANDSCAPE OF ACBP. **Jamie Stankiewiz**

2865-Pos Board B73
KNOB-SOCKET PREDICTIONS OF ALPHA-HELICAL STABILITY. **Taylor R. Rabara**, Joshman Singh, Danielle MacArt, Shivarni Patel, Hyun Joo, Jerry Tsai

2866-Pos Board B74
HIGH HYDROSTATIC PRESSURE (HHP), XENON AS A PROBE AND SPIN LABELLING OF THE N-TERMINAL DOMAIN REVEAL A WHOLE VARIETY OF CONFORMATIONAL TRANSITIONS IN THE FULL-LENGTH HUMAN PRION PROTEIN. **Werner Kremer**

2867-Pos Board B75
EXPLORING AND ENHANCING COMPARTMENT-SPECIFIC PROTEIN DISAGGREGASES TO COMBAT NEURODEGENERATIVE DISEASES. **Ryan R. Cupo**, Emily Augustine, James Shorter

2868-Pos Board B76
DISULFIDE TRANSFER ENABLES INVERSE-PRION AGGREGATION IN MIXTURES OF HUMAN GAMMA-D CRYSTALLIN VARIANTS. **Eugene Serebryany**, Jimmy Thai, Jaie C. Woodard, Shuhuai Yu, Sunia A. Trauger, Bogdan Budnik, Eugene I. Shakhnovich

2869-Pos Board B77
INVESTIGATING THE EFFECT OF CANCER-RELATED MUTATIONS ON THE STRUCTURE AND FUNCTION OF INTEGRIN AVB3 HETERODIMERS THROUGH MOLECULAR DYNAMICS SIMULATIONS. **Rey Kristoffer V. Salinas**, Raphael D. Caballes, Andre Rhey C. Haro, Neil Andrew D. Bascos

2870-Pos Board B78
SEQUENTIAL FOLDING OF GLOBULAR PROTEIN INITIATED BY FAST LOOP CLOSURE. **Elisha Haas**, Gil Rahamim, Dan Amir

2871-Pos Board B79
CID Travel Awardee
A RIGHT-HANDED COILED COIL TETRAMER TO INDUCE CELL ARREST IN PROSTATIC CARCINOMA CELLS. **Francisco Padron**, JingJing Li, Rihe Liu

2872-Pos Board B80
EGCG INHIBITS FIBRILLATION OF LIGHT CHAIN 6AJL2-R24G, ASSOCIATED WITH LIGHT CHAIN AMYLOIDOSIS. **Angel Enrique Peláez–Aguilar**, Lina Andrea Rivillas Acevedo, Leidys French Pacheco, Gilberto Valdes García, Roberto Maya Martínez, Nina Pastor Colón, Carlos Amero Tello

2873-Pos Board B81
A HELIX 1 PEPTIDE FROM UBA(1) PROVIDES EVIDENCE FOR TERTIARY INTERACTIONS IN THE DENATURED STATE OF UBA(1). **Dustin C. Becht**, Bruce E. Bowler

2874-Pos Board B82
PRIMARY AND SECONDARY STRUCTURE PREFERENCE OF HYDROGEN EXCHANGE. **Boshen Wang**, Jie Liang

2875-Pos Board B83
USING ANCESTRAL PROTEINS TO PROBE THE THERMODYNAMIC AND KINETIC PROPERTIES OF THE ALPHA-LYTIC PROTEASE FAMILY. **Charlotte Nixon**, Shion A. Lim, Zachary Sailer, Michael Harms, Susan Marqusee

2876-Pos Board B84
THERMODYNAMICS OF A COILED-COIL PROTEIN STRUCTURE. Mojtaba Jokar, **Korosh Torabi**

2877-Pos Board B85
EXAMINING THE EFFECT OF UBIQUITINATION ON THE ENERGETICS OF SUBSTRATE PROTEINS. **Emma Carroll**, Susan Marqusee

2878-Pos Board B86
IDENTIFICATION OF SEGMENTS IN VARIABLE DOMAINS OF IG LIGHT CHAINS THAT DRIVE FORMATION OF AMYLOID FIBRILS. **Shannon R. Esswein**, Boris Brumshtein, David S. Eisenberg

2879-Pos Board B87
AN IN SILICO INVESTIGATION OF AMYLOID BETA WITH A FOCUS ON N-TERMINUS: FROM STRUCTURE TO AMYLOID INHIBITOR DESIGN. **Payel Das**, Srirupa Chakrabarty, Anita Chacko, Brian Murray, Georges Belfort

2880-Pos Board B88
USE OF FLUORESCENCE A-TEEMS TO TRACK INSULIN SOLUBILITY AND SOLVENT ENVIRONMENT IN MICELLE SOLUTIONS. **Karen E. Gall**

2881-Pos Board B89
ACTIVATION MECHANISM OF COCOONASE. **Nagisa Tajima**, Mitsuhiro Miyazawa, Shigeru Shimamoto, Yuji Hidaka

2882-Pos Board B90
FIELD FLOW FRACTIONATION CHARACTERIZATION OF THE NIST MONOCLONAL ANTIBODY STANDARD RM 8671. **Robert Reed**, Soheyl Tadjiki, Thorsten Klein

2883-Pos Board B91
RESURRECTING A DESICCATION-INACTIVATED ENZYME. **Samantha Piszkiewicz**, Aakash Mehta, Kenny Nguyen, Ashlee M. Propst, Gary J. Pielak

2884-Pos Board B92
MOLECULAR RECOGNITION MECHANISM OF HEMATOPOIETIC PROSTAGLANDIN D SYNTHASE WITH COFACTOR AND ITS SUBSTRATE. **Shigeru Shimamoto**, Keisuke Asada, Yuji Hidaka

Enzyme Function, Cofactors, and Post-translational Modifications (Boards B93–B112)

2885-Pos Board B93
STRUCTURAL ANALYSIS OF BIFUNCTIONAL ENZYME OBC1 FOR OXALOGENESIS. Juntaek Oh, **Sangkee Rhee**

2886-Pos Board B94
MAPPING AND ANALYSIS OF S-PALMITOYLATION SITES ON RPE65 PROTEIN. **Sheetal Uppal**, Eugenia Poliakov, Susan Gentleman, T. Michael Redmond

2887-Pos Board B95
S-GLUTATHIONYLATION INFLUENCES THE PROPERTY OF FIBRONECTIN. **Wei Li**, Thomas Barker

2888-Pos Board B96 **CID TRAVEL AWARDEE**
TUNING A PROLYL *CIS/TRANS* MOLECULAR SWITCH THAT REGULATES LATERAL ROOT DEVELOPMENT IN RICE. **Lucila A. Acevedo**, Linda K. Nicholson

2889-Pos Board B97
INVESTIGATING THE CONFORMATIONAL DYNAMICS OF PLANT PROTEIN KINASES. **Alexander S. Moffett**, Kyle W. Bender, Steven C. Huber, Diwakar Shukla

2890-Pos Board B98
CRYSTAL STRUCTURE AND CHARACTERIZATION OF Δ5-3-KETOSTEROID ISOMERASE FROM MYCOBACTERIUM STRAIN HGMS2GL. **Fei Peng**, Fei Yang, Xiyao Cheng, Zhengding Su

2891-Pos Board B99
CRYSTAL STRUCTURE AND CHARACTERIZATION OF 3-KETOSTEROID-Δ^1-DEHYDROGENASE FROM *MYCOBACTERIUM* STRAIN HGMS2GL. **Hongwei Wang**, Fei Yang, Xiyao Cheng, Yongqi Huang, Zhengding Su

2892-Pos Board B100
PHYSICAL MODELING OF THE SPREADING AND MAINTENANCE OF EPIGENETIC MODIFICATIONS THROUGH DNA LOOPING AND CONDENSATION. **Sarah Sandholtz**, Quinn MacPherson, Andrew Spakowitz

2893-Pos Board B101
INVESTIGATING THE EFFECT OF ALPHA-SYNUCLEIN POST-TRANSLATIONAL MODIFICATIONS ON SYNAPTIC VESICLE TRAFFICKING. **Buyan Pan**, James Petersson, Elizabeth Rhoades

2894-Pos Board B102
ACTIVE SITE DYNAMICS AND SUBSTRATE PERMISSIVENESS OF HYDROXYLCINNAMOYLTRANSFERASE (HCT). Ying-Chih Chiang, Olesya Levsh, Chun Kei Lam, Jing-Ke Weng, **Yi Wang**

2895-Pos Board B103
A NOVEL BIOLOGICAL NANOPORE FOR ACTIVE DNA TRANSPORT AND DETECTION. **Ke Sun**, Yuejia Chen, Xialin Zhang, Changjian Zhao, Jia Geng

2896-Pos Board B104
EFFECTS OF CROWDING ON ALKALINE PHOSPHATASE KINETICS AS SEEN THROUGH THE LENS OF SMALL-MOLECULE INHIBITION. Oksana Yavorska, Lukas Syriste, Maryam Yaqoob, Chantal du Plessis, Kyle Poffenroth, **John Chik**

2897-Pos Board B105
KINETICS OF MULTISITE PHOSPHORYLATION IN THE CIRCADIAN CLOCK USING TIME-RESOLVED NMR. **Sabrina R. Hunt**, Carrie L. Partch

2898-Pos Board B106
EXPRESSION, PURIFICATION, AND CRYSTALLIZATION OF THE HUMAN OXIDOREDUCTASE, PYROX-D1: A NEW DESCRIBED CAUSE OF EARLY-ONSET MYOPATHY IN HUMANS. **Isaac L. Scott**

2899-Pos Board B107
ENHANCING ENZYMATIC ACTIVITY FOR CELLULOSE DEGRADATION. **Hengameh Shams**, Mohammad R. K. Mofrad

2900-Pos Board B108
THE KINETICS OF HEPATITIS C VIRUS RNA-DEPENDENT RNA POLYMERASE INHIBITION BY NUCLEOSIDE ANALOGUES. **Brian Villalba**, Jiawen Li, Kenneth A. Johnson

2901-Pos Board B109
EVIDENCE FOR THE DEREGULATION OF PROTEIN TURNOVER PATHWAYS IN *ATM*-DEFICIENT MOUSE CEREBELLUM: AN ORGANOTYPIC STUDY. **Catherine Kim**

2902-Pos Board B110
OPTIMIZING TETRAZINE AMINO ACID SIZE AND REACTIVITY FOR EFFICIENT PROTEIN LABELLING. **Subhashis Jana**

2903-Pos Board B111
INFLUENCE OF CONSERVED STRUCTURAL ELEMENTS OF THE PROXIMAL POCKET IN HEME-THIOLATE ENZYMES ON OXYGEN INSERTION REACTIONS. **David C. Chatfield**, Alexander N. Morozov

2904-Pos Board B112
INSIGHTS ON VIRAL DNA PACKAGING MOTOR MECHANISMS FROM THE EFFECTS OF MOTOR RESIDUE CHANGES ON SINGLE-MOLECULE PACKAGING DYNAMICS. **Douglas E. Smith**, Mariam Ordyan, Damian delToro, Jean Sippy, Michael Feiss

Intrinsically Disordered Proteins (IDPs) and Aggregates III (Boards B113–B141)

2905-Pos Board B113
INTERACTIONS BETWEEN CALCINEURIN, TAU, AND RCAN1-1: A DISORDERED TRIO. **Trevor P. Creamer**, AManda Wilburn, Daryn Smith

2907-Pos Board B115
A TEMPERATURE-CONTROLLED STOPPED-FLOW DROPLET-BASED MICROFLUIDIC REACTOR FOR FAST BIOMOLECULAR KINETICS. **Tianjin Yang**, Stavros Stavrakis, Paolo Arosio, Andrew deMello

2906-Pos Board B114 **EDUCATION TRAVEL AWARDEE**
MANIPULATION OF TAU OLIGOMERIZATION AND AGGREGATION CHARACTERIZED BY TIME-RESOLVED FRET. **Chih Hung Lo**, Tory Schaaf, Benjamin Grant, Colin Kin-Wye Lim, David Thomas, Jonathan Sachs

2908-Pos Board B116
PROTEIN CHARGE TRANSFER ABSORPTION SPECTRA: AN INTRINSIC PROBE TO MONITOR STRUCTURAL AND OLIGOMERIC TRANSITIONS IN PROTEINS. Mohd. Ziauddin Ansari, AMrendra Kumar, Dileep Ahari, Anurag Priyadarshi, Padmavathi Lolla, Rashna Bhandari, **Rajaram Swaminathan**

2909-Pos Board B117
PRYING INTO HYDRATION WATER IN AMYLOIDOGENIC INTRINSICALLY DISORDERED PROTEINS. **Samrat Mukhopadhyay**, Shruti Arya, Karishma Bhasne, Priyanka Dogra, Avinash K. Singh, Tuhin Khan, Anindya Datta, Payel Das

2910-Pos Board B118
UTILZING FORSTER RESONANCE ENERGY TRANSFER (FRET) AND PHOTO-CROSSLINKING TO VISUALIZE CONFORMATIONAL CHANGES OF ALPHA-SYNUCLEIN. **John J. Ferrie**, Conor M. Haney, Jimin Yoon, Buyan Pan, Elizabeth Rhoades, Abhinav Nath, E. James Petersson

2911-Pos Board B119
HIGH-SPEED AFM TO CHARACTERIZE NANOSCALE DYNAMICS OF CROSS-LINKED ABETA42 OLIGOMERS. **Siddhartha Banerjee**, Zhiqiang Sun, Eric Y. Hayden, David B. Teplow, Yuri L. Lyubchenko

2912-Pos Board B120
EXAMINING THE NANOSECOND-TO-MILLISECOND DYNAMICS OF SIC1 BY FLUORESCENCE TECHNIQUES. **John Darvy M. Castroverde**, Taehyung Chris Lee, Gregory-Neal W. Gomes, Julie D. Forman-Kay, Claudiu C. Gradinaru

2913-Pos Board B121
IMPROVED STRUCTURAL ESTIMATION OF DISORDERED PROTEINS BY CD SPECTROSCOPY: METHOD DEVELOPMENT AND APPLICATION. András Micsonai, Nikoletta Murvai, Éva Bulyáki, Beáta Szabó, Frank Wien, Young-Ho Lee, Matthieu Réfrégiers, Yuji Goto, Péter Tompa, Kyou-Hoon Han, Ágnes Tantos, **József Kardos**

2914-Pos Board B122
MEASUREMENTS OF AGGREGATION PROPENSITIES OF AMYLOID PEPTIDES BY REAL TIME MONITORING OF GROWTH OF THE AGGREGATES USING TOTAL INTERNAL REFLECTION FLUORESCENCE (TIRF) MICROSCOPY. **Subhas C. Bera**, Shamasree Ghosh, Timir Baran Sil, Kanchan Garai

2915-Pos Board B123
ELECTROSTATIC INTERACTIONS TO GUIDE THE SELF-ASSEMBLY OF HIGHLY ORDERED AMYLOID-LIKE NANOSTRUCTURES. **Ximena Zottig**, Soultan Al-Halifa, Michèle Auger, Steve Bourgault

2916-Pos Board B124
EFFECT OF NEIGHBOURING RESIDUES IN CONFORMATIONAL PLASTICITY OF INTRINSICALLY DISORDERED PROTEINS. **Sushmita Basu**, Ranjit Prasad Bahadur

2917-Pos Board B125
ANTI-COOPERATIVE NEAREST NEIGHBOR COUPLING DETERMINES THE STATISTICAL COIL STATE OF PEPTIDES AND PROTEINS AT HIGH TEMPERATURES. **Reinhard Schweitzer-Stenner**, Siobhan E. Toal

2918-Pos Board B126
SUPERCHARGING AS A GENERAL STRATEGY FOR MAKING PROTEINS INTO CONFORMATIONAL SWITCHES AND THEIR USE IN BIOSENSING. **Peter J. Schnatz**, Joseph M. Brisendine, Ronald L. Koder

2919-Pos Board B127
ADVANCES IN QUANTITATIVE ANALYSIS OF INTRACELLULAR PROTEIN PHASE SEPARATION KINETICS AND ITS MODULATION BY CELLULAR INTERACTIONS. **Ammon E. Posey**, Tejbir Kandola, Rohit V. Pappu, Randal Halfmann

2920-Pos Board B128
CHARGED SIDE CHAIN MUTATIONS OF CAMKII PEPTIDE ALTER BINDING AFFINITY FOR CAM THROUGH CREATION OF NON-LOCAL ALTERNATE BINDING CONTACTS. **Jacob Ezerski**, Pengzhi Zhang, Margaret Cheung

2921-Pos Board B129
DESIGNING LIGANDS FOR STRUCTURE-LESS PROTEINS. Anirban Das, Anju Yadav, Barun Kumar Maity, Bappaditya Chandra, Alexander Korn, Juniane Adler, Sri Rama Koti Ainavarapu, Daniel Huster, **Sudipta Maiti**

2922-Pos Board B130
EXPLORING THE TUNABILITY OF THE AGGREGATION AND GELATION PROCESS OF TRIPEPTIDES. **David DiGuiseppi**, Reinhard Schweitzer-Stenner, Nicolas Alvarez

2923-Pos Board B131
PHASE SEPARATION OF THE VARIABLE DOMAIN OF DYNAMIN RELATED PROTEIN 1 IN TMAO SUGGESTS A ROLE IN ASSEMBLY. **Blake Hill**, AMmon Posey, Mehran Bagheri, Nolan Kennedy, James Harden

2924-Pos Board B132
PREVENTION OF AGGREGATION/FIBRILLATION OF HUMAN SERUM ALBUMIN BY SURFACTANT AND ANTI-INFLAMMATORY DRUG UNDER PHYSIOLOGICAL CONDITIONS: BIOPHYSICAL ASPECTS. **Achal Mukhija**, Nand Kishore

2925-Pos Board B133 **INTERNATIONAL TRAVEL AWARDEE**
DYNAMICS BASED DRUG DESIGN FOR INTRINSICALLY DISORDERED PROTEINS. **Barun K. Maity**

2926-Pos Board B134
SEQUENCE-ENCODED CHARGE PATTERNING OF THE INTRINSICALLY DISORDERED TAIL OF FTSZ IMPACTS POLYMERIZATION AND BACTERIAL CELL DIVISION. **Megan Cohan**, AMmon Posey, Anuradha Mittal, Steven Grigsby, Alex Holehouse, Paul J. Buske, Petra A. Levin, Rohit V. Pappu

2927-Pos Board B135
MULTI-SITE PHOSPHORYLATION MODULATES THE CONFORMATION AND ELECTROSTATIC RESPONSE OF INTRINSICALLY DISORDERED PROTEIN BRUSHES. **Ruoxing Lei**

2928-Pos Board B136 **INTERNATIONAL TRAVEL AWARDEE**
PROTON-INDUCED SWITCHING OF AN INTRINSICALLY DISORDERED DOMAIN OF A MELANOSOMAL PROTEIN INTO A POLYMORPHIC FUNCTIONAL AMYLOID. **Priyanka Dogra**, Sourav Singha Roy, Mily Bhattacharya, Suchitra S. Prabhu, Samrat Mukhopadhyay

2929-Pos Board B137
CONFORMATIONAL EFFECTS OF VARIOUS HYDROPHOBIC-TO-HYDROPHOBIC SUBSTITUTION LOCATED AT THE MIDPOINT OF THE INTRINSICALLY DISORDERED REGION OF PROBDNF. **Ruchi Lohia**, Grace Brannigan

2930-Pos Board B138 EDUCATION TRAVEL AWARDEE
INSIGHTS INTO THE BALANCE BETWEEN FOLDING AND AGGREGATION DURING A PROTEIN'S LIFE. **Matthew D. Dalphin**, Yoo Jin Song, Rayna Addabbo, Yue Liu, Angela Varela, Andrew Stangl, Teddy Jennaro, Silvia Cavagnero

2931-Pos Board B139
GLOBAL DIMENSIONS ARE DECOUPLED FROM ELECTROSTATICS IN THE INTRINSICALLY DISORDERED PROTEIN SIC1. **Gregory Gomes**, Mickael Krzeminski, Julie Forman-Kay, Claudiu Gradinaru

2932-Pos Board B140
INTRINSICALLY DISORDERED PROTEINS PH-INDUCED STRUCTURAL TRANSITIONS IN OVERCROWDED MILIEU. **Alexander V. Fonin**, Sitdikova K. Asiya, Iuliia A. Gagarskaia, Elena I. Kostyleva, Maksim M. Karasev, Olga I. Povarova, Vladimir N. Uversky, Irina M. Kuznetsova, Konstantin K. Turoverov

2933-Pos Board B141
HIDDEN STRUCTURAL CODES IN PROTEIN INTRINSIC DISORDER. **Gonzalo de Prat Gay**

Ribosomes & Translation (Boards B142–B161)

2934-Pos Board B142
ALLOSTERIC LOGIC OF THE V. VULNIFICUS ADENINE RIBOSWITCH RESOLVED BY FOUR-DIMENSIONAL CHEMICAL MAPPING. **Rhiju Das**

2935-Pos Board B143
SIMULTANEOUS FORCE AND FLUORESCENCE MEASUREMENTS ON SINGLE RIBOSOMES DEMONSTRATE THAT MRNA SECONDARY STRUCTURES DO NOT RESTRICT EF-G CATALYZED TRANSLOCATION. **Varsha P. Desai**, Filipp Frank, Maurizio Righini, Antony Lee, Ignacio Tinoco, Carlos J. Bustamante

2936-Pos Board B144
HOW 2'-*O*-METHYLATION IN MRNA DISRUPTS TRNA DECODING DURING TRANSLATION ELONGATION. **Junhong Choi**, Gabriele Indrisiunaite, Hasan DeMirci, Ka-Weng Ieong, Jinfan Wang, Alexey Petrov, Arjun Prabhakar, Gideon Rechavi, Dan Dominissini, Chuan He, Måns Ehrenberg, Joseph D. Puglisi

2937-Pos Board B145
FLUORESCENT DYE DYNAMICS ATTACHED TO EF-TU AND THEIR EFFECT ON A HETERO-FRET SYSTEM. **Senthilkumar Kailasam**, Luc Roberts, Hans-Joachim Wieden

2938-Pos Board B146
UNFOLDING INTERMEDIATE OF MRNA PSEUDOKNOT CORRELATES WITH RIBOSOMAL FRAMESHIFTING. **Kai-Chun Chang**, Po-Szu Hsieh, An-Yi Lee, Emmanuel Salawu, You-Hsin Lin, Yu-Ting Chen, Jin-Der Wen

2939-Pos Board B147
COUPLED RIBOSOME CONFORMATIONAL AND COMPOSITIONAL DYNAMICS IN THE MECHANISM OF RELEASE FACTOR 3 DURING TRANSLATION TERMINATION. **Arjun Prabhakar**, Joseph D. Puglisi

2940-Pos Board B148
HOW MECHANICAL FORCES ON THE RIBOSOME MODULATE THE SPEED OF PROTEIN SYNTHESIS. Benjamin Fritch, Sarah Leininger, Phillip Hudson, Lee Woodcock, Carol Deutsch, **Edward P. O'Brien**

2941-Pos Board B149
CONSERVATION OF FOLDING MECHANISM IN COTRANSLATIONAL FOLDING OF TITIN I27. **Pengfei Tian**, Annette Steward, Jane Clarke, Robert B. Best

2942-Pos Board B150
THE STRUCTURAL BASIS FOR INITIATION FACTOR 2 ACTIVATION DURING TRANSLATION INITIATION. Kelvin Caban, Michael Pavlov, Sandip Kaledhonkar, Ziao Fu, Joachim Frank, Måns Ehrenberg, **Ruben L. Gonzalez, Jr.**

2943-Pos Board B151
IDENTIFYING THE RNA KINETIC TRAPS IN RIBOSOME ASSEMBLY. **Riley C. Gentry**, Eda Koculi

2944-Pos Board B152
DYNAMICS OF EF-TU AND ITS EFFECT ON GROWTH IN LIVE *ESCHERICHIA COLI*. **Mainak Mustafi**, James C. Weisshaar

2945-Pos Board B153
DYNAMICS OF EUKARYOTIC TRANSLATION INITIATION. **Jinfan Wang**, Joseph D. Puglisi

2946-Pos Board B154
THE EVOLUTION OF THE RIBOSOME EXIT TUNNEL AND ITS IMPACT ON TRANSLATION DYNAMICS. **Khanh Dao Duc**, Sanjit Batra, Yun Song

2947-Pos Board B155
GROWTH PHASE DEPENDENT EFFECTS ON SPATIAL DISTRIBUTION OF *E. COLI* CHROMOSOMES AND RIBOSOMES. **Sonisilpa Mohapatra**

2948-Pos Board B156
TRANSLATIONAL CONTROL OF CANCER STEM CELLS. **Yasunari Kanda**, Naoya Hirata, Shigeru Yamada, Daiju Yamazaki

2949-Pos Board B157
CRYO-EM REVEALS MOLECULAR TRANSFORMERS IN ORGANELLES. **Alexey AMunts**

2950-Pos Board B158
NASCENT PROTEINS INTERACT WITH KEY REGIONS OF THE OUTER SURFACE OF THE RIBOSOME. **Andrew M. Fuchs**, Valeria Guzman-Luna, Rayna Addabbo, Silvia Cavagnero

2951-Pos Board B159
SINGLE-MOLECULE ANALYSIS OF RIBOSOME AND FACTOR ASSEMBLY PATHWAYS ON A VIRAL MRNA. **Alex G. Johnson**, Joseph D. Puglisi

2952-Pos Board B160
STUDYING THE NASCENT PEPTIDE CHAIN IN THE RIBOSOMAL EXIT TUNNEL. **Nadin Haase**, Wolf Holtkamp, Reinhard Lipowsky, Marina Rodnina, Sophia Rudorf

2953-Pos Board B161
RIBOSOMAL PROTEIN DYNAMICS ON THE HUMAN RIBOSOME. **Christopher Lapointe**, Joseph Puglisi

DNA Structure and Dynamics II (Boards B162–B181)

2954-Pos Board B162
SEQUENCE SELECTIVITY, COOPERATIVITY AND COMPETITION IN THE EQUILIBRIUM BINDING OF PSORALENS TO DNA. **Stephen A. Winkle**, Sigal Dahan, Doreen Patichi, Cinthya Susanibar Tinoco, Giselle Valdes

2955-Pos Board B163
USING MINICIRCLES TO TEST THE ROLE OF DNA BENDING IN MISMATCH RECOGNITION BY RAD4/XPC. **Sagnik Chakraborty**, Debamita Paul, Jung-Hyun Min, Phoebe A. Rice, Anjum Ansari

2956-Pos Board B164
PARALLELIZED MAGNETIC TORQUE TWEEZERS PROBE DNA MECHANICS AND VIRAL INTEGRATION. **Jan Lipfert**

2957-Pos Board B165
THE SEQUENCE-DEPENDENT EFFECTS OF BRANCH MIGRATION. **D. W. Bo Broadwater, Jr.**, Harold D. Kim

2958-Pos Board B166
SIMULTANEOUS AFM AND FLIM IMAGING WITH A SIR-DNA PROBE REVEALS STRUCTURAL CHANGES DURING DNA CONDENSATION IN LIVE CELL NUCLEI. **Chetan Poudel**, Nathan Curry, Kevin A. Feeney, Gabriele S. Kaminski Schierle, Clemens F. Kaminski

2959-Pos Board B167
SINGLE-MOLECULE FRET INVESTIGATIONS OF TANDEM HUMAN TELOMERIC G-QUADRUPLEX STRUCTURES. **Emil L. Kristoffersen**, Mikayel Aznauryan, Victoria Birkedal

2960-Pos Board B168
ATOMISTIC INSIGHTS INTO DNA TWIST DEFORMABILITY AND FINE STRUCTURE. **Korbinian Liebl**

2961-Pos Board B169
A MULTIDIMENSIONAL DNA MANIPULATION PLATFORM ENABLES MASSIVE PARALLEL IMAGING OF REPLICATION FORK DYNAMICS. **Karl Duderstadt**, Rohit Agarwal

2962-Pos Board B170
INFERRING TRANSVERSE STATISTICS FROM LONGITUDINAL OBSERVABLES FOR CONFINED WORMLIKE CHAINS. **Greg Morrison**

2963-Pos Board B171
DE NOVO PREDICTION OF HUMAN CHROMOSOME STRUCTURES: EPIGENETIC MARKING PATTERNS ENCODE GENOME ARCHITECTURE. **Michele Di Pierro**, Ryan R. Cheng, Erez Lieberman Aiden, Peter G. Wolynes, Jose N. Onuchic

2964-Pos Board B172
INTRASTRAND BASE PAIR FORMATION IN REPETITIVE DNA SEQUENCES. Marisa Mitchell, Carolina Dunbar, Thao Tran, **Brian Cannon**

2965-Pos Board B173
TRAPPING THE INTERMEDIATE CONFORMATIONS DURING FLEXIBLE DNA CYCLISATION BY SMFRET MEASUREMENTS. **Tapas Paul**, Padmaja Prasad Mishra

2966-Pos Board B174
LAMIN B1 TETHERS TO CHROMATIN AND ORGANIZES ITS HIGH-ORDER STRUCTURE. **Lei Chang**, Mengfan Li, Shipeng Shao, Boxin Xue, Yingping Hou, Ruifeng Li, Cheng Li, Yujie Sun

2967-Pos Board B175
DIRECTLY RESOLVING ACTIVATED AND BARRIERLESS EVENTS IN DNA OLIGONUCLEOTIDE DEHYBRIDIZATION ACROSS MANY DECADES IN TIME. **Paul J. Sanstead**, Andrei Tokmakoff

2968-Pos Board B176
CELL DENSITY DEPENDENCE OF DNA LOOPING IN E. COLI CULTURES. **Justin P. Peters**, Vishwas N. Rao, Nicole A. Becker, L. James Maher

2969-Pos Board B177
VISUALIZATION OF DNA HOLLIDAY JUNCTIONS VIA A HIGH THROUGHPUT MICROFLUIDIC ASSAY. **Harrison Khoo**, Sy Redding

2970-Pos Board B178
SYNTHETIC CHLOROPHYLL-*A* DERIVATIVES STABILIZE DNA G-QUADRUPLEX STRUCTURES. **Yasunobu Nagano**, Tamaki Endoh, Shin Ogasawara, Naoki Sugimoto, Hitoshi Tamiaki

2971-Pos Board B179
STRETCH AND DYNAMICS OF SINGLE CHROMATIN MOLECULES CONFINED IN NANOFLUIDIC CHANNELS. **William M. Rosencrans**, Fan Liu, Nikolay V. Berezhnoy, Anatoly Zinchenko, Lars Nordenskiöld, Johan R. C. van der Maarel

2972-Pos Board B180
MOBILITY AND CONFORMATIONAL DYNAMICS OF LARGE DNA DIFFUSING THROUGH CYTOSKELETAL NETWORKS. **Kathryn Regan**, Rachel Dotterweich, Shea Ricketts, Rae Robertson-Anderson

2973-Pos Board B181
SINGLE MOLECULE FRET OBSERVATIONS OF FOLDING FOR DNA HAIRPINS CONTAINING TRINUCLEOTIDE REPEATS. **Pengning Xu**, Keith Weninger

Membrane Dynamics II (Boards B182–B200)

2974-Pos Board B182
MOLECULAR COUPLING OF THE LIPID MEMBRANE ELASTICITY AND IN-PLANE DYNAMICS. Kuan-Yu Tsang, Lai Yei-Chen, Yun-Wei Chiang, **Yi-Fan Chen**

2975-Pos Board B183
INVESTIGATING THE TRANSBILAYER DISTRIBUTION OF CHOLESTEROL IN ASYMMETRIC UNILAMELLAR VESICLES USING SMALL-ANGLE SCATTERING. Christopher T. Boughter, Milka Doktorova, Wen-hung Chou, Jessica M. Morgan, Steven A. Redford, Vedant Sachdeva, **Elizabeth D. White**, Vilmos Zsolnay, Frederick A. Heberle, Adam T. Hammond

2976-Pos Board B184
LATERAL DISTRIBUTION AND MOBILITY OF TRANSMEMBRANE PROTEINS IN PLASMA MEMBRANE VESICLES. **Guillermo S. Moreno-Pescador**, Emilie L. Veje, Henrik Ötsbye, Szabolcs Semsey, Robert Daniels, Poul Martin Bendix

2977-Pos Board B185 EDUCATION TRAVEL AWARDEE
LIPID LATERAL ORDERING OF RAFT DOMAINS DEFINED BY HIGH-FIELD EPR. **Zahra Hayati**, Pavanjeet Kaur, Likai Song

2978-Pos Board B186
1 + 1 = 0? — NANOSECOND BIPOLAR PULSE CANCELLATION AND THE ELECTROPERMEOME. **Esin B. Sozer**, P. Thomas Vernier

2979-Pos Board B187
THE IMAGING FCS DIFFUSION LAW FOR MULTIPLE DIFFUSIVE MODES. **Sapthaswaran Veerapathiran**, Thorsten Wohland

2980-Pos Board B188
THE ROLE OF TRACTION IN MEMBRANE CURVATURE GENERATION. **Haleh Alimohamadi**, Ritvik Vasan, Julian Hassinger, Jeanne Stachowiak, Padmini Rangamani

2981-Pos Board B189
FINE TUNING OF MICROSCOPIC PROPERTIES IN TWO-COMPONENT ZWITTERIONIC-ANIONIC LIPID BILAYERS: DETERMINANT ROLE OF H-BONDING. **Roman G. Efremov**, Darya V. Pyrkova, Nikolay A. Krylov

2982-Pos Board B190
SHAPE TRANSFORMATION OF BIOMEMBRANE INDUCED BY BANANA-SHAPED PROTEIN RODS. **Hiroshi Noguchi**

2983-Pos Board B191
CHOLESTEROL CHEMICAL POTENTIAL IN MIXED PHOSPHATIDYLCHOLINE/CHOLESTEROL BILAYER: MODEL PREDICTIONS AND COMPUTER SIMULATIONS. **Nihit Pokhrel**, Lutz Maibaum

2984-Pos Board B192
MULTICOMPONENT VESICLE MEMBRANES: INFLUENCE OF MATERIAL PROPERTIES. **David Salac**, Prerna Gera

2985-Pos Board B193
DIFFUSIVE MODES OF ARCHAEA BOLALIPID MEMBRANE. **Sergei I. Mukhin**, Daria Makitruk, Daniyar Gabdullin

2986-Pos Board B194
ANALYTICAL CALCULATION OF DIFFUSION COEFFICIENT DROP AT THE LIQUID-GEL PHASE TRANSITION IN LIPID MEMBRANE. **Timur Galimzyanov**, Boris Kheyfets, Sergei Mukhin

2987-Pos Board B195
MEMBRANE MEDIATED COOPERATIVE BEHAVIOR OF SPHERICAL NANOPARTICLES. **Eric J. Spangler**, P. B. Sunil Kumar, Mohamed Laradji

2988-Pos Board B196
THE BINDING AND AGGREGATION OF ANISOTROPIC NANOPARTICLES ON CYLINDRICAL LIPID MEMBRANES. **Alexander D. Olinger**, Eric J. Spangler, P. B. Sunil Kumar, Mohamed Laradji

2989-Pos Board B197
MICROSCOPIC VIEW ON NON-VIRAL MEDIATED TRANSFECTION. **Bart M. Bruininks**, Paulo C. Telles de Souza, Siewert Jan Marrink

2990-Pos Board B198
MEMBRANE MEDIATED FORCES ON PROTEINS DURING DIFFUSION AND BINDING. **Ana-Suncana Smith**

2991-Pos Board B199
DOPING OF HOPANOIDS IN BILAYERS MODULATES OLIGOMERIZATION OF PROTEORHODOPSIN. **Eric Sefah**, Blake Mertz

2992-Pos Board B200
A NEW COMPUTATIONAL MODELING FRAMEWORK FOR THE 3D FLOW AND SHAPE DYNAMICS OF CELLULAR MEMBRANES. **Roger A. Sauer**, Amaresh Sahu, Yannick A.D. Omar, Kranthi K. Mandadapu

Membrane Fusion and Non-Bilayer Structures (Boards B201–B229)

2993-Pos Board B201
LIPOSOME-MEMBRANE FUSION RATES ALTERED BY DOSE AND LOCATION OF SHORT-CHAIN ALCOHOLS. **Dixon J. Woodbury**, Devin M. Fuller, Miguel A. Ibarra, Austin L. Zimmerman

2994-Pos Board B202
VIRAL FUSION PEPTIDES INCORPORATED IN MONOOLEIN MEMBRANES: SECONDARY STRUCTURE AND LIPID PHASE BEHAVIOR. **Artem Levin**, Claus Czeslik, Roland Winter

2995-Pos Board B203
THE HOPS/CLASS C VPS COMPLEX TETHERS MEMBRANES VIA A DIRECT PROTEIN-MEMBRANE INTERACTION. **Christopher Stroupe**

2996-Pos Board B204
MID51 AND MFF CO-ASSEMBLE IN CARDIOLIPIN-ENRICHED MEMBRANE MICRODOMAINS TO COOPERATIVELY REGULATE DRP1-MEDIATED MITOCHONDRIAL FISSION. Patrick Macdonald, Natalia Stepanyants, Abeer Singh, Ryan Clinton, Laura Osellame, Michael Ryan, **Rajesh Ramachandran**

2997-Pos Board B205
BROADLY NEUTRALIZING ANTI-HIV-1 ANTIBODIES DO NOT INHIBIT HIV-1-ENV-MEDIATED CELL-CELL FUSION. **Nejat Duzgunes**, Michael Yee, Deborah Chau

2998-Pos Board B206
SINGLE PARTICLE CONTENT TRANSFER ASSAY FOR SURFACE-TETHERED VIRUS MEMBRANE FUSION. **Katherine N. Liu**, Robert J. Rawle, Elizabeth R. Webster, Steven G. Boxer

2999-Pos Board B207
INTERLEAFLET COUPLING IN ASYMMETRIC MEMBRANES: PROTOCOLS AND REVELATIONS. **Milka Doktorova**, Frederick A. Heberle, Boris Dzikovski, Siddarth Chandrasekaran, John Katsaras, Gerald Feigenson, Harel Weinstein

3000-Pos Board B208
KINETIC MODELS OF ZIKA VIRUS MEMBRANE FUSION. **Robert Rawle**, Elizabeth Webster, Steven Boxer, Peter Kasson

3001-Pos Board B209
EBOLA VIRUS SPIKE GLYCOPROTEIN RECRUITS CHOLESTEROL FOR EFFICIENT FUSION. **Jinwoo Lee**, Alex J. B. Kreutzberger, David A. Nyenhuis, Elizabeth A. Nelson, Volker Kiessling, David S. Cafiso, Judith M. White, Lukas K. Tamm

3002-Pos Board B210
NOVEL LABELING STRATEGY FOR AUTOMATED DETECTION OF SINGLE VIRUS FUSION AND ASSESSMENT OF HIV-1 PROTEASE ACTIVITY IN SINGLE VIRIONS. **Chetan Sood**, Ashwanth C. Francis, Tanay M. Desai, Gregory Melikyan

3003-Pos Board B211
SIMULATIONS AND EXPERIMENTS SHOW A MECHANISTIC ROLE FOR INFLUENZA FUSION PEPTIDES IN MEMBRANE BENDING AND FUSION STOICHIOMETRY. **Peter Kasson**

3004-Pos Board B212
LASSA FEVER VIRUS GLYCOPROTEIN MEDIATES LAMP1- AND LOW PH-DEPENDENT CELL-CELL FUSION THROUGH A STALK-PORE MECHANISM. **Ruben M. Markosyan**, Mariana Marin, Fredric S. Cohen, Gregory B. Melikyan

3005-Pos Board B213
TARGET MEMBRANE SPONTANEOUS CURVATURE MODULATES ITS PORATION BY INFLUENZA VIRUS. **Sourav Haldar**, Elena Mekhedov, Paul S. Blank, Joshua Zimmerberg

3006-Pos Board B214
SHOULD I SPLAY OR SHOULD I STAY–HOW LIPIDS AND TRANSMEMBRANE HELICES DETERMINE MEMBRANE FUSION. **Katja Kolocaj**, Holger A. Scheidt, James A. Frank, Dirk Trauner, Daniel Huster, Dieter Langosch

3007-Pos Board B215
COMBINING MD SIMULATIONS AND 31P NMR SPECTROSCOPY TO DECIPHER LAMELLAR TO HEXAGONAL PHASE TRANSITION PROMOTED BY DIVERSE LIPID TYPES. **Matthieu Chavent**, Evert Haanappell, Alain Milon

3008-Pos Board B216
COMPUTATIONAL AND EXPERIMENTAL STUDY OF DOPE AND POPE LIPIDS IN THE INVERTED HEXAGONAL PHASE: EFFECT OF WATER PER LIPID, TEMPERATURE, SALT CONCENTRATION, AND SIMULATION SETUP. **Mohsen Ramezanpour**, Bashe Y.M. Bashe, Miranda L. Schmidt, Jenifer L. Thewalt, D. Peter Tieleman

3009-Pos Board B217
LEAKY INTERMEDIATES AND POSSIBLE DEAD-END CONFIGURATIONS IN MEMBRANE FUSION. **Rodion Yu Molotkovskiy**, Timur R. Galimzyanov, Piotr I. Kuzmin, Sergey A. Akimov

3010-Pos Board B218
STUDY OF THE FUSION MECHANISM OF FUSOGENIC CATIONIC LIPOSOMES WITH ANIONIC MODEL MEMBRANES. **Rafaela R. M. Cavalcanti**, Rafael B. Lira, Karin A. Riske

3011-Pos Board B219
NANOMECHANICS OF MEMBRANE FISSION: ELASTICITY OF THE PRECURSOR STATE. **Pavel Bashkirov**, Ksenia Chekashkina, Anna Shnyrova, Pedro Arrasate, Peter Kuzmin, Vadim Frolov

3012-Pos Board B220
MOLECULAR INTERACTIONS OF LIPIDS AND MINERAL SURFACES. **Brenda L. Kessenich**, John S. Loring, Sarah L. Keller, James J. De Yoreo

3013-Pos Board B221
MEMBRANE FUSION AS A FUNCTION OF NORMAL FORCES AND IN-PLANE TENSION. **Andreas Janshoff**

3014-Pos Board B222
DIRECT MEASUREMENT OF SITE-SPECIFIC BINDING ENERGETICS OF SYNAPTOTAGMIN-1 WITH ANIONIC LIPID MEMBRANES. Clémence Gruget, Jeff Coleman, Oscar Bello, Shyam Krishnakumar, Frederic Pincet, James E. Rothman, **Stephen H. Donaldson Jr.**

3015-Pos Board B223
INVESTIGATION OF SYNAPTIC VESICLE FUSION MECHANISMS WITH NOVEL VESICULAR FORCE MICROSCOPY. **Ines Lüchtefeld**, Tomaso Zambelli, Janos Vörös

3016-Pos Board B224
MOLECULAR CONFORMATION AND TOPOGRAPHY OF A SYNAPTIC LIPOPEPTIDE IN SIMULATED SYNAPTOSOMAL MEMBRANE LIPIDS. **Julian Whitelegge**, Piotr Ruchala, Alan Waring, Cameron Gundersen

3017-Pos Board B225
COMPLEXIN BINDING TO MEMBRANES AND ACCEPTOR T-SNARE COMPLEX EXPLAINS ITS CLAMPING AND STIMULATORY EFFECTS ON FUSION. **Binyong Liang**, Alex JB Kreutzberger, Rafal Zdanowicz, Volker Kiessling, David S. Cafiso, Lukas K. Tamm

3018-Pos Board B226
THE FUSION PORE LIFETIME DURING SNARE MEDIATED FUSION OF DENSE CORE VESICLES WITH T-SNARE CONTAINING SUPPORTED MEMBRANES CAN BE MODULATED BY ASYMMETRIC LIPID DISTRIBUTIONS. **Volker Kiessling**, Alex J.B. Kreutzberger, Binyong Liang, Sung-Tae Yang, J David Castle, Lukas K. Tamm

3019-Pos Board B227
SPATIALLY CONFINED MEMBRANE FUSION WITH SNARE MIMETICS. **Tom Robinson**, Bastian Kubsch, Torben Kliesch, Andreas Janshoff, Reinhard Lipowsky, Rumiana Dimova

3020-Pos Board B228
INTERACTION OF SNARE MIMETIC PEPTIDES WITH LIPID BILAYERS. **Andrea Grafmueller**, Swapnil Wagle, Reinhard Lipowsky

3021-Pos Board B229
SNARE COPY NUMBER DETERMINES THE SIZE AND KINETIC PROPERTIES OF NASCENT FUSION PORES. **Huan Bao**

Protein-Lipid Interactions: Channels (Boards B230–B243)

3022-Pos Board B230
MODULATION OFMEMBRANE PROTEINS BY LIPIDS. **Carmen Domene**

3023-Pos Board B231
MATHEMATICAL MODELS OF PROTEIN INDUCED MEMBRANE DEFORMATION. **Michael Grabe**, Neville Bethel

3024-Pos Board B232
Education Travel Awardee
DETERMINING THE SPECIFICITY OF DESIGNED PEPTIDE THAT INHIBITS ANTIBIOTIC RESISTANCE. **Virangika K. Wimalasena**, Jimmy Budiardjo, Cyril B.R. Cook, Joanna S.G. Slusky

3025-Pos Board B233
EFFECTS OF CHANNEL FORMING PEPTIDES ON LIPID BILAYER DYNAMICS AND LEAFLET COUPLING. **Elizabeth G. Kelley**, Michihiro Nagao, Paul D. Butler

3026-Pos Board B234
SCALING LAWS FOR IONIC TRANSPORT IN NANOCHANNELS: BULK, SURFACE AND INTERFACIAL EFFECTS. **Antonio Alcaraz**, María L. López, María Queralt-Martin, Vicente M. Aguilella

3027-Pos Board B235
MEMBRANE PERMEABILIZING ELECTRIC FIELDS DISRUPT WATER CHANNEL FUNCTION AND SELECTIVITY. **Zachary A. Levine**

3028-Pos Board B236
OPTIMAL DESIGN OF AN AQUAPORIN LIPID MEMBRANE SYSTEM USING MOLECULAR DYNAMICS SIMULATION. **Hyunki Kim**, Moon-ki Choi, Byungho Lee, Soojin Jo, Daejoong Kim, Moon Ki Kim

3029-Pos Board B237
THE FUNCTIONAL RELATIONSHIP BETWEEN A KIR CHANNEL AND THE LIPID MEMBRANE. **Benjamin Wylie**, Collin Borcik, Emily Hardy

3030-Pos Board B238
TMEM16F IS A CALCIUM-ACTIVATED PHOSPHOLIPID SCRAMBLASE REQUIRED FOR CHEMICALLY-INDUCED GIANT PLASMA MEMBRANE VESICLES. **Tina W. Han**, Wenlei Ye, Neville P. Bethel, Mario Zubia, Michael Grabe, Yuh Nung Jan, Lily Y. Jan

3031-Pos Board B239
PIP_2 AND CA^{2+} ARE BOTH REQUIRED TO OPEN TMEM16A CHANNELS IN *XENOPUS LAEVIS* OOCYTES. **Maiwase Tembo**, Anne E. Carlson

3032-Pos Board B240
INTERACTIONS OF NICOTINIC ACETYLCHOLINE RECEPTORS WITH CHOLESTEROL AND POLYUNSATURATED FATTY ACIDS IN MODEL, NATIVE-LIKE, AND OOCYTE MEMBRANES. **Liam Sharp**, Grace Brannigan

3033-Pos Board B241
INTERACTIONS OF PLASMA MEMBRANE CRITICALITY AND $GABA_A$ RECEPTOR GATING. **Thomas R. Shaw**, Benjamin B. Machta, Sarah L. Veatch

3034-Pos Board B242
IDENTIFICATION OF THE EXTRACELLULAR GATE OF A TMEM16 SCRAMBLASE. **Byoung-Cheol Lee**, George Kelashvili, Maria Falzone, Harel Weinstein, Alessio Accardi

3035-Pos Board B243
ACCESSING THE DESENSITIZED STATE OF PLGICS: WHY IS THE CONNECTIVITY BRANCHED FOR INHIBITORY RECEPTORS, BUT LINEAR FOR EXCITATORY RECEPTORS? **Robert Cantor**

Protein-Lipid Interactions: Structures (Boards B244–B271)

3036-Pos Board B244
ANALYZING THE EFFECTS OF PLACING CENTRAL ARGININE RESIDUES WITHIN A HIGHLY DYNAMIC TRANSMEMBRANE ALPHA-HELIX. **Matthew J. McKay**, Denise V. Greathouse, Roger E. Koeppe II

3037-Pos Board B245
NEUTRON SPIN ECHO DETECTS EFFECTS OF THE PH-LOW INSERTION PEPTIDE ON MEMBRANE THICKNESS FLUCTUATIONS. **Haden L. Scott**, Rana Ashkar, Fred A. Heberle, Robert F. Standaert, John Katsaras, Francisco N. Barrera

3038-Pos Board B246 **CID TRAVEL AWARDEE**
SUPPORTED TUBULATED BILAYERS: A NOVEL SYSTEM FOR EVALUATING PROTEIN-MEDIATED MEMBRANE REMODELING. Peter J. Dahl, **Noah A. Schenk**, Alexandra H. Ranski, Michael G. Hanna, Anjon Audhya, Gregory G. Tall, Jefferson D. Knight, Arun Anantharam

3039-Pos **Board B247** **EDUCATION TRAVEL AWARDEE**
SPHINGOMYELIN-CHOLESTEROL COMPLEXES IN PLASMA MEMBRANES. **Shreya Endapally**, Donna Frias, Diana Tomchick, Arun Radhakrishnan

3040-Pos **Board B248**
BIOPHYSICAL STUDIES OF MODEL LIPID MEMBRANES TO DETERMINE A NOVEL MECHANISM OF DAPTOMYCIN INHIBITION BY LUNG SURFACTANT. **Brenda Y. Lee**, Jeff HY Lam, Maureen MW Li, Zoya Leonenko

3041-Pos **Board B249**
MEMBRANE BINDING PROPERTIES OF BACILLOMYCIN-D DERIVATIVES WITH MODEL MEMBRANES COMPOSED OF DIFFERENT STEROLS. **Carlos Munoz-Garay**, Sathishkumar Munusamy, Agustin Luna Bulbarela, Romina Vazquez, Vanesa Herlax, Sabina Mate, Leobardo Serrano Carreon

3042-Pos **Board B250**
MULTISCALE SIMULATIONS OF MEMBRANE RECOGNITION BY LIPID KINASES. **Sarah-Beth AMOS**, Antreas C. Kalli, Jiye Shi, Mark S. P. Sansom

3043-Pos **Board B251**
THE FLOW OF PROTEINS AND IDEALISED PORES WITHIN THE MEMBRANES OF GRAM-NEGATIVE BACTERIA. **Jonathan Shearer**, Syma Khalid

3044-Pos **Board B252**
TWO-COLOR STED MICROSCOPY TO VISUALIZE S-LAYER BIOGENESIS IN *CAULOBACTER CRESCENTUS*. **Colin J. Comerci**, Jonathan Herrmann, Lucy Shapiro, Soichi Wakatsuki, W. E. Moerner

3045-Pos **Board B253**
MECHANISMS GOVERNING PROTEIN CLUSTERING AND SHAPE CHANGES IN BIOLOGICAL MEMBRANES. **Sunil Kumar Palakurissi Balagopal**, Sreeja K K

3046-Pos **Board B254**
INTERPLAY OF CURVATURE SENSING AND GENERATION MEDIATED BY PERIPHERAL MEMBRANE PROTEINS. **Sachin Krishnan Thekke Veettil**, Sovan Lal Das, Sunil Kumar Palakurissi Balagopal

3047-Pos **Board B255**
STRUCTURAL LIPIDS STABILISE FUNCTIONAL OLIGOMERS OF THE EUKARYOTIC PURINE SYMPORTER UAPA. Euan Pyle, Antreas Kalli, Zoe Hall, Bernadette Byrne, **Argyris Politis**

3048-Pos **Board B256**
INVESTIGATING STRUCTURAL
PROPERTIES OF *PSEUDOMONAS AERUGINOSA* EXOU TOXIN UPON INTERACTION WITH
LIPOSOME AND NANODISC BILAYERS BY EPR SPECTROSCOPY. **Tzvia I. Springer**, Samantha Kohn, Jimmy Feix

3049-Pos **Board B257**
INVESTIGATING THE CONFORMATIONAL DYNAMICS AND MEMBRANE INTERACTION NEAR THE CATALYTIC SERINE OF EXOU UPON INTERACTION WITH DIUBIQUITIN AND MEMBRANES BY EPR SPECTROSCOPY. **Samantha Kohn**, Tzvia Springer, Jimmy Feix

3050-Pos **Board B258**
THE MINIMUM CONDITIONS FOR BAX TO INDUCE APOPTOTIC MEMBRANE PORES. Yei-Chen Lai, **Yun-Wei Chiang**

3051-Pos **Board B259**
STRUCTURAL CHARACTERIZATION OF MEMBRANE-ASSOCIATED BCL-2 FAMILY PROTEINS. **Yong Yao**, Vindana Ekanayake, Pavel Ryzhov, Francesca M. Marassi

3052-Pos **Board B260**
MECHANISMS OF MEMBRANE REMODELLING MEDIATED BY SHORT FORM OF THE MITOCHONDRIAL INNER MEMBRANE FUSION PROTEIN OPA1. Danyang Zhang, **Yan Zhang**, Tongxin Niu, Edward H. Egelman, Fei Sun

3053-Pos **Board B261**
HUMAN DOMAIN SWAPPED CYTOCHROME C: THE EVOLUTIONARY GOVERNOR OF APOPTOSIS? **Harmen B. Steele**, James T. Rogan, JB Alexander Ross, Bruce E. Bowler

3054-Pos **Board B262**
CORRELATING STRUCTURE AND FUNCTION OF NON-NATIVE CYTOCHROME C: THE RELATIONSHIP BETWEEN IRON SPIN STATE AND PEROXIDASE ACTIVITY. **Gabrielle Lewis**, Bridget Milorey, Reinhard Schweitzer-Stenner

3055-Pos **Board B263**
IMPLEMENTING A STATISTICAL THERMODYNAMIC MODEL TO DESCRIBE FUNCTIONALLY RELEVANT CYTOCHROME C–CARDIOLIPIN L-SITE BINDING. **Bridget Milorey**, Reinhard Schweitzer-Stenner

3056-Pos **Board B264**
ISOTHERMAL TITRATION CALORIMETRY AND VESICLE LEAKAGE ASSAYS HIGHLIGHT THE DIFFERENTIAL BEHAVIORS OF TAU REPEAT SEGMENTS UPON INTERACTION WITH ANIONIC LIPID MEMBRANES. **Lexus Tatge**, Sidney Dicke, Paige Engen, Samantha Ealy, Megan Culp, Larry R. Masterson

3057-Pos **Board B265**
LIPID MEMBRANE TEMPLATED MISFOLDING AND SELF-ASSEMBLY OF INTRINSICALLY DISORDERED TAU PROTEIN. **Jaroslaw P. Majewski**, Emmalee M. Jones, Jacek Biernat, Eckhard Mandelkow, Eva Y. Chi

3058-Pos **Board B266**
EFFECT OF CHOLESTEROL ON MEMBRANE PORE FORMATION BY AMYLOID B_{25-35}. Nabin Kandel, Jason O. Matos, **Suren A. Tatulian**

3059-Pos **Board B267**
CHARACTERIZATION OF MEMBRANE-BOUND ALPHA-SYNUCLEIN WITH THE THIOCYANATE VIBRATIONAL PROBE GROUP. **Franklin A. Kostas**, Kavita Shroff, Kristen E. Fiore, Daniel M. Konstantinovsky, Casey H. Londergan

3060-Pos **Board B268**
STRUCTURE OF *E. COLI* SECA BOUND TO LIPID VESICLES AND NANODISCS. **Guillaume Roussel**, Stephen H. White

3061-Pos **Board B269**
INVESTIGATING THE MEMBRANE ASSOCIATION OF THE HUMAN N-TERMINAL ACETYLTRANSFERASE 60 (HNAA60). **Qaiser Waheed**, Nathalie Reuter

3062-Pos **Board B270**
CONFORMATIONAL CHANGES OF SEVI PRECURSOR PEPTIDE PAP248–286 UPON MEMBRANE BINDING. **Shushan He**, Lutz Maibaum

3063-Pos **Board B271**
CYCLOOXYGENASE 1 LIPID INTERACTIONS REVEALED BY ALL-ATOM AND COARSE-GRAINED MOLECULAR DYNAMICS SIMULATIONS. **Besian I. Sejdiu**, D Peter Tieleman

Excitation-Contraction Coupling II (Boards B272–B293)

3064-Pos **Board B272**
THE EFFECT OF OESTROGEN ON CA^{2+} AND NA^{+} REGULATION IN HEART FAILURE. **Jahn M. Firth**, Hsiang-Yu Yang, Alice J. Francis, Anita Alvarez-Laviada, Kenneth T. MacLeod

3065-Pos **Board B273**
TNF-ALPHA MEDIATES GENDER SPECIFIC CA^{2+} SIGNALLING DYSFUNCTION IN TYPE 2 DIABETES. Gema Ruiz-Hurtado, Carmen Delgado, Ana-Maria Gomez, **Laetitia Pereira**

3066-Pos Board B274
ROLE OF EPAC2 IN HIGH GLUCOSE-INDUCED SR CA^{2+} LEAK AND ARRHYTHMIA. Magali Samia el Hayek, Donald Bers, Ana-Maria Gomez, **Laetitia Pereira**

3067-Pos Board B275
INTERPLAY BETWEEN TRIADIN AND CALSEQUESTRIN IN THE PATHOGENESIS OF CVPT. Marine Cacheux, Jérôme Thireau, Jérémy Fauconnier, Alexis Osseni, Nathalie Roux-Buisson, Julie Brocard, Julien Fauré, Alain Lacampagne, **Isabelle Marty**

3068-Pos Board B276
T-TUBULE LOSS IS A PROMINENT FEATURE OF HFREF BUT NOT HFPEF. Michael Frisk, **Michael Frisk**, Christopher Le, Christen P. Dahl, Ida G. Lunde, Vibeke M. Almaas, Lars Gullestad, Svend Aakhus, Ole M. Sejersted, Theis Tønnessen, William E. Louch

3069-Pos Board B277
CHOLESTEROL PROTECTS AGAINST ACUTE STRESS-INDUCED T-TUBULE REMODELING IN MOUSE VENTRICULAR MYOCYTES. Azadeh Nikouee, Keita Uchida, **Anatoli N. Lopatin**

3070-Pos Board B278
T-TUBULAR CONSTRICTIONS PROMOTE T-TUBULE SEALING. **Keita Uchida**, Azadeh Nikouee, Greta Tamkus, Anatoli N. Lopatin

3071-Pos Board B279
THE ROLE OF NCX1 ON THE MAINTENANCE OF T-TUBULE ARCHITECTURE IN PRESSURE-OVERLOADED HEARTS. **Yoshihiro Ujihara**, Satomi Takatsu, Keiji Naruse, Satoshi Mohri, Yuki Katanosaka

3072-Pos Board B280
RECOVERY OF CARDIAC T-TUBULES AFTER HYPOSMOTIC SHOCK. **Greta Tamkus**, Keita Uchida, Anatoli N. Lopatin

3073-Pos Board B281
COMPARABLE CALCIUM HANDLING AND CONTRACTILITY IN HUMAN IPSC CARDIOMYOCYTE MODELS OF THREE DIFFERENT HYPERTROPHIC CARDIOMYOPATHY-LINKED MUTATIONS. **Kyungsoo Kim**, Lili Wang, Vasco Sequeira, Joseph C. Wu, Bjorn C. Knollmann

3074-Pos Board B282
MECHANOTRANSDUCTION VIA NO SIGNALING AUTO-REGULATES CARDIOMYOCYTE CONTRACTILITY. **Rafael Shimkunas**, Bence Hegyi, Zhong Jian, Zana Coulibaly, John A. Shaw, Nipavan Chiamvimonvat, Kit S. Lam, Leighton Izu, Ye Chen-Izu

3075-Pos Board B283
VISCOELASTIC ESHELBY ANALYSIS OF THE CELL-IN-GELL SYSTEM. **John Shaw**

3076-Pos Board B284
MECHANICAL LOAD EFFECTS ON CARDIOMYOCYTE ACTION POTENTIAL, CACIUM TRANSIENT, AND CONTRACTION REVEALED BY USING A NOVEL PATCH-CLAMP-IN-GEL TECHNOLOGY. **Zhong Jian**, Yi-je Chen, Bence Hegyi, Tamas Banyasz, Zana Coulibaly, Rafael Shimkunas, Nipavan Chiamvimonvat, Kit S. Lam, Leighton T. Izu, Ye Chen-Izu

3077-Pos Board B285 **EDUCATION TRAVEL AWARDEE**
SUPERRESOLUTION (DSTORM) IMAGING OF CALCIUM HANDLING PROTEINS IN CARDIOMYOCYTES. **Ornella Manfra**, Xin Shen, Johannes W. Hell, William Edward Louch

3078-Pos Board B286
3D DSTORM IMAGING REVEALS DISASSEMBLY OF RYANODINE RECEPTOR CLUSTERS IN FAILING CARDIOMYOCYTES. **Xin Shen**, Jonas van den Brink, Terje R. Kolstad, Einar Norden, Andy G. Edwards, Michael Frisk, Ivar Sjaastad, Christian Soeller, William E. Louch

3079-Pos Board B287
SUPER RESOLUTION IMAGING OF RYANODINE RECEPTOR CLUSTER MORPHOLOGY IN RABBIT AND HUMAN ATRIAL MYOCYTES. **Daria Boyd**, Antony Workman, Niall Macquaide

3080-Pos Board B288
ASSOCIATION OF CARDIAC MYOSIN BINDING PROTEIN-C WITH THE RYANODINE RECEPTOR-CA^{2+} RELEASE CHANNEL: PUTATIVE RETROGRADE REGULATION? Paulina Stanczyk, Monika Seidel, Judith White, Cedric Viero, Chris George, Spyros Zissimopoulos, **F. Anthony Lai**

3081-Pos Board B289
TRAFFICKING OF PHOSPHOLAMBAN AND SERCA2A FOLLOWS THE NUCLEAR ENVELOPE-TO-SR ALONG T-TUBULES (NEST) PATHWAY COMMON TO JUNCTIONAL SARCOPLASMIC RETICULUM (SR) PROTEINS. Danning Wang, Juyi Wan, Steven E. Cala, **Zhenhui Chen**

3082-Pos Board B290
STATINS BIND TO CARDIAC RYANODINE RECEPTOR (RYR2) CHANNELS TO ALTER OPENING FREQUENCY. **Abigail D. Wilson**, Chris Lindsay, Elisa Venturi, Angela J. Russell, Rebecca Sitsapesan

3083-Pos Board B291
PHOSPHORYLATION OF THE TYPE 2 RYANODINE RECEPTORS PLAYS A ROLE IN THE ORGANIZATION OF THEIR ARRAY. **Parisa Asghari**, David R.L. Scriven, Hector Valdivia, Xander Wehrens, Edwin D.W. Moore

3084-Pos Board B292
BINDING AND REGULATION OF THE CARDIAC RYANODINE RECEPTOR BY PKA AND CAMKII. **Omid Haji-Ghassemi**

3085-Pos Board B293
MOLECULAR BASIS FOR CA^{2+} BINDING OF RYR2 FOR CHANNEL ACTIVATION AND DISEASES STATES. **Takashi Murayama**, Haruo Ogawa, Nagomi Kurebayashi, Takashi Sakurai

Cardiac, Smooth and Skeletal Muscle Electrophysiology II (Boards B294–B316)

3086-Pos Board B294
SELF-ORGANIZATION OF FUNCTIONAL COUPLING BETWEEN MEMBRANE AND CALCIUM CLOCK IN ARRESTED HUMAN SINOATRIAL NODAL CELLS IN RESPONSE TO CAMP. **Kenta Tsutsui**, Oliver Monfredi, Syevda Sirenko, Rostialav Bychkov, Larissa A. Maltseva, Mary S. Kim, Bruce D. Ziman, Kirill V. Tarasov, Mingyi Wang, Alexander V. Maltsev, Jaclyn A. Brennan, Igor R. Efimov, Michael D. Stern, Victor A. Maltsev, Edward G. Lakatta

3087-Pos Board B295
POSITIVE FEEDBACK MECHANISMS AMONG LOCAL CA RELEASES, NCX, & I_{CAL} IGNITE PACEMAKER ACTION POTENTIALS. **Victor A. Maltsev**, Alexey E. Lyashkov, Joachim Behar, Edward G. Lakatta, Yael Yaniv

3088-Pos Board B296
COMBINED EFFECTS OF GAP JUNCTIONAL AND EPHAPTIC COUPLING THERAPIES ON CONDUCTION AND ARRHYTHMOGENESIS DURING ISCHEMIA/REPERFUSION. **Gregory S. Hoeker**, Carissa C. James, Sarah H. Barrett, James W. Smyth, Steven Poelzing

3089-Pos Board B297
SAP97 EXPRESSION IS IMPORTANT FOR HEART RATE CONTROL IN THE MURINE SINUS NODE. Todd Herron, Brad Rosinski, Roberto Ramos Mondragon, Hassan Musa, Kamel Aoun, Lakshmi Mundada, Steven Whitesall, Yan Chen, Nulang Wang, Guadalupe Guerrero-Serna, Hector Valdivia, **Justus M. Anumonwo**

3090-Pos Board B298 **EDUCATION TRAVEL AWARDEE**
L-TYPE CALCIUM CHANNEL GATING MODIFIERS AS A NEW CLASS OF ANTIARRHYTHMIC DRUGS. **Marina Angelini**, Arash Pezhouman, Marvin G. Chang, Nicoletta Savalli, Guillaume Calmettes, Antonios Pantazis, Hrayr S. Karagueuzian, James N. Weiss, Riccardo Olcese

3091-Pos Board B299
DEFINING THE LIMITS OF STEM-CELL DERIVED CARDIOMYOCYTES (SC-CMS) TO DETECT CARDIAC PROARRHYTHMIC LIABILITIES. **Carlos A. Obejero-Paz**, Leslie Ellison, James Kramer, Andrew Bruening-Wright

3092-Pos Board B300
ACTION POTENTIAL TRIANGULATION AND INSTABILITY IN TNT-I79N HUMAN IPSC-CMS. **Lili Wang**, Bjorn C. Knollmann

3093-Pos Board B301
INDUCED PLURIPOTENT STEM CELL-DERIVED CARDIOMYOCYTES (COR.4U) CHARACTERIZED ON AN AUTOMATED PLANAR PATCH CLAMP SYSTEM (QPATCH HT). **Daniel R. P. Sauter**, Kazuya Tsurudome, Rasmus Jacobsen, Goeran Mattsson

3094-Pos Board B302
A NEW ANALYSIS PIPELINE TO IMPROVE ASSESSMENT OF CARDIAC LIABILITY IN HIGH THROUGHPUT ELECTROPHYSIOLOGY SCREENS WITH ROUTINE MOA DETECTION FOR SLOW ONSET COMPOUNDS. Stephan Steigele, Ana L. Teixeira, Martin Ginkel, Verity A. Talbot, Lisa J. McWilliams, Matt Bridgland-Taylor, **Leigh Foster**, Stephan Heyse

3095-Pos Board B303
CORRELATION OF I_{KR} BLOCK WITH ACTION POTENTIAL CHANGES IN HUMAN STEM CELL DERIVED CARDIOMYOCYTES. **Brian K. Panama**, Mark W. Nowak, Sanjot Singh, Randall L. Rasmusson, Glenna C L Bett

3096-Pos Board B304
A FAST OPTICAL ION CHANNEL ASSAY FOR ASSESSING ACTION POTENTIALS IN HUMAN INDUCED PLURIPOTENT STEM CELL CARDIOMYOCYTES. **Stephen S. Smith**, Thomas Lila, Jay Trautman, Andrew Blatz

3097-Pos Board B305
HIGH-THROUGHPUT STUDY OF RABBIT VENTRICLE ACTION POTENTIAL POPULATIONS IN MI MODEL. **Quentin Lachaud**, Niall MacQuaide, Francis Burton, Godfrey Smith

3098-Pos Board B306
OXIDATIVE STRESS REMODELING OF ZEBRAFISH CARDIAC ELECTRICAL GRADIENTS. Nicholas A. James, Ashraf R. Beshay, Eileen Chang, **Thao P. Nguyen**

3099-Pos Board B307
RING FINGER PROTEIN 207 DEGRADES T613M KV11.1 CHANNEL. **Hannah A. Ledford**, Seojin Park, Padmini Sirish, Aiyana M. Emigh, Wilson Xu, Valeriy Timofeyev, James R. Priest, Marco V. Perez, Euan A. Ashley, Vladimir Yarov-Yarovoy, Xiao-Dong Zhang, Nipavan Chiamvimonvat

3100-Pos Board B308
TRANSIENT OUTWARD K CURRENT DEFINES CA DYNAMICS ON INTACT MOUSE HEARTS. Micaela Lopez Alarcon, Juan I. Felice, Emilino Medei, **Ariel L. Escobar**

3101-Pos Board B309
FAST SODIUM CURRENTS IN RAT ATRIAL AND VENTRICULAR MYOCYTES. Rachel E. Caves, Stephanie CM Choisy, Simon M. Bryant, Jules C. Hancox, **Andrew F. James**

3102-Pos Board B310
SELECTIVE CHLORIDE ION SENSING MICROELECTRODES USING A BORON CLUSTER IONOPHORE. **Rafal M. Dziedzic**, Marino DiFranco, Stephen C. Cannon, Alexander M. Spokoyny

3103-Pos Board B311
COMPARISON OF CARDIAC CELL FUNCTION IN CAVEOLIN-3 KNOCK-OUT AND TAC MICE. **Cherrie H. Kong**, Simon M. Bryant, Hanne C. Gadeberg, Judy J. Watson, David M. Roth, Hemal H. Patel, Andrew F. James, Mark B. Cannell, Clive H. Orchard

3104-Pos Board B312
CARDIAC ACTION POTENTIAL PROPAGATION THROUGH COMPACT FIBROBLASTS IN 3D CARDIAC MICROTISSUES ENGINEERED FROM SELF-ASSEMBLED SPHEROIDS AS BUILDING BLOCKS. **Tae Yun Kim**, Celinda M. Kofron, Michelle King, Alexander R. Markes, Anawon O. Okundaye, Zhilin Qu, Ulrike Mende, Bum-Rak Choi

3105-Pos Board B313
CARDIOMYOCYTE ZO-1 REGULATES INTERCALATED DISC ORGANIZATION AND WHOLE HEART PHYSIOLOGY. **Wenli Dai**, Le Shen, Rangarajan Nadadur, Kaitlyn Shen, Margaret Gadek, Michael Broman, Ivan Moskowitz, Christopher Weber

3106-Pos Board B314
A FOUR MICROELECTRODE METHOD TO STUDY INTRACELLULAR ION CONCENTRATION AND TRANSPORT IN SKELETAL MUSCLE FIBERS. Judith A. Heiny, Stephen C. Cannon, **Marino Di Franco**

3107-Pos Board B315
CARDIAC $CA_V1.2$ SIGNATURE INDUCED BY MINERALOCORTICOID IN VESSELS. **Débora Falcón Boyano**, Thassio R. Mesquita, Rogelio Salazar-Enciso, Hussein Kobeissy, Angelica Rueda, Natalia López-Andrés, Ana Maria Gómez Gómez, Jean-Pierre Benitah

3108-Pos Board B316
HAEM MODULATION OF ARTERIAL SMOOTH MUSCLE CELL LARGE-CONDUCTANCE CA^{2+}-ACTIVATED K^+ (BK) CHANNEL ACTIVITY. **Modupe Ayeni**

Muscle Regulation (Boards B317–B322)

3109-Pos Board B317
BIOENGINEERING AND CHARACTERIZATION OF TROPONIN PEPTIDES FOR USE AS THERAPEUTIC REAGENTS TO MODULATE MUSCLE CONTRACTILITY. **Sienna Wong**, Hanzhong Feng, Jian-Ping Jin

3111-Pos Board B319
TROPONIN BRIDGES AND STRETCH ACTIVATION IN INSECT FLIGHT MUSCLE. Demetris Koutalianos, Kate English, **Belinda Bullard**

3110-Pos Board B318
INFLUENCE OF RESIDUE-77 ON FLEXIBILITY OF AN EXTENSIVE PORTION OF TROPOMYOSIN TPM1.1 (ALPHA). **Anthonydura Madhushika M. Silva**, David H. Heeley

3112-Pos Board B320
MYOGENIC DIFFERENTIATION OF IPSC HOMOLOGOUS OF A NEMALINE MYOPATHY-CAUSING NONSENSE MUTATION IN *TNNT1* GENE. **Anupom Mondal**, Jian-Ping Jin

3113-Pos Board B321
GM7325 TRANSCRIPTION IS REGULATED BY MYOD IN ACTIVATED MUSCLE SATELLITE CELLS. **Daisuke Takei**, Miyuki Nishi, So-ichiro Fukada, Masao Doi, Hitoshi Okamura, Akiyoshi Uezumi, Lidan Zhang, Morikatsu Yoshida, Mikiya Miyazato, Atsuhiko Ichimura, Hiroshi Takeshima

3114-Pos Board B322
BOTH ACTIN MYOSIN ATTACHMENT AND DETACHMENT KINETICS AFFECT ACTIN SLIDING VELOCITIES AND ARE INFLUENCED BY MECHANICAL LOAD. **Travis J. Stewart**, Sam Dugan, Diego Acala, Richard Brizendine, Christine R. Cremo, Josh E. Baker

Intracellular Transport (Boards B323–B334)

3115-Pos Board B323
UPTAKE AND LOCALIZATION OF AMINOGLYCOSIDE ANTIBIOTICS IN LIVE ESCHERICHIA COLI. **Eliza M. Warszawik**, Jochem H. Smit, Yichen Li, Mark Loznik, Avishek Paul, Thorben M. Cordes, Andreas Herrmann

3116-Pos Board B324
HYDROPHOBIC-MEDIATED ASSEMBLY OF LIPID-COATED BUILDING BLOCKS BY DOUBLE-END ANCHORED POLYMERS. **Emily Wonder**, Chenyu Liu, Kai K. Ewert, Phillip Kohl, Youli Li, Weihong Qiao, Cyrus R. Safinya

3117-Pos Board B325
OPTIMIZING CATIONIC LIPOSOME COMPOSITION FOR HYDROPHOBIC DRUG LOADING AND DELIVERY TO HUMAN CANCER CELLS. **Victoria Steffes**, Scott MacDonald, Meena M. Murali, Kai K. Ewert, Cyrus R. Safinya

3118-Pos Board B326
ACTIN CORRALS G-PROTEIN COUPLED RECEPTORS IN CILIARY MEMBRANE. **Sungsu Lee**, Peter Calvert

3119-Pos Board B327
RETROGRADE DIFFUSION OF KINESIN-II FACILITATES FLAGELLAR LENGTH CONTROL IN *CHLAMYDOMONAS.*. **Alexander Chien**, Sheng Ming Shih, Raqual Bower, Douglas Tritschler, Mary E. Porter, Ahmet Yildiz

3120-Pos Board B328
REGULATION OF RAB5 IN ITS EFFECTOR BINDING AND GUANINE NUCLEOTIDE CONVERSION BY SITE-SPECIFIC MONOUBIQUITINATION. **Sangho Lee**

3121-Pos Board B329
RESOLVING ENDOSOME ROTATION IN INTRACELLULAR TRAFFICKING. **Yan Yu**

3122-Pos Board B330
KINETIC MODELING OF WEAK BASE NACHR LIGAND SELECTIVE TRAPPING WITHIN INTRACELLULAR ACIDIC VESICLES: INSIGHTS INTO MECHANISMS UNDERLYING NICOTINE ADDICTION AND SMOKING CESSATION. **Yuqi Liu**, Stefan Trapp, William N. Green, Esmael J. Haddadian

3123-Pos Board B331
INTRACELLULAR TRANSPORT CHARACTERIZATION OF THE TRANSCRIPTION FACTOR GLI2 BY FLUORESCENCE CORRELATION SPECTROSCOPY APPROACHES. **Belén Torrado**, Leonel Malacrida, José Luis Badano, Florencia Irigoín, Enrico Gratton

3124-Pos Board B332
ALL-ATOM STRUCTURE AND IONIC CONDUCTIVITY OF THE NUCLEAR PORE COMPLEX. **David Winogradoff**, Christopher Maffeo, Wei Si, Aleksei Aksimentiev

3125-Pos Board B333
SYNTHETIC MIMICS OF THE NUCLEAR PORE COMPLEX. Laura Maguire, Michael Stefferson, Katherine Rainey, Nathan Crossette, Eric Verbeke, Meredith Betterton, **Loren Hough**

3126-Pos Board B334
MONITORING THE TAGGED MRNA EXPORT RATE VIA NUCLEAR PORE COMPLEX IN LIVE CELLS WITH A SNAPSHOT. **Yueyue Jing**, Jingya Ye, Longfang Yao, Lan Mi, Biao Dong, Jiong Ma

Voltage-gated Na Channels (Boards B335–B362)

3127-Pos Board B335
ELUCIDATING THE SPECIFICITY AND BINDING RATE OF A SUBTYPE SELECTIVE SODIUM CHANNEL INHIBITOR WITH MOLECULAR DYNAMCIS SIMULATIONS. **Ben Corry**

3128-Pos Board B336
UNDERSTANDING NERVOUS SYSTEM EVOLUTION THROUGH NATURAL EXPERIMENTS: TETRODOTOXIN RESISTANCE IN SNAKES. **Shana L. Geffeney**, Gabriela Toledo, Charles T. Hanifin

3129-Pos Board B337
ENHANCED TETRODOTOXIN-SENSITIVE NEURONAL NA^+ CHANNEL ACTIVITY ASSOCIATED WITH ARRHYTHMOGENIC CALMODULIN MUTATION N98S. **Przemyslaw Radwanski**, Jonathan Davis, Sandor Gyorke

3130-Pos Board B338
CHARACTERIZATION OF A NAV1.4 HYPOKALEMIC PERIODIC PARALYSIS MUTATION IN DOMAIN I. **James R. Groome**, Landon Bayless-Edwards, Paula Arinze, Frank Lehmann-Horn, Karin Jurkat-Rott

3131-Pos Board B339
BIOPHYSICAL CHARACTERIZATION OF TWO NAV1.4 MUTATIONS MAKING A CLINICAL OVERLAP BETWEEN THE MYOTONIA-HYPERKALEMIC AND HYPOKALEMIC PERIODIC PARALYSIS CLUSTERS OF DISORDERS. **Mohamed Chahine**, Hugo Poulin, Pascal Gosselin-Badaroudine, Savine Vicart, Karima Habbout, Damien Sternberg, Serena Giuliano, Bertrand Fontaine, Saïd Bendahhou, Sophie Nicole

3132-Pos Board B340
PHYSIOLOGICAL TRADEOFFS OF TTX RESISTANCE IN $NA_V1.4$: WHOLE CELL ELECTROPHYSIOLOGY AND TISSUE MYOGRAPHY REVEAL REDUCED TETRODOTOXICITY AT THE COST OF CHANNEL FUNCTION. **Robert E. del Carlo**, Jessica S. Reimche, Michael T.J. Hague, Edmund D. Brodie, Jr., Normand Leblanc, Chris R. Feldman

3133-Pos Board B341 **EDUCATION TRAVEL AWARDEE**
INVESTIGATING A DOMAIN I HYPOKALEMIC PERIODIC PARALYSIS MUTATION IN HNAV1.4: A COMPUTATIONAL APPROACH. **Landon J. Bayless-Edwards**, James R. Groome, Frank Lehmann-Horn, Vern Winston, Karin Jurkat-Rott

3134-Pos Board B342
NAV1.4 LOSS OF FUNCTION CHANGES FOR RECESSIVELY INHERITED MYOPATHY WITH FLUCTUATING WEAKNESS. **Nathaniel Elia**, Perry Shieh, Marbella Quinonez, Stephen Cannon

3135-Pos Board B343
A COMPUTATIONAL MODEL OF THE CARDIAC SODIUM CHANNEL DIII VOLTAGE SENSOR: CONNECTING MOLECULAR MOVEMENTS TO TISSUE DYNAMICS. **Jonathan Moreno**, Wandi Zhu, Jonathan Silva

3136-Pos Board B344
INTRACELLULAR CALCIUM ALTERS SODIUM CHANNEL KINETICS TO INFLUENCE NEURONAL FIRING. **Marco A. Navarro**, Jenna L. Lin, Benton R. Berigan, Mirela Milescu, Lorin S. Milescu

3137-Pos Board B345
SYNTHETIC BATRACHOTOXIN DERIVATIVES AS MOLECULAR PROBES OF VOLTAGE-GATED SODIUM ION CHANNEL FUNCTION. **Timothy M.G. MacKenzie**, Justin Du Bois

3138-Pos Board B346
RECOMBINANT EXPRESSION OF A VOLTAGE SENSING DOMAIN FROM HUMAN NAV1.7. **Ryan V. Schroder**, Ping Wang, Sebastien F. Poget

3139-Pos Board B347
SEQUENCE AND 3D ALIGNMENTS OF THE PORE-LINING HELICES IN P-LOOP CHANNELS REVEAL THEIR CONSERVED AND VARIABLE FEATURES. Denis B. Tikhonov, **Boris S. Zhorov**

3140-Pos Board B348
MECHANISM OF SELECTIVE RESISTANCE OF THE BUMBLE BEE SODIUM CHANNEL $BINA_V1$ TO TAU-FLUVALINATE. **Ke Dong**, Shaoying Wu, Yoshiko Nomura, Yuzhe Du, Boris Zhorov

3141-Pos Board B349
SELECTIVE CONDUCTION IN A HUMAN SODIUM CHANNEL CONTROLLED BY ION-CARBOXYLATE AND LYSINE INTERACTIONS. Emelie Flood, Céline Boiteux, **Toby W. Allen**

3142-Pos Board B350
THERMAL MELT CIRCULAR DICHROISM SPECTROSCOPY OF MEMBRANE PROTEINS AS A TOOL FOR CRYO-EM PREPARATIONS. **Altin Sula**, Sam M. Ireland, Jennifer Booker, B. A. Wallace

3143-Pos Board B351
DEVELOPMENT OF HIGH THROUGHPUT ELECTROPHYSIOLOGY ASSAYS OF RECOMBINANT NAV1.9 CHANNELS. **Matthew D. Fuller**, Chris Mathes, Zhixin Lin, Mark L. Chapman, Nina Brinkwirth, Claudia Haarmann, Michael George, Niels Fertig, Andrea Brüggemann

3144-Pos Board B352
THE ROLE $NA_V1.9$ IN SOMATOSENSORY SIGNALING. **Juan Salvatierra**, Frank Bosmans, Marcelo Diaz-Bustamante, James Meixiong, Xinzhong Dong

3145-Pos Board B353
PYRROLINE DERIVATIVES OF MEXILETINE-LIKE COMPOUNDS HAVE DUAL ACTIVITY AS USE-DEPENDENT SODIUM CHANNEL BLOCKERS AND ANTIOXIDANT. Michela De Bellis, Francesca Sanarica, Alessia Carocci, Giovanni Lentini, Sabata Pierno, Diana Conte Camerino, **Annamaria De Luca**

3146-Pos Board B354
POPULATION-BASED MATHEMATICAL MODELING TO DEDUCE DISEASE-CAUSING CARDIAC NA^+ CHANNEL GATING DEFECTS. **Chiara Campana**, Ivan Gando, Reina Bianca Tan, Frank Cecchin, William A. Coetzee, Eric A. Sobie

3147-Pos Board B355
I_{NA} LOSS-OF-FUNCTION BY COMPOUND VARIANTS IN SCN5A FROM A LARGE FOUNDER POPULATION WITH EXCESS SUDDEN CARDIAC DEATH. **Cristina Altrocchi**, Roel R.L. Spätjens, Henry Sutanto, Rachel M.A. ter Bekke, Sandrine Seyen, Jordi Heijman, Cristina Moreno, Paul G.A. Volders

3148-Pos Board B356
ASSESSING THE STRUCTURAL BASIS OF M-CONOTOXIN KIIIA INHIBITION OF THE VOLTAGE-GATED SODIUM CHANNEL NAV1.7. **Ian H. Kimball**, Phuong T. Nguyen, Jon T. Sack, Vladimir Yarov-Yarovoy

3149-Pos Board B357
INTERMEDIATE STATES AND STRUCTURAL ENSEMBLES OF CALMODULIN BOUND TO THE $NA_V1.2$ IQ MOTIF. **Ryan Mahling**, Adina M. Kilpatrick, Holly M. Isbell, Madeline A. Shea

3150-Pos Board B358
CALMODULIN REGULATION OF NAV1.8 CHANNEL. **Liang Hong**, Meihong Zhang, Erin Lambers, Arvind Sridhar, AMbili Menon, Dawood Darbar

3151-Pos Board B359
CALMODULIN RECOGNITION OF VOLTAGE-GATED SODIUM CHANNELS $NA_V1.1$, $NA_V1.4$ AND $NA_V1.7$. Holly M. Isbell, Adina M. Kilpatrick, Zesen Lin, Ryan Mahling, **Madeline A. Shea**

3152-Pos Board B360
HYPOKALEMIC PERIODIC PARALYSIS CASES WITH SUBSTITUTIONS FROM ARGININE TO LYSINE IN THE VOLTAGE SENSOR. **Maki Nakaza**, Tomoya Kubota, Savine Vicart, Daisuke Watanabe, Norito Kokubun, Mitsuru Furuta, Damien Sternberg, Yosuke Kokunai, Tatsuya Abe, Bertrand Fontaine, Masanori P. Takahashi

3153-Pos Board B361
MOLECULAR BASIS OF MEXILETINE RESPONSE VARIABILITY IN SODIUM CHANNELS WITH LONG QT MUTATIONS. **Wandi Zhu**, Taylor L. Voelker, Jonathan D. Moreno, Andrea Mazzanti, Silvia G. Priori, Jonathan R. Silva

3154-Pos Board B362
EFFECTS OF CANNABIDIOL ON HUMAN NAV CHANNELS. **Mohammad-Reza Ghovanloo**, Noah Gregory Shuart, Janette Mezeyova, Peter C. Ruben, Samuel J. Goodchild

Voltage-gated Ca Channels (Boards B363–B378)

3155-Pos Board B363
GATING DEFECTS OF A CACNA1D MISSENSE MUTATION LINKED TO A DEVELOPMENTAL DISORDER OF UNKNOWN CAUSE. **Nadja Hofer**, Joerg Striessnig

3156-Pos Board B364
DHEA-INDUCED INHIBITION OF I_{CAL} IN ARTERIAL SMOOTH MUSCLE CELLS. INVOLVEMENT OF GLUCOSE-6-PHOSPHATE DEHYDROGENASE AND GPCR SIGNALING. **Rikuo Ochi**, Sukrutha Chettimada, Sachin A. Gupte

3157-Pos Board B365
PROBING THE VOLTAGE-SENSING MECHANISM OF $CA_V1.1$ CALCIUM CHANNELS AT SINGLE CHANNEL RESOLUTION. **Pierre Costé de Bagneaux**, Bruno Benedetti, Petronel Tuluc, Marta Campiglio, Bernhard Flucher

3158-Pos Board B366
RGK PROTEINS PREFERENTIALLY INHIBIT FAST-INACTIVATING VOLTAGE-GATED CALCIUM CHANNELS: IMPLICATIONS FOR HUMAN DISEASE. Salma Allam, Rose Levenson-Palmer, Zuleen Chia Chang, Kaur Sukhjinder, Scott Dobbins, Jian Yang, **Zafir Buraei**

3159-Pos Board B367
A COMPLEX OF RIM2ALPHA AND RIM-BINDING PROTEIN 2 STABILIZES SLOW VOLTAGE-DEPENDENT INACTIVATION OF COCHLEAR INNER HAIR CELL CAV1.3 L-TYPE CA^{2+} CHANNELS. **Nadine J. Ortner**, Alexandra Pinggera, Anita Siller, Nadja Hofer, Niels Brandt, Andrea Raffeiner, Isabelle Lang, Eduard Stefan, Gerald J. Obermair, Jutta Engel, Jörg Striessnig

3160-Pos Board B368
FUNCTION OF L-TYPE CALCIUM CHANNEL MICRODOMAIN IN HUMAN MYOCYTES FROM HEARTS WITH ISCHEMIC VERSUS DILATED CARDIOMYOPATHIES. **Jose L. Sanchez-Alonso**, Sophie Schobesberger, Claire E. Poulet, Navneet Bhogal, Rasheda Chowdhury, Julia Gorelik

3161-Pos Board B369
MOLECULAR MECHANISM OF VOLTAGE-GATED CA^{2+} CHANNEL REGULATION BY MEMBRANE PIP_2. **Cheon-Gyu Park**, Byung-Chang Suh

3162-Pos Board B370
STAC PROTEINS ASSOCIATE TO THE IQ DOMAIN OF $CA_V1.2$ AND INHIBIT CALCIUM-DEPENDENT INACTIVATION. **Marta Campiglio**, Pierre Costé de Bagneaux, Nadine J. Ortner, Petronel Tuluc, Bernhard E. Flucher

3163-Pos Board B371
VOLTAGE-GATED CALCIUM CHANNEL A1-SUBUNITS REGULATE CARDIAC FUNCTION OF THE AGING HEART OF *D. MELANOGASTER*. **Alexander Lam**, Priyanka Karekar, Girija Hariharan, Michelle Fleyshman, Kajol Shah, Harpreet Singh, Shubha Gururaja Rao

3164-Pos Board B372
A NOVEL FORM OF $CA_V1.4$ CA^{2+} CHANNEL REGULATION REVEALED BY ALTERNATIVE SPLICING AND A MUTATION CAUSING CONGENITAL STATIONARY NIGHT BLINDNESS. **Brittany Williams**, AMy Lee

3165-Pos Board B373
GATING PORE CURRENTS IN DIII HYPOPP MUTATIONS OF $CA_V1.1$. Fenfen Wu, Marbella Quinonez, **Steve C. Cannon**

3166-Pos Board B374
THE ANTIHYPERTENSIVE CALCIUM CHANNEL BLOCKER NITRENDIPINE DISPLAYS A CYTOTOXIC EFFECT ON NEUROBLASTOMA CELLS, WHICH IS INDEPENDENT OF BINDING TO L-TYPE VOLTAGE-GATED CALCIUM CHANNELS. **Antonio De Maio**, Isabel Rivera, David M. Cauvi, Nelson Arispe

3167-Pos Board B375
CARBOXYL TERMINUS AS A KEY REGULATOR OF GATING AND SIGNALING OF L-TYPE CALCIUM CHANNELS. Yaxiong Yang, Yuanyuan He, **Xiaodong Liu**

3168-Pos Board B376
PROBING THE PATHOGENIC MECHANISMS UNDERLYING CA_V1.2 CHANNELOPATHIES. **Moradeke A. Bamgboye**, Maria K. Traficante, David T. Yue, Ivy E. Dick

3169-Pos Board B377
DIRECT INHIBITION OF CAV2.3 BY GEM DOES NOT REQUIERE A DIRECT ALPHA1E/BETA INTERACTION. **Gustavo F. Contreras**, Nieves Navarro, Guido Mellado, Daniela De Giorgis, Carlos Gonzalez, Alan Neely

3170-Pos Board B378
A SKELETAL MUSCLE L-TYPE CALCIUM CHANNEL WITH A MUTATION WITHIN THE SELECTIVITY FILTER CONDUCTS POTASSIUM. **Roger A. Bannister**, Donald Beqollari

TRP Channels II (Boards B379–B398)

3171-Pos Board B379
DROSOPHILA-INSPIRED MOLECULAR THERMOSENSORS. **Marzie Amirshenava**, Benjamin Zars, Benton Berigan, Paige Martinez, Troy Zars, Lorin S. Milescu, Mirela Milescu

3172-Pos Board B380
IP6 DOES NOT INDUCE BINDING BETWEEN COILED-COIL HELICES OR BETWEEN THE N-TERM ARDS AND COILED-COIL. **Gilbert Q. Martinez**, Sharona E. Gordon

3173-Pos Board B381
DISTINCTIVE DRUG BINDING SITES AND GATING MECHANISMS OF THE NOCICEPTIVE ION CHANNEL TRPA1. **Jun Chen**, Tania Chernov-Rogan

3174-Pos Board B382
TRPC3 UNDERLIES $GABA_B$ RECEPTOR-MEDIATED AUGMENTATION OF TYPE-1 METABOTROPIC GLUTAMATE RECEPTOR-COUPLED SLOW EXCITATORY POSTSYNAPTIC POTENTIAL IN CEREBELLAR PURKINJE NEURONS. **JinBin Tian**, Michael X. Zhu

3175-Pos Board B383
PHOTOSWITCHABLE DIACYLGLYCEROLS IDENTIFY A NOVEL LIPID-GATING MECHANISM IN TRPC3 CHANNELS. **Oleksandra Tiapko**, Michaela Lichtenegger, Gema Guedes de la Cruz, Toma N. Glasnov, Barbora Svobodova, Wolfgang Schreibmayer, Dieter Platzer, Sarah Krenn, Niroj Shrestha, Rainer Schindl, Thomas Stockner, Christoph Romanin, Klaus Groschner

3176-Pos Board B384
CA^{2+}-DEPENDENT INACTIVATION MEDIATED BY CALMODULIN IN TRPC6 CHANNEL UNDERLIES FSGS CHANNELOPATHY. Masatoshi Uno, **Onur K. Polat**, Tran Nam Ha, Shota Yamaji, Yasuo Mori, Hidehito Tochio, Masayuki X. Mori

3177-Pos Board B385 EDUCATION TRAVEL AWARDEE
ISCHEMIC NEURONAL CELL DEATH MEDIATED BY TRPC CHANNELS. **Jaepyo Jeon**, Sun Guanghua, Jinbin Tian, Sung-Ming Ting, Jaroslaw Aronowski, Michael X. Zhu

3178-Pos Board B386
FUNCTIONAL CHARATERIZATION OF ZEBRAFISH TRANSIENT RECEPTOR POTENTIAL MELASTATIN 2. **Ha Nam Tran**, Jure Hederih, Tomohiro Numata, Masayuki X. Mori, Shingo Maegawa, Hiroshi Hosokawa, Yasuo Mori

3179-Pos Board B387
BIOCHEMICAL CHARACTERIZATION OF THE INTERACTION OF TRPM3 WITH $G_{\beta\gamma}$ PROTEINS. **Fabian Gruss**, Marc Behrendt, Mieke Nys, Johannes Oberwinkler, Chris Ulens

3180-Pos Board B388
VOLATILE ANAESTHETICS INHIBIT THERMOSENSITIVE TRPM3 ION CHANNELS. **Balázs Kelemen**, Flóra Kulin, Erika Lisztes, János Posta, Thomas Voets, Tamás Bíró, Balázs István Tóth

3181-Pos Board B389
G-PROTEIN BETA-GAMMA SUBUNITS INHIBIT THE HEAT-SENSITIVE TRPM3 ION CHANNELS. **Tibor Rohacs**, Yevgen Yudin, Doreen Badheka, Istvan Borbiro, Aysenur Yazici, Siyuan Zhao, Cassandra Hartle, Tooraj Mirshahi

3182-Pos Board B390
TRPM7 CURRENT INACTIVATION: EVIDENCE FOR INSIDE-OUT SIGNALING. Tetyana Zhelay, **J. Ashot Kozak**

3183-Pos Board B391
PIP_2 DEPLETION CONTRIBUTES TO INHIBITION OF TRPM8 ACTIVITY BY G_Q PROTEIN COUPLED RECEPTORS. **Luyu Liu**, Yevgen Yudin, Tibor Rohacs

3184-Pos Board B392
TRPM8 REGULATES SEXUAL DESIRE AND SATIETY. **Lusine Demirkhanyan**, Vivek Krishnan, Swapna Asuthkar, Brenda Alexander, Zahir Hussain, Padmamalini Baskaran, Yelena Nersesyan, Alejandro Cohen, Evgeny Pavlov, Baskaran Thyagarajan, Eleonora Zakharian

3185-Pos Board B393
MOLECULAR ELEMENTS FOR TEMPERATURE DETECTION IN TRPM8 CHANNEL. **Karen Castillo**, Natalia Raddatz, Melissa Alegría-Arcos, German Miño-Galaz, Ignacio Diaz-Franulic, Fernando Gonzalez-Nilo, Ramon Latorre

3186-Pos Board B394
IDENTIFICATION OF CLUSTERED PHOSPHORYLATION SITES IN PKD2L1: HOW PKD2L1 CHANNEL ACTIVATION IS REGULATED BY CYCLIC AMP SIGNALING PATHWAY. **Eunice Y. Park**, Misun Kwak, Kotdaji Ha, Insuk So

3187-Pos Board B395
POLYCYSTIN-1/POLYCYSTIN-2 MEDIATED CALCIUM ENTRY INTO CILIA DURING SONIC HEDGEHOG SIGNALING. **Bryn S. Moore**, Ann N. Stepanchick, Jonathan Z. Luo, Tooraj Mirshahi

3188-Pos Board B396 INTERNATIONAL TRAVEL AWARDEE
REGULATION OF CILIARY LENGTH IN LLC-PK1 RENAL EPITHELIAL CELLS. **Paula L. Perez**, Noelia Scarinci, Maria del Rocio Cantero, Horacio F. Cantiello

3189-Pos Board B397
FUNCTIONAL CHARACTERIZATION OF A CALCIUM-SENSING RECEPTOR-POLYCYSTIN-2 CHANNEL COMPLEX IN THE PLASMA MEMBRANE OF LLC-PK1 CELLS. **Noelia Scarinci**, Paula L. Perez, Maria del Rocio Cantero, Horacio F. Cantiello

3190-Pos Board B398
ACTIVATION MECHANISMS UNDERLYING INFLUX-OPERATED CALCIUM ENTRY OF TRPP CHANNELS. **Liu Yuxia**

Skeletal Muscle Mechanics, Structure, and Regulation II (Boards B399–B411)

3191-Pos Board B399
AN *IN-SITU* STUDY OF THE MODULATION OF THE MECHANO-KINETIC PARAMETERS OF THE SLOW ISOFORM OF MUSCLE MYOSIN II BY THE HEART DRUG OMECAMTIV MECARBIL. Marco Caremani, Cristina Gallart, Valentina Percario, Gabriella Piazzesi, Vincenzo Lombardi, **Marco Linari**

3192-Pos Board B400
MYOSIN EFFECTS ON THIN FILAMENT ACTIVATION IN SLOW-TWITCH HUMAN SOLEUS MUSCLE FIBERS. **Alfredo J. Lopez-Davila**, Robert Stehle, Stefan Zittrich, Birgit Piep, Faramarz Matinmehr, Andras Malnasi, Anna Rauscher, Joseph Chalovich, Theresia Kraft, Bernhard Brenner

3193-Pos Board B401
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3194-Pos Board B402
QUANTIFYING THE TITIN CONTRIBUTION TO MUSCLE FORCE GENERATION USING A NOVEL METHOD TO SPECIFICALLY CLEAVE THE TITIN SPRINGS IN SITU. Yong Li, Andreas Unger, Marion von Frieling-Salewsky, Jaime Andrés Rivas Pardo, Julio M. Fernandez, **Wolfgang A. Linke**

3195-Pos Board B403
DECIPHERING THE MOLECULAR MECHANISM OF MYOMESIN ELASTICITY. **Matthias Wilmanns**, Spyros D. Chatziefthimiou

3196-Pos Board B404
NEBULIN STIFFENS THE THIN FILAMENT AND AUGMENTS CROSSBRIDGE INTERACTION–AN X-RAY DIFFRACTION STUDY ON INTACT MUSCLE. **Balazs Kiss**, Eun-Jeong Lee, Weikang Ma, Frank Li, Paola Tonino, Srboljub M. Mijailovich, Thomas Irving, Henk Granzier

3197-Pos Board B405
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3198-Pos Board B406
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3199-Pos Board B407
ELECTRON TOMOGRAPHY OF RELAXED LETHOCERUS FLIGHT MUSCLE REVEALS THIN FILAMENT BINDING OF DISORDERED "BLOCKED" HEADS. **Hamidreza Rahmani**

3200-Pos Board B408
ROLE OF MYOSIN CAATPASE IN MUSCLE CONTRACTION. Jinghua Ge, Akhil Gargey Iragavarapu, **Yuri E. Nesmelov**

3201-Pos Board B409
EFFECTS OF MYOSIN INHIBITORS ON THE X-RAY DIFFRACTION PATTERNS OF RELAXED AND CALCIUM-ACTIVATED RABBIT SKELETAL MUSCLE FIBERS. **Hiroyuki Iwamoto**

3202-Pos Board B410
COOPERATIVE ACTIVATION OF STRIATED MUSCLE THICK FILAMENTS BY S2 BINDING. Dua'a Quedan, Andrea Bernardino-Schaefer, Rohit Singh, Christopher Thang, Mithilesh Bhaskaruni, Riti Srivastava, **Douglas D. Root**

3203-Pos Board B411
TOPOLOGY OF INTERACTIONS BETWEEN TITIN MOLECULES AND MYOSIN THICK FILAMENTS. Miklos Kellermayer, Dominik Sziklai, Zsombor Papp, Brennan Decker, Eszter Lakatos, **Zsolt Martonfalvi**

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3204-Pos Board B412
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3205-Pos Board B413
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3206-Pos Board B414
MICROFLUIDIC DEVICE TO MEASURE COLLECTIVE FORCE DYNAMICS OF KINESIN MOTOR PROTEINS. **Joseph M. Cleary**, William O. Hancock

3207-Pos Board B415
HIGH-SPEED ATOMIC FORCE MICROSCOPIC OBSERVATIONS ON DEMEMBRANATED *CHLAMYDOMONAS* AXONEMES AND DYNEIN ARMS. Misaki Shiraga, Yuka Matsuda, Junya Kirima, **Kazuhiro Oiwa**

3208-Pos Board B416
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3209-Pos Board B417
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3210-Pos Board B418
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3211-Pos Board B419
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3212-Pos Board B420
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3213-Pos Board B421
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3214-Pos Board B422
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3215-Pos Board B423
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3216-Pos Board B424
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3217-Pos Board B425
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3218-Pos Board B426
CHARACTERIZATION OF ACTIN MODULATING PROTEINS IN THE CYTOKINETIC RING MACHINERY OF YEAST USING A MINIMAL *IN-VITRO* SYSTEM. Saravanan Palani, Paola Zambon, Anton Kamnev, Tomoyuki Hatano, Mohan K. Balasubramanian, **Darius V. Köster**

3219-Pos Board B427
MICRO-MANIPULATING THE SPINDLE TO STUDY CHROMOSOME SEGREGATION IN ANAPHASE. Jun Takagi, Takeshi Itabashi, Shin'ichi Ishiwata, **Yuta Shimamoto**

3220-Pos Board B428
MINIMAL INGREDIENTS FOR COUPLED SPINDLE ASSEMBLY AND CHROMOSOME BI-ORIENTATION IN A COMPUTATIONAL MODEL OF FISSION YEAST MITOSIS. **Christopher Edelmaier**, Adam Lamson, Zach Gergely, J. Richard McIntosh, Matthew A. Glaser, Meredith D. Betterton

3221-Pos Board B429
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3222-Pos Board B430
INVESTIGATING QUALITY OF MIXING OF A BIOLOGICAL ACTIVE NEMATIC. **Amanda J. Tan**, Eric Roberts, Kevin A. Mitchell, Linda S. Hirst

3223-Pos Board B431 **EDUCATION TRAVEL AWARDEE**
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3224-Pos Board B432
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Cell Mechanics, Mechanosensing, and Motility III (Boards B433–B456)

3225-Pos Board B433
BIOPHYSICS OF COLLECTIVE PHOTOTAXIS OF EUGLENA GRACILIS. **Alan C. H. Tsang**, Amy T. Lam, Ingmar H. Riedel-Kruse

3226-Pos Board B434 **EDUCATION TRAVEL AWARDEE**
FRUSTRATED PHAGOCYTIC SPREADING OF HUMAN NEUTROPHILS ON DIFFERENT DENSITIES OF SURFACE-IMMOBILIZED IGG. **Zhiyu Xiao**, Emmet A. Francis, Volkmar Heinrich

3227-Pos Board B435
COORDINATION OF MORPHOGENETIC GROWTH AND CELLULAR MECHANICS ACROSS MULTIPLE CELL LAYERS TO SHAPE THE DROSOPHILA WING DISC. **Ali Nematbakhsh**

3228-Pos Board B436 **INTERNATIONAL TRAVEL AWARDEE**
LAMIN A/C GUIDED NUCLEAR MECHANOTRANSDUCTION. Jeong-Ki Kim, **Dong-Hwee Kim**

3229-Pos Board B437
DEFORMABLE MICROPARTICLES AS REPORTERS FOR PROBING CELLULAR FORCES IN PHAGOCYTOSIS. **Daan Vorselen**, Julie Theriot

3230-Pos Board B438
MATRIX STIFFNESS REGULATES THE FATE OF BREAST CANCER CELLS. **Deep Parikh**, Mary Stack, Hongjun Wang

3231-Pos Board B439
LOCAL EPITHELIAL FRACTURE AND HEALING MECHANICS DICTATE MORPHOGENESIS AND ASEXUAL REPRODUCTION IN TRICHOPLAX ADHAERENS. **Vivek N. Prakash**, Arjun Bhargava, Manu Prakash

3232-Pos Board B440
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3233-Pos Board B441
A NODE ORGANIZATION GENERATES TENSION AND PROMOTES STABILITY IN THE FISSION YEAST CONTRACTILE RING. **Sathish Thiyagarajan**, Shuyuan Wang, Ben O'Shaughnessy

3234-Pos Board B442
MOTILE HAIR CELLS DISTINGUISH MECHANICAL SIGNALS FROM NOISE BEST WHEN THEY OPERATE ON THE BRINK OF SPONTANEOUS OSCILLATION. **Daibhid O Maoileidigh**, Joshua Salvi, AJ Hudspeth

3235-Pos Board B443
MOLECULAR MECHANISMS FOR DISTINCT FUNCTIONS OF TALIN ISOFORMS. **Krishna Chinthalapudi**, Tina Izard

3236-Pos Board B444
LIM KINASE 1 AND 2 REGULATE MOTILITY AND INVASION IN GLIOBLASTOMA. **Joseph Chen**, Badriprasad Ananthanarayanan, Kelsey Springer, Sanjay Kumar

3237-Pos Board B445
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3238-Pos Board B446
VERSATILE PHOTOTACTIC BEHAVIORS OF THE CHIRAL MICROSWIMMER EUGLENA GRACILIS. Alan Tsang, Amy Lam, **Ingmar H. Riedel-Kruse**

3239-Pos Board B447
DIRECT MEASUREMENT OF THE MAGNITUDE AND DYNAMICS OF MECHANICAL FORCES EXERTED BY SINGLE INTEGRINS IN LIVING CELLS. **Steven Tan**, Alice Chang, Cayla Miller, Sarang Nath, Alexander Dunn

3240-Pos Board B448
MODELING INSIGHTS INTO THE MECHANICAL COORDINATION IN THE COLLECTIVE LOCOMOTION OF HEART PROGENITOR CELLS. **Calina Copos**, Yelena Bernadskaya, Lionel Christiaen, Alex Mogilner

3241-Pos Board B449
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3242-Pos Board B450
DISRUPTING ENDOTHELIAL CELL BIOMECHANICS THROUGH CONNEXIN 43 INHIBITION. **Md. Mydul Islam**, Robert Steward Jr.

3243-Pos Board B451
MECHANOSENSING OF SOLID TUMORS BY CANCER-ATTACKING MACROPHAGES. Cory Alvey, Charlotte Pfeifer, Jerome Irianto, Yuntao Xia, Lucas Smith, Larry Dooling, **Dennis E. Discher**

3244-Pos Board B452
TWO ISOFORMS OF MYOSIN-II COOPERATE TO ORGANIZE THE FISSION YEAST CYTOKINETIC RING FOR MAXIMAL TENSION PRODUCTION. Shuyuan Wang, Harvey Chin, **Sathish Thiyagarajan**, Erdem Karatekin, Thomas Dean Pollard, Ben O'Shaughnessy

3245-Pos Board B453
CURVATURE DEPENDENCE OF NUCLEAR RUPTURE FREQUENCY REVEALED BY AFM FORCE SPECTROSCOPY. **Irena L. Ivanovska**, Yuntao Xia, Jerome Irianto, Dennis E. Discher

3246-Pos Board B454
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3247-Pos Board B455
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3248-Pos Board B456
PROBING THE PHYSICAL AND MOLECULAR BASIS OF THE MAMMALIAN MITOTIC SPINDLE'S RESPONSE TO FORCE. **Pooja Suresh**, Alexandra F. Long, Sophie Dumont

Cytoskeletal-based Intracellular Transport (Boards B457–B465)

3249-Pos Board B457
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3250-Pos Board B458
SIZE-DEPENDENT ORGANELLE TRANSPORT DURING PHAGOCYTOSIS. Steve Keller, Konrad Berghoff, **Holger Kress**

3251-Pos Board B459
CONTROLLED DISTURBANCE OF INTRAFLAGELLAR TRANSPORT IN C. ELEGANS CHEMOSENSORY CILIA RESULTS IN CHANGES OF CILIARY STRUCTURE. Mijalkovic Jona, Felix Oswald, Jules Girard, Jasmijn van Loo, **Erwin JG Peterman**

3252-Pos Board B460
CYTOSKELETON-MEDIATED DYNAMIC ORGANIZATION OF LYSOSOMES PROMOTES THEIR INTERACTIONS WITH ENDOSOMES. Qinle Ba, Guruprasad Raghavan, Kirill Kiselyov, **Ge Yang**

3253-Pos Board B461
CHARACTERISTIC ROTATIONAL BEHAVIORS OF ROD-SHAPED CARGO REVEALED BY AUTOMATED FIVE-DIMENSIONAL SINGLE PARTICLE TRACKING. **Ning Fang**, Kuangcai Chen, Xiaodong Cheng

3254-Pos Board B462
GEOMETRY MATTERS FOR CARGOS NAVIGATING 3D MICROTUBULE INTERSECTIONS. **Matthew J. Bovyn**, Jared Bergman, Florence Doval, Manasa Gudheti, Steven Gross, Jun Allard, Michael Vershinin

3255-Pos Board B463
DEVELOPMENT OF IMPROVED MICROSCOPY AND DATA ANALYSIS TOOLS FOR UNDERSTANDING MULTIMOTOR TRANSPORT. **Keith J. Mickolajczyk**

3256-Pos Board B464
HOW MULTIPLE KINESIN MOTORS TRANSPORT THE CARGO. **Saurabh Shukla**, Marco Tjioe, Paul R. Selvin

3257-Pos Board B465
OBSTACLE AVOIDANCE OF MICROTUBULE MOTOR PROTEINS. **Luke Ferro**

Mitochondria in Cell Life and Death (Boards B466–B492)

3258-Pos Board B466
MITOCHONDRIAL CA^{2+} INFLUX CONTRIBUTES TO ARRHYTHMIC RISK IN NONISCHEMIC CARDIOMYOPATHY. **An Xie**, Zhen Song, Hong Liu, Anyu Zhou, Guangbin Shi, Lai-Hua Xie, Zhilin Qu, Samuel C. Dudley

3260-Pos Board B468
CLIC4 AND CLIC5, MITOCHONDRIAL CHLORIDE CHANNEL PROTEINS MEDIATE CARDIOPROTECTION AGAINST ISCHEMIA REPERFUSION INJURY. **Devasena Ponnalagu**, Neel J. Patel, Ankur Chaudhury, Erhe Gao, Walter J. Koch, Andrew R. Kohut, Harpreet Singh

3259-Pos Board B467
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3261-Pos Board B469
ROLE OF CALCIUM AND ADP INFUSION RATES IN CARDIAC MITOCHONDRIAL FUEL SELECTION. **Sunil M. Kandel**, Santosh Dasika, Ranjan K. Dash, Daniel A. Beard

3262-Pos Board B470
MATRIX CALCIUM EFFLUX VIA THE PUTATIVE MITOCHONDRIAL CALCIUM-HYDROGEN EXCHANGER: ROLE IN MPTP OPENING. **Lyall Glait**, Jyotsna Mishra, James S. Heisner, David F. Stowe, AMadou K.S. Camara, Wai-Meng Kwok

3263-Pos Board B471
MOLECULAR ASSEMBLY OF THE MITOCHONDRIAL PERMEABILITY TRANSITION PORE. **Giuseppe F. AModeo**, Nelli Mnatsakanyan, Maria E. Solesio, Magdalena Klim, Piotr Kurcok, Eleonora Zakharian, Elizabeth A. Jonas, Evgeny V. Pavlov

3264-Pos Board B472
MOLECULAR COMPOSITION, STRUCTURE AND REGULATION OF THE MITOCHONDRIAL PERMEABILITY TRANSITION PORE. **Nelli Mnatsakanyan**, Han-A Park, Jing Wu, Paige Miranda, Elizabeth A. Jonas

3265-Pos Board B473
GENIPIN LACKS THE SPECIFICITY FOR UCP2 INHIBITION. **Jürgen Kreiter**, Anne Rupprecht, Lars Zimmermann, Maria Fedorova, Michael Moschinger, Tatyana I. Rokitskaya, Lars Gille, Yuri N. Antonenko, Elena E. Pohl

3266-Pos Board B474
LOSS OF MITOCHONDRIAL PHOSPHATE CARRIER IN SKELETAL MUSCLE: DISSOCIATION OF MUSCLE DYSFUNCTION FROM LOWER ADP PHOSPHORYLATING POTENTIAL. **Erin Seifert**, Lauren Anderson-Pullinger, Yana Sharpadskaya

3267-Pos Board B475
COMPLEX I INHIBITION ENHANCES MITOCHONDRIAL CALCIUM UNIPORTER CURRENT. **Enrique Balderas-Angeles**, Salah Sommmakia, Sadiki Deane, Dipayan Chaudhuri

3268-Pos Board B476
ARSENIC TARGETS LOCAL ROS AND CALCIUM HOMEOSTASIS AT THE MITOCHONDRIA-ER INTERFACE. **Rafaela Bagur**, Arnaldo Souza, Georgia Günther, Raymond Reif, Péter Várnai, György Csordás, György Hajnóczky

3269-Pos Board B477
CYCLOSPORIN A: NEW INSIGHTS INTO ITS POTENTIAL ROLE IN MITOCHONDRIAL CALCIUM BUFFERING. **Jyotsna Mishra**, Ariea J. Davani, David F. Stowe, Wai-Meng Kwok, AMadou KS Camara

3270-Pos Board B478
THE SPATIAL DISTRIBUTION OF THE NA^{+}/CA^{2+} EXCHANGER IN CARDIAC MITOCHONDRIA ENHANCES THE EFFICINCY OF THE MITOCHONDRIAL CA^{2+} SIGNAL GENERATION. **Sergio De la Fuente**, Celia Fernadez-Sanz, Jonathan P. Lambert, John W. Elrod, Shey-Shing Sheu, Gyorgy Csordas

3271-Pos Board B479
MGR2 AND THE CHANNEL ACTIVITY OF TIM23, A GATEWAY FOR MITOCHONDRIAL PROTEIN IMPORT. Oygul Mirzalieva, Layla Drwesh, Abdussalam Azem, Cory Dunn, **Pablo Peixoto**

3272-Pos Board B480
PHOSPHORYLATION OF CARDIAC MITOCHONDRIAL VDAC1 AT S215 FACILITATES CELL DEATH. **Meiying Yang**, Michael Grzybowski, Qunli Cheng, David F. Stowe, Aron Geurts, Po-Chao Wen, Nandan Haloi, Emad Tajkhorshid, AMadou K.S. Camara, Wai-Meng Kwok

3273-Pos Board B481 **CPOW TRAVEL AWARDEE**
ASSESSING THE ROLE OF RESIDUE E73 IN VDAC1 VOLTAGE GATING. **María Queralt-Martín**, Lucie Bergdoll, Jeff Abramson, Daniel Jacobs, Sergey M. Bezrukov, Tatiana K. Rostovtseva

3274-Pos Board B482 **CPOW TRAVEL AWARDEE**
INORGANIC POLYPHOSPHATE (POLYP) PROMOTES PROTEIN AGGREGATION TO PROTECT MITOCHONDRIA AGAINST STRESS. **M. de la Encarnación Solesio Torregrosa**, G. Federico AModeo, Pia Elustondo, Alejandro Cohen, Evgeny V. Pavlov

3275-Pos Board B483
OPTOGENETIC REGULATION OF MITOCHONDRIAL ROS EMISSION *IN VIVO*. Stephen Madamba, Nicomedes Rivera, Brian Nguyen, **Pablo Peixoto**

3276-Pos Board B484
MITOCHONDRIAL DYSFUNCTION DUE TO INTRACELLULAR BETA AMYLOID OLIGOMERS. **Patrick T. Toglia**, Angelo Demuro, Ian Parker, Ghanim Ullah

3277-Pos Board B485
ENHANCED RESPIRATORY RESERVE SUSTAINED BY LIPID OXIDATION AND AUTOPHAGY UNDERLIE EXTENDED LIFESPAN IN HIGH- COMPARED TO LOW-RUNNING CAPACITY RATS. **Sonia Cortassa**, Miguel A. Aon, Magdalena Juhaszova, Jose A. Gonzalez-Reyes, Miguel Calvo-Rubio, Jose M. Villalba, Bruce Ziman, Sarah J. Mitchell, Irene Alfaras, Khalid Chakir, Jessie E C Axsom, Kelsey Bullock, Edward Lakatta, Steven J. Sollott

3278-Pos Board B486
LIPIDS CATALYZE MITOCHONDRIAL FISSION VIA GEOMETRIC INSTABILITY. Ehsan Irajizad, Rajesh Ramachandran, **Ashutosh Agrawal**

3279-Pos Board B487
DOCOSAHEXAENOIC ACID REMODELS THE CARDIAC MITOCHONDRIAL PHOSPHOLIPIDOME AND IMPAIRS RESPIRATORY ENZYMATIC ACTIVITY BY DISRUPTING LIPID DOMAIN FORMATION AND LIPID-PROTEIN BINDING. **Edward R. Pennington**, E. Madison Sullivan, Genevieve C. Sparagna, James Washington, Ethan J. Anderson, Tonya N. Zeczycki, David A. Brown, Saame Raza Shaikh

3280-Pos Board B488
MITOCHONDRIAL QUALITY CONTROL IN AGING AND HEART FAILURE: INFLUENCE OF KETONE BODIES. Charles Miller, Maura Ferrero, Donald M. Bers, **Elena N. Dedkova**

3281-Pos Board B489
HIGH INTRINSIC AEROBIC ENDURANCE CAPACITY PRESERVES CARDIOMYOCYTE QUALITY CONTROL, MITOCHONDRIAL FITNESS AND LIFESPAN. **Magdalena Juhaszova**, Sonia Cortassa, Miguel A. Aon, José A. González-Reyes, Miguel Calvo-Rubio, José M. Villalba, Dmitry B. Zorov, Evgeny Kobrinsky, Bruce D. Ziman, Lauren G. Koch, Steven L. Britton, Edward G. Lakatta, Steven J. Sollott

3282-Pos Board B490
SIGNALING MECHANISMS OF DRP1 TRANSLOCATION TO THE MITOCHONDRIA-SR ASSOCIATIONS IN ADULT MURINE CARDIOMYOCYTES. **Celia Fernandez Sanz**, Sergio De La Fuente, Zuzana Nichtova, Sebastian Lanvermann, György Csordás, Wang Wang, Shey-Shing Sheu

3283-Pos Board B491
ENHANCING MITOCHONDRIAL BIOGENESIS WITH A CRISPR/NDCAS9 ADENOVIRAL VECTOR SYSTEM IN CARDIOMYOCYTES. **Deepthi Ashok**, Agnes Sidor, Brian O'Rourke

3284-Pos Board B492
CONSERVED DYNAMIC CHARACTERISTICS OF MITOCHONDRIAL NETWORKS. **Greyson Lewis**, Wallace Marshall

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3285-Pos Board B493
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3286-Pos Board B494
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3287-Pos Board B495 **EDUCATION TRAVEL AWARDEE**
VIABLE PATHOGENIC ORGANISM TRANSPORTATION AND RECOVERY FROM A LOW-COST SUPPORT. **Tonya Santaus**, Chris Geddes

3288-Pos Board B496
CELLULAR ADHESIONS PREDICT MOBILITY PROPENSITIES OF EMT. **Lewis Scott**, Christopher Lemmon, Seth Weinberg

3289-Pos Board B497
CHEMICAL FLUCTUATION THEOREM GOVERNING *VIBRANT* REACTION NETWORKS IN LIVING CELLS. **Jaeyoung Sung**

3290-Pos Board B498
STOCHASTIC ANALYSIS OF COAGULATION AND FRAGMENTATION OF SELF-ASSEMBLY BY SOLVING DISCRETE CHEMICAL MASTER EQUATION (DCME) WITH ACME. **Farid Manuchehrfar**, Wei Tian, Tom Chou, Jie Liang

3291-Pos Board B499
IDENTIFICATION AND CHARACTERIZATION OF VARIANT INTOLERANT SITES ACROSS HUMAN PROTEIN 3-DIMENSIONAL STRUCTURES. **Sumaiya Iqbal**, Jakob Berg Jespersen, Eduardo Perez-Palma, Patrick May, Henrike Heyne, Kasper Lage, Rikke Steensbjerre Møller, Florence F. Wagner, Mark Daly, Arthur J. Campbell, Dennis Lal

3292-Pos Board B500
TRANSLATIONAL REPROGRAMMING IN *SALMONELLA TYPHIMURIUM* MODIFIES ENVIRONMENTAL PH TO SUSTAIN HIGHER GROWTH RATES BEFORE ENTRY INTO STATIONARY PHASE. **Manohary Rajendram**, Lillian Zhu, Kerwyn C. Huang

3293-Pos Board B501
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3294-Pos Board B502
RADIOPROTECTIVE EFFECTS OF LACTOBACILLI WITH ANTAGONISTIC ACTIVITIES AGAINST HUMAN PATHOGENS. **Astghik Pepoyan**, Marine Balayan, Anahit Manvelyan, Sofi Pepoyan, Lilit Malkhasyan, Tatevik Bezhanyan, Ruzanna Paronikyan, Margarita Malakyan, Sergey Bajinyan, Vardan Tsaturyan, Shigeru Kamiya, Michael Chikindas

3295-Pos Board B503
THE ROLE OF AUTOPHAGY IN ALZHEIMER'S DISEASE: MODELING AND SIMULATIONS. MooYoung Choi, **Kyungreem Han**, Jinwoong Kim

3296-Pos Board B504
ELECTRICAL SIGNAL TRANSMISSION IN A HETEROGENEOUS POPULATION OF BACTERIA. **Joseph W. Larkin**, Xiaoling Zhai, Kaito Kikuchi, Aleksandra Walczak, Garcia-Ojalvo Jordi, Arthur Prindle, Andrew Mugler, Gürol Süel

3297-Pos Board B505
A GUANINE NUCLEOTIDE EXCHANGE MODULATOR, GIV-GEM, ACTS AS A COMPARTMENTAL CONTROLLER FOR GROWTH FACTOR SIGNAL PATHWAYS. **Michael Getz**, Pradipta Ghosh, Padmini Rangamani

3298-Pos Board B506
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3299-Pos Board B507
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3300-Pos Board B508
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3301-Pos Board B509
A GENETICALLY ENCODED TOOLBOX OF ORTHOGONAL ADHESINS FOR BACTERIAL SELF-ASSEMBLY. **David S. Glass**, Ingmar H. Riedel-Kruse

3302-Pos Board B510
OPTICALLY PATTERNED BIOFILMS VIA TRANSCRIPTIONAL CONTROL OF ADHESIN EXPRESSION. **Xiaofan Jin**, Ingmar Riedel-Kruse

3303-Pos Board B511
DROPLET BASED MEASUREMENTS OF MECHANICAL FORCES AND MATERIAL PROPERTIES, *IN VIVO* AND *IN VITRO*. **Elijah Shelton**, Adam Lucio, Hannah Gustafson, Alessandro Mongera, Friedhelm Serwane, Otger Campàs

3304-Pos Board B512
GIANT LIPID MEMBRANES SUPPORTED BY GLASS BEADS FOR MEMBRANE-PROTEIN INTERACTION STUDIES. **Andrew Bogard**, Mark Smith, Colleen Calzacorta, Jessika Dagostino, Nisha Shrestha, Denise Wingett, Daniel Fologea

3305-Pos Board B513
ACTIVE DEFORMATIONS COMPENSATE FOR THE EXCESS MEMBRANE AREA DURING THE ADHESION OF CYTOSKELETAL VESICLES. **Renu Vishavkarma**

3306-Pos Board B514
MTORC1 CONTROLS THE PHYSICAL PROPERTIES OF THE NUCLEUS. **Liam J. Holt**

3307-Pos Board B515
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3308-Pos Board B516
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3309-Pos Board B517
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Neuroscience: Experimental Approaches and Tools (Boards B518–B542)

3310-Pos Board B518
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3312-Pos Board B520
TWO-PHOTON ABSORPTION ANALYSIS OF RED FLUORESCENT GENETICALLY-ENCODED CALCIUM ION INDICATORS. **Rosana S. Molina**, Yi Shen, Yong Qian, Robert Campbell, Thomas E. Hughes, Mikhail Drobizhev

3311-Pos Board B519
DIFFUSIVE DYNAMICS OF NMDA RECEPTORS IN LIVE NEURONS USING SUPERRESOLUTION IMAGING AND TRACKING. **Chaoyi Jin**, Sang Hak Lee, Phuong Le, Yeoan Youn, Pinghua Ge, Okunola B. Jeyifous, Andrew M. Smith, Sheldon Park, William N. Green, Paul R. Selvin

3313-Pos Board B521
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3314-Pos Board B522
IMPROVED MICROBIAL RHODOPSINS FOR ULTRAFAST RED-SHIFTED OPTOGENETICS. **Thomas Mager**, David L. de la Morena, Vitaly Shevchenko, Verena Senn, Phillip G. Wood, Johannes J. Letzkus, Valentin Gordeliy, Tobias Moser, Ernst Bamberg

3315-Pos Board B523
FOCUSED ULTRASOUND ACTIVATES TASK POTASSIUM CHANNELS, INCREASES MEMBRANE CAPACITANCE, AND MODULATES ACTION POTENTIAL WAVEFORM AND FIRING PROPERTIES IN HIPPOCAMPAL BRAIN SLICES. **Martin L. Prieto**, Daniel V. Madison, Butrus T. Khuri-Yakub, Merritt Maduke

3316-Pos Board B524
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3317-Pos Board B525
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3318-Pos Board B526
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3319-Pos Board B527
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3320-Pos Board B528
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3321-Pos Board B529
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3322-Pos Board B530
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3323-Pos Board B531
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3324-Pos Board B532
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3325-Pos Board B533
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3326-Pos Board B534
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3327-Pos Board B535 **INTERNATIONAL TRAVEL AWARDEE**
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3328-Pos Board B536
GRAPHENE OXIDE NANOSHEETS TARGET EXCITATORY SYNAPSES IN THE HIPPOCAMPUS: REVERSIBLE DOWN REGULATION OF GLUTAMATE NEUROTRANSMISSION IN-*VIVO*. **Rossana Rauti**, Manuela Medelin, Neus Lozano, Denis Scaini, Kostas Kostarelos, Laura Ballerini

3329-Pos Board B537
GRAPHENE OXIDE NANOSHEETS AND NEURAL SYSTEM: FROM SYNAPTIC MODULATION TO NEUROINFLAMMATION. **Mattia Musto**, Rossana Rauti, Neus Lozano Valdes, Clara Ballerini, Loredana Casalis, Maurizio Prato, Kostas Kostarelos, Laura Ballerini

3330-Pos Board B538
THE MEMS MHAMMER: IMPACTING NEUROSCIENCE ONE CELL AT A TIME. **Jennifer Walker**, Luke Patterson, Evelyn Rodriguez-Mesa, John Foster, Adele Doyle, Kimberly Foster

3331-Pos Board B539
EPILEPTIFORM ACTIVITIES IN CULTURED HUMAN IPSC-DERIVED NEURONAL NETWORKS. **Ikuro Suzuki**, Aoi Odawara, Naoki Matsuda, Yuto Ishibashi, Remi Yokoi

3332-Pos Board B540
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3333-Pos Board B541
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3334-Pos Board B542
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3335-Pos Board B543
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3337-Pos Board B545
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3338-Pos Board B546
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3339-Pos Board B547
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3340-Pos Board B548
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3341-Pos Board B549
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3342-Pos Board B550
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3343-Pos Board B551
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3344-Pos Board B552
A REFINED FREE ENERGY PERTURBATION HAMILTONIAN REPLICA EXCHANGE MOLECULAR DYNAMICS METHOD FOR ABSOLUTE BINDING AFFINITY PREDICTIONS. **Wei Jiang**

3345-Pos Board B553
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3346-Pos Board B554
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3347-Pos Board B555
TOWARD AN EFFICIENT COMPUTATIONAL METHOD TO CONSTRUCT 3-D ATOMIC RESOLUTION GLYCOSAMINOGLYCAN MODELS. **Elizabeth Whitmore**, Hanna Sihler, Olgun Guvench

3348-Pos Board B556
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BIOMOLECULAR SIMULATIONS IN A CONTINUUM IONIC SOLVENT WITH POLARIZABLE FORCE FIELDS, USING PYTHON AND GPUS. **Christopher D. Cooper**

3350-Pos Board B558
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3351-Pos Board B559
TOWARDS REALISTIC MODELS OF LUNG SURFACTANT–MD SIMULATIONS WITH IMPROVED WATER AND ION FORCE FIELDS. **Pauline Delcroix**, Agnieszka Olzynska, Lukasz Cwiklik

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3353-Pos Board B561
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3355-Pos Board B563
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3358-Pos Board B566
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3360-Pos Board B568
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3361-Pos Board B569
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3362-Pos Board B570
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3363-Pos Board B571
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3364-Pos Board B572
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3365-Pos Board B573
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3366-Pos Board B574
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3367-Pos Board B575
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3368-Pos Board B576
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3369-Pos Board B577
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3370-Pos Board B578
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3371-Pos Board B579
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3372-Pos Board B580
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CELLPACKING: EXAMINING INFLUENZA VIRULENCE THROUGH SOFTWARE-ENGINEERED PROTEIN PACKING. **Christian Seitz**, Ludovic Autin, Rommie Amaro, J. Andrew McCammon, Arthur J. Olson

3374-Pos Board B582
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3375-Pos Board B583
IMPROVED SPECIFICITY PREDICTION OF SMALL MOLECULE MYOSIN INHIBITORS THROUGH ENSEMBLE-BASED MOLECULAR DOCKING. **Dmitrij Malcev**, Adrian Kishonti, Georgios Tsiavaliaris, Hans-Joachim Knölker, Matthias Preller

3376-Pos Board B584
INTEGRATIVE MOLECULAR MODELLING OF BIOMOLECULES GUIDED BY FRET EXPERIMENTS. **Christian A. Hanke**, Mykola Dimura, Thomas-Otavio Peulen, Holger Gohlke, Claus A.M. Seidel

3377-Pos Board B585
TOWARDS REAL-TIME HOLOGRAPHIC THREE-DIMENSIONAL IMAGING WITH MACHINE LEARNING. **Lindsey Peng**, Anaya Srivastava, Christopher M. Yip

Single-Molecule Spectroscopy II (Boards B586–B604)

3378-Pos Board B586
EFFICIENT AND FAST PURIFICATION METHOD FOR FLUORESCENT DYE-LABELED OLIGONUCLEOTIDES. **So Young Bak**, Jihee Hwang, Sohyeon Bae, Soonkyu Lim, Younggyu Kim, Seong Keun Kim

3379-Pos Board B587
NO MORE "WIGGLES": DECOHERENT ACOUSTO OPTIC-BASED HIGH-RESOLUTION TWEEZERS COMBINED WITH MULTI-COLOR FLUORESCENCE. Cho-Ying Chuang, Andrew Baker, Miles Whitmore, **Matthew Comstock**

3380-Pos Board B588
PROBING P53 ACTIVATION BY LIVE-CELL SINGLE-MOLECULE CHROMATIN BINDING MEASUREMENTS. **Alessia Loffreda**, Emanuela Jacchetti, Sofia Antunes, Paolo Rainone, Tiziana Daniele, Tatsuya Morisaki, Marco E. Bianchi, Carlo Tacchetti, Davide Mazza

3381-Pos Board B589
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3382-Pos Board B590
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3383-Pos Board B591
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3384-Pos Board B592
VERSATILE TOOLS TOWARDS REAL TIME SINGLE MOLECULE BIOLOGY. **Jordi Cabanas-Danés**, Rosalie P.C. Driessen, Avin Ramaiya, Philipp Rauch, Andrea Candelli

3385-Pos Board B593
FLUORESCENCE CORRELATION SPECTROSCOPY WITH NANOWIRE WAVEGUIDE ILLUMINATION FOR HIGH CONCENTRATION CONDITIONS. **Olaoluwalotobi Thomas**, Arstanbek Tulekeyev, Justin Isaac, Huizhong Xu

3386-Pos Board B594
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3388-Pos Board B596 INTERNATIONAL TRAVEL AWARDEE
SINGLE-MOLECULE DNA UNZIPPING REVEALS ASYMMETRIC MODULATION OF THE TRANSCRIPTION FACTOR EGR-1 BY ITS BINDING SITE SEQUENCE AND CONTEXT. **Hadeel Khamis**, Sergei Rudnizky1, Omri Malik, Allison Squires, Amit Meller, Melamed Philippa, Ariel Kaplan

3389-Pos Board B597 EDUCATION TRAVEL AWARDEE
CHOLESTEROL PROMOTES CYTOLYSIN A ACTIVITY BY STABILIZING THEIN-TERMEDIATES DURING PORE FORMATION. **Pradeep Sathyanarayana**, Satyaghosh Maurya, Monisha Ravichandran, Ganapathy K. Ayappa, Sandhya S. Visweswariah, Rahul Roy

3390-Pos Board B598
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3391-Pos Board B599 EDUCATION TRAVEL AWARDEE
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3393-Pos Board B601 INTERNATIONAL TRAVEL AWARDEE
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3395-Pos Board B603
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3396-Pos Board B604
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3397-Pos Board B605
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3398-Pos Board B606
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3399-Pos Board B607
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3400-Pos Board B608
AN ENCAPSULATED DROPLET INTERFACE BILAYER ARRAY FOR THE HIGH-THROUGHPUT OPTICAL MEASUREMENT OF LIPID MEMBRANES WITH SINGLE BILAYER RESOLUTION. **Divesh K. Baxani**, William D. Jamieson, David A. Barrow, Oliver K. Castell

3401-Pos Board B609
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3402-Pos Board B610
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3403-Pos Board B611
CONTROLLING MOLECULAR CONFORMATION BEFORE PASSAGE THROUGH A NANOPORE. **Vincent Tabard-Cossa**, Kyle Briggs, Gregory Madejski, Martin Magill, Konstantinos Kastritis, Hendrick de Haan, James McGrath

3404-Pos Board B612
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3405-Pos Board B613
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3406-Pos Board B614
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3407-Pos Board B615
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3408-Pos Board B616
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3409-Pos Board B617
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3410-Pos Board B618
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3411-Pos Board B619
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3412-Pos Board B620
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3413-Pos Board B621
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3414-Pos Board B622
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3415-Pos Board B623
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3416-Pos Board B624
2-PHOTON LITHOGRAPHY FOR NANOFLUIDIC LAB-ON-CHIP DEVICES. **Oliver Vanderpoorten**, Pavan K. Challa, Quentin Peter, Jerome Charmet, Nathan Curry, Tuomas P. J. Knowles, Clemens F. Kaminski

3417-Pos Board B625
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3418-Pos Board B626
A 16384 ELECTRODE 1024 CHANNEL MULTIMODAL CMOS MEA FOR HIGH THROUGHPUT DRUG SCREENING. **Dries Braeken**, Carl Van Den Bulcke, Carolina Mora Lopez, Veerle Reumers

3419-Pos Board B627
EFFECTS OF HYPOXIA ON BREAST CANCER EXTRAVASATION IN A 3D MICROVASCULAR NETWORK. **Jiho Song**

3420-Pos Board B628
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3421-Pos Board B629
MEMBRANE CURVATURE DEPENDENT F-ACTIN POLYMERIZATION AT NANO-CELL INTERFACE. Hsin-Ya Lou, **Wenting Zhao**, Bianxiao Cui

3422-Pos Board B630
MOLECULAR INSIGHT OF METALLOFULLERENOL GD@$C_{82}(OH)_{22}$ IN CANCER ANTI-METASTASIS: IN SILICO MODELING OF NANODRUG. **Seung-gu Kang**

3423-Pos Board B631
QUANTITATIVE INVESTIGATIONS REVEAL NEW ANTIMICROBIAL MECHANISM OF SILVER NANOPARTICLES AND IONS. Prabhat Khadka, Mohammad Haque, Venkata Rao Krishnamurthi, Isabelle Niyonshuti, Jingyi Chen, **Yong Wang**

3424-Pos Board B632
SITE-SELECTIVE RNA SPLICING NANOZYME: DNAZYME AND RTCB CONJUGATES ON A GOLD NANOPARTICLE. **Jessica R. Petree**, Kevin Yehl, Kornelia Galior, Roxanne Glazier, Brendan Deal

3425-Pos Board B633
CHARACTERIZING LARGE-PORE PROTEIN CRYSTALS FOR ADVANCED MATERIAL APPLICATIONS. **Luke F. Hartje**, Brian E. Munsky, Hieu T. Bui, David A. Andales, Christopher D. Snow

3426-Pos Board B634
NOVEL BIOCOMPATIBLE POLY(ASPARTAMIDE) BASED DRUG CONJUGATES. **David Juriga**, Peter Laskawy, Zeliha Güler, Krisztina Ludanyi, Angela Jedlovszky-Hajdu, Sezai A. Sarac, Imre Klebovich, Miklos Zrinyi

3427-Pos Board B635
GENERALIZED LANGEVIN DYNAMICS FOR STEALTH NANOPARTICLE ADHESION TO MEMBRANE SURFACE. **Yu-Wen Wu**, Hsiu-Yu Yu

3428-Pos Board B636
MICRO MAGNETIC ARRAYS FOR MICROMANIPULATION AT THE MOLECULAR AND CELLULAR SCALE. **Koceila Aizel**, Chiara Vlichario, Elie Balloul, Cornelia Monzel, Emilie Secret, Loïc Toraille, Mathieu Coppey, Maxime Dahan

3429-Pos Board B637
A LOW VOLTAGE INSULTAOR-BASED NANOPIPETTE DIELECTROPHORESIS DEVICE FOR RAPID NANOPARTICLES ENTRAPMENT. **Leilei Shi**, Ankit Rana, Leyla Esfandiari

3430-Pos Board B638
MODULATION OF THE DRAG FORCE EXERTED BY MICROFLUIDIC FLOW ON LASER-TRAPPED PARTICLES: A NEW METHOD TO ASSESS SURFACE-BINDING KINETICS, ANALYTE SIZE, AND SOLUTION VISCOSITY. **Wooten D. Simpson III**, Volkmar Heinrich

3431-Pos Board B639
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3432-Pos Board B640
GEL-BASED AND SINGLE MOLECULE NANOSWITCH-LINKED IMMUNOSORBENT ASSAYS (NLISA AND SMNLISA) FOR SENSITIVE AND SPECIFIC PROTEIN DETECTION. **Clinton H. Hansen**, Johanna Blass, Darren Yang, Wesley P. Wong

3433-Pos Board B641
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3434-Pos Board B642
RECONSTRUCTING NANOSCALE STRUCTURES FROM SEQUENCE TOPOLOGY OF SPATIAL NETWORKS OF BARCODED DNA. **Ian T. Hoffecker**, Giulio Bernardinelli, Larsen Vornholz, Yunshi Yang, Björn Högberg

3435-Pos Board B643
REAL TIME ACTUATION OF A DNA BASED ROBOTIC ARM. **Enzo Kopperger**, Jonathan List, Sushi Madhira, Florian Rothfischer, Don C. Lamb, Friedrich C. Simmel

3436-Pos Board B644
NANOCRESCENT OPTICAL ANTENNAS FOR ULTRAFAST PHOTONIC PCR. **Doyeon Bang**, Jonghwan Lee, SoonGweon Hong, Min Sun Song, Luke P. Lee

3437-Pos Board B645
ADDRESSING THE STABILITY OF POLYGONAL DNA NANOSTRUCTURES *IN VITRO* AND *IN VIVO*. **Christina Kolonelou**, Alessandro Bosco, Björn Högberg, Ana Teixeira

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413	AAT Bioquest Inc
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528	Agilent Technologies Inc
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311	Allen Institute for Cell Science NEW 2018
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610	Andor Technology
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608	Asylum Research, an Oxford Instruments Company
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209	Cambridge University Press
513	Carl Zeiss Microscopy LLC
421	Cedarlane
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918	Chroma Technology Corporation
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829	Larodan
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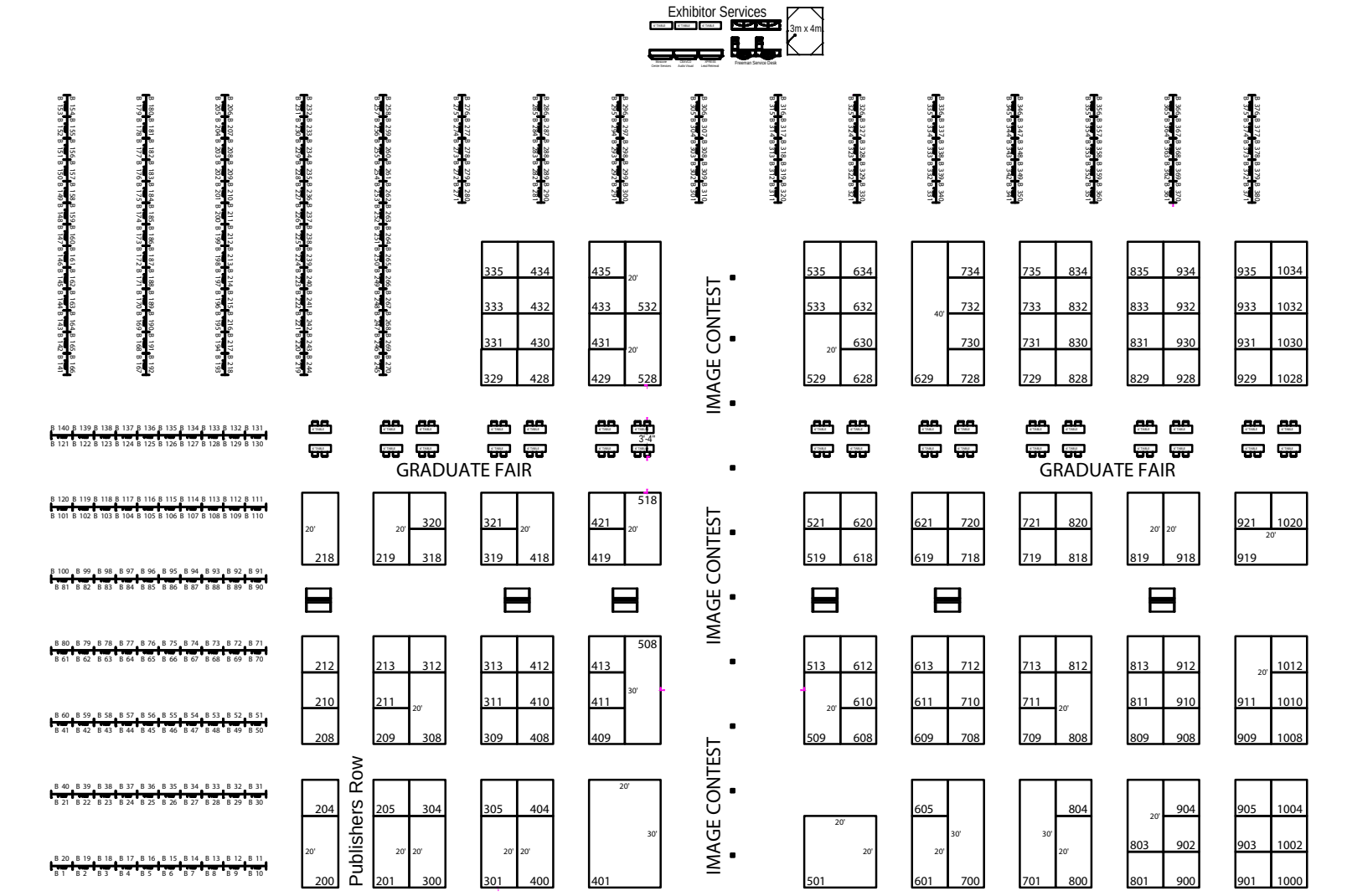
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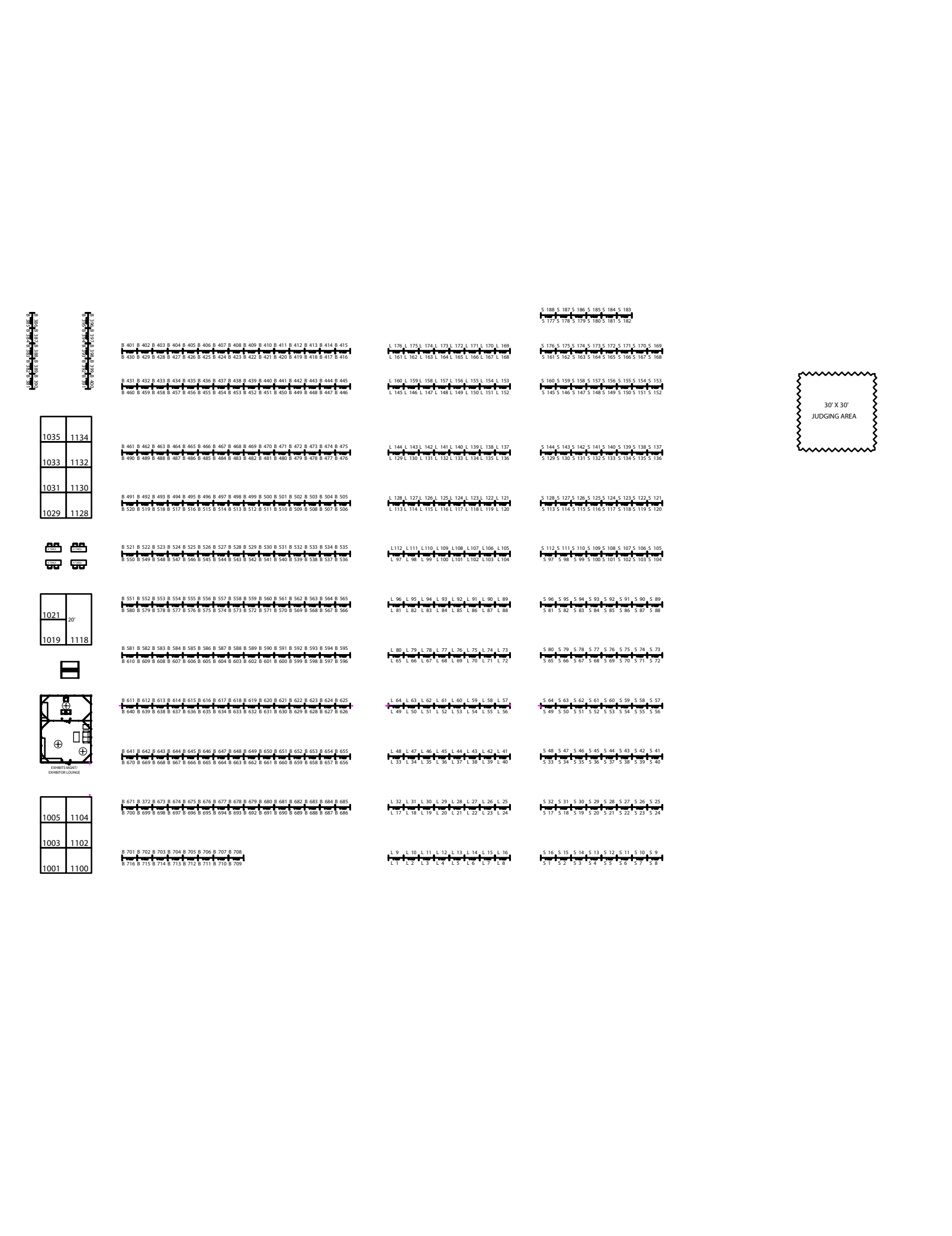
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Excited about patch clamp?

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Port-a-Patch 2.0.
The world's smallest patch clamp rig.

Patchliner.
Unlimited experimental freedom.

SyncroPatch 384/768PE.
Patch clamp went HTS.

SURFE²R N1 & SURFE²R 96SE.
High throughput transporter research.

CardioExcyte 96.
Combined impedance & MEA-like recordings.

CardioExcyte 96 SOL. NEW!
Optogenetics meets cardiac safety.

Orbit 16 & Orbit mini.
Instant bilayers - just add protein.

Vesicle Prep Pro.
Liposomes made easy.

So are we!

Visit us at booth #629 and learn about our exciting products!

Product Demonstrations:

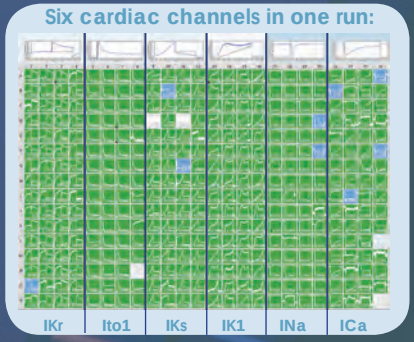
Monday February 19
12:30 – 2:00 PM
Room 6
Moscone Center

PART ONE: Ion Channel Analysis - Today's Contemporary Systems for Safety and Efficacy Screening

Monday February 19
2:30 – 4:00 PM
Room 6
Moscone Center

PART TWO: Paving the Way for In-Depth Pore-, Ion Channel, and Electrogenic Transporter Analysis

Live experiments!



Welcome!

www.nanion.de

Exhibit Dates and Times

Sunday, February 18 ..... 10:00 AM–5:00 PM
Monday, February 19 ..... 10:00 AM–5:00 PM
Tuesday, February 20 ..... 10:00 AM–4:00 PM

Coffee Served Daily ..... 10:15 AM–11:00 AM

Afternoon Snack Served Sunday – Tuesday ..... 1:45 PM–3:00 PM

Exhibit Raffle

Enter to win an Amazon Echo in the Exhibit Hall. Visit with exhibitors Sunday, February 18 through Tuesday, February 20, to collect raffle tickets for your chance to win. The more booths you visit, the greater your chances of winning. Drop your raffle tickets at the Society Booth, in the South Lobby, by 2:30 PM on Tuesday, February 20. The drawing will take place on Tuesday, February 20 at 3:00 PM in the Exhibit Hall – you must be present at the Meeting to win!

Exhibitor Presentations

Exhibitor Presentations will take place in Rooms 5 and 6 inside the Exhibit Hall of the Moscone Center.
See page 184 for detailed descriptions.

Room 5

Sunday, February 18	
11:30 AM–1:00 PM	Carl Zeiss Microscopy LLC
1:30 PM–3:00 PM	HORIBA Scientific
3:30 PM–5:00 PM	Wyatt Technology Corporation
5:30 PM–7:00 PM	LUMICKS BV
Monday, February 19	
9:30 AM–11:00 AM	Bruker Corporation
11:30 AM–1:00 PM	Asylum Research, an Oxford Instruments Company
1:30 PM–3:00 PM	Journal of General Physiology
3:30 PM–5:00 PM	KinTek Corporation
5:30 PM–7:00 PM	Sutter Instrument
Tuesday, February 20	
11:30 AM–1:00 PM	Malvern Panalytical

Room 6

Sunday, February 18	
10:30 AM – 12:00 PM	Cellular Dynamics International, a FUJIFILM company
12:30 PM – 2:00 PM	Alvéole
2:30 PM – 4:00 PM	Allen Institute for Cell Science
4:30 PM – 6:00 PM	Molecular Devices LLC
6:30 PM – 8:00 PM	HEKA Elektronik
Monday, February 19	
8:30 AM – 10:00 AM	TA Instruments – Waters LLC
10:30 AM – 12:00 PM	Dynamic Biosensors GmbH
12:30 PM – 2:00 PM	Nanion Technologies GmbH
2:30 PM – 4:00 PM	Nanion Technologies GmbH
4:30 PM – 6:00 PM	Bruker Corporation
Tuesday, February 20	
10:30 AM – 12:00 PM	Sophion Bioscience A/S

Annual Meeting Sponsors*

AAT Bioquest Inc
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APL Bioengineering
Asylum Research, an Oxford Instruments Company
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Science Advances
Sophion Bioscience A/S
Sutter Instrument
TA Instruments - Waters LLC
The Journal of Physical Chemistry
Wyatt Technology Corporation

**As of January 10, 2018*

Room 5: Sunday, February 18

11:30 AM–1:00 PM

Carl Zeiss Microscopy LLC

Zeiss Live Cell Imaging Tools Allow New Levels of Resolution, Sensitivity, and Throughput

Imaging live cell samples offers unique insights into cellular function and gives the freedom to explore dynamic changes in cell behavior. Successful live cell imaging relies on maintenance of an appropriate cellular environment and an effort to minimize cellular damage. Keeping up with dynamic events inside a living cell requires an optical design that produces gentle high signal to noise images. The optical design and configuration of the imaging platform plays a crucial role in the success of an imaging experiment.

ZEISS has introduced a completely automated inverted platform, the Celldiscoverer 7, which simplifies every aspect of experimental setup and gives every live cell experiment the best chance for success. At the heart of the Celldiscoverer 7 is a completely unique optical concept with record setting optical resolution and light throughput. Paired with gentle LED illumination and image detectors designed for low magnification the Celldiscoverer 7 achieves new levels of imaging throughput. Complicated tasks of microscope configuration and optimization are completely automated and designed to make the most of any sample type. Automated control of cellular environment allows imaging stability to be maintained over long time course experiments. The system can be expanded with a robotic plate loading system to allow high throughput imaging from plate and slide based samples.

The ZEISS LSM 880 confocal with Airyscan and Fast technology offers a unique detector design that counters the typical loss of sample light experienced when using a confocal pinhole. The Airyscan detector provides superresolution down to 120 nm in x, y, and 350 nm in z with higher SNR allowing acquisitions with lower laser illumination. The Fast mode for Airyscan provides the ability to image four times faster while maintaining improved resolution and SNR over conventional confocal imaging. The result is gentle superresolution imaging and the needed speed to follow live cells and quantify fast live cell events.

Join this workshop and learn how the ZEISS Celldiscoverer 7 and the LSM 880 Airyscan can help your imaging experiments in completely new ways.

Speakers
Scott Olenych, North American Product Marketing Group Manager, Light Microscopy, Carl Zeiss Microscopy LLC
Renée Dalrymple, Product Marketing Manager, Imaging Products, Carl Zeiss Microscopy LLC

1:30 PM–3:00 PM

HORIBA Scientific

New Fluorescence and Absorbance Spectrometer Concept

HORIBA Scientific is pleased to announce the launch of their newest spectroscopic instrument; DuettaTM fluorescence and absorbance spectrometer. Duetta combines fluorescence with absorbance in a single compact instrument, making this unique combination a breakthrough in the field of fluorescence spectroscopy.

Duetta is a new analytical fluorometer concept with many unique benefits over traditional bench-top scanning spectrofluorometers. It is a complete Fluorescence and Absorbance Spectrometer from the UV to the NIR (250 to 1,100 nm) using CCD detection to allow for fluorescence spectral acquisitions in the blink of an eye. Duetta saves you money and time, and because it can acquire both fluorescence and absorbance simultaneously, it offers enhanced dynamic range and precise multivariate analysis capabilities for molecular fingerprinting.

The Duetta fluorescence and absorbance spectrometer is powered by a new software platform from HORIBA called EzSpecTM. EzSpec is an intuitive user interface that allows for simple operation, acquisition and analysis. It features single button Apps for routine fluorescence and absorbance applications.

Key benefits that will be presented:

1. Simultaneous Absorbance-Transmission and EEM Fluorescence Spectrometer (A-TEEMTM)
2. 3-D Excitation Emission Matrix Acquired in 30 seconds
3. Automatic Inner Filter Effect (IFE) Correction for quantitative fluorescence measurements over a wide range of concentrations
4. Millisecond CCD detection with effective scan speed of 980,000 nm/minute (with 50 ms integration)
5. UV-Vis-NIR Absorbance Detection range from 250 to 1,100 nm
6. UV-Vis-NIR Fluorescence Detection range from 250 to 1,100 nm
7. Sensitivity Specification of 3,000:1 RMS for water Raman

Come see a presentation and demonstration of this exciting new instrument from the leaders in fluorescence!

Speaker
Cary Davies, Global Product Line Manager, Fluorescence Division, HORIBA Scientific

3:30 PM–5:00 PM

Wyatt Technology Corporation

Light Scattering Tools for Biophysical Characterization

Explore Wyatt Technology's powerful suite of light scattering tools for biophysical characterization of protein and other biopolymer samples. Multi-angle light scattering (MALS) and dynamic light scattering (DLS) experiments help quantifying many critical attributes of samples, such as their molar mass, radius, and degree of conjugation. At the same time, these techniques allow characterization of sample preparation quality by giving information about the aggregate content, thermal stability, and details of self- and hetero-association. All these parameters may not be amenable to standard characterization methodology but are readily and consistently elucidated with light scattering.

Due to their ease of use, potential for automation and high throughput capabilities, light scattering techniques can be incorporated into many workflows, such as a quality control tool prior to surface plasmon resonance (SPR), biolayer interferometry (BLI), and isothermal titration calorimetry (ITC) experiments. Light scattering can also be used to select samples for further characterization in large scale instrumentation, like small angle X-ray scattering (SAXS) or small angle neutron scattering experiments (SANS), and thus help in utilizing expensive large scale instrumentation more efficiently. The high throughput light scattering instrumentation can further be used to screen crystallization trials

This seminar will review static and dynamic light scattering theory and instrumentation, and then discuss a set of complementary techniques, all based on light scattering, that are useful in addressing many sample characterization aspects.

Speaker
Andre Mueller, Application Scientist, Wyatt Technology Corporation

5:30 PM–7:00 PM

LUMICKS BV

Novel Developments and Applications of Single-Molecule Tools with Ultra-High Resolution, Stability, and Throughput

LUMICKS brings to market revolutionary single-molecule technologies that enable – for the first time –visualization of molecular interactions and acoustic manipulation of biomolecules. We aim at creating an environment for researchers to perform high quality, high throughput single-molecule, and cell experiments, in the most accessible manner by providing novel single-molecule instruments.

During this seminar, we will discuss the latest developments and applications of our single-molecule technologies and how they can enhance the understanding in the fields of DNA/RNA-protein interactions and kinetics, molecular motors, protein folding, genome organization, membrane dynamics, and much more.

The C-Trap™ is the world's first instrument to combine high-resolution optical tweezers, confocal microscopy or STED nanoscopy, and an advanced microfluidics systems in a truly integrated and correlated solution. This allows scientists to simultaneously manipulate and visualize molecular interactions in real-time. Acoustic Force Spectroscopy (AFS™) is LUMICKS' highly parallel single-molecule manipulation method, capable of applying forces on thousands of biomolecules in parallel with high precision. Our technologies are designed for easy and automated user interface, with high-throughput capabilities and world-wide technical support.

Speakers
Rosalie P.C. Driessen, Applications Scientist, LUMICKS BV
Ali Raja, Sales Manager, LUMICKS BV
Avin Ramaiya, Technology and Application Development Scientist, LUMICKS BV
Jordi Cabanas-Danés, Application Scientist, LUMICKS BV
Arne Gennerich, Associate Professor, Albert Einstein College of Medicine
Willem Peutz, Sales Director, LUMICKS BV

Room 5: Monday, February 19

9:30 AM–11:00 AM

Bruker Corporation

The Latest in Mechanobiology Research with AFM

Mechanobiology-related research is focused on understanding how cells exert and respond to forces. Examining the effects of forces on cells has a wide-range of applications from understanding disease pathology to the development of tissue engineering devices. Recent advances in atomic force microscopy (AFM) are not only allowing direct observation of cell membrane structures, such as microvilli, on living cells, they are also providing unique opportunities to measure the nanomechanical properties of individual cells, map the spatial distribution of membrane receptors, as well as study the dynamics of various cellular processes and behaviors.

In this session we will introduce the newest advancements in AFM technology designed to enable quantitative nanomechanical property research at the cellular and molecular levels. Come see how researchers can look at, map, and measure mechanical properties like the adhesion forces between cells and molecules, and visualize their dynamic behaviors, as well as capture high-resolution images.
Before you come, check out these leading researcher interviews, talking about their current work using AFM:

- Using AFM to study cell mechanics and function: https://www.news-medical.net/news/20171017/Using-AFM-to-study-cell-mechanics-and-function.aspx
- Probing living cells with AFM: https://www.news-medical.net/news/20171121/Probing-living-cells-with-AFM.aspx
- Using AFM to study cancer cells: https://www.news-medical.net/news/20171114/Using-AFM-to-study-cancer-cells.aspx
- Studying the nanomechanical properties of aging and cancerous cells using AFM: https://www.news-medical.net/news/20171031/Studying-the-nanomechanical-properties-of-aging-and-cancerous-cells-using-AFM.aspx
- Measuring biological samples using SNAP: https://www.news-medical.net/news/20171024/Measuring-biological-samples-using-SNAP.aspx

Speaker
Ian Armstrong, Sales Applications Manager, Bruker Corporation

11:30 AM–1:00 PM

Asylum Research, an Oxford Instruments Company

High Resolution and High Speed Imaging Innovations and Advancements for Visualizing Dynamic Processes at the Nanoscale

Asylum Research will share the latest results from the Cypher VRS, the world's first and only full-featured video-rate AFM. Until now, this capability was only available on AFMs built solely for video rate imaging with limited capabilities such as sample size. The Cypher VRS enables high quality imaging at over 625 lines per second, corresponding to about 10 frames per second. This speed greatly exceeds other “fast scanning” AFMs, by a factor of at least 5-10X. The Cypher VRS also features the full range of modes and accessories supported with its environmental scanner, including heating and cooling. These capabilities make the Cypher VRS ideally suited for visualizing dynamic biomolecular processes at the nanoscale. Additionally, Andor will present their SRRF-Stream, offering the capability to adapt conventional fluorescence microscopes to perform live cell superresolution using a large field of view and in real time. SRRF-Stream processes data at up to 30x faster than the corresponding ImageJ post processing implementation of SRRF (Nano-J SRRF). This furthermore permits image acquisition and SRRF processing to happen in parallel, resulting in a massive overall workflow improvement. SRRF-Stream facilitates use of low excitation intensities (mW-W/cm2), prolonging live cell observations and enabling accurate physiology. It is also compatible with conventional fluorophores, e.g. GFP, simple labelling, no photo-switching required. By enabling real-time superresolution with large field of view images, the combination of SRRF-Stream and our iXon EMCCD cameras represents a highly cost-effective way to unlock powerful super-resolution from conventional fluorescence microscopes. SRRF-Stream is ideally suited to iXon Life, highly cost-effective single photon sensitive EMCCD cameras that are streamlined specifically for fluorescence microscopy usage. Finally, Bitplane will present Imaris, its 3D/4D image visualization and analysis software. Imaris interactively renders data sets 100s of GBs to TB in size and with thousands of time points. In addition, Imaris offers a variety of analysis tools – each of them presented in an easy to use wizard. With Imaris 9 the Surfaces tool analyzes extremely large images to report spatial, morphological, and intensity measurements for the characterization of biological objects of all sizes and shapes. Imaris' multiple tracking algorithms are easily applied to Surfaces to analyze temporal changes and report motion behavior. In addition, the XT module provides a two-way interface from Imaris to classic programming languages: Matlab, Java, or Python and an image export/import to Fiji. These features enable Imaris to provide a flexible and powerful solution for the analysis of 3D/4D images.

Speakers
Sophia Hohlbauch, Applications Scientist, Asylum Research, an Oxford Instruments Company
Colin Coates, Product Manager, Andor Technology
Chi-Li Chiu, Technical Support Specialist, Bitplane

1:30 PM–3:00 PM

Journal of General Physiology

Journal of General Physiology: Celebrating 100 Years

The *Journal of General Physiology* has published seminal biophysical discoveries since 1918 and continues to disseminate mechanistic and quantitative physiology of the highest quality. Join us in celebrating 100 years of JGP during this special presentation featuring the editors and distinguished guests. A full program will be available at the JGP booth #219 in the Exhibit Hall.

Speakers

Sharona Gordon, Editor-in-Chief, Journal of General Physiology
Richard Aldrich, Associate Editor, Journal of General Physiology
José Faraldo-Gómez, Associate Editor, Journal of General Physiology
Henk Granzier, Associate Editor, Journal of General Physiology
Merritt Maduke, Associate Editor, Journal of General Physiology
Eduardo Rios, Associate Editor, Journal of General Physiology
Kenton Swartz, Associate Editor, Journal of General Physiology

3:30 PM–5:00 PM

KinTek Corporation

Using KinTek Explorer Software to Understand Kinetics and Rigorously Fit Data

In this presentation, Dr. Johnson will introduce the theory and operation of KinTek Explorer software to show how easy it is to fit data to any user-defined model without resorting to the use of equations. Examples of experiments that can be fit include: transient and single turnover stopped-flow kinetics, steady state kinetics, slow onset inhibition, equilibrium titrations, rapid-quench-flow kinetics, temperature dependence, and voltage-dependent rate constants. In addition, time-resolved absorbance or fluorescence and pH-dependent spectra can be analyzed by singular value decomposition to yield spectra and time- or pH-dependence of each species. Fast dynamic simulation using proprietary algorithms for numerical integration allows you to explore parameter space and learn kinetics. By modeling the experiments exactly as performed, all details of the experimental setup are included, eliminating errors in interpretation. Moreover, multiple experiments can be fit simultaneously to a single unifying model. Only KinTek Explorer offers such robust and dynamic data fitting. In addition to describing KinTek Explorer's basic features, Dr. Johnson will introduce new features and will be available to help you to fit your own data. Learn about what you are missing in your own data fitting. See www.kintekcorp.com for more information.

Speaker

Kenneth Johnson, Professor of Biochemistry, University of Texas at Austin, President, KinTek Corporation

5:30 PM–7:00 PM

Sutter Instrument

Scientists Empowering Scientists

There have been many technological evolutions in Patch Clamp electrophysiology over the past 4.5 decades that Sutter Instrument has been collaborating with researchers. During this period, Sutter has introduced many new product families, including pipette pullers, manipulators, light sources, wavelength switchers, specialized microscopes, and most recently, fully integrated patch clamp amplifier systems. At this presentation, we will teach techniques, tips and tricks, and showcase features from three of our product families: pullers, manipulators, and patch clamp systems.

Since Sutter Instrument's inception in 1974, our pipette pullers have been used in a large number of research facilities all over the world. They are considered the unparalleled leader in performance and reliability. We will demonstrate how to make the unique micropipettes needed for your application, with a discussion on scoring and cutting, bending, polishing, and beveling.

The IPA®, Double IPA® and new dPatch® Ultra-fast, Low-noise Integrated Patch Clamp Amplifiers, and SutterPatch® Software can be used for a variety of common experiments, including characterization of ionic current and recording synaptic events in tissue slices. We will demonstrate how the SutterPatch Software's online measurements and sophisticated control of experimental workflow can be used to aid real-time decision-making and eventually simplify analysis.

Sutter introduced Micromanipulators in 1985. From that time on, the company has continued to develop manipulators with stepper motor drive mechanisms and ergonomic controllers that are adaptable to mandifferent experimental designs and platforms. We will introduce two newer additions to the product family: the four axis QUAD® and the three-axis TRIO®. In addition, we will demonstrate how the MultiLink™ software can be used for robotic control and integration with other hardware.

Registration is available online through the Sutter Instrument Event Registration page https://sutter.eventbrite.com.

Speakers

Adair Oesterle, Product Manager, Micropipette Pullers, Sutter Instrument
Geoff Lambright, Product Manager, Microscopy, Sutter Instrument
Telly Galiatsatos, Tech Support and Product Development, Sutter Instrument
Jan Dolzer, Product Manager, Patch Clamp Systems, Sutter Instrument

Room 5: Tuesday, February 20

11:30 AM–1:00 PM

Malvern Panalytical

Integration of Multiple Biophysical Tools to Accelerate the Biotherapeutic Development Process

With the myriad of technologies available to assess the biophysical properties of biological materials, it can sometimes be an overwhelming task to identify which properties are most important to assess. This workshop will provide a summary of a typical workflow that can be used to assess the stability indicating properties of biological drug products across three different development phases of a drug:

- **Discovery Phase:** From identification of lead candidates to early assessment of developability, the discovery phase is constantly expanding the properties that are being measured, while minimizing the volume of drug substance being used.
- **Formulation Development:** Identifying the right candidate in the right formulation is critical to a products success. The need to measure the most relevant properties of the formulation to identify manufacturability is the most important requirement.
- **Manufacturing:** Development of a robust manufacturing process, and early identification of issues associated with process change can keep you ahead of the curve to identify issues before they arise.

Speakers

Verna Frasca, Field Applications Manager, Biosciences, Malvern Panalytical
Clayton Deighan, Field Applications Scientist, Biosciences, Malvern Panalytical
Amber Fradkin, Director, Particle Characterization Core Facility, KBI Biopharma

Room 6: Sunday, February 18

10:30 AM–12:00 PM

Cellular Dynamics International, a FUJIFILM company

Using Human iPSC-Derived Cell-Types in Novel Functional Assays, Disease Modeling, and Drug Discovery

The availability of donor-specific induced pluripotent stem (iPS) cells, coupled with gene-editing techniques, is enabling new insights into the molecular basis and mechanisms of human disease. Join us as we describe how Cellular Dynamics' cryopreserved iPSC-derived cell-types have been used to develop disease models with innate or introduced mutations.

10:30 AM: Dr. Leonard Kaczmarek from Yale University will begin the talks by describing the use of stem cells in understanding mechanisms of ataxias and epilepsy, highlighting human iPSC-derived neurons harboring mutations in the KCNT1 Slack channel.

11:00 AM: Dr. Kile Mangan from Cellular Dynamics International will follow with a talk on utilizing novel functional assays with high-definition multielectrode arrays (HD-MEAs: MaxWell Biosystems) to uncover phenotypic differences in neurons harboring single-nucleotide disease mutations (alpha synuclein A53T Parkinson's Disease) or in normal control following pharmacological perturbation.

11:30 AM: Recent advances in cardiac tissue engineering have increased significantly cell functional across electrophysiological, Ca2+ handling, and contractility. The third presentation of this session will discuss these advances and provide exemplar laboratory case studies highlighting the increased functionality and experimental implementation.

Speakers

Leonard Kaczmarek, Professor of Pharmacology and Cellular and Molecular Physiology, Yale University
Kile Mangan, Group Leader, Application Development, Cellular Dynamics International, a FUJIFILM company
TBD, Cardiomyocyte Bioengineering Applications Specialist

12:30 PM–2:00 PM

Alvéole

Maskless Quantitative Multi-Protein Photopatterning to Orchestrate Cellular Microenvironment

Cell biology is faced with significant challenges when attempting to create complex microenvironments to unravel intricate mechanisms involved in cell adhesion, cell polarity, cell migration, etc. These challenges can be overcome by molecular printing which involves the controlled deposition of molecules on a substrate at the micrometer scale. These approaches have developed tremendously in the past few years and micropatterned substrates are now routinely used for biological research. To yield biologically relevant data, printed biomolecules should mimic the complexity of the in vivo microenvironment. Micrometer-scale gradients of multiple proteins are thus highly desirable.

Here we present PRIMO custom micropatterning system for cell control which allows to control the chemistry and topography of the cellular microenvironment and study their impacts on cell development.

This maskless quantitative multi-protein photopatterning solution is based on the light-induced molecular adsorption of proteins (LIMAP) technology. The PRIMO system combines a UV illumination module and a specific photoactivatable reagent (PLPP). The combined action of UV-light and PLPP locally degrades antifouling polymer brushes allowing for the adsorption of proteins in a well-defined area.

PRIMO relies on a wide-field DMD-based projection system coupled to an epifluorescence microscope to project custom-defined patterns of UV light onto all standard cell culture surface. As a result, micrometer scale patterns are generated within seconds. The remaining background allows for the sequential patterning of multiple proteins. Controlled protein gradients of custom-defined shape can also be patterned. In addition, PRIMO technology allows for microfabrication by photopolymerization of UV-sensitive materials and also protein patterning onto pre-existing 3D surfaces.

This new micropatterning technology empowers biomedical research in neurobiology, immunology, stem cell biology, oncology, and tissue engineering. The applications in cell biology, such as studying how the asymmetry of the focal adhesion can regulate the cytoskeleton, will be illustrated by some user testimonials presenting their research works conducted with PRIMO.

Visit www.alveolelab.com for more information.

Speaker
Pierre-Olivier Strale, Senior Scientist, Alvéole

2:30 PM–4:00 PM

Allen Institute for Cell Science

The Allen Institute for Cell Science – Resources to Empower Your Research

The Allen Institute for Cell Science aims to understand and predict behavior of human cells in health and disease. We have chosen the induced pluripotent human stem cell as our model because it is diploid, proliferative, and differentiates in a number of different cell types.

In this presentation, the Allen Institute for Cell Science team will introduce you to the publicly available cell lines, observations, imaging and computational methods and tools, and the data produced by the Institute. We will discuss our legacy collection of endogenous fluorescently tagged human induced pluripotent stem cell lines highlighting key intracellular structures, and how we image our cells in our high-replicate microscopy pipeline, that includes automated cell culture and imaging using spinning disk microscopy. We will also discuss our workflow quality control criteria, the methods developed to ensure day-to-day consistency between data sets, and how alternate pipeline modes may offer the flexibility to evaluate new assays and imaging technologies.

We have collected 3D, 4 channel images from more than 20,000 live cells thus far, comprised of high replicates for each genome-edited cell line. This data offers ideal input for key analyses examining variation in the cell population and machine learning. We will demonstrate this using some easily accessible tools for descriptive statistical analyses developed in-house. We will also show how this rich, high-replicate image set is used as input for deep neural networks which generate unified, integrated cell models and label free imaging. Finally, we'll demonstrate how to navigate our large, high replicate 3D image data sets, revealing the subcellular localization of key tagged structures.

All of our procedures, tools, and data are shared on our webpage, the Allen Cell Explorer (www.allencell.org), which will be highlighted during the presentation.

Speakers
Allen Institute for Cell Science team

4:30 PM–6:00 PM

Molecular Devices LLC

Supercharge Your Patch-Clamp Data Acquisition and Analysis with the NEW pCLAMP 11 Software

The patch-clamp technique remains the best method for evaluating ion channel physiology, and since 1983, Axon Instruments has been the gold standard in patch-clamp equipment. Axon Instruments continues to push the envelope with new innovations with best-in-class systems and software.

Axon Instruments' pCLAMP software remains, to this day, the most widely used and best software available for data acquisition and analysis. And now pCLAMP is getting even better. Come and learn about pCLAMP 11, our latest software innovation, and how you can optimize your workflow and simplify your experiments with pCLAMP 11.

Speaker
Jeffrey Tang, Senior Global Axon Electrophysiology Application Scientist, Molecular Devices LLC

6:30 PM–8:00 PM

HEKA Elektronik

Driving E-Phys the Smart Way – Latest Advances in Electrochemical and Electrophysiological Applications

This HEKA symposium is intended for existing and new HEKA users interested in electrochemical and electrophysiological approaches including the latest advances in both areas. Speakers from diverse areas will present their results achieved with HEKA instruments and software either using our electrochemical probe scanner (ElProScan) which allows various investigations of electrochemical active surfaces or from multi-patch clamp experiments obtained with our EPC 10 USB amplifiers.

Please feel free to visit us at our booth #535. We look forward to speaking with you about any patch clamp related topic and having the opportunity to provide you with a personalized demonstration of our new PATCHMASTER NEXT software. Visit www.heka.com.

Speaker
Martin Oberhofer, Product Specialist, HEKA Elektronik

ROOM 6: Monday, February 19

8:30 AM–10:00 AM

TA Instruments – Waters LLC

Characterizing Biopharmaceuticals for Stability and Affinity

We will be discussing native and multi-parameter approaches to testing biopharmaceuticals. Isothermal titration calorimetry (ITC) and differential scanning calorimetry (DSC) are powerful tools for in-depth characterization of molecular binding events and structural stability of biopharmaceuticals. DSC and ITC generate comprehensive thermodynamic profiles for protein domain structures and the energetics of inter- and intra-molecular binding events. In addition to these stability and affinity assays, we have a new technique for determination of longer-term stability. Using an isothermal calorimeter, we can quantify shelf-life stability while simultaneously determining the percent aggregated material. This test is typically completed in a few days and has been shown to agree with longer-term SEC data.

Speakers
Colette Quinn, Microcalorimetry Product Manager,
TA Instruments – Waters LLC
Malin Suurkuusk, Isothermal Calorimetry Product Manager,
TA Instruments – Waters LLC

10:30 AM–12:00 PM

Dynamic Biosensors GmbH

Biophysical Analysis of Molecular Interactions with the switchSENSE Biosensor

switchSENSE is an automated biosensor chip technology employing electrically actuated DNA nanolevers for the real-time measurement of binding kinetics (kON, kOFF) and affinities (KD). Interactions between proteins, DNA/RNA, and small molecules can be detected with femtomolar sensitivity. At the same time, protein diameters (DH) are analyzed with Angstrom accuracy and conformational changes and melting transitions (TM) can be measured using minimal amounts of sample. The principles and applicability of static and dynamic measurement modalities will be introduced in this talk. We will discuss unique possibilities for the functionalization of the sensor surface, e.g., the adjustment of ligand densities and the precise assembly of different ligands on bifunctional nanolevers.

Application examples from fundamental research and drug development will be presented, including:

- Introduction to the analysis of molecular interactions with electroswitchable DNA nanolevers
- Quantification of conformational changes in proteins and Stokes radius measurements
- Analysis of complex binders: high-affinity and bispecific antibody formats
- CRISPR/Cas9 – nucleic acid interactions and enzymatic activity measurements
- Controlling the density of ligands on a chip surface by electrical desorption and “invisibility cloaking”
- TUTORIAL: Programming of measurement workflows and data analysis

Speakers
Ulrich Rant, CEO, Dynamic Biosensors GmbH
Kenneth Dickerson, Director of Business Development in North America,
Dynamic Biosensors GmbH
Joanna Deek, Scientist, Dynamic Biosensors GmbH
Felix Kroener, Scientist, Dynamic Biosensors GmbH
Daisylea de Souza Paiva, Technical Sales Manager,
Dynamic Biosensors GmbH

12:30 PM–2:00 PM

Nanion Technologies GmbH

Part One: Ion Channel Analysis – Today's Contemporary Systems for Safety and Efficacy Screening

Nanion provides "smart tools for electrophysiologists." If you are studying ion channels and electrogenic transporters, our chip- and plate-based devices are well suited to advance your research and screening projects. You will find instrumentation for patch clamp, bilayer recordings, SSM-based electrophysiology, impedance, and extracellular field recording within our portfolio.

In our first workshop, we will focus on two plate-based devices for higher throughput assays:

The SyncroPatch 384/768PE, an automated patch clamp platform, records from up to 768 cells simultaneously. Application areas range from HTS cardiac safety assessment and efficacy screening to the analysis of ion channel mutations. The SyncroPatch 384/768PE supports voltage- and current clamp recordings, temperature control, and minimal cell usage. In addition to the use of stably transfected cell lines, more challenging cell assays including stem cell-derived cells, transiently transfected cells, or primary cells can be used successfully.

The CardioExcyte 96, a device for label-free analysis of 2D/3D cells/clusters in a 96 well plate, utilizes two different analysis technologies: Extracellular field potential and impedance. It is a versatile tool for cardiac safety screening given its high resolution which allows the recording of beating iPSC-derived cardiomyocyte networks. The optical lid (CardioExcyte 96 SOL) uses LEDs for pacing cardiomyocytes with light (optogenetics) to study beat rate-dependencies of compounds. Furthermore, long-term impedance measurements of cells over several days makes it an ideal tool for routine toxicity screening (e.g. hepatotox, cardiotox) and cell monitoring.

Speakers
Andrea Brüggemann, CSO, Nanion Technologies GmbH
Niels Fertig, CEO, Nanion Technologies GmbH

2:30 PM–4:00 PM

Nanion Technologies GmbH

Part Two: Paving the Way for In Depth Pore-, Ion Channel-, and Electrogenic Transporter Analysis

In our second workshop we will focus on devices for bilayer recordings, patch clamp, and electrogenic transporter assays, including live demonstrations.

The SURFE^{2}R product family enables label-free real time measurement of electrogenic transporter protein activity. Employing SSM (solid supported membrane)-based electrophysiology, the SURFE^{2}R instruments compensate for the low turnover rate of these proteins by measurement of up to 109 transporters in parallel. This method has proven its value: High quality data on about 100 SLC- and MFS- transporters as well as ATPases and ligand gated ion channels has been published. The flexible single channel instrument, SSURFE^{2}R N1, is ideally suited for basic research, whereas the SURFE^{2}R 96SE is able to measure 96 sensors in a fully parallel mode enabling larger screening studies on substrates, inhibitors, or modulators.

The Port-a-Patch is the world's smallest patch clamp rig for high quality, giga-ohm seal patch clamp recordings in voltage and current clamp modes. Versatile add-ons, such as internal perfusion, allow unprecedented experimental freedom, above and beyond the possibilities of conventional patch clamp.

The Orbit product family supports parallel lipid bilayer recordings of reconstituted ion channels for four artificial lipid bilayers (Orbit mini) or 16 lipid bilayers (Orbit 16) simultaneously. Using Micro Electrode Cavity Array (MECA, Ionera) recording substrates, the bilayers are automatically formed by remotely actuated painting (Ionera- SPREAD), which will be demonstrated during this session.

Speakers
Andrea Brüggemann, CSO, Nanion Technologies GmbH
Niels Fertig, CEO, Nanion Technologies GmbH
Maria Barthmes, Product Manager, SURFE^{2}R, Nanion Technologies GmbH
Gerhard Baaken, CEO, Ionera Technologies GmbH
Ekaterina Zaitseva, CSO, Ionera Technologies GmbH

4:30 PM–6:00 PM

Bruker Corporation

Harnessing the Power of Superresolution Single Molecule Localization Microscopy with the Vutara 352: Labeling and Imaging Strategies

Single molecule localization microscopy (SMLM) has made a significant impact in the field of biology by enabling a 10-fold enhancement in resolution. A key factor in achieving this enhanced resolution is to optimally label and image the specimen. Numerous labeling strategies exist to tag structures in cells, bacteria, virus, tissue sections, C. elegans and Drosophila, to make the best use of SMLM. Examples include DNA- and Oligo-Paint, antibody/nanobody labeling with organic dyes, Halo and SNAP-tag dyes, and photo-switchable fluorescent proteins. Choosing a sub-optimal labeling method for a given biological sample will result in loss of achievable resolution. Once a specimen has been optimally labeled and imaged, the acquired localization data can then be readily quantified via statistical analysis to test experimental hypotheses.

Join this session to learn about labeling strategies and techniques used to get the best SML results.

Speaker
Manasa Gudheti, Sales Applications Scientist, Bruker Corporation

ROOM 6: Tuesday, February 20

10:30 AM–12:00 PM

Sophion Bioscience A/S

Ion Channel Profiling and Electrophysiological Characterization Using Automated Patch Clamp (QPatch), Cell Line Generation, and iPSC Derived Cardiomyocytes: Tools for Finding Antibodies and Peptides for Ion Channel Targets

Successful ion channel drug discovery requires the integration of multiple technologies and workflows. Sophion Bioscience is a leader in automated patch clamp technology, providing medium to high throughput, automated patch clamp to the pharmaceutical industry and universities. The QPatch is a fully automated patch clamp system, executing simultaneous 8, 16 or 48 parallel patch clamp recordings in conjunction with computer controlled liquid handling, and on-board cell handling. Sophion partners with other biotech companies to create robust, ion channel, and electrophysiological workflows for drug development for ion channel targets. During this workshop, three industry speakers will provide insight into the drug discovery process. Dr. Damian Bell will present how Iontas uses Maxcyte's scalable electroporation platform and QPatch to advance its antibody programs for ion channel targets. Dr. Daniel Sauter from Sophion Bioscience will present data from the development of protocols for using QPatch with pluripotent stem-cell derived cardiomyocytes from Ncardia (Cor4U). Finally, Dr. Alan Wickenden from Janssen Research and Development will present on Johnson and Johnson's development of selective peptide, Nav1.7 inhibitor as a novel analgesic.

Speakers
Damian Bell, Head of Electrophysiology, Iontas Ltd
Daniel Sauter, Application Scientist, Sophion Bioscience A/S
Alan Wickenden, Scientific Director and Fellow, Molecular and Cellular Pharmacology, Janssen Research and Development LLC

Company Name Booth Number

89 North **819**
1 Mill Street, Unit 285
Burlington, VT 05401
www.89north.com

89 North provides innovative solutions for fluorescence imaging featuring the LDI, a state-of-the-art 7-line laser illuminator with up to 1 watt of power per channel. The newly released OptoTIRF illuminator and the L-SPI macro light sheet illuminator will be displayed, as well as emission splitting systems, optogenetics solutions, high speed filter wheels and laser combiners from Cairn Research and confocal imaging systems from CrestOptics. We also offer engineering and manufacturing expertise to customize existing products or to create new solutions for system integration.

AAT Bioquest Inc **413**
923 Thompson Place
Sunnyvale, CA 94085
www.aatbio.com

AAT Bioquest develops, manufactures and markets bioanalytical reagents and assay kits for life science research and drug discovery. We specialize in absorption, fluorescence and luminescence-based biological detection technologies. Our products include the outstanding Fluo-8®, Cal-520™, Cal-590™, Cal-630™ and FLIPR calcium assay kits, fluorescent ion indicators, fluorescent labeling reagents, cell and in vivo imaging probes. We also offer a full spectrum of apoptosis probes and assay kits.

ABBELIGHT **434**
NEW 2018
6 rue Jean Calvin
Paris, 75005
France
www.abbelight.com

Abbelight is a company providing a 3D super-resolution microscope (Single Molecule Localization Microscopy) based on DONALD technology. Our products, expertise and services are going from sample preparation advices to biological calibration samples, chemical dSTORM buffer, full 3D super-resolution hardware system, and proprietary software for SMLM real-time acquisition, analysis (reconstruction, drift correction) and visualization.

Company Name Booth Number

Abberior Instruments America **329**
NEW 2018
1 Max Planck Way
Jupiter, FL 33458
www.abberior-instruments-america.com

Abberior Instruments offers cutting-edge superresolution microscopes (STED, RESOLFT) with the best possible resolution. Together with JPK Instruments we show a combined STEDYCON and AFM at the booth.

Agilent Technologies Inc **528**
121 Hartwell Avenue
Lexington, MA 02421
www.agilent.com

Agilent is a leader in life science research tools, providing analytical instruments, software, consumables and services for research laboratories worldwide. Agilent products including Seahorse, iLab, Dako, SureSelect, and mass spec are used in phenotyping, metabolomics, cell metabolism, and mitochondrial toxicity assays; as well as immunotherapy, cancer, and metabolic disease research.

AIP Publishing **218**
1305 Walt Whitman Road, Suite 300
Melville, NY 11747
www.journals.aip.org

APL Bioengineering publishes high-impact manuscripts specific to the understanding and advancement of physics and engineering of biological systems.

ALA Scientific Instruments **630**
60 Marine Street
Farmingdale, NY 11735
www.alascience.com

As manufacturers (fluidics, chambers, etc) and distributors (npi, Sutter, Narishige, TMC) of instruments for patch/cellular and electrophysiology, our scientists/engineers have decades of experience assembling systems and building custom setups. We focus on your equipment needs so you can focus on your research.

Company Name Booth Number

Alembic Instruments Inc **619**
3285 Cavendish Boulevard, Suite 570
Montreal, Quebec H4B 2L9
Canada
www.alembicinst.com

Alembic Instruments makes patch clamps amplifiers with 100% Rs Compensation! Our patented Rs CompensatorTM completely eliminates series resistance errors rapidly, easily, and with full stability. Only the Rs CompensatorTM can voltage clamp the largest, fastest ionic currents, under physiologic conditions - currents that are simply out of reach without it. Come see the NEW Alembic VE-3 computer controlled Patch clamp amplifier! Features: 4 channels with integrated data acquisition, true current-clamp, embedded computer with dedicated FPGA for real-time Dynamic Clamp experiments, and more.

Allen Institute for Cell Science **311**
NEW 2018
615 Westlake Avenue North
Seattle, WA 98109
www.alleninstitute.org

Launched with a contribution from Paul G. Allen in 2014, the Allen Institute for Cell Science uses the human induced pluripotent stem cell model to understand cell behaviors. The Institute shares its resources, including cells, plasmids, and methods, through the Allen Cell Explorer at allencell.org.

Alvéole **319**
30 rue de Campo Formio
Paris, 75013
France
www.alveolelab.com

Created from work carried out by three research experts, Alvéole's goal is to make the control of living cells the future of cell biology. A company specialized in devices for controlling the cellular microenvironment, Alvéole presents its first device PRIMO: a contactless and maskless custom micropatterning device for cell control. PRIMO enables researchers to control the chemistry and topography of cell microenvironment and study their impacts on cell development.

Company Name Booth Number

Anasys Instruments 710

325 Chapala Street
Santa Barbara, CA 93101
www.anasysinstruments.com

Anasys is the leader in nanoIR and sub-micron IR spectroscopy. We deliver innovative solutions that measure spatially varying physical and chemical properties with nanoscale spatial resolution.

Anatrace Products LLC 613

434 West Dussel Drive
Maumee, OH 43537
www.anatrace.com

For 30+ years, Anatrace has strived to develop and supply the industry's finest products for protein science. In recent years, through the addition of protein purification products, the acquisition of the Molecular Dimensions and Microlytic tools for protein crystallization and Cryo-EM, Anatrace is equipped to fully support the entire gene-to-structure pipeline for both soluble and membrane protein targets with a more complete selection of tools to aid and support the protein structural biology and drug discovery pipeline.

Andor Technology 610

425 Sullivan Avenue, Suite 3
South Windsor, CT 06074
www.andor.com

Andor manufactures scientific imaging cameras and microscopy systems. Our EMCCDs are the ideal for low light applications; single molecule detection, ion (calcium) imaging, superresolution and TIRF.

Anton Paar USA 1128

10215 Timber Ridge Drive
Ashland, VA 23005
www.anton-paar.com

Anton Paar is a leading supplier of analytical instrumentation focused on the biophysical characterization of proteins, liposomes and other nanoscale analytes.

Company Name Booth Number

Applied Photophysics 1004

440 C
100 Cummings Center
Beverly, MA 01915
www.photophysics.com

Applied Photophysics, is a leading provider of solutions for biophysical characterization of biomolecules. Chirascan™ systems use the phenomenon of circular dichroism (CD) to characterize changes in the higher order structure of proteins. These systems are used in cutting-edge research and to support the development of innovator drugs and biosimilars in the biopharmaceutical industry. The Company's SX-range of stopped-flow spectrometers is acknowledged globally as the gold standard for kinetic studies of fast biochemical reactions.

Arago Biosciences 1019

NEW 2018

Physical and Theoretical Chemistry
Laboraotry, University of Oxford
South Parks Road
Oxford, Oxfordshire OX1 3QZ
United Kingdom

Arago Biosciences, a University of Oxford spin out, introduces the G5, a compact interferometric scattering microscope for label-free detection, imaging and mass measurement of single biomolecules. The G5 achieves a 5 kDa noise floor, few percent mass accuracy and mass resolution as low as 20 kDa just by adding a few uL of sample to a standard microscope cover glass. Solution operation, single molecule sensitivity and compatibility with single molecule fluorescence make the G5 an attractive alternative to SPR and native mass spec for label-free studies of biomolecules and their interactions.

Company Name Booth Number

ASI/Applied Scientific Instrumentation Inc 729

29391 West Enid Road
Eugene, OR 97402
www.asiimaging.com

ASI manufactures hardware for laboratory and microscope automation including: extremely precise motion control devices, such as sub micron XY stages, piezo top plate stages for ultra-precise and fast Z-axis focusing, LED based feedback systems for maintaining sub-micron level focusing, High-speed filter wheels and shuttering devices, Micro injectors and micromanipulators for intercellular injections. We also build microscope systems including light sheet and other custom high resolution systems. We work directly with end users, as well as a wide range of OEM's and imaging partners, to provide anything from individual components to fully automated turnkey systems.

Don't forget to pick up the Exhibitor Coupon Book for drawings and discounts. Coupon Books are available at Registration and in the entrance of the Exhibit Hall.

Company Name Booth Number

Asylum Research, an Oxford Instruments Company 608

6310 Hollister Avenue
Santa Barbara, CA 93117
www.asylumresearch.com

The technology leader in Atomic Force Microscopy will feature the Cypher VRS, the first and only fully-featured research AFM that enables video rate imaging of dynamic processes in air and in liquid. Until now, this capability was only available on AFMs built solely for video rate imaging with limited capabilities such as sample size. The Cypher VRS enables high quality imaging at over 625 lines per second, corresponding to about 10 frames per second. This speed greatly exceeds other "fast scanning" AFMs, by a factor of at least 5-10X. The Cypher VRS also features the full range of modes and accessories supported with its environmental scanner, including heating and cooling. Learn more at our Lunch and Learn Exhibitor Presentation on Monday, February 19, 11:30am, in Room 5.

Aurora Biomed Inc 900

NEW 2018

1001 East Pender Street
Vancouver, British Columbia V6A 1W2
Canada
www.aurorabiomed.com

Aurora Biomed manufactures high-throughput screening instruments for ion channels and transporters as complementary platforms to conventional patch clamp. The instruments employ a label free, non-radioactive Rb+ efflux technology, and is utilized in many biopharma drug applications. In addition, we also offer ion channel and cardiac safety assay services based on electrophysiology and cold flux technology, supporting cell lines, oocytes, and iPSCs. We also manufacture automated liquid handling systems and custom OEM solutions for genomics, proteomics, forensics, and biotechnology.

Company Name Booth Number

Aurora Scientific Inc 1134

25 Industry Street, Unit 3
Aurora, Ontario L4G 1X6
Canada
www.aurorascientific.com

Aurora Scientific provides solutions for measuring the dynamic physical properties of muscle and connective tissue. Muscle mechanics systems cover the range from single myocyte to whole large-animal in-situ. Products: Muscle Lever Systems, Force Transducers, High-Current Stimulators, Test Apparatus and Software. New Products: Dynamic Muscle Analysis Software with high throughput module.

Avanti Polar Lipids Inc 701

700 Industrial Park Drive
Alabaster, AL 35007
www.avantilipids.com

Since 1967, we have served the lipid community with the highest purity manufacturing, specialty products and lipid analysis. Avanti's eight Divisions are concentrated in one central USA location: Research Products-Highest Purity Lipid Reagents cGMP Manufacturing-API and Contract Manufacturing Adjuvants-Vaccine Development Analytical Services-Lipid Analysis Lipidomics-MS Standards, Antibodies and Lipid Toolbox Formulations-Liposomes and Nanoparticles Equipment- Liposome Production Tools Custom Services-Synthesis and Beyond.

Aviva Biosciences Corporation 1020

NEW 2018

6330 Nancy Ridge Drive, Suite 103
San Diego, CA 92121
www.avivabio.com

AVIVA develops devices for harvesting rare cells from blood and for automated ion channel screening. We provide fast ion channel screening services for safety (S7b and CiPA) and multiple targets.

Company Name Booth Number

Axion BioSystems 1005

1819 Peachtree Road NE, Suite 350
Atlanta, GA 30309
www.axionbio.com

Axion BioSystems' mission is to make powerful electrophysiology accessible to everyone, for a comprehensive understanding of life's circuitry. The Maestro Pro and Edge microelectrode arrays combine an industry-leading electrode count with the simplicity of an automated benchtop system to grant you unprecedented access to your excitable cells in vitro.

Beckman Coulter Life Sciences 308

5350 Lakeview Parkway South Drive
Indianapolis, IN 46268
www.beckmancoulter.com

Beckman Coulter develops, manufactures and services products that simplify, automate and innovate complex biomedical testing and industrial manufacturing.

Biolin Scientific 832

215 College Road, Suite 300
Paramus, NJ 07652
www.biolinscientific.com

Biolin Scientific is a leading Nordic instrumentation company with roots in Sweden and Finland. We actively partner with scientists around the world sharing knowledge and expertise allowing our users to perform research at the frontiers of surface science technology. Our product line includes: Attension: Contact angle and surface tension solutions for research and quality control. KSV NIMA: Instruments and measurement solutions for thin film fabrication and characterization. QSense: Real-time analysis of molecular interactions and surface properties.

Company Name Booth Number

BioLogic USA 719

9050 Executive Park Drive, Suite 105C
Knoxville, TN 37923
www.bio-logic.us

BioLogic Science Instruments introduces the EKKO CD microplate reader. EKKO does 96 single wavelength chiral characterizations in 2 minutes, and 96 characterizations scanned from 185nm to 880nm in one hour. See EKKO in booth 719. Biologic Science Instruments is the leading supplier of systems for rapid kinetics and CD analysis. On display is the uSFM stopped flow mixing system which delivers 10 usable shots from 100uL of sample with near zero dead volume. The uSFM has programmable asymmetric mixing capability and interfaces with our MOS-200 series of spectrometers.

Bitplane 612

300 Baker Avenue, Suite 150
Concord, MA 01742
www.bitplane.com

Bitplane is the creator of Imaris, the world's leading scientific Image analysis software for 3D/4D images from light-sheet, confocal, spinning-disk, multi-photon and wide-field fluorescent microscopes. Imaris is the tool of choice for leading scientists for their applications involving large data (>1TB) visualization, animation, cell lineage, surface rendering, filament tracing of neuronal dendrites/vessels, tracking of particles, and cell division/inter-intracellular analyses. Imaris enables researchers at the cutting edge of discoveries to further expand the built-in functions of Imaris by interfacing with programming languages (MATLAB, Python, Java) and plug-ins from Fiji and ImageJ.

Company Name Booth Number

BMG LABTECH 813

NEW 2018

13000 Weston Parkway, Suite 109
Cary, NC 27513
www.bmglabtech.us

BMG LABTECH is a German-based company that focuses exclusively on microplate readers and our technological innovations have made us a leader in the field. Our plate readers range from single-mode, absorbance detection to multi-detection with up to eight detection modes and are used for a multitude of applications in life science, drug discovery, and research.

Bruker Corporation 300, 301

3400 E Britannia Drive, Suite 150
Tucson, AZ 85706
www.bruker.com

Bruker is a leader in atomic force microscopy (AFM), electron paramagnetic resonance (EMR), nuclear magnetic resonance (NMR) and super-resolution single molecule localization microscopy (SML).

Cambridge University Press 209

1 Liberty Plaza
New York, NY 10006
www.cambridge.org

Cambridge University Press is a not-for-profit organization that advances learning and research via the global publication of academic books, journals and digital content.

Carl Zeiss Microscopy LLC 513

One Zeiss Drive
Thornwood, NY 10594
www.zeiss.com/microscopy/us

As the world's only manufacturer of light, X-ray and electron/ion microscopes, ZEISS offers tailor-made microscope systems for 3D imaging in biomedical research, life sciences, and healthcare.

Cedarlane 421

1210 Turrentine Street
Burlington, NC 27215
www.cedarlanelabs.com

CEDARLANE® specializes in providing high-quality reagents from more than 800 global suppliers. Manufactured products include monoclonal and polyclonal antibodies, assay kits, cell lines, cell separation media, reagent complement, stabilized RBCs, and more.

Company Name Booth Number

Cell Press 200

50 Hampshire Street, 5th Floor
Cambridge, MA 02139
www.cell.com

Cell Press is proud to publish Biophysical Journal, the journal from Biophysical Society. Cell Press is a leading publisher of cutting-edge biomedical research and reviews. Cell Press collaborates with authors and reviewers to publish 24 primary research journals (including 8 on behalf of learned societies) and 15 Trends review journals. We continue leading in the innovative presentation of exciting scientific discoveries, consistently focusing on delivering research that drives scientific discovery, spanning a wide range of biomedical disciplines. Pick up the latest free journal copies of your favorite Cell Press journals, including Cell and Biophysical Journal. Visit https://twitter.com/CellPressNews and https://www.facebook.com/cellpress https://www.linkedin.com/company/cell-press.

Cellular Dynamics International, a FUJIFILM company 1100

NEW 2018

603 Science Drive
Madison, WI 53711
www.cellulardynamics.com

Cellular Dynamics International (CDI), a FUJIFILM company, produces human cells for basic, translational, and pharmaceutical discovery, and regenerative medicine applications. Our iPSC-derived iCell and MyCell products give you immediate access to healthy and diseased cellular models, such as neurons, cardiomyocytes and hepatocytes, to meet small and large scale needs. For more information, please visit: www.cellulardynamics.com.

Chroma Technology Corporation 918

10 Imtec Lane
Bellows Falls, VT 05101
www.chroma.com

Chroma Technology designs and manufactures optical interference filters using advanced sputtering technologies. Our high performance filters are intended for imaging applications ranging from widefield and confocal fluorescence microscopy, TIRF and super-resolution techniques to flow cytometry, high content screening multi-photon and Raman spectroscopy. Chroma also provides comprehensive technical and applications support.

Cobolt AB 718

Vretenvagen 13
Solna, SVERIGE 17154
Sweden
www.cobolt.se

Cobolt is at the very forefront of the industry in the development and manufacture of high performance CW and Q-switched lasers. We provide ultra-low noise, CW, single mode solid-state lasers in the UV-Visible-NIR spectral range; Q-switched DPSS lasers with the unique combination of high pulse rates and high pulse energy in the UV-NIR range; as well as tunable mid-IR sources. The lasers are manufactured using our unique and proprietary HTCure™ technology yielding unrivaled robustness and reliability.

Cytocybernetics 634

5000 B Tonawanda Creek Road
North Tonawanda, NY 14120
www.cytocybernetics.com

Cytocybernetics offers reliable and easy to use plug-and-play dynamic clamp systems for single cell voltage clamp. Our new low cost, entry-level system can be attached to any existing voltage clamp system. We support Markov and Hodgkin-Huxley models for real time simulations. The unique architecture of the Cybercyte is designed so it can easily be upgraded and expanded with additional modules and electronics. It has applications to a wide range of advanced experimental challenges, and can accept multiple inputs e.g., florescence measurements and cloned channels expressed in cultured cells.

Company Name Booth Number

DNASTAR Inc 905

NEW 2018

3801 Regent Street
Madison, WI 53705
www.dnastar.com

DNASTAR Inc is a global softweare company headquartered in Madison, Wisconsin that has been meeting the needs of scientists for more than 30 years. From Agriculture to Zoology and from Australia to Zimbabwe, we help molecular biologists, geneticists, bioinformaticians, structural biologists, clinicians, and many other scientists achieve their research objectives.

Dynamic Biosensors GmbH 632

Lochhamer Straße 15
Martinsried, Planegg 82152
Germany
www.dynamic-biosensors.com

Dynamic Biosensors is a provider of instruments, consumables, and services in the field of analytical systems for the characterization of biomolecules and molecular interactions. The company commercializes switchSENSE® technology, a groundbreaking platform technology for the analysis of biomolecules with applications in R&D and drug development. The switchSENSE® technology is protected worldwide and only available through Dynamic Biosensors. The company is headquartered in the south of Munich, Germany and runs offices in the United States, United Kingdom, France, Japan, and Singapore.

Ecocyte Bioscience US LLC 429

5214 Burleson Road
Austin, TX 78744
www.ecocyte-us.com

Ecocyte Bioscience US LLC is a company that provides a weekly delivery service of ready to use Xenopus laevis oocytes for expression studies as well as all of the salts and solutions needed for testing the oocytes. If you would be interested in our service we would be happy to send you a free sample. In addition, we offer oocytes preinjected with cDNA or mRNA as well as contract services with Two Electrode Voltage Clamp (TEVC) recordings for electrophysiological measurements. For an overview about recent publications citing our oocytes, please visit our website at www.ecocyte-us.com.

Company Name Booth Number

Edinburgh Instruments 708

2 Bain Square, Kirkton Campus
Livingston, EH547DQ
United Kingdom
www.edinst.com

Edinburgh Instruments manufactures bespoke spectroscopic systems for measuring:

- Steady State Fluorescence
- Phosphorescence Lifetimes via Multi-Channel Scaling (MCS)
- Fluorescence Lifetimes via Time Correlated Single Photon Counting (TCSPC)
- Nanosecond Transient Absorption

We pride ourselves in being able to meet the most demanding research and technical requirements. For more information, contact us at ussales@edinst.com or visit www.edinst.com.

Electron Microscopy Sciences 709

1560 Industry Road
Hatfield, PA 19440
www.emsdiasum.com

Electron microscopy sciences will have on display their complete line of accessories, chemicals, and equipment for all fields of microscopy, biological research, and general laboratory requirements.

Elements SRL 621

Viale G. Marconi 438
Cesena - FC, 47521
Italy
www.elements-ic.com

Elements produces miniaturized, easy to use and low-cost single and multichannel amplifiers for electrophysiology and pico-scale measurements suitable for patch-clamp, BLM, ssNanopore experiments.

eLife Sciences Publications Ltd 212

NEW 2018

1st Floor, 24 Hills Road
Cambridge, Cambridgeshire CB2 1JP
United Kingdom
www.elifesciences.org

eLife is a non-profit organization inspired by research funders and led by scientists. Our mission is to help scientists accelerate discovery by operating a platform for research communication that encourages and recognises the most responsible behaviours in science. eLife publishes important research in all areas of the life and biomedical sciences. All research is selected and evaluated by working scientists and is made freely available to all readers without delay. Find out more at elifesciences.org or follow @eLife on Twitter.

Expression Systems LLC 320

NEW 2018

2537 Second Street
Davis, CA 95618
www.expressionsystems.com

Expression Systems is a leader in Baculovirus (BEVS) mediated protein expression technology and insect cell culture. We provide insect and mammalian cell culture media, bioreactor rocker bags, reagents, and contract services that support vector design & construction, virus production, and protein expression/purification. For more information, please visit www.expressionsystems.com.

Company Name Booth Number

Fluicell AB 731

Arvid Wallgrens Backe 20
Gothenburg 41346
Sweden
www.fluicell.com

Dynaflow® Resolve System: State-of-the-art platform for secondary ion channel Screening. The BioPen® system enabling 4 different solutions to be delivered to individual live cells.

Fluxion Biosciences 433

1600 Harbor Bay Parkway, Suite 150
Alameda, CA 94552
www.fluxionbio.com

Innovative microfluidic tools for cellular analysis. Main focus and products: Automated patch clamp system with continuous flow including IonFlux Mercury. In vivo conditions for live cell-cell analysis including BioFlux family of products. Molecular analysis of circulating tumor cells (CTCs) and cell-free DNA (cfDNA/ctDNA) liquid biopsy technologies including the IsoFlux CTC Liquid Biopsy System, the Spotlight 59 NGS Oncology Panel for ultra-sensitive mutation detection from CTCs and ctDNA, and the ERASE-Seq variant caller for liquid biopsies.

Gwydion Inc 804

NEW 2018

323 S Main Street, B
Ann Arbor, MI 48104
www.gwydion.co

Gwydion produces advanced virtual reality software for research and education. Their platform, Arthea, enables researchers and educators in fields such as biology, chemistry, and material science to upload any 3D file, including PDB, through the website at arthea.io, and access their content in virtual reality for viewing, manipulating, editing, annotating, and sharing on the Arthea app with other users. Arthea's app is accessible on any VR device, including mobile devices, and allows users to join one-another for real-time collaboration from anywhere in the world.

Hamamatsu Corporation 800

360 Foothill Road
Bridgewater, NJ 08807
www.hamamatsu.com

Hamamatsu Corporation is the North American subsidiary of Hamamatsu Photonics K.K. (Japan). We offer sCMOS cameras, EM-CCD cameras, and CCD cameras for microscopy.

Company Name Booth Number

HEKA Elektronik 535

84 October Hill Road
Holliston, MA 01746
www.heka.com

For decades, researchers have trusted HEKA hardware and software solutions – from electrodes through complete experimental setups – for all their electrophysiology and electrochemistry lab needs.

HORIBA Scientific 501

3880 Park Avenue
Edison, NJ 08820
www.horiba.com/scientific

HORIBA Scientific offers the most sensitive, flexible, simple, affordable steady state & lifetime fluorometers, modular, expandable open architecture, tabletop systems & ion ratio imaging microscopy solutions, software and accessories. Debuting Duetta, a complete Fluorescence and Absorbance Spectrometer from UV to NIR (250 to 1,100 nm) using CCD detection for fluorescence spectral acquisitions in the blink of an eye. Because it can acquire both fluorescence and absorbance simultaneously, it offers enhanced dynamic range and precise multivariate analysis capabilities for molecular fingerprinting.

iBiology 1132

NEW 2018

600 16th Street, MC2240
San Francisco, CA 94143
www.ibiology.org

iBiology (www.ibiology.org) is a growing collection of free online videos by scientists about research, discoveries, and other topics in the life sciences. Visit our booth to learn about our videos and educator resources.

Company Name Booth Number

ID Quantique 1003

NEW 2018

Chemin de la Marbrerie 3
Carouge - Geneva, GE CH-1227
Switzerland
www.idquantique.com

ID Quantique (IDQ) is the world leader in quantum-safe crypto solutions, designed to protect data for the long-term future. The company provides quantum-safe network encryption, secure quantum key generation and quantum key distribution solutions and services to the financial industry, enterprises and government organisations globally. Additionally, IDQ is a leading provider of optical instrumentation products, most notably photon counters and related electronics. The company's innovative photonic solutions are used in both commercial and research applications.

Illinois Rocstar 734

NEW 2018

108 S Hessel
Champaign, IL 61820
www.illinoisrocstar.com

Illinois Rocstar does simulation science; we build the tools, infrastructures, and interfaces to help industry gain a return on their investment using modeling and simulation. From macroscale multiphysics to the quantum mechanical level, we have the right tools for solving modeling and simulation problems relevant to industry, government, and academia.

Company Name Booth Number

INTEGRA Biosciences 902

NEW 2018

2 Wentworth Drive
Hudson, NH 03051
www.integra-biosciences.com

Moving liquids in a precise and productive way is core to many tasks of laboratory professionals in the life sciences industry. Since 1965, INTEGRA has been dedicated to developing solutions for pipetting and media preparation, which fulfill the needs of our customers in research, diagnostics and quality control. It is our passion to work side by side with our customers to understand their problems and answer their needs with innovative products. In order to do this, we maintain our own sales and support organizations in the USA, Canada, China, UK, France, Germany, Austria and Switzerland, as well as a network of over 100 highly trained distribution partners worldwide.

INTEGRA's engineering and production teams in Zizers, Switzerland and Hudson, NH USA strive to develop and manufacture instruments and plastic consumables of outstanding quality. In recent years, we have focused on developing a new and technologically advanced range of handheld pipettes, which are simple to use and meet the ergonomic needs of our customers. Today we are proud to offer the widest product line of pipettes in the market, spanning a range from single channel mechanical pipettes up to 384 channel electronic bench-top instruments.

IonOptix 532

396 University Avenue
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www.ionoptix.com

IonOptix manufactures high-performance fluorescence and function data acquisition systems. Well known for our popular Cardiomyocyte Calcium and Contractility System, we're proud to offer our new MultiCell high-throughput system for fast data acquisition and analysis. Always innovating, IonOptix now offers calcium and force measurements in whole muscle as well as isolated cardiomyocytes, and our C-Stretch enables combined stretch and electrical stimulation in cultured cells – easy-to-use with the new C-Pace Navigator software.

Company Name Booth Number

Ionovation GmbH 609

Gewerbepark 9-11
Bissendorf 49143
Germany
www.ionovation.com

Ionovation represents a wealth of experience in the development and application of modern electrophysiological and fluorescence techniques. Our product line comprises automated benchtop workstations for the electrophysiological and optical single molecule recording, as well as unique optical tweezers for single particle manipulation, force spectroscopy and scanning probe microscopy. The primary mission of our company is to always provide state-of-the-art technology and services for sophisticated research tasks to the scientific as well as industrial markets.

IOP Publishing 201

Temple Circus, Temple Way
Bristol, BS1 6HG
United Kingdom
www.ioppublishing.org

Our biosciences portfolio includes more than 20 journals, as well as journalism and ebook programmes, providing the community with essential content covering all areas of bioscience.

IRsweep 820

NEW 2018

Laubisrütistrasse 44
Stäfa, 8712
Switzerland
www.irsweep.com

Pushing mid-IR sensing to field applications in order to enable our customers in research and industry to be faster and more precise. Our first product is a revolutionary laser-based spectrometer.

ISS Inc 919

1602 Newton Drive
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www.iss.com

ISS fluorescence division manufactures spectrofluorometers for time-resolved and steady-state measurements; FLIM/FCS confocal microscopes; and upgrades for LSM microscopes.

JASCO 618

28600 Mary's Court
Easton, MD 21601
www.jascoinc.com

JASCO will be exhibiting a range of biophysical characterization tools including Circular Dichroism, Fluorescence and FTIR instrumentation. The JASCO J-1000 Series Spectrophotometers provide an optical bench specifically designed for high sensitivity measurements in the far- and near-UV regions. Temperature control systems can be coupled with multi-position cells to run thermal melts. Automated high-throughput CD can obtain measurements on up to 192 samples without user intervention, saving both time and money. Microsampling cells provide measurements on sample volumes as low as 2 microliters.

Journal of Biological Chemistry (ASBMB) 304

11200 Rockville Pike, Suite 302
Rockville, MD 20852
www.jbc.org

The Journal of Biological Chemistry (JBC) publishes papers based on original research that contributes to the understanding of molecular and cellular basis of biological processes. All accepted manuscripts are available to the public for free on the day of acceptance. The average time from submission to first decision is 21 days for regular articles and shorter for Accelerated Communications. The American Society for Biochemistry and Molecular Biology publishes JBC. Visit www.jbc.org/mission.

Journal of General Physiology 219

950 Third Avenue, Floor 2
New York, NY 10022
www.rupress.org

The Journal of General Physiology's mission is to publish mechanistic and quantitative molecular and cellular physiology of the highest quality; to provide a best in class author experience; and to nurture future generations of independent researchers.

KEYENCE Corporation 908

NEW 2018

500 Park Boulevard, Suite 500
Itasca, IL 60143
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KEYENCE specializes in advanced digital microscopes for life science and industrial applications. Capture optical sections, perform time-lapse studies, scan slides and well plates, analyze results.

KinTek Corporation 509

7604 Sandia Loop
Austin, TX 78735
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KinTek is the world leader for the highest quality state-of-the-art kinetic analysis. We offer premier research instruments supported by first-class service. At the meeting we will show our new Auto-Stopped-Flow with optional robotic sample loader, offering the highest signal using the smallest sample volumes, and our Rapid Chemical/Freeze-Quench-Flow instruments. New advances in KinTek Explorer software for dynamic simulation and fitting of kinetic data will be revealed – available for PC and Mac. See our Exhibitor Presentation on KinTek Explorer software.

Laboratory for Fluorescence Dynamics 712

3120 National Sciences II
University of California, Irvine
Irvine, CA 92697
www.lfd.uci.edu

The Laboratory for Fluorescence Dynamics (LFD) is a national research resource center for biomedical fluorescence spectroscopy, supported by the National Institute of Health (NIGMS) and the University of California, Irvine (UCI). Main activities: Services and Resources: state-of-the-art lab for fluorescence measurements, microscopy, spectroscopy. Research and Development: design, test, and implement advances in the technology of hardware, software, biomedical applications. Training and Dissemination: disseminates knowledge of fluorescence spectroscopic principles, instrumentation, applications.

Larodan 829

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Solna, 171 65
Sweden
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Collect tickets from exhibitors in the Exhibit Hall and enter to win an Amazon Echo! Drop tickets at the Society Booth by 2:30 PM on Tuesday.

Leica Microsystems 312

1700 Leider Lane
Buffalo Grove, IL 60089
www.leica-microsystems.com

Leica Microsystems develops and manufactures microscopes and scientific instruments for the analysis of microstructures and nanostructures. The company is one of the market leaders in compound and stereo microscopy, digital microscopy, confocal laser scanning microscopy, electron microscopy sample preparation, optical coherence tomography, and surgical microscopes.

LightEdge Technologies LLC 1008

892 Worcester Street
Wellesley, MA 02482
www.lightedgetech.com

NEW 2018

LightEdge Technologies LTD and its US subsidiary LightEdge Technologies LLC (Wellesley, MA) were founded by scientists from the Institute of Biophysics, Chinese Academy of Sciences. The company is located in Zhongshan City, Guangdong Province, China, right at the center of the thriving Pearl River Delta region. LightEdge Technologies LTD focuses on the development, manufacture and sales of research and medical optical instruments and related reagents. The company also distributes and provides third-party technical support to products of foreign companies in the Chinese market.

LUMICKS BV 1118

De Boelelaan 1085
Amsterdam, 1081 HV
Netherlands
www.lumicks.com

LUMICKS brings to market revolutionary single-molecule technologies that enable – for the first time – visualization of molecular interactions and acoustic manipulation of biomolecules.

Company Name Booth Number

Mad City Labs Inc 508

2524 Todd Drive
Madison, WI 53713
www.madcitylabs.com

For 15+ years, Mad City Labs has been the trusted name in designing and manufacturing nanopositioning systems and precision microscopy instruments for the biophysics community. We provide Piezo Nanopositioners, Precision Micropositioners, Atomic Force Microscopes (AFM), Near Field Scanning Optical Microscopes (NSOM), and Single Molecule Microscopes.

Our nanopositioners feature proprietary PicoQ® sensors with ultra-low noise & high stability performance. PicoQ® sensors combined with our innovative flexure guided stage designs leads to outstanding stability & sub-nanometer precision for super resolution microscopy, atomic force microscopy, interferometry, optical/magnetic tweezers, and high resolution imaging.

Mad City Labs AFMs achieve atomic step resolution by leveraging the performance of our closed loop nanopositioners. Affordable and available in a variety of configurations with many automated features.

The MicroMirror TIRF is a unique multi-spectral TIRF microscope. The MicroMirror TIRF spatially segregates the excitation wavelengths leading to improved signal-to-noise ratios and efficient data collection. Ideal for Colocalization single molecule spectroscopy, smFRET, and dark-field TIRF.
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Company Name Booth Number

Malvern Panalytical 803

117 Flanders Road
Westbourough, MA 01581
www.malvern.com

Malvern Panalytical is a leader in analytical characterization, creating expert solutions for the challenges associated with maximizing productivity, developing better quality products and getting them to market faster. We provide superior, customer-focused solutions and services which deliver tangible economic impact through chemical, biophysical and structural analysis.

Matreya LLC 720

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State College, PA 16803
www.matreya.com

Matreya is a manufacturer of high purity lipids for Life Science Research and offers excellent technical service, consistency, custom synthesis, and rapid delivery.

Micro Photonics 903

1550 Pond Road, Suite 110
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Micro Photonics and partner Bruker MicroCT are leading the advancement in high resolution micro-CT solutions. Micro Photonics offers contract services and system sales for Bruker Micro-CTs.

Molecular Devices LLC 601

1311 Orleans Drive
Sunnyvale, CA 94089
www.moleculardevices.com

As one of the world's leading providers of high-performance bioanalytical measurement solutions for life science research, pharmaceutical, and biotherapeutic development, we provide a broad product portfolio for high-throughput screening, genomic and cellular analysis, colony selection, and microplate detection. These leading-edge products empower scientists to improve productivity and effectiveness, ultimately accelerating research and the discovery of new therapeutics.

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Montana Molecular 921

366 Gallatin Park Drive, Unit A
Bozeman, MT 59715
www.montanamolecular.com

NEW 2018

Montana Molecular develops genetically-encoded fluorescent biosensors for assay and imaging in living cells, including cardiomyocytes, neurons, pancreatic islets and standard cell lines.

MTI Corporation 909

860 South 19th Street
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NEW 2018

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Multi Channel Systems 533

Aspenhaustrasse 21
Reutlingen, 72770
Germany
www.multichannelsystems.com

Multi Channel Systems provides scientific equipment for electrophysiological research: MEA-Systems for extracellular recordings, automated patch clamp systems, and robots for TEVC in Xenopus oocytes.

Nanion Technologies GmbH 629

Ganghoferstraße 70a
Munich, 80339
Germany
www.nanion.de

Nanion is a leading provider of automated patch clamp instrumentation with throughput capabilities ranging from 1, 8 and up to 768 cells in parallel. Nanion also provides devices for cardiotoxicity screening, parallel bilayer recordings and membrane transporter protein recordings. We are your one-stop-shop for ion channel research, drug discovery and safety screening. Visit us at booth #629 to find out more!

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NanoSurface Biomedical Inc 411

4000 Mason Road, Suite 304
Seattle, WA 98195
www.nanosurfacebio.com

NEW 2018

NanoSurface Biomedical's Cytostretcher and NanoSurface Cultureware enable highly predictive cell-based assays with physiologically relevant cell cultures. Learn more online at www.nanosurfacebio.com.

NanoTemper Technologies Inc 728

400 Oyster Point Boulevard
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www.nanotemper-technologies.com

NanoTemper Technologies is deeply committed to the best customer experience. Central to this is a strong focus on enabling researchers to easily, efficiently, and accurately perform protein characterization. With a broad offering of systems, software and consumables for evaluating binding affinities and protein stability, scientists in pharmaceutical, biotech or academic labs will find an optimized workflow, quality results and responsive customer support. Work with a deeply experienced and globally operating team, and realize the NanoTemper experience.

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With over 50 years of experience and credibility, NARISHIGE offers the latest in micromanipulation technology with a wide range of products for both in vivo and in vitro experiments such as isolation stages, motorized/manual manipulators, pullers, microforges, patch clamp systems, perfusion systems, and stereotaxic instruments. We are always eager to hear your opinions and requests. NARISHIGE products can be customized to fit your unique needs, allowing us to be the CRAFTSMAN FOR YOUR SOLUTIONS.

neaspec GmbH 910

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Germany
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neaspec is dedicated to delivering innovative solutions for nanoscale optical imaging and spectroscopy for researchers in industry and academic institutions. neaspec's neaSNOM is the ultimate nanoanalytic microscopy and spectroscopy platform for materials research and photonics. The neaSNOM enables optical imaging and spectroscopy of material systems at visible, infrared and terahertz frequencies with a spatial resolution of 10 nm.

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www.newport.com

Newport, now part of MKS Instruments, is the world's largest photonics company providing innovative solutions and industry leading product brands to multiple markets. Newport's Corion® fluorescence optical filters are key enablers in a wide variety of biomedical instruments including confocal and epi-fluorescence microscopes, cytometers, DNA analyzers, in-vivo imagers, and many more. For more information, please visit our websites at www.corion.com and www.newport.com.

Nicoya Lifesciences 519

226-283 Duke Street West
Kitchener, Ontario N2H 3X7
Canada
www.nicoyalife.com

Nicoya Lifesciences uses nanotechnology to make OpenSPR™, the world's only benchtop surface plasmon resonance instrument. OpenSPR is a user-friendly and low maintenance SPR solution that is currently being used in over 25 countries. With access to SPR technology on your own lab bench you can get the high quality data you need to accelerate your research and publish faster. To learn more visit www.nicoyalife.com.

Nikon Instruments Inc 400

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Nikon Instruments Inc provides optical components to complete imaging systems including live-cell imaging platforms, confocal, MP, super resolution, HCA, all powered by NIS-Elements imaging software.

NKT Photonics Inc 305

NEW 2018

3514 N Vancouver Avenue,
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Portland, OR 97227
www.nktphotonics.com

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npi electronic GmbH 628

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Germany
www.npielectronic.com

npi electronic develops and produces equipment for research in physiological and pharmacological research sciences including patch and voltage clamp, extracellular and intracellular amplifiers, stimulus isolators, voltammetric-amperometric amplifiers, filters, µm-range drug application systems, temperature controllers and amplifiers for electroporation and transfection. npi electronic is expert in microelectrode and patch clamp techniques.

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Oxford Nanoimaging 1028

King Charles House, Park End Street
Oxford, OX2 8DR
United Kingdom
www.oxfordni.com

Oxford Nanoimaging (ONI) is a spin-out from Oxford University founded in May 2016. ONI specializes in creating single-molecule super-resolution microscopes, which are smaller and easier to use than those currently available. This patented technology was developed in Professor Kapanidis's lab at Oxford and they quickly realized that this new technology could revolutionize the microscope industry. So the Nanoimager was born. The new Nanoimager microscope is compact, easy to use, stable and affordable, making single molecule microscopy techniques accessible to the wider research community.

Pall Fortebio 309

47661 Fremont Boulevard
Fremont, CA 94538
www.fortebio.com

Pall Fortebio is the market leader of robust, label-free molecular interaction analysis across academic research, drug discovery and development, process analytics, and manufacturing. For more information, visit www.fortebio.com.

PCO America 404

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Romulus, MI 48174
www.pco-tech.com

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PhaseView 428

2 Impasse de la Noisette
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France
www.phaseview.com

We provide advanced 3D imaging solutions for life science microscopy, including modular light sheet microscopy systems and 3D add-ons for ultra fast Z-stack acquisition. Alpha3 is a new generation of light sheet fluorescence microscopes providing unrivaled imaging performance for fixed and live specimen. From whole brain to embryo imaging at cellular resolution Alpha3 delivers high speed imaging up to 75fps with ultra thin optical sectioning. Alpha3 allows for easy adaptation to experimental constraints for sample size over 1 cm to few µm with an extensive range of sample mountings.

PHASICS 811

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Solutions for label-free cell imaging based on quantitative phase microscopy technique. It simply plugs to any microscope as a camera to provide multiple parameters on various cells types and tissues.

Photometrics 408

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PI (Physik Instrumente) 808

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PicoQuant Photonics North America Inc 418

9 Trinity Drive
West Springfield, MA 01089
www.picoquant.com

Product lines include Pulsed Diode Lasers, Time-Correlated Single Photon Counting (TCSPC) electronics and detectors, fluorescence lifetime spectrometers, time-resolved fluorescence microscopes, and upgrade kits for Laser Scanning Microscopes. Applications include Single Molecule Spectroscopy, Fluorescence Lifetime Imaging (FLIM), Fluorescence Resonance Energy Transfer (FRET), Fluorescence Correlation Spectroscopy (FCS), and superresolution microscopy.

PIEZOCONCEPT 828

15 Rue du Bocage
Lyon, 69008
France
www.piezoconcept.com

PIEZOCONCEPT is the leading provider of nanopositioners dedicated to applications such as Super Resolution Microscopy, Optical Trapping and Atomic Force Microscopy. Our customers include many leading scientists engaged in leading edge research at world class universities and institutes. We developed a range of ultra-stable nanopositionner able to meet a wide range of microscopy applications with significant advantages over the currently available nanopositionners. As one of our biggest advantages, the sensor we use has exceptionally high signal, leading to picometric stability.

Postnova Analytics 812

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Salt Lake City, UT 84102
www.postnova.com

Postnova Analytics is the manufacturer of Field Flow Fractionation (FFF) analytical instruments for separation and characterization of proteins, biopolymers, cells, and nanoparticles. Field-Flow Fractionation coupled to Multi-Angle Light Scattering (MALS), Dynamic Light Scattering (DLS) and ICP-MS provides high resolution size and molar mass separation, characterization and elemental quantification. Refractive index and viscometer detectors in-line with FFF-MALS provides information on the size, shape, structure and molecular weight of macromolecules in solution.

Precision Plastics Inc 1021

6405 A Ammendale Road
Beltsville, MD 20705
www.precisionplastics.com

Precision Plastics designs and builds microscope enclosures, does OEM fabrication of plastic lab equipment and custom lab equipment of all kinds. We've made everything from lab table enclosures, animal restraints, plethysmographs, shelving, splash shields, tanks, exposure chambers, sent trails, IR mazes, brain cell incubator and much more. We will work with you to go from concept to finished product making as little as one to several hundred. Founded in 1973, we have a very talented and stable staff with decades of experience ready to assist you with your custom plastic lab equipment.

Pressure Biosciences Inc 721

14 Norfolk Avenue
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www.pressurebiosciences.com

Pressure BioSciences Inc develops, manufactures, and sells benchtop high pressure instrumentation. Our patented Pressure Cycling Technology (PCT) uses alternating cycles of hydrostatic pressure between ambient and ultra-high for safe and reproducible biological sample preparation. Our primary focus is in the commercialization of PCT-based products for biomarker and target discovery, and protein characterization. Additionally, new opportunities are emerging in protein folding and pressure-based Ultra Shear Technology (UST) to create stable nanoemulsions from otherwise immiscible fluids.

Quantum Northwest Inc 605

22910 East Appleway Avenue, Suite 4
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www.qnw.com

Quantum Northwest makes Peltier-based, temperature-controlled cuvette holders for nearly any spectrometer. We make individual cell holders, dual cell holders for both sample and reference and multi-cell changers. These cuvette holders maintain precise temperatures over wide temperature ranges, often from as low as -50 °C or to as high as +150 °C. Magnetic stirring is provided under every temperature-controlled cuvette. Each has the provision for use of a thermistor probe for measuring sample temperatures. Quantum Northwest remains a small company that can respond rapidly to your needs.

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Hamburg, 22559
Germany
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Rigaku Oxford Diffraction 611

9009 New Trails Drive
The Woodlands, TX 77381
www.rigaku.com

Rigaku Oxford Diffraction is at the forefront of single crystal X-ray diffraction instrumentation and specializes in manufacturing of X-ray diffractometers for both biological and chemical crystallography and macromolecular SAXS. With Rigaku's vast understanding of X-ray and its complementary technologies as a foundation, our true strength is seen in an unparalleled willingness to collaborate with customers. By promoting partnerships and dialogue within the global scientific and industrial communities, Rigaku drives innovation to provide fully integrated solutions to our clients.

Company Name Booth Number

Royal Society Publishing 208

6-9 Carlton House Terrace
London, SW1Y 5AG
United Kingdom
www.rsc.org

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RPMC Lasers Inc 1000

203 Joseph Street
O'Fallon, MO 63366
www.rpmclasers.com

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Semrock, a business unit of IDEX Health & Science 419

3625 Buffalo Road, Suite 6
Rochester, NY 14624
www.semrock.com

Semrock, a business unit of IDEX Health & Science, manufactures optical filters that set the standard for use in biomedical and analytical instrumentation.

Siskiyou Corporation 1001

110 SW Booth Street
Grants Pass, OR 97526
www.siskiyou.com

Siskiyou Corporation manufactures micromanipulators, motion control devices, tissue slicers, translation stages, probe clamps, construction hardware, adjustable platforms, and tilt tables.

Society for Neuroscience 210

1121 14th Street NW
Washington, DC 20005
www.sfn.org

The Society for Neuroscience is the world's largest organization of scientists and physicians devoted to understanding the brain and nervous system. The nonprofit organization, founded in 1969, now has nearly 37,000 members in more than 90 countries and over 150 chapters worldwide.

Sophion Bioscience A/S 518

Baltorpvej 154
Ballerup, 2750
Denmark
www.sophion.com

Sophion was founded almost twenty years ago by a group of passionate electrophysiologists, having the shared purpose of making patch clamping objective and independent of user skills to provide faster, more accurate and objective patch clamping results. We have developed from a startup into a global organization, but the passion to provide high performance patch clamp solutions persists. With our products QPatch and Qube we cover a wide range of throughput needs and provide the user with genuine whole-cell patch clamp data based on true gigaseals. Customer centricity is a key focus and with our technical, biological and application support we help our partners to achieve their targets, and ensuring uncompromised data quality in a user-friendly environment from assay setup to data analysis.

SPECTROLIGHT INC 735

NEW 2018

19800 MacArthur Boulevard,
Suite 300
Irvine, CA 92612
www.spectrolightinc.com

Spectrolight produces optical and optomechanical components for manipulating, generating and detecting light, for applications including microscopy, machine vision, hyperspectral imaging and general research. Founded by a group of scientists and engineers who set out to deliver cost-effective photonic tools that offer better functionality, greater ease of use, and superior reliability and lifetime - with the simple philosophy of "Light Done Right." Spectrolight will exhibit their unique flexible wavelength selectors for filtering images and light sources. Visit www.spectrolightinc.com.

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Strex 430

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www.strexcell.com

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Sutter Instrument 700

One Digital Drive
Novato, CA 94949
www.sutter.com

This year we will be showcasing several exciting new products. The dPatch® is a dual headstage integrated digital patch clamp amplifier with built-in digitizer and comprehensive SutterPatch software that enables the experimenter to quickly set up and perform routine tasks, yet remains highly configurable to meet the demands of the experienced electrophysiologist. The Lambda OBC Optical Beam Combiner is a newly patented concept for combining separate light sources with different spectra into a single output beam. Building on our engineering team's extensive expertise in optical system design and motor control we have designed the BOB, a flexible open architecture upright microscope for slice electrophysiology. In addition, the stainless steel TRIO manipulator provides greater stability.

Company Name Booth Number

TA Instruments – Waters LLC 521

159 Lukens Drive
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Company Name Booth Number

Taylor and Francis / CRC Press 409

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The Journal of Physiology 318

Hodgkin Huxley House, 30 Farringdon Lane
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United Kingdom
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Wyatt Technology Corporation 412

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Product Categories

3-D Visualization

Company Name	Booth Number
ABBELIGHT	434
Allen Institute for Cell Science	311
Olympus	620
PhaseView	428

AFM/NSOM/Confocal Microscopes

Company Name	Booth Number
Abberior Instruments America	329
Anasys Instruments	710
Asylum Research, an Oxford Instruments Company	608
Ionovation GmbH	609
LUMICKS BV	1118
Mad City Labs Inc	508
neaspec GmbH	910

Amperometry/Voltammetry Instrumentation

Company Name	Booth Number
npi electronic GmbH	628

Amphipols

Company Name	Booth Number
Anatrace Products LLC	613

Amplifiers

Company Name	Booth Number
Alembic Instruments Inc	619
Elements SRL	621
HEKA Elektronik	535
Multi Channel Systems	533
npi electronic GmbH	628
Sutter Instrument	700
Warner Instruments	529

Analytical/Testing Services

Company Name	Booth Number
Anton Paar USA	1128
Avanti Polar Lipids Inc	701
IRsweep	820
Postnova Analytics	812
Rigaku Oxford Diffraction	611
Technical Safety Services Inc	928

Antibodies

Company Name	Booth Number
Avanti Polar Lipids Inc	701
Cedarlane	421
Dynamic Biosensors GmbH	632
Electron Microscopy Sciences	709
Matreya LLC	720
NanoTemper Technologies Inc	728
Nicoya Lifesciences	519
Pressure Biosciences Inc	721
TA Instruments - Waters LLC	521

Antibody Microarray Products

Company Name	Booth Number
Aurora Biomed Inc	900

Assay Kits

Company Name	Booth Number
Agilent Technologies Inc	528
Andor Technology	610
Cedarlane	421
Montana Molecular	921
NanoSurface Biomedical Inc	411

Atomic Force Microscopes

Company Name	Booth Number
Abberior Instruments America	329
Anasys Instruments	710
Asylum Research, an Oxford Instruments Company	608
Bruker Corporation	301, 300
Mad City Labs Inc	508
neaspec GmbH	910

Automated Titrating Fluorometer

Company Name	Booth Number
LightEdge Technologies LLC	1008

Biochemical Reagents

Company Name	Booth Number
Anatrace Products LLC	613
Cedarlane	421

Biochemicals

Company Name	Booth Number
IRsweep	820
Larodan	829
Matreya LLC	720
NanoTemper Technologies Inc	728

Biotechnology

Company Name	Booth Number
Agilent Technologies Inc	528
Anton Paar USA	1128
BMG LABTECH	813
Bruker Corporation	300, 301
Dynamic Biosensors GmbH	632
Expression Systems LLC	320
Fluicell AB	731
IRsweep	820
Nanion Technologies GmbH	629
NANOLANE	431
NanoSurface Biomedical Inc	411
NanoTemper Technologies Inc	728
Nicoya Lifesciences	519
PHASICS	811
Photometrics	408
Pressure Biosciences Inc	721
Unchained Labs	205

Books and Journals

Company Name	Booth Number
eLife Sciences Publications Ltd	212
IOP Publishing	201
Journal of Biological Chemistry (ASBMB)	304
Royal Society Publishing	208
Science Advances	809
Taylor and Francis / CRC Press	409

Cameras

Company Name	Booth Number
Andor Technology	610
Carl Zeiss Microscopy LLC	513
PCO America	404
PHASICS	811
Photometrics	408
SciMeasure	818
Thorlabs	401

Cell Biology Products

Company Name	Booth Number
Cedarlane	421
Cellular Dynamics International, a FUJIFILM company	1100
Fluicell AB	731
Mad City Labs Inc	508
Matreya LLC	720
Montana Molecular	921
NanoSurface Biomedical Inc	411
Oxford Nanoimaging	1028
PHASICS	811
Precision Plastics Inc	1021
Strex	430

Cell Culture Products

Company Name	Booth Number
Allen Institute for Cell Science	311
Alvéole	319
Beckman Coulter Life Sciences	308
Cellular Dynamics International, a FUJIFILM company	1100
Expression Systems LLC	320
Fluicell AB	731
INTEGRA Biosciences	902
NanoSurface Biomedical Inc	411
Olympus	620
Strex	430
Tokai Hit Co Ltd	929

Centrifuges

Company Name	Booth Number
Beckman Coulter Life Sciences	308

Chromatography

Company Name	Booth Number
Postnova Analytics	812

Circular Dichroism Spectroscopy

Company Name	Booth Number
Applied Photophysics	1004
BioLogic USA	719
JASCO	618
Olis Inc	901
Quantum Northwest Inc	605

Computational Software

Company Name	Booth Number
Illinois Rocstar	734

Computers, hardware and software

Company Name	Booth Number
Aurora Scientific Inc	1134

Confocal Microscopes

Company Name	Booth Number
Abberior Instruments America	329
Allen Institute for Cell Science	311
Andor Technology	610
Carl Zeiss Microscopy LLC	513
ISS Inc	919
Leica Microsystems	312
LUMICKS BV	1118
Mad City Labs Inc	508
Nikon Instruments Inc	400
PicoQuant Photonics North America Inc	418
Siskiyou Corporation	1001

Company Name	Booth Number

Crystallization Utilities
Anatrace Products LLC 613

Crystallography
Anatrace Products LLC 613
Rigaku Oxford Diffraction 611

Curvettes
Quantum Northwest Inc 605

Data Acquisition
ABBELIGHT 434
Alembic Instruments Inc 619
Allen Institute for Cell Science 311
Elements SRL 621
ID Quantique 1003
Illinois Rocstar 734
IonOptix 532
ISS Inc 919
PicoQuant Photonics North America Inc 418

Data Analysis
ABBELIGHT 434
Allen Institute for Cell Science 311
Aurora Scientific Inc 1134
BMG LABTECH 813
Elements SRL 621
Illinois Rocstar 734
IonOptix 532
Nicoya Lifesciences 519
Oxford Nanoimaging 1028

Data Analysis Software
Allen Institute for Cell Science 311
Andor Technology 610
Illinois Rocstar 734
IonOptix 532
Nicoya Lifesciences 519
Olis Inc 901
TA Instruments - Waters LLC 521

Detergents
Anatrace Products LLC 613
Avanti Polar Lipids Inc 701
Larodan 829

Drug Discovery
Applied Photophysics 1004
Aurora Biomed Inc 900
Axion BioSystems 1005
BMG LABTECH 813
Cellular Dynamics International, a FUJIFILM company 1100
Dynamic Biosensors GmbH 632
Expression Systems LLC 320
Malvern Panalytical 803
Molecular Devices LLC 601
Montana Molecular 921
Oxford Nanoimaging 1028
Photometrics 408
Sophion Bioscience A/S 518
TA Instruments - Waters LLC 521
Unchained Labs 205
Wyatt Technology Corporation 412

Company Name	Booth Number

Electromechanical Instrumentation
IonOptix 532
Mad City Labs Inc 508
PIEZOCONCEPT 828
Strex 430
Sutter Instrument 700

Electrophysiological Data Acquisition
HEKA Elektronik 535
Multi Channel Systems 533
Sutter Instrument 700

Electrophysiological Instruments
ALA Scientific Instruments 630
Aurora Biomed Inc 900
Aviva Biosciences Corporation 1020
Elements SRL 621
Nanion Technologies GmbH 629
Sophion Bioscience A/S 518
Strex 430
Sutter Instrument 700

Electrophysiology Equipment
Aurora Scientific Inc 1134
Aviva Biosciences Corporation 1020
Elements SRL 621
HEKA Elektronik 535
Ionovation GmbH 609
Molecular Devices LLC 601
Multi Channel Systems 533
Nanion Technologies GmbH 629
Narishige International USA Inc 1104
npi electronic GmbH 628
Photometrics 408
Sophion Bioscience A/S 518
Sutter Instrument 700
Thorlabs 401
Warner Instruments 529

Electrophysiology Software
Elements SRL 621
HEKA Elektronik 535
Molecular Devices LLC 601
Multi Channel Systems 533

Filter Wheels
ASI/Applied Scientific Instrumentation Inc 729
Newport Corporation 321
SPECTROLIGHT INC 735
Sutter Instrument 700

Flash Lamps
Rapp OptoElectronic GmbH 1029

Fluid Flow Chambers
Warner Instruments 529

Fluorescence Anisotropy
BMG LABTECH 813
Edinburgh Instruments 708
HORIBA Scientific 501
Olis Inc 901

Company Name	Booth Number

Fluorescence Correlation Spectroscopy
ID Quantique 1003
ISS Inc 919
JASCO 618
LightEdge Technologies LLC 1008
Mad City Labs Inc 508

Fluorescence Image Analysis Equipment
ABBELIGHT 434
Aurora Scientific Inc 1134
PCO America 404
PHASICS 811
SciMeasure 818
Sutter Instrument 700

Fluorescence Lifetime Imaging
Abberior Instruments America 329
HORIBA Scientific 501
ID Quantique 1003
ISS Inc 919
Mad City Labs Inc 508
PCO America 404
PicoQuant Photonics North America Inc 418
Rapp OptoElectronic GmbH 1029
SciMeasure 818

Fluorescent Filters
Electron Microscopy Sciences 709
Newport Corporation 321
NKT Photonics Inc 305
Semrock, a business unit of IDEX Health & Science 419
SPECTROLIGHT INC 735

Fluorescent Probes
Montana Molecular 921

Fluorometers
Edinburgh Instruments 708
HORIBA Scientific 501
ISS Inc 919
npi electronic GmbH 628
Olis Inc 901
Quantum Northwest Inc 605
SPECTROLIGHT INC 735

Glass Capillary Tubing
Narishige International USA Inc 1104
Sutter Instrument 700
Warner Instruments 529

High-Throughput Instrumentation
Anton Paar USA 1128
Aurora Biomed Inc 900
Axion BioSystems 1005
INTEGRA Biosciences 902
IRsweep 820
JASCO 618
LightEdge Technologies LLC 1008
LUMICKS BV 1118
Mad City Labs Inc 508
Multi Channel Systems 533
Nanion Technologies GmbH 629

Company Name	Booth Number
PhaseView	428
Sophion Bioscience A/S	518
TA Instruments - Waters LLC	521
Unchained Labs	205

Image Acquisition Systems

ASI/Applied Scientific Instrumentation Inc	729
Aurora Scientific Inc	1134
NANOLANE	431
PCO America	404
PhaseView	428

Image Analysis

Allen Institute for Cell Science	311
Malvern Panalytical	803

Image Analysis Software

Allen Institute for Cell Science	311
Aurora Scientific Inc	1134
Carl Zeiss Microscopy LLC	513
KEYENCE Corporation	908
Micro Photonics	903
Nikon Instruments Inc	400
Photometrics	408

Image Analysis, High Resolution

Bruker Corporation	300, 301
Mad City Labs Inc	508
Micro Photonics	903
Oxford Nanoimaging	1028
PCO America	404
PHASICS	811

Image Analyzers, FISH Applications

Mad City Labs Inc	508
Micro Photonics	903

Image Analyzers, High Resolution

KEYENCE Corporation	908
Mad City Labs Inc	508
Micro Photonics	903

Image Analyzers, High Speed

KEYENCE Corporation	908
Mad City Labs Inc	508
Micro Photonics	903

Image Analyzers, Ratiometric Dyes

HORIBA Scientific	501

Image Intensifiers

PCO America	404

Image Stabilization

Mad City Labs Inc	508

Imaging Chambers

ALA Scientific Instruments	630
Warner Instruments	529

Imaging Systems

ABBELIGHT	434
Abberior Instruments America	329
ASI/Applied Scientific Instrumentation Inc	729
Fluxion Biosciences	433
HEKA Elektronik	535
IonOptix	532
Leica Microsystems	312
Mad City Labs Inc	508
Molecular Devices LLC	601
NANOLANE	431
PCO America	404
PhaseView	428
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Imaging, Spectral

NKT Photonics Inc	305
SPECTROLIGHT INC	735

Immunochemicals

Cedarlane	421
Electron Microscopy Sciences	709

Incubators

ASI/Applied Scientific Instrumentation Inc	729
Tokai Hit Co Ltd	929
Warner Instruments	529

Infrared Spectroscopy

Anasys Instruments	710
IRsweep	820
neaspec GmbH	910

Interferometers

Mad City Labs Inc	508

Ion Channels

Aurora Biomed Inc	900
Aviva Biosciences Corporation	1020
Cellular Dynamics International, a FUJIFILM company	1100
Fluicell AB	731
Fluxion Biosciences	433
Nanion Technologies GmbH	629
NanoTemper Technologies Inc	728
Sophion Bioscience A/S	518
Tokai Hit Co Ltd	929

Isotope-Labeled Compounds

Larodan	829

Label Free Sensing

Arago Biosciences	1019
NANOLANE	431
neaspec GmbH	910
PHASICS	811
TA Instruments - Waters LLC	521

Labeling Dyes

Cedarlane	421

Laboratory Apparatus & Equipment

Aviva Biosciences Corporation	1020
BioLogic USA	719
BMG LABTECH	813
Electron Microscopy Sciences	709
Expression Systems LLC	320
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MTI Corporation	909
Postnova Analytics	812
Strex	430
Technical Safety Services Inc	928
Wyatt Technology Corporation	412

Langmuir Troughs

Biolin Scientific	832

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Cobolt AB	718
LightEdge Technologies LLC	1008
Newport Corporation	321
NKT Photonics Inc	305
PicoQuant Photonics North America Inc	418
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TOPTICA Photonics Inc	801
Wyatt Technology Corporation	412

Life Sciences

Andor Technology	610
Beckman Coulter Life Sciences	308
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Cedarlane	421
Cellular Dynamics International, a FUJIFILM company	1100
eLife Sciences Publications Ltd	212
Fluicell AB	731
INTEGRA Biosciences	902
Mad City Labs Inc	508
Matreya LLC	720
Molecular Devices LLC	601
NANOLANE	431
Oxford Nanoimaging	1028
Photometrics	408
PicoQuant Photonics North America Inc	418
Siskiyou Corporation	1001
TA Instruments - Waters LLC	521
Wyatt Technology Corporation	412

Light Sheet Microscopy

Andor Technology	610
ASI/Applied Scientific Instrumentation Inc	729
Bruker Corporation	300, 301
Carl Zeiss Microscopy LLC	513
Leica Microsystems	312
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Photometrics	408
PIEZOCONCEPT	828

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Newport Corporation	321
NKT Photonics Inc	305
Rapp OptoElectronic GmbH	1029
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Sutter Instrument	700
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TOPTICA Photonics Inc	801

Lipids

Anatrace Products LLC	613
Avanti Polar Lipids Inc	701
Larodan	829
Matreya LLC	720
Pressure Biosciences Inc	721
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Liquid Chromatography Instruments	
JASCO	618
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Mass Spectrometry	
Arago Biosciences	1019
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NKT Photonics Inc	305
Pressure Biosciences Inc	721
Rigaku Oxford Diffraction	611
Micro Environmental Control	
ALA Scientific Instruments	630
Alvéole	319
Strex	430
Tokai Hit Co Ltd	929
Microcalorimetry Systems	
Malvern Panalytical	803
NanoTemper Technologies Inc	728
TA Instruments - Waters LLC	521
Microdissecting Instruments	
Rapp OptoElectronic GmbH	1029
Microelectrode Holders	
ALA Scientific Instruments	630
Narishige International USA Inc	1104
Warner Instruments	529
Microelectrodes	
Axion BioSystems	1005
Microfluidic Chambers	
Elements SRL	621
Fluicell AB	731
Fluxion Biosciences	433
LUMICKS BV	1118
Microforges	
ALA Scientific Instruments	630
Narishige International USA Inc	1104
Microinjectors	
ASI/Applied Scientific Instrumentation Inc	729
Narishige International USA Inc	1104
Sutter Instrument	700
Warner Instruments	529
Micromanipulators	
ALA Scientific Instruments	630
ASI/Applied Scientific Instrumentation Inc	729
LUMICKS BV	1118
Narishige International USA Inc	1104
Nikon Instruments Inc	400
Siskiyou Corporation	1001
Sutter Instrument	700
Micropipette Pullers	
ALA Scientific Instruments	630
HEKA Elektronik	535
Narishige International USA Inc	1104
Siskiyou Corporation	1001
Sutter Instrument	700

Company Name	Booth Number
Micropipettes	
INTEGRA Biosciences	902
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Mad City Labs Inc	508
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Abberior Instruments America	329
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Electron Microscopy Sciences	709
Fluxion Biosciences	433
Ionovation GmbH	609
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Newport Corporation	321
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Precision Plastics Inc	1021
Rapp OptoElectronic GmbH	1029
Semrock, a business unit of IDEX Health & Science	419
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ASI/Applied Scientific Instrumentation Inc	729
IonOptix	532
Leica Microsystems	312
Mad City Labs Inc	508
PIEZOCONCEPT	828
Siskiyou Corporation	1001
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Abberior Instruments America	329
Arago Biosciences	1019
ASI/Applied Scientific Instrumentation Inc	729
Asylum Research, an Oxford Instruments Company	608
Bruker Corporation	300, 301
Carl Zeiss Microscopy LLC	513
Electron Microscopy Sciences	709
Ionovation GmbH	609
ISS Inc	919
KEYENCE Corporation	908
Leica Microsystems	312
Mad City Labs Inc	508
NANOLANE	431
Nikon Instruments Inc	400
Olympus	620
Oxford Nanoimaging	1028
PhaseView	428
PicoQuant Photonics North America Inc	418
Rapp OptoElectronic GmbH	1029

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Sutter Instrument	700
Thorlabs	401
Microscopy Chambers	
Fluxion Biosciences	433
IonOptix	532
Leica Microsystems	312
NanoSurface Biomedical Inc	411
Precision Plastics Inc	1021
Molecular Biology Products	
Dynamic Biosensors GmbH	632
Expression Systems LLC	320
Mad City Labs Inc	508
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Rigaku Oxford Diffraction	611
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ASI/Applied Scientific Instrumentation Inc	729
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Mad City Labs Inc	508
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Arago Biosciences	1019
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Alembic Instruments Inc	619
Aviva Biosciences Corporation	1020
Elements SRL	621
Fluxion Biosciences	433
HEKA Elektronik	535
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Sophion Bioscience A/S	518
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Dynamic Biosensors GmbH	632
Pressure Biosciences Inc	721
TA Instruments - Waters LLC	521

Company Name	Booth Number

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Warner Instruments 529

Perfusion Systems
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Fluicell AB 731
Fluxion Biosciences 433
Narishige International USA Inc 1104
Tokai Hit Co Ltd 929
Warner Instruments 529

Pharmaceutical Development Equipment
Beckman Coulter Life Sciences 308
Malvern Panalytical 803
NanoSurface Biomedical Inc 411
Rigaku Oxford Diffraction 611
Sophion Bioscience A/S 518
TA Instruments - Waters LLC 521
Unchained Labs 205

Phospholipids
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Matreya LLC 720

Photometers
Rapp OptoElectronic GmbH 1029

Piezo Lens Positioners
ASI/Applied Scientific Instrumentation Inc 729
Mad City Labs Inc 508
PI (Physik Instrumente) 808
PIEZOCONCEPT 828

Piezo Scanning Stages
Mad City Labs Inc 508
PI (Physik Instrumente) 808
PIEZOCONCEPT 828

Piezo Stages
ASI/Applied Scientific Instrumentation Inc 729
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Pipettes
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Electron Microscopy Sciences 709
INTEGRA Biosciences 902

Plate Dispensers
INTEGRA Biosciences 902

Probes
Anasys Instruments 710

Protein Binding Studies
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Applied Photophysics 1004
Arago Biosciences 1019
Beckman Coulter Life Sciences 308
BMG LABTECH 813
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Protein Purification Systems
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Scanning Electron Microscope
Carl Zeiss Microscopy LLC 513
Mad City Labs Inc 508

Scanning Probe Microscopes
Bruker Corporation 300, 301
HEKA Elektronik 535
Mad City Labs Inc 508

Scientific CMOS Cameras
Andor Technology 610
PCO America 404
Photometrics 408
SciMeasure 818

Screening, High-Throughput
Aurora Biomed Inc 900
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Multi Channel Systems 533
Nanion Technologies GmbH 629
Nikon Instruments Inc 400
Sophion Bioscience A/S 518
Unchained Labs 205

Sensors
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Montana Molecular 921
Nicoya Lifesciences 519
NKT Photonics Inc 305

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Sutter Instrument 700

Signal Transduction Reagents
Montana Molecular 921

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Illinois Rocstar 734
Nicoya Lifesciences 519
Nikon Instruments Inc 400
Thorlabs 401

Spectrofluorometers
Edinburgh Instruments 708
HORIBA Scientific 501
ISS Inc 919
JASCO 618
Olis Inc 901
Quantum Northwest Inc 605

Spectrometers
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Edinburgh Instruments 708
IRsweep 820
JASCO 618
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SPECTROLIGHT INC 735

Spectrophotometers
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Olis Inc 901
Quantum Northwest Inc 605
Unchained Labs 205

Company Name Booth Number

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Edinburgh Instruments 708
HORIBA Scientific 501
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npi electronic GmbH 628
Strex 430
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Stopped-Flow Spectroscopy
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Andor Technology 610
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Leica Microsystems 312
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ASI/Applied Scientific Instrumentation Inc 729

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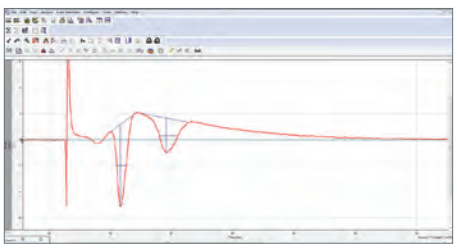

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