THE JOURNAL OF PHYSICAL CHEMISTRY B

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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
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 Separation (Tanja Mittag)

Friday, March 16
- Communicating Science 3 Ways, Part 3 and an Online Chat
- Capitol Hill Briefing featuring Jennifer Lippincott-Schwartz

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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### 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 AM, 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.
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13. Hotel Union Square
14. Hotel Whitcomb 415-626-8000
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19. Parc 55 San Francisco – A Hilton Hotel 415-392-8000
20. *San Francisco Marriott Marquis 415-896-1600
21. Serrano Hotel 415-885-2500
22. Sir Francis Drake Hotel 415-392-7755
23. The Park Central San Francisco 415-974-6400
24. The Mosser Hotel 415-986-4400
25. Tilden Hotel 415-673-2332
26. Villa Florence Hotel 415-397-7700
27. W San Francisco 415-777-5300
28. Westin St. Francis 415-397-7000

*Headquarters Hotel
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 or other Society Officer. It 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 investigatory 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.
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Umi Zhou, Meetings Associate

Sorting and Programming of 2018 Abstracts
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.

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 facilitieservices@moscone.com.

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.

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.

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.bio-physics.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

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>1:00 PM–3:00 PM</td>
<td>Scientific Story Telling: What’s Your Story?**</td>
</tr>
<tr>
<td>3:00 PM–4:00 PM</td>
<td>Going Live: Preparing for Interviews in Industry and Academia</td>
</tr>
<tr>
<td>3:00 pm–5:00 PM</td>
<td>Undergraduate Mixer and Poster Award Competition</td>
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<tr>
<td>4:30 PM–5:30 PM</td>
<td>Informal Networking and Q&amp;A with NPR Science Team</td>
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</tbody>
</table>

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

### Sunday, February 18, 2018

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:30 AM–8:30 AM</td>
<td>Postdoctoral Breakfast</td>
</tr>
<tr>
<td>9:00 AM–10:00 AM</td>
<td>Networking for Nerds: Getting the Most out of the BPS Annual Meeting</td>
</tr>
</tbody>
</table>
| 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

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

### Tuesday, February 20, 2018

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>9:30 AM–10:30 AM</td>
<td>Looking Beyond Academia: Identifying Your Career Options using MyIDP, LinkedIn &amp; More</td>
</tr>
<tr>
<td>11:30 AM–12:30 PM</td>
<td>Postdoc to Faculty Q&amp;A: Transitions Forum and Luncheon</td>
</tr>
<tr>
<td>1:00 PM–3:00 PM</td>
<td>Industry and Agency Opportunities Fair</td>
</tr>
<tr>
<td>1:15 PM–2:45 PM</td>
<td>We Don’t Think the Way We Think We Think: Seeing and Addressing Unconscious Bias and Stereotype Threat</td>
</tr>
<tr>
<td>1:30 PM–3:30 PM</td>
<td>The Nuts and Bolts of Preparing Your NIH Grant</td>
</tr>
<tr>
<td>2:30 PM–3:30 PM</td>
<td>Going Live: Preparing for Interviews in Industry and Academia</td>
</tr>
<tr>
<td>2:30 PM–4:00 PM</td>
<td>Leveling the Playing Field</td>
</tr>
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### Wednesday, February 21, 2018

<table>
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<tbody>
<tr>
<td>8:30 AM–12:00 NOON and 2:00 PM–5:20 PM</td>
<td>Looking Beyond Academia: Identifying Your Career Options using MyIDP, LinkedIn &amp; More</td>
</tr>
</tbody>
</table>

* 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.
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*.

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**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.

---

Discover your future...

**Biophysical Society Job Board**

www.biophysics.org/jobs
## Travel Grant Awardees

**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 Cholesterol? Computer Simulation Studies.**

- **Jessica Cao**, Brown University  
  228-Plat  
  **Role of Tyrosine Phosphorylation of Mitochondrial Calcium Unipporter 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 Massachusetts, 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, B471
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. Scandra, 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 Kalser, 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-Pos, B329
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 OLIGONUCLEOTIDES

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 Shin, 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
TEMPLATED CROSS CATALYSIS BY OLIGOPEPTIDES AND OLIGONUCLEOTIDES

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

Jaeyo 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 GUIDING FLEXIBLE FILAMENTS.

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

Pradeep Sathyarayana, Indian Institute of Science, India
3389-Pos, B597
CHOLESTEROL PROMOTES CYTOLYSIS 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.
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 STICHOYSYN.

Rosemary Nyamboya, King’s College London, United Kingdom
1106-Pos, B13
UNDERSTANDING THE STRUCTURAL BASIS OF RECOGNITION BETWEEN PLASMODIUM FALCIPARUM AND HUMAN SUMOYLATION MACHINERY.

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 LIPOP-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.

Biophysical Society
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
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2928-Pos, B136
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DOMAIN OF A MELANOSOMAL PROTEIN INTO A POLYMORPHIC
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COMMITTEE FOR INCLUSION AND DIVERSITY

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554-Pos, B324
DIFFERENTIAL SIGNALING AND CROSS-TALK OF DECTIN-1A AND -1B
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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.

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.

Wednesday

Lucila A. Acevedo, Cornell University, United States
2888-Pos, B96
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Blanca B. Diaz-Rohrer, University of Texas Health Science Center
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COMMITTEE FOR PROFESSIONAL OPPORTUNITIES FOR WOMEN

Sunday

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

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 6aL2 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 DASSEMBLY.

Maria 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
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.

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

Downloading the App is Easy!

SEARCH
The iTunes™ App Store or Google Play™ for “Biophysical Society Events”

SCAN

For All Other Device Types (including BlackBerry, Windows, and all other web browser-enabled devices): While on your smartphone, point your mobile browser to www.core-apps.com/dl/bpsevents
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 INCORPORATION 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 ANTIBODIES. Damian Bell

10:30 AM COFFEE BREAK

SESSION II
Chair: Kris Kalig

11:00 AM FINDING NAV1.1 ACTIVATORS – 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 LIA E 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 substrate/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 proceed 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

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
### Daily Program Summary

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

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<tr>
<th>Time</th>
<th>Event</th>
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<td>8:00 AM-6:30 PM</td>
<td>Registration/Exhibitor Registration</td>
<td>South Lobby</td>
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<td>8:30 AM-11:00 AM</td>
<td>Joint Council Meeting</td>
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<td>9:00 AM-12:00 PM</td>
<td>Society of General Physiologists Council Meeting</td>
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<td>9:00 AM-1:00 PM</td>
<td>Bioengineering Subgroup</td>
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<td>Mechanobiology Subgroup</td>
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<td>10:00 AM-12:00 PM</td>
<td>Cell Biophysics Subgroup</td>
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<td>Molecular Biophysics Subgroup</td>
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<td>12:00 PM-6:00 PM</td>
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<td>1:00 PM-5:15 PM</td>
<td>Biological Fluorescence Subgroup</td>
<td>South, Level Two, Room 215/216</td>
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<td>1:00 PM-6:00 PM</td>
<td>Membrane Biophysics Subgroup</td>
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<td>1:00 PM-6:00 PM</td>
<td>Membrane Structure and Assembly Subgroup</td>
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<td>1:00 PM-6:00 PM</td>
<td>Motility and Cytoskeleton Subgroup</td>
<td>Esplanade, Room 156</td>
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<td>1:00 PM-7:00 PM</td>
<td>Exocytosis and Endocytosis Subgroup</td>
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<td>1:30 PM-6:00 PM</td>
<td>Permeation and Transport Subgroup</td>
<td>Esplanade, Room 155</td>
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<td>2:00 PM-4:00 PM</td>
<td>Scientific Story Telling: What’s Your Story?</td>
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<td>3:00 PM-4:00 PM</td>
<td>Career Development Center Workshop: Going Live: Preparing for Interviews in Industry and Academia</td>
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<td>3:00 PM-5:00 PM</td>
<td>Undergraduate Mixer and Poster Award Competition</td>
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<td>4:30 PM-5:30 PM</td>
<td>Informal Networking and Q&amp;A with NPR Science Team</td>
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<td>First-Time Attendee Drop By</td>
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<td>5:00 PM-7:00 PM</td>
<td>Opening Mixer</td>
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<td>6:00 PM-10:00 PM</td>
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<td>6:30 PM-7:30 PM</td>
<td>CID/Education/CPOW Travel Awardee Reception</td>
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<td>7:00 PM-10:00 PM</td>
<td>Cryo-EM Subgroup</td>
<td>South, Level Two, Room 207/208</td>
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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<sub>2</sub> 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 BREAK

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, Amanda 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 INTERORGANELAR COMMUNICATION. Katayoon Dehesh

No Abstract
3:00 PM INTEGRATION OF ORGANELLE SIGNALING WITH EPIGENETIC OUTCOMES. Sally Mackenzie

3:30 PM BREAK

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 Talil
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, ESPANADE, ROOM 155

Organizing Members
Julie Biteen, University of Michigan
Jung-chi Liao, Academia Sinica, Taiwan
Keng-hui Lin, Academia Sinica, Taiwan
Antoine van Oijen, 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

Biopolymers in vivo Subgroup
12:00 PM–6:00 PM, ESPANADE, 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

19-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  P52 RNA: SAR AND BIOPHYSICS.  Martin Egli
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, Joonyhuck Park, Jack J. Li, Kyoungwon Park, Asaf Grupi, Shimon Yudovich, Zehavit Yatzkan, Nurit Degani-Katzav, Volodmyr Shvadchak, Anastasia Ludwig, Omri Bar Eli, 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 TWEETERS, SPRNT. Jens H. Gundlach

29-SUBG 3:50 PM
CATHODOLUMINESCE-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

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

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
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 TRANSLOSACE-ASSISTED INSERTION AND FOLDING PATHWAYS OF SINGLE TRANSMEMBRANE TRANSPORTERS. Tetiana Serdiuk, Stefania Mari, Ronald Kaback, Daniel Müller
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
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
MECHANISMS OF REGULATING CYTOPLASMIC DYNEIN.
Samara Reck-Peterson, Andres Leschziner, Morgan DeSantis, Michael Cian-frocco, Zaw Min Htet, Phuoc Tien Tran

CYTOSKELETAL CONTROL OF CELL POLARITY IN THE DROSOPHILA OOCYTE.
Margot E. Quinlan

MECHANISMS OF REGULATING CYTOPLASMIC DYNEIN.
Samara Reck-Peterson, Andres Leschziner, Morgan DeSantis, Michael Cian-frocco, Zaw Min Htet, Phuoc Tien Tran

FLAGELLAR LENGTH CONTROL SYSTEM: A PARADIGM FOR ORGANELLE SIZE REGULATION.
Wallace Marshall

CELLULAR DYNAMICS VISUALIZED FROM MOLECULES TO ORGANISMS AT INCREASED SPATIO-TEMPORAL RESOLUTION.
Tomas Kirchhausen

Alexander Sobolevsky

RESOLUTION OF HETEROGENEITY IN NICOTINIC RECEPTOR ASSEMBLY BY CRYO-EM.
Richard M. Walsh Jr., Soung-Hun Roh, Ryan E. Hibbs

INTERPRETATION OF SPECTROSCOPIC DATA FOR MEMBRANE TRANSPORTERS USING SIMULATED CONFORMATIONAL ENSEMBLES.
Lucy R. Forrest

ALLOSTERIC CONTROL OF THE K+ UPTAKE SYSTEM KTRAB.
Marina Diskowski, Vedrana Mikusevic, Dorith Wunnnicke, Ahmed R. Mehdipour, Deryck J. Mills, Gerhard Hummer, Klaus Fendler, Janet Vonck, Inga Haenelt

THE MYSTERY OF THE FUSION PORE.
Manfred Lindau

Biophysical Society
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 begins. 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 registration.

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 Bulkle, Shawn Zheng, Feng Wang, David Agard, Yifan Cheng

10:00 PM ADJOURNMENT
# Daily Program Summary

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

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>7:00 AM-9:00 AM</td>
<td>Editorial Board Boot Camp</td>
<td>South, Level Three, Room 313</td>
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<tr>
<td>7:30 AM-8:30 AM</td>
<td>Postdoctoral Breakfast</td>
<td>South, Level Three, Room 307/308</td>
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<td>7:30 AM-5:00 PM</td>
<td>Registration/Exhibitor Registration</td>
<td>South Lobby</td>
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<td>8:00 AM-10:00 PM</td>
<td>Poster Viewing</td>
<td>Exhibit Hall ABC</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Symposium: Biophysical Mechanisms of Molecular Evolution</td>
<td>North, Lower Lobby, Room 24</td>
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<td>Co-Chairs</td>
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<td>Michael Harms, University of Oregon</td>
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<td>Platform: Optical Microscopy and Superresolution Imaging: Methods I</td>
<td>South, Level Two, Room 207/208</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Membrane Physical Chemistry I</td>
<td>South, Level Two, Room 215/216</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Cell Mechanics and Motility I</td>
<td>Esplanade, Room 153</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Mechanosensation</td>
<td>Esplanade, Room 154</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Sensing in Vivo and in Vitro</td>
<td>Esplanade, Room 155</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Membrane Proteins: Structure and Folding</td>
<td>Esplanade, Room 156</td>
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<td>8:30 AM-10:30 AM</td>
<td>CID Committee Meeting</td>
<td>South, Level Three, Room 306</td>
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<td>9:00 AM-10:00 AM</td>
<td>Career Development Center Workshop: Conference Networking 101</td>
<td>South, Lower Level, Room 2</td>
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<td>10:00 AM-5:00 PM</td>
<td>Exhibits</td>
<td>Exhibit Hall ABC</td>
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<td>10:15 AM-11:00 AM</td>
<td>Coffee Break</td>
<td>Exhibit Hall ABC</td>
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<td>10:30 AM-11:30 AM</td>
<td>Career Development Center Workshop: Green Cards for Scientific Researchers: How to Win Your EB-1A/NIW Case!</td>
<td>South, Lower Level, Room 2</td>
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<td>10:30 AM-12:00 PM</td>
<td>Exhibitor Presentation: Cellular Dynamics International, a FUJIFILM company</td>
<td>Exhibit Hall, Room 6</td>
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<td>10:30 AM-12:00 PM</td>
<td>Using Human iPSC-Derived Cell-Types in Novel Functional Assays, Disease Modeling, and Drug Discovery</td>
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<td>10:30 AM-12:30 PM</td>
<td>International Relations Committee Meeting</td>
<td>South, Level Three, Room 312</td>
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| 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 |  |
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| 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  
FRICITION-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 – Latest 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 ATOMIC 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 SUPERRESOLUTION 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, Kyoungwhwan 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, Volodmyr 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

Biophysical Society
Platform
Membrane Physical Chemistry I
8:15 AM–10:15 AM, SOUTH, LEVEL TWO, ROOM 215/216
Co-Chairs
Kaozi 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 Valdeperas Badell, Aleksandra Dabkowska, Polina Naidjonoka, Rebecca Welbourn, Gunnar K. Pålsson, 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, Amr Koolivand, Maxim A. Voynov, Tatyana I. Smirnova, Alex I. Smirnov
87-Plat
9:45 AM
CPOW TRAVEL Awardee
88-Plat
10:00 AM

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 CONSTRUCTION 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
VINCLIN 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 MICROVENTACLES. 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 Yoshiie, 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, Llam 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 Harks, 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. Imran 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

109-Plat 9:30 AM
NOVEL CONFORMATION SELECTIVE MOLECULAR SENSORS FOR AMYLOID AGGREGATES. Eva Y. Chi, Florence 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

111-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

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 11:15 AM
AGENTS TO BLOCK THE NEURITE OUTGROWTH INHIBITOR (NOGO, RTN4) INSPIRED BY THE STRUCTURE.  Melanie J. Cocco

118-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

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, RECEPTORS USING PHOTOLABELING WITH MASS SPECTROMETRY.  Zi-Wei Chen, John Bracamontes, Wayland WL Cheng, Melissa Budelir, 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 KATP CHANNEL.  Samuel G. Usher, Natasia 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 PHOSPHOENOLPYPURVATE CARBOXYKINASE CONFORMATIONAL STATES THROUGH SMALL ANGLE X-RAY SCATTERING. Greg L. Hura, University 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. Berndoloh

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

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
VINCLIN AND ITS FUNDAMENTAL ROLE IN ACTIN BUNDLING FORMATION. Ernesto Alva Sevilla, Andrey Krokhinot, Nikolay V. Dokholyan

Platform
Bacterial Electrophysiology: From Single Cells to Biofilms
10:45 AM–12:45 PM, ESPLANADE, ROOM 153

Co-Chairs
Gurrol 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. Gurrol Suel

145-Plat 11:15 AM

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 CONденSATION. 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 Einatan, 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 Torun, 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, Xiyaon Cheng, Lingyun Qin, Rong Rong, Yongqi Huang

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

162-Plat 11:30 AM
REPEALABILITY OF ENTHALPIES AND GIBBS ENERGIES OF A PROTEIN—LIGAND BINDING REACTION MEASURED BY ITC. Vaida Pakturyte, Vaida Linkuvien, 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 AMINOLYGLICOSE 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

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 PIs, residing within a 50-mile radius of the San Francisco who are not presenting an abstract 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 the 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 J ob 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 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
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, Biology
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 spectrofluorimeters. 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 quantify 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), biosensor 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
177-Symp
5:00 pm
FRICITION-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 Karydas, 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

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 PHOSPHOLAMBN 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. Thrasvoulos 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-MEDIANED MYOSIN-1 MEMBRANE TARGETING DURING ENDOCYTOSIS. Girish Rajendraprasad, Tim Scholz, Matthias Preller, Georgios Tsiavaliaris

193-Plat  4:30 PM
THE MOLECULAR DEFECTS IN CA2+ REGULATION DUE TO MUTATIONS THAT CAUSE HYPERTROPHIC CARDIOMYOPATHY CAN BE REVERSED BY SMALL MOLECULES THAT BIND TO TROPOPIN. 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 Solis, Michael Mkrtschjian, 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 Schultd, 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, Rajaan 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 CA1.1 CHANNEL. Nicoletta Savalli, Fenfen Wu, Marcella Quinonez, Stephen C. Cannon, Riccardo Olesai

205-Plat  5:30 PM
ISOPROTERENOL PROMOTES AUGMENTATION OF L-TYPE CA1.2 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 TRANSLRETINAL SIGNALING AFTER ABLATION OF CA2.3 / R-TYPE CALCIUM CHANNELS. Toni Schneider, Jan Niklas Lücke, Isha Akhtar, Felix Neumaier, Gerrit Alexander Schubert, Hans Clusmann, Jürgen Hescheler, Matthias Lücke, 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,1.1 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
EXPRESSIO OF ORAI1 RESTORES NORMAL SARCOPLASMIC CALCIUM RELEASE IN CMPT MICE. Mónika T. Sztereye, 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

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, Chet 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 CYTOCHROME OXIDASE SUPERCOMPLEX FROM FLAVOBACTERIUM JOHNSONIAE. Chang Sun, Padmaja Venkatarkrishnan, 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 ROBSTNESS 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 Adaniva, 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


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 techniques 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, 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 PATCH-MASTER 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

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<td>B651–B671</td>
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<td>B672–B693</td>
<td>Micro- and Nanotechnology I</td>
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<td>B694–B701</td>
<td>Biophysics Education</td>
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**Protein Structure and Conformation: Computational Methods (Boards B1-B31)**

**231-Pos**

TICKING MECHANISM OF A BIOLOGICAL CLOCK. Andy LiWang

**232-Pos**

ZOOMING IN ON SOLVATION FREE ENERGY SURFACES IN ATOMIC SIMULATIONS. Matthias Heyden

**233-Pos**

QUANTITATIVE UNDERSTANDING OF DISTANCES FROM CROSS LINKING MASS SPECTROMETRY. Isaac Fillela-Merce, Guillaume Bouvier, Michael Nüges

**234-Pos**

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

**235-Pos**

INTERNATIONAL TRAVEL AWARDEE INVESTIGATING THE STRUCTURE OF THE XPF-ERCC1 FUNCTIONAL ENDONUCLEASE USING A COMPUTATIONAL APPROACH. Francesco Gentile, Jack A. Tuszyński, Khaled H. Barakat

**236-Pos**

DYNAMICAL ANALYSIS METHODS FOR PROTEIN FOLDING SIMULATIONS. Ayori Mitsutake, Hiroshi Takano

**237-Pos**

PDB2CDD: A WEB-BASED APPLICATION FOR THE GENERATION OF CIRCULAR DICHIROSPECTRA FROM PROTEIN ATOMIC COORDINATES. Elliot D. Drew, Lazaros Mavridis, Robert W. Janes

**238-Pos**

STRUCTURE-FUNCTION RELATIONSHIPS IN PROTEIN COMPLEXES. Petras Kundrotas, Saveliy Belkin, Ilya Vakser

**239-Pos**

MOLECULAR BASIS FOR THE LINK BETWEEN MACULAR DEGENERATION AND A SINGLE NUCLEOTIDE POLYMORPHISM. Reed E. S. Harrison, Dimitrios Morikis

**240-Pos**

AN AMBIGUOUS VIEW OF PROTEIN ARCHITECTURE. Guillaume Postic, Charlotte Pépin, Yassine Ghouzam, Jean-Christophe Gelly

**241-Pos**

INTERNATIONAL TRAVEL AWARDEE GENERALIZATION OF THE ELASTIC NETWORK MODEL FOR THE STUDY OF LARGE CONFORMATIONAL CHANGES IN PROTEINS. Adolfo Poma, Panagiotis Theodorakis

**242-Pos**

SECONDARY STRUCTURE ELEMENTS–ANNOTATIONS AND SCHEMATICAL 2D VISUALIZATIONS STABLE FOR INDIVIDUAL PROTEIN FAMILIES. Radka Svobodova Varekova, Adam Mídlík, Ivana Hutara Varekova, Jan Hutar, Veronika Navratilova, Jaroslav Koca, Karel Berka

**243-Pos**

INTERACTIVE 3D MACROMOLECULAR STRUCTURE DATA MINING WITH MOLQL AND LITEMOL SUITE. David Sehnal, Mandar Deshpande, Alexandre Rose, Lukas Pravda, Adam Mídlík, Radka Svobodová Vářková, Saqib Mir, Karel Berka, Sameer Velankar, Jaroslav Koca

**244-Pos**

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 BUTYRYLCHOLINES-TERASE USING ATOMIC 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

FLEXIBILITY OF FREE AND ACRB-BOUND ACRA IN THE ACRB-TOLC MULTIDRUG EFFLUX PUMP OF ESCHERICHIA COLI DETERMINED USING 3D PMFS. Anthony Hazel, James C. Gumbart

**248-Pos**

Board B18

IDENTIFYING A CONFORMATIONAL TRANSITION CRITICAL FOR CARBAPE-NEM DRUG RESISTANCE. George A. Cortina, Peter Kasson

**249-Pos**

Board B19

SIMULATIONS SUGGEST A STRUCTURAL BASIS FOR NICOTINIC RECEPTOR ACTIVATION BY AGONISTS. Sushree Tripathy, Wenjun Zheng, Anthony Auerbach

**250-Pos**

Board B20

DESMOPLAKIN AC MUTATIONS’ AFFECT ON STRUCTURE AND STABILITY OF ITS NH2-TERMINUS. Taylor Albertelli, Heather R. Manring, Stuart Campbell, Maegen A. Ackermann, Nathan Wright

**251-Pos**

Board B21

HOW LYMPHOMA MUTATION DISRUPTS FUNCTIONAL CONFORMATION OF IKK2 UNDER THE LENS OF COMPUTATIONAL MICROSCOPE. Thuy Tien Nguyen, Jamie Schiffer, Goursanker Ghosh, Rommie Amaro

**252-Pos**

Board B22

RIGID ROD MODEL FOR THE DISORDERED DOMAINS OF RIBOSOMAL STALK PROTEINS P1P2. Simon Kit Sang Chu, Yi Wang

**253-Pos**

Board B23

MOLECULAR DYNAMICS OF STREPTOCOCCUS PNUENOMAE AND CORYNEBACTERIUM DIPHTHERIAE PILI. Emmanuel Naziga, Jeff Wereszczynski

**254-Pos**

Board B24

MODELING AND CONFORMATIONAL ANALYSIS OF CYCLOTIDES, A CLASS OF MACROCYCLIC DISULFIDE BONDED PLANT PEPTIDES. Neha V. Kalmankar, P. Balaram, Sowdhamini Ramanathan, Radhika Venkatesan

**255-Pos**

Board B25

HYDROPHOBIC EFFECT: THE ENTROPIC STRUCTURE OF THE PROTEIN HYDRATION INTERFACE. Guillermo Ibal, Brian Oye, Hyun Joo, Jerry Tsai

**256-Pos**

Board B26

EDUCATION TRAVEL AWARDEE CONFORMATIONAL DYNAMICS OF DOPAMINE B-HYDOXYLASE BY COMPUTER SIMULATIONS. Alida Besch, Alessandro Cembran

**257-Pos**

Board B27

REMARKABLE SIMILARITY IN PLASMODIUM FALCIPARUM AND PLA-SMO-DIUM VIVAX GERANYLGHERANYL DIPHOSPHATE SYNTHASE (GGPPS) DYNAMICS AND ITS IMPLICATION FOR ANTI-MALARIAL DRUG DESIGN. Aishwarya Venkatramani, Clarisse Gravina Ricci, Eric Oldfield, J. Andrew McCammon

**258-Pos**

Board B28

PH SENSITIVE CONFORMATIONAL CHANGES RESPONSIBLE FOR THE ANOMALOUS BEHAVIOR OF IONIZABLE RESIDUES IN THE HYDROPHOBIC INTERIOR OF SNASE. Ankita Sarkar, Pancham Lal Gupta, Adrian E. Roitberg
Protein Stability, Folding, and Chaperones I (Boards B32-B54)

262-Pos  Board B32

263-Pos  Board B33
CONFORMATIONAL CHANGES OF A-CRYSTALLIN PROTEINS INDUCED BY HEAT STRESS. Ming-Tao Lee, Yu-Yung Chang, Wei-Chin Hung

264-Pos  Board B34
DENATURED STATE CONFORMATIONAL BIAS IN A 3-Helix Bundle. Moses Leavens, Bruce Bowler, Melissa M. Cherney

265-Pos  Board B35
THE POLYDISPERSITY PROBLEM: INVESTIGATING THE EFFECT OF CROWDING AGENT POLYDISPERSITY IN PROTEIN STABILITY. Alan van Giessen, Anastasia Ost

266-Pos  Board B36
THE ROLE OF TMAO IN PROTEIN FOLDING: A JOINT EXPERIMENTAL AND SIMULATION STUDY. Mayank M. Boob, Shahar Sukenik, Taras V. Pogorelov, Martin Gruebele

267-Pos  Board B37
MICROSCALE FOLDAMER PRODUCTION AND CHARACTERIZATION. Roxanna Kriessling, Katherine Snell, Collin Barraque, Samuel J.S. Rubin, Babak Sanii

268-Pos  Board B38
MOLECULAR EVOLUTION OF L-PGDs: SUBSTRATE RECOGNITION MECHANISM OF MEDAKA L-PGDs. Kimi Torii, Yuji Hidaka, Shigeru Shimamoto

269-Pos  Board B39
DISULFIDE-COUPLED FOLDING OF PROUROGUANYLIN ON MOLECULAR EVOLUTION. Kenta Mori, Saya Nishihara, Shigeru Shimamoto, Yuji Hidaka

270-Pos  Board B40
COMPARATIVE REFOLDING OF GUANIDINIUM HYDROCHLORIDE DENATURED SERUM ALBUMIN ASSISTED BY SURFACTANTS VIA ARTIFICIAL CHAPERONE PROTOCOL: BIOPHYSICAL INSIGHT. Mohd Ishtikhar, Nand Kishore

271-Pos  Board B41
EDUCATION TRAVEL Awardee INVESTIGATION OF THE MOLECULAR MECHANISMS WHICH RESULT in AMINOGLYCOSIDE NUCLEOTIDYLTRANSFERASE 4’ (ANT4) VARIANTS WITH DIFFERENT LEVELS OF THERMOSTABILITY. Seda Kocaman, Brinda Selvaraj, Edward Wright, Matthew Cuneo, Engin Serpersu

272-Pos  Board B42
OBSERVATION OF THE COOPERATIVE COLLAPSE IN THE SPONTANEOUS FOLDING PROCESS OF CYTOCHROME C BY TWO-DIMENSIONAL FLUORESCENCE LIFETIME CORRELATION SPECTROSCOPY. Miyuki Sakaguchi, Masaru Yamanaka, Shun Hirotaka, Kunihiko Ishii, Tahei Tahara

Protein-Small Molecule Interactions I (Boards B55-B73)

273-Pos  Board B43
IS HYDRODYNAMIC INTERACTION IMPORTANT TO PROTEIN FOLDING? Dirar M. Homouz, Fabio C. Zegarra, Yossi Eliaz, Margaret S. Cheung

274-Pos  Board B44
INTERNATIONAL TRAVEL Awardee SOD1 FOLDING MODULATION IN THE CROWDED CELL. David Gnutt, Jonas Ahlers, Benedikt König, Matthias Heyden, Simon Ebbinghaus

275-Pos  Board B45
AGGREGATION AND STABILITY OF PROTEINS IN WATER: A COMPUTATIONAL STUDY. Valentino Bianco

276-Pos  Board B46
THERMODYNAMICALLY COUPLED UNFOLDING TRANSITIONS IN DYSTROPHIN ABD1. Christian Coffman, Robert Miller, Victoria Fringer, Erin Groth, Adewale Adeyemi, Alexis Doucette, Michelle Botts, Michael Fealey, Jessica Sieber, Anne Hinderliter

277-Pos  Board B47
PROBING REGIONAL SOLVENT ACCESSIBILITY OF MOLTEN GLOBULES AND FOLDING INTERMEDIATES USING X-RAY FOOTPRINTING/MASS SPECTROMETRY. Shawn M. Costello, Sayan Gupta, Corie Y.Ralston, Susan Marqusee

278-Pos  Board B48
SPECTRA AND SIMULATION OF MODEL BETA-SHEETS AND HAIRPINS. IMPACT OF TURN SEQUENCES AND AROMATIC CONTACTS ON EQUILIBRIA AND DYNAMICS. Timothy A. Keiderling, Heng Chi, Dan McElheny, David Scheerer, Ayesha Samer, Karin Hauser, Frank Vazquez

279-Pos  Board B49
EFFECTS OF AGGREGATING AGENTS IN PROTEIN MISFOLDING. AN INFRA-RED SPECTROSCOPY STUDY. Jose Luis R. Arrondo, Laura Aguirre Araujo, Igor De la Arada

280-Pos  Board B50
MOLECULAR DYNAMICS INVESTIGATIONS OF B-SHEET STABILITY AND FOLDING PATHWAYS. Anthony Hazel, Chris Rowley, James C. Gumbart

281-Pos  Board B51
FOLDING THERMODYNAMICS OF A THREE-Helix Bundle Protein and Its Engineered Thermostable Variant. Emily K. Hamlin, Srivarchala Chandu, Michelle E. McCully

282-Pos  Board B52
FOLDING ANALYSES OF A DE NOVO DESIGNED PROUROGUANYLIN. Yuji Hidaka, Saya Nishihara, Kenta Mori, Shigeru Shimamoto

283-Pos  Board B53
IDENTIFICATION AND CHARACTERIZATION OF AN INSIDE-OUT INTERMEDIATE IN THE FOLDING PATHWAY OF BACTERIOPHAGE SLIDING CLAMP. Manika I. Singh, Vikas Jain

284-Pos  Board B54
MONITORING THE FOLDING PATHWAY OF A PROTEIN OVER EVOLUTIONARY TIME USING HYDROGEN EXCHANGE–MASS SPECTROMETRY (HX-MS). Eric Bolin, Shinon Lim, Susan Marqusee

285-Pos  Board B55
MAPPING LIGAND BINDING LANDSCAPES WITH WEXPLORE. Alex Dickson

286-Pos  Board B56
RATIONAL DESIGN OF AGO-ALLOSTERIC SMALL MOLECULE OF GLP-1R. Tejashree Redij, Rajan Chaudhari, Zhiyu Li, Zhijun Li
287-Pos  Board B57  
IMPROVING DOCKING PERFORMANCE OF LARGE FLEXIBLE LIGANDS USING HOT SPOT INFORMATION PREDICTED BY FRAGMENT DOCKING. Minkyung Baek, Chaox Seok

288-Pos  Board B58  
BLIND PREDICTION OF PROTEIN-PEPTIDE COMPLEX STRUCTURES: A NOVEL METHOD AND A WEB SERVER. Xianjin Xu, Chengfei Yan, Xiaojin Zou

289-Pos  Board B59  
PREFERENTIAL BINDING OF FLAVONOIDS WITH BOVINE SERUM ALBUMIN: IN-SILICO AND SPECTROSCOPIC INSIGHT INTO CYTOTOXIC COMPETENCE. Bhumika Ray

290-Pos  Board B60  
COMPUTING PROTEIN-LIGAND BINDING ASSOCIATION RATE CONSTANTS BY COMBINING BROWNIAN DYNAMICS AND MOLECULAR DYNAMICS SIMULATIONS. S. Kashif Sadiq, Rebecca C. Wade

291-Pos  Board B61  
MDOCKSERVER: AN EFFICIENT DOCKING PLATFORM FOR INVERSE VIRTUAL SCREENING. Zhiwei Ma, Xianjin Xu, Xiaojin Zou

292-Pos  Board B62  
KINETIC MACHINE LEARNING UNRAVELS LIGAND-DIRECTED CONFORMATIONAL CHANGE OF M OPIOIDRECEPTOR. Evan N. Feinberg, Vijay S. Pande, amir Barati Farimani, Carlos X. Hernandez

293-Pos  Board B63  
MODELLING INTERACTIONS OF UROKINASE PLASMINOGEN ACTIVATOR WITH αMILORIDE AND ITS DERIVATIVES. Peggy Palsgaard, Fredric A. Gorin, Igor Vorobyov

294-Pos  Board B64  
MOLECULAR MECHANISM OF RESISTANCE TO KINASE INHIBITORS CLARIFIED BY A BINDING FREE ENERGY COMPUTATION METHOD AND ITS IMPROVEMENT BY INCORPORATING PROTEIN FLEXIBILITY. Mitsugu Araki, Yasushi Okuno

295-Pos  Board B65  
HYDROGEN BOND SURROGATE βETA-HAIRPINS TO INHIBIT PROTEIN-PROTEIN INTERACTIONS. Nicholas Sawyer, Paramjit S. Arora

296-Pos  Board B66  
CANDOCK: CONFORMATIONAL ENTROPY DRIVEN ANALYTICS FOR CLASS-SPECIFIC PROTEOME-WIDE DOCKING. Jonathan A. Fine, Gaurav Chopra

297-Pos  Board B67  
TOWARDS BIOMIMETIC PHOSPHATE RECOVERY: MOLECULAR DYNAMICS SIMULATIONS OF PHOSPHATE BINDING PROTEINS. Sigurd F. Truelsen, Yong Wang, Kresten Lindorff-Larsen, Claus Hélix-Nielsen

298-Pos  Board B68  
BINDING FREE ENERGY CALCULATION OF PROTEIN-CARBOHYDRATE COMPLEXES: LEARNINGS SO FAR. Sushil K. Mishra, Jaroslav Koča, Yoshiki Yamaguchi

299-Pos  Board B69  
ALL-ATOM STUDY OF THE INTERACTIONS OF THE NEUROTRANSMITTERS DOPAMINE AND NOREPINEPHRINE WITH A-SYNUCLEIN OLIGOMERS AND THE EFFECTS ON NUCLEATION. Yu Zou, Junhang Hu, Qingwen Zhang

300-Pos  Board B70  
PREDICTION OF BINDING HOT SPOTS IN CYCLOOXYGENASE AND THEIR IMPLICATION TO PROTEIN-PROTEIN AND PROTEIN-LIGAND INTERACTIONS. Inseok Song

301-Pos  Board B71  
CAMBR CONFORMATIONAL FLEXIBILITY ON CAM-CAN ASSOCIATION RATE AND DISTAL HELIX’S INTERACTION SURFACE WITH CAM: A COMPUTATIONAL STUDY. Bin Sun, Peter M. Keckenes-Huskey

302-Pos  Board B72  
BOLTZMANN DOCKING IDENTIFIES ALLOSTERIC SMALL MOLECULE MODULATORS OF PROTEIN ACTIVITY. Thomas E. Frederick, Kathryn M. Hart, Katelyn E. Moeder, Chris M.W. Ho, Maxwell I. Zimmerman, Gregory R. Bowman

303-Pos  Board B73  
THE IMPACT OF ALTERNATIVE BINDING SITE ON HCT SUBSTRATE PERMISIVENESS FROM NUMERICAL ANALYSIS. Chun Kei Lam, Ying-Chih Chiang, Yi Wang

**Protein Assemblies I (Boards B74–B103)**

304-Pos  Board B74  
SUPRAMOLECULAR ASSEMBLY OF CALSEQUESTRIN IS STABILIZED BY MULTIVALENT INTERACTIONS OF THE N-TERMINUS AND N-LINKED GLYCANS. Joseph M. Autry, Bengt Svensson, Ke Shi, Thomas E. Bohl, Steven E. Cala, John K. Lee, David D. Thomas, Hideki Alhara

305-Pos  Board B75  
MODELING REACTION-TRIGGERED INFECTIVITY DURING RETROVIRAL ASSEMBLY AND MATURATION. S. Kashif Sadiq

306-Pos  Board B76  
A NOVEL DRP1 INTERFACE SPECIFICALLY GOVERS MFF INTERACTIONS. Ryan W. Clinton, Jason A. Mears

307-Pos  Board B77  
MOLECULAR BASIS FOR THE HIERARCHICAL DEPENDENCY OF COLLAGEN MECHANICS. Sameer Varma, Joseph P.R.O. Orgel, Jay D. Schieber

308-Pos  Board B78  
KNOWLEDGE-BASED COARSE-GRAINED MODEL FOR SIMULATING MULTI-PROTEIN COMPLEXES. Youngchan Kim, Jeetain Mittal

309-Pos  Board B79  
A INVESTIGATION ON THE INTERACTION BETWEEN VIRAL SUB-UNITS. Jingzh Chen, Maelenn Chevreuil, Yves Lansac, Guillaume Tresset

310-Pos  Board B80  
NONEQUILIBRIUM SELF-ASSEMBLY DYNAMICS OF ICOSAHEDRAL VIRAL CAPSIDS PACKAGING GENOME. Maelenn Chevreuil, Didier Law-Hine, Jingzhi Chen, Stéphane Bressanelli, Sophie Combet, Doru Constantin, Jéril Degrouard, Johannes Möller, Mehdi Zeghal, Guillaume Tresset

311-Pos  Board B81  
PODOCIN OLIGOMERIZATION REVEALED BY FRET ANALYSIS: SITES OF INTERALLELIC INTERACTIONS. Gustav Schay, Pál Stránér, Eszter Balogh, Christelle Arrondel, Ágnes Mikó, Gerda L’auné, Alexandre Benmerah, András Perczel, Dóra K. Menyhárd, Corinne Antignac, Géraldine Mollet, Kálmán Tory

312-Pos  Board B82  
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313-Pos  Board B83  
RECONSTITUTION OF THE LIQUID LIQUID PHASE SEPARATION UNDERLYING THE MICROALGAL RUBISCO SUPERCHARGER. Tobias Wunder, Le Hung S. Cheng, Oliver Mueller-Cajar
314-Pos Board BB4
WHEN AN ENZYME SELF-ASSEMBLES ON A MEMBRANE: FOCAL ADHESION KINASE. Csaba Daday, Iván Acebrón, Max Simon, Ricardo Righetto, Daniel Lietha, Frauke Gräter

315-Pos Board BB5
INTEGRATIVE STRUCTURE DETERMINATION OF PROTEIN COMPLEXES BY INFERRED STRUCTURAL EQUIVALENCE. Ignacia Echeverría, Andrej Sali

316-Pos Board BB6
REAL-TIME OBSERVATION OF THE ASSEMBLY DYNAMICS OF AN ARTIFICIAL RODSHAPED VIRUS-LIKE PARTICLE. Margherita Marchetti, Douwe Kamsma, Renko de Vries, Wouter Roos, Gijs Wuite

317-Pos Board BB7
ROLE OF THE LIPID MEMBRANE ON THE OLIGOMERIC ASSEMBLY AND FUNCTION OF PROTEORHODOPSIN. Chung-ta Han, Sunyia Hussain, Matthew N. Idso, Sirish Narayanan, Tristan Chan, Songi Han

318-Pos Board BB8
HUMAN INOSINE MONOPHOSPHATE DEHYDROGENASE 2: CRYO-EM OF HIGHLY FLEXIBLE FILAMENTS TO NEAR ATOMIC RESOLUTION. Matthew C. Johnson, Anika Burrell, Sajitha Anthony, Jeffrey Peterson, Justin Kollman

319-Pos Board BB9
AUC MEASUREMENTS OF DIFFUSION COEFFICIENTS OF MONOCLONAL ANTIBODIES IN THE PRESENCE OF HUMAN SERUM PROTEINS. John J. Correia, Robert T. Wright, David Hayes, Peter J. Sherwood, Walter F. Stafford

320-Pos Board BB9
INTERPLAY BETWEEN COMPONENTS OF EFFLUX PUMP MACHINERY. Cesar A. Lopez Bautista, Timothy Travers, S. Gnanakaran

321-Pos Board BB9
AUTOMATICALLY BUILDING MULTI-CONFORMER LIGAND MODELS IN ELECTRON DENSITIES WITH QFIT-LIGAND. Gydo van Zundert

322-Pos Board BB9
BINDING PATHWAY OF OPIATES TO MU-OPIOID RECEPTORS REVEALED BY MACHINE LEARNING. Amir Barati Farimani, Evan Feinberg, Vijay Pande

323-Pos Board BB9

324-Pos Board BB9

325-Pos Board BB9
ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS OF BETA-SOLENID PROTEIN SELF-ASSEMBLY. Amanda Parker, Daniel Cox

326-Pos Board BB9
EVALUATING PROTEIN—PROTEIN INTERACTIONS IN CHEMOKINE—INHIBITOR COMPLEXES USING MD SIMULATION. Lauren E. Stark, Patricia J. LiWang, Michael E. Colvin

327-Pos Board BB9
A MOLECULAR DYNAMICS STUDY ON THE SELF-ASSEMBLY OF SUPRAMOLECULAR NANOTUBULE. YoungBeom Jo, Jeseong Yoon, Seokmin Shin

328-Pos Board BB9
THE KNOB-OCKET CODE TO QUARTERNARY INTERACTIONS REVEALS THE SPECIFICITY OF PRO-SURVIVAL BCL-2 BINDING. Hyun Joo, Shivarni Patel, Nathaniel Chien, Vivian Kellner, Jerry Tsai

329-Pos Board B99
IDENTIFICATION OF PCNA BINDING SITES ON CHROMATIN ASSEMBLY FACTOR 1. Molly Carrig, Jacquelyn Ho, Nicholas Kuttner, Kurt Stahler, Robyn Scott, Hunter VanDolah, Lynne Dieckman

330-Pos Board B100
HIGH-THROUGHPUT MAPPING OF COTRANSCRIPTIONAL ASSEMBLY OF THE 30S RIBOSOMAL SUBUNIT. Feng Yang, Yuliya A. Kunde, Scott P. Hendrée, Karissa Y. Sanbonmatsu, Shawn R. Starkenburg, Peter M. Goodwin

331-Pos Board B101
A CYLINDRICAL ASSEMBLY MODEL AND DYNAMICS OF THE EBOLA VIRUS VP40. Elumalai Pavada, Bernard S. Gerstman, Prem P. Chapagain

332-Pos Board B102
UNDERSTANDING THE ASSEMBLY AND DISASSEMBLY KINETICS OF STREP-TOCCUS PNEUMONIAE FTSZ. Hemendra Pal Singh Dhaked, Shashikant Ray, Anirban Banerjee, Dulal Panda

333-Pos Board B103
PRE-CLINICAL BIOPHYSICAL CHARACTERIZATION OF THERAPEUTIC ANTIBODIES IN HUMAN SERUM BY ANALYTICAL ULTRACENTRIFUGATION. Robert T. Wright, Walter F. Stafford, Peter J. Sherwood, David Hayes, John J. Correia

Protein Dynamics and Allostery I (Boards B104-B130)

334-Pos Board B104
PROTEIN DYNAMICS UNDERLIE CRE-LOXP DNA RECOMBINATION. Aparna Unnikrishnan, Carlos Amero, Mark Foster

335-Pos Board B105
ROLE OF CONFORMATIONAL PLASTICITY IN DETERMINING THE DNA BINDING AFFINITY OF DIFFERENT NFKB DIMERS. Dominic Narang

336-Pos Board B106
MAPPING DOMAIN INTERACTION NETWORKS IN SIGNALING PROTEINS WITH OPTICAL TWEEzers. Rodrigo Maillard

337-Pos Board B107
FUNCTIONAL ANALYSIS OF ANTIFREEZE PROTEINS FOR COLD TOLERANCE BEHAVIOR AND X-RAY SINGLE MOLECULE OBSERVATIONS IN C. ELEGANS. Masahiro Kuramochi, Chiki Takashih, Hiroshi Sekiguchi, Motomichi Doi, Sako Tsuda, Yuji C. Sasaki

338-Pos Board B108
SIMULATION-GUIDED SELECTION OF SPECTROSCOPIC EXPERIMENTS TO REFINE HIGHLY FLEXIBLE PROTEIN STRUCTURES. Jennifer M. Hays, Marissa Kieber, Linda Columbus, Peter M. Kasson

339-Pos Board B109
PROBING COLLECTIVE MOTIONS OF PROTEINS AND HYDRATION DYNAMICS IN AQUEOUS SOLUTIONS BY A WIDE RANGE DIELECTRIC SPECTROSCOPY. Ali Charkshesht, Djamilou Lou, Nguyen Q. Vinh

340-Pos Board B110
EDUCATION TRAVEL AWARDSEE
ALLOSTERIC REGULATION BY MEMBRANES CONTROLS SPECIFICITY OF LIPOLYTIC ENZYMES THROUGH RECRUITMENT OF UNIQUE HYDROPHOBIC BINDING POCKETS. Varnavas D. Mouchlis, J. Andrew McCammon, Edward A. Dennis

341-Pos Board B111
MODELING PROTEIN CONFORMATIONAL CHANGES WITH SAXS PROFILES. Dina Schneiderman

342-Pos Board B112
DEFINING A LIGAND-BINDING POCKET IN THE ORPHAN NUCLEAR RECEPTOR NURR1. Paola Munoz-Tello, Sarah Mosure, Patrick Griffin, Venkatasubramanian Dharmarajan, Ian de Vera, Douglas Kojetin
CONTRIBUTION OF PRE AND POST-CHEMISTRY ENZYME STRUCTURAL PATHWAY GENERATE A BINARY SWITCH FOR MITOCHONDRIAL QUALITY DEVELOPMENT AND CHARACTERIZATION OF TWO PHENYLALANINE PROBING SUBSTRATE SEQUESTRATION IN CARRIER PROTEINS USING VI USING A FLUORESCENT UNNATURAL amINO ACID TO CHARACTERIZE THE MECHANISM OF THE ROBUSTNESS IN THE CYANOBACTERIAL CIRCADIAN DYNAMIC OBSERVATION OF KAI PROTEINS BY HS-AFM REVEALS A PROBE TO STRUCTURES AND DYNAMICS IN CALMODULIN ENSEMBLES RELATING THE VIBRATIONAL LINESHAPES OF THE THIOCYANATE (SCN) DYNAMIC OF APOBEC3G IN COMPLEX WITH SSDNA REVEALED BY HIGH-SPEED AFM CORRELATION SPECTROSCOPY (HS-AMF-CS): µS PROTEIN DYNAMICS WITHOUT LABELS.

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, Ayalsamy 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 LIPOID 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 TETRASPININ 8 INTERACTIONS IN LIVING CELLS. Daniel Wirth

373-Pos  Board B143

374-Pos  Board B144
INTERACTIONS BETWEEN THE TRANSMEMBRANE DOMAINS OF PLEXIN, SEMAPHORIN, AND NEUROPLIN. 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 FSB 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 ATOMIC 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 Maraglino

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 OLGOMERIC 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 O2 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 αMYLOID FIBRILS. Jervis V. Thevatham, 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, Timo Winter, Timo Winter

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-mS 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
DNA Replication, Recombination, and Repair (Boards B186-B209)

414-Pos  Board B184
QUANTITATIVE MEASUREMENT OF STABILITY AND HETEROGENEITY OF PROTEIN AMYLOIDS USING DISAGGREGATION BY CHEMICAL DENATURANTS. Timir Baran SII, Bankanidhi Sahoo, Subhas Chandra Bera, Kanchan Gari

415-Pos  Board B185
THERMODYNAMIC AND HYDRODYNAMIC PROPERTIES OF A DOXORUBICIN LABELED ELP-D-DRUG CARRIER. Valeria Zai-Rose, Wolfgang Kramer, Reid Bishop, John J. Correia

416-Pos  Board B186
QUATERNARY INTERACTIONS AND DNA TWIST MODULATE THE COOPERATIVE BINDING OF AGT. Michael G. Fried, Manana Melikishvili

417-Pos  Board B187
CHARACTERIZING THE ENHANCED NANOSCALE TRANSLATION 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 Jarrillo, 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, 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 Lamicchinhe, Arishma Rajkarnikar Singh, Edwin van der Schans, David Millar

424-Pos  Board B194

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

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 Schakenaad, Andreas S. Biebricher, Maarten Sebregts, Brian ten Bensel, Erwin J.G. Peterman, Gijs J.L. Wuite, Cornelis Storm, Paul van der Schot, Paul van der Schot, 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, Srimat Kesaramangalam 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, Srimat Kesaramangalam 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 Hormeno, Cesar L. Pastrana, Gemma L. M. Fisher, Mark S. Dillingham, Fernando Moreno-Herrero

465-Pos  Board B235  MECHANISM OF SEQUENCE DEPENDENT TRANSLATION OF A SUPER-FAMILY 2 HELICASE ON SS DNA.  Jonathan M. Craig

466-Pos  Board B236  HIGH-RESOLUTION SINGLE-MOLECULE ANALYSIS OF UVRD HELICASE USING NANOPORO TWEETERS.  Hugh Higinbotham


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 SUB-STRATE.  Juan P. Castillo, Alexander Tong, Sara Tafoya, Paul Jardine, Carlos Bustamante

470-Pos  Board B240  CONSTRUCTION OF A VIRAL HELICASE NANOPOR 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, Achilles N. Kapanidis

474-Pos  Board B244  DIRECT AFM VISUALIZATION OF RECG TRANSLATION AFTER REMODEL BY SSB PROTEIN.  Zhiquang 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 TRANSLATION 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, Wenyuan Xu, David D. Dunlap, Laura Finzi
Membrane Physical Chemistry I
(Boards B249–B262)

479-Pos
Board B249
PEPTIDE-LIGAND INTERACTIONS AND LIPID LATERAL DIFFUSION MONITORED VIA 31P 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, Joachim P. Spatz, Reinhard Lipowsky, Ili Platman, 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 Milanovic, Piotr Stepien, Chetan Poojari, Wojciech Galan, Agnieszka Polit, Ilpo Vattulainen, Anna Wisniewska-Becker

489-Pos
Board B259
INTERNATIONAL TRAVEL Awardee
FREE-STANDING LIPID LAYERS: 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 LAYERS: ELECTROSTATIC EFFECTS AT LIPID INTERFACES AS REPORTED BY SPIN-LABELING EPR. Erkang Ou, Maxim A. Voinov, Alex I. Smirnov, Tatiana I. Smirnova

491-Pos
Board B261
FRACTIONATION OF STYRENE AND MALEIC ACID COPOLYMERS: THE “HOLY GRAIL” OF MEMBRANE SOLUBILIZATION. Juan J. Dominguez Pardo, Josephone 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
SCRAMBLEASE 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 MICROCOPY. 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 Autillo, Mercedes Echaide, Daniele De Luca, Jesús Pérez-Gil

499-Pos
Board B269
THE HYDROPHOBIC SURFACTANT PROTEINS REDUCE THE BENDING MODULUS OF PHOSPHOLIPID LAYERS. 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. Sushmita 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 F2N125 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
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, Xiaoqiao Cao, Yang K. Xiang

542-Pos Board B312
KINETIC DETAILS OF THE INTERPLAY BETWEEN SODIUM BINDING AND OPIOID RECEPTOR SIGNALING. Xiaohu Hu, Yong Wang, Davide Provasi, Marta Filizola

543-Pos Board B313
SIGNALLING 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 MUSCARINIC RECEPTORS BY THE SUPERAGONIST IPEROXO IN CARDIAC MYOCYTES. Ana L. Lopez-Serrano, Martin Tristan-Firouzi, Eloy G. Moreno-Galindo, Ricardo A. Navarro-Polanco

545-Pos Board B315
G PROTEIN SIGNALING OF CA++-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 MELANOPIN’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 Sevsik, 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 Fölsér, Julia Appenroth, Viktoria Motsch, Gerhard J. Schütz

550-Pos Board B320
PROBING LIPID INTERACTIONS OF THE T-CELL RECEPTOR COMPLEX: A MICRO-PATTERNING APPROACH. Joschka Hellmeier, Florian Kellner, Gerhard Schuetz, Johannes Huppa, Eva Sevsik

551-Pos Board B321
DYNAMIC INTERACTIONS OF STIMULATED IGE-FcεRI 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, Erdinç 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 AWAREDD 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 Loney, Malvina Pizzuto

555.1-Pos Board B325.1

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
575-Pos  
Board B345  
MECHANOSENSATION THROUGH RADICALS IN TENSED COLLAGEN.  
Christopher Zapp, Agnieszka Obarska-Kosinska, Csaba Daday, Reinhard Kappil, 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, Guanyi 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  
STRAIN 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 MECHANO-DUCTION.  
Marcin Szczot, Leah Pogorzala, Hans Jürgen Solinski, Mark Hoon, Alexander T. Chesar  

Intracellular Calcium Channels and Calcium Sparks and Waves I (Boards B355- B374)  

585-Pos  
Board B355  
UNDERSTANDING THE MOLECULAR MECHANISM OF CATION PERMABATION IN THE CARDIAC RYANODINE RECEPTOR (RYR2) CHANNEL USING COMPUTATIONAL ELECTROPHYSIOLOGY.  
Williams E. Miranda, Van A. Ngo, S.R. Wayne Chen, Sergej Y. Noskov  

586-Pos  
Board B356  
FRET-BASED TRILATERNATION 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
Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating I (Boards B375-B397)

650-Pos Board B375 INVESTIGATING CYCLIC DINUCLEOTIDE BINDING TO HCN CHANNELS BY SURFACE PLASMON RESONANCE AND ISOTHERMAL CALORIMETRY. Sebastian Hayoz, Purushottam B. Tiwari, Grzegorz Piszczek, Aykut Ùren, Henry Hoff, Anne Roskowski, J. Kevin Foskett

605-Pos Board B376 EXAMINING DRUG BINDING IN HCN CHANNELS. Jeremie Tanguay, Nazzareno D’avanzo

606-Pos Board B377 MOLECULAR INTERACTIONS THAT CONTRIBUTE TO THE REGULATION OF HCN CHANNELS BY KCN2. Yoann Lussier, Karen Callahan, Rikard Blunck, Nazzareno D’Avanzo

607-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. Klencin, Randall H. Goldsmith, Baron Chanda

608-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

609-Pos Board B379 INVESTIGATING CYCLIC DINUCLEOTIDE BINDING TO HCN CHANNELS BY SURFACE PLASMON RESONANCE AND ISOTHERMAL CALORIMETRY. Sebastian Hayoz, Purushottam B. Tiwari, Grzegorz Piszczek, Aykut Ùren, Henry Hoff, Anne Roskowski, J. Kevin Foskett

610-Pos Board B380 ETHANOL INCREASES NEURONAL FIRING BY REGULATING PI(4,5)P2 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. Linn, Rosamary Ramentol, Rene Barro-Soria, H. Peter Larsson
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.** Jenela Baranovic, Andrew J. R. Plested

633-Pos  Board B403
**SINGLE-CHANNEL STUDY OF AMPA RECEPTORS RESTRAINED BY AN INTER-SUBUNIT ZINC BRIDGE.** Sebastian Opfermann, Jenela Baranovic, Andrew J. R. Plested

634-Pos  Board B404
**FUNCTIONAL VALIDATION OF HETEROmeric KAINATE RECEPTOR MOD.** Elisa Carrillo-Flores, Cassandra M. Hartle, Jonathan Z. Luo, Annika H. Zawieja

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 Mikhailzon, 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, Raif 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
- THE ROLE AND DETERMINANTS OF BIPHASIC REGULATION OF SK CHANNELS BY CA2+ IN HYPERTROPHIC RAT VENTRICULAR CARDIOMYOCYTES. Radmila Terentyeva, Julija Polina, Shanna Hamilton, Kevin R. Murphy, Gideon Koren, Dmitry Terentyev

- MOLECULAR BASIS OF THE NUCLEOTIDE-DEPENDENT CONFORMATIONAL CHANGE IN AN RCK DOMAIN. Celso M. Teixeira-Duarte, Fátima Fonseca, João H. Morais-Cabral

- A MUTATION IN THE INTRINSICALLY DISORDERED FRAGMENT OF SK2 CHANNEL CONSCNS CA2+ HYPERSENSITIVITY. Young Woo Nam, Saba N. Baskoylu, Meng Cui, Razan Orfali, Anne C. Hart, Miao Zhang

- ROLE OF ATP SENSITIVE POTASSIUM CHANNEL IN EXERCISE-TRAINING MEDIATED ADAPTATIONS IN VENTRICULAR REPOLARIZATION. Xinrui Wang, Robert H. Fitts

- GATING MECHANISM INVESTIGATION IN HOMOTETRAMER CNGA1 ION CHANNEL BY COARSE-GRAINED MOLECULAR DYNAMICS SIMULATION. Mangesh V. Damre, Alejandro Giorgetti, Vincent Torre

- 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

- FUNCTIONAL CHARACTERIZATION OF THE CYCLIC NUCLEOTIDE-GATED CHANNEL STHK. Xiaolong Gao, Philipp A.M. Schmidpeter, Crina M. Nimigean

- QUANTITATIVE PROTEOMIC ANALYSIS OF THE PUTATIVE NAADP-TPC SIGNALING COMPLEX. Jiuyuan Zhang, Xin Guan, Qin Li, Jiusheng Yan

- 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, Mark E. Hoh, Wayne Hendrickson, Kenneth L. Shepard

- 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

- TOWARDS THE IDENTIFICATION OF THE NEUROPEPTIDE BINDING SITE OF HYDRA NA+ CHANNELS (HYNACS). Axel Schmidt, Katrin Augustinowski, Marc Christoph Assmann, Stefan Gründer

- INHIBITOR-INDUCED CONFORMATIONAL CHANGES IN ASIC1A. Camilla Lund, Christian B. Borg, Timothy Lynagh, Stephen A. Pless

- EVOLUTION OF ACID-SENSING ION CHANNELS. Timothy Lynagh, Janne M. Colding, Stephen A. Pless

- PEPTIDE MODULATION OF ACID-SENSING ION CHANNELS. Christian B. Borg, Linda M. Haugaard-Kedström, Timothy Lynagh, Kristian Strømgaard, Stephen A. Pless

**Other Channels I (Boards B438- B449)**

- INFERIOR OLIVARY TMEM16B MEDIATES CEREBELLAR MOTOR LEARNING. Yang Zhang, Zhushan Zhang, Shaohua Xiao, Tiande Li, Son Le, Lily Jan, Jason Tien, Huanghe Yang
NONEQUILIBRIUM MOLECULAR DYNAMICS (MD) SIMULATIONS OF MULTION PERMEATION IN KCa. Robert A. Farley, Sarah Holzmann, Cameron Kopp, Yi Shi, Yibo Wang, Sergei Noskov, Van A. Ngo

PERMEATION OF ANTIBIOTICS ACROSS PORINS. Mathias Winterhalter, Satya Prathysha Bhamidimarri, Ishan Ghai, Jiajun Wang

THE RESIDUES IN THE AMINO TERMINAL AND FIRST EXTRACELLULAR DOMAINS AND INTRACELLULAR MAGNIFICATION CX50 UNITARY GAP JUNCTION CHANNEL CONDUCTANCE. Mary Grace Tejada, Swathy Sudhakar, Hiroshi Aoyama, Donglin Bai

INVESTIGATION OF ANION SELECTIVITY OF CLC-K CHANNELS. Laura Lagostena, Michael Pusch, Alessandra Picollo

EDUCATION TRAVEL AWARD
IONIC PERMEATION AND THE NATURE OF ION SELECTIVITY IN CLAUDIN PARACELLULAR CHANNELS. Priyanka Samanta, Yitang Wang, Shadi Fu-ladi, Jinjing Zou, Le Shen, Christopher Weber, Fatemeh Khalili-Araghi

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

MECHANISM OF PH GATING IN CX26 GAP JUNCTION CHANNELS REVEALED BY CRYOEM, CROSSLINKING AND HDX. Maciej Jagieliński, Ali Khan, William E. McIntire, Michael D. Purdy, Venkat Dharmarajan, Patrick R. Griffing, Mark Yeager

THE EFFECT OF BARREL GEOMETRY ON ION CONDUCTION THROUGH E. COU OMPX. Curtis Balusek, Dirk Linke, James C. Gumbart

A NEWLY AVAILABLE TOOL FOR FUNCTIONAL ANNOTATION OF ION CHANNEL STRUCTURES BASED ON MOLECULAR DYNAMICS SIMULATIONS. Gianni Klesse, Shalin Rao, Phillip J. Stansfeld, Mark S. P. Sansom, Stephen J. Tucker

HYDROPHOBIC GATING: EXAMINATION OF RECENT ION CHANNEL STRUCTURES. Shalin Rao, Gianni Klesse, Stephen J. Tucker, Mark S.P. Sansom

CONFORMATIONAL LANDSCAPE OF SUBSTRATE SPECIFICITY IN THE FRUCTOSE TRANSPORTER GLUTs DETERMINED VIA MBAR MOLECULAR DYNAMICS. Trevor Gokey, Jesi Lee, Anton B. Gullaev

Skeletal Muscle Mechanics, Structure, and Regulation I (Boards B450–B463)

EVIDENCE FOR ACTIN FILAMENT STRUCTURAL CHANGES AFTER ACTIVE SHORTENING IN SKINNED MUSCLE BUNDLES. Venus Joumaa, Ian Curtis Smith, Atsuki Fukutani, Tim Leonard, Weikang Ma, Thomas Irving, Walter Herzog

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

RESIDUAL FORCE ENHANCEMENT IS ATTENUATED BY SHORTENING IN A MAGNITUDE-DEPENDENT MANNER. Atsuki Fukutani, Walter Herzog

THE NONLINEAR MECHANICAL PROPERTIES OF TITIN MODULATE STRIATED MUSCLE CONTRACTION EFFICIENCY. Joseph D. Powers, C. David Williams, Michael Regnier, Thomas L. Daniel

TROPOMYOSIN TRANSLATION ON F-ActIN REVEALED BY MOLECULAR DYNAMICS SIMULATIONS. Farooq A. Kiani, Michael J. Rynkiewicz, Stefan Fischer, William Lehman

IS THIN FILAMENT MOVEMENT SWITCHED ON AND OFF BY A THERMO-DYNAMIC PROCESS ALONE. Henry G. Zot, Bryant Chase, Javier E. Hasbun, Jose R. Pinto

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


MYBP-C PHOSPHORYLATION ACCELERATES SARCOMERE SHORTENING AS THIN FILAMENTS SLIDE THROUGH THE C-ZONE. Joel C. Robinett, Laurin M. Hanft, Kerry S. McDonald

THE SKELETAL MUSCLE MOLECULAR CLOCK REGULATES TITIN SPLICING AND PROTEIN EXPRESSION. Lance A. Riley, Joseph R. Mijares, Xiping Zhang, Karyn A. Esser

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

ROLE OF THICK FILAMENT INACTIVATION DURING ISOTONIC SHORTEN- ING IN STRIATED MUSCLE. Kerry S. McDonald, Kenneth S. Campbell

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)

CA”-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
Actin Structure, Dynamics, and Associated Proteins (Boards B479-B501)


696-Pos  Board B466  EFFECT OF A UNIQUE POLYMORPHISM IN TROPOMYSIN-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 BETACARDIOMYOSIN 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 MEROXYOSIN. 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. Margules, Benjamin L. Prosser

701-Pos  Board B471  DISSECTING THE MOLECULAR MECHANISM FOR FAMILIAL CARDIOMYOPATHIES. Sarah R. Clipperging, Lina Greenberg, Michael J. Greenberg

702-Pos  Board B472  THE EPAR2 INHIBITOR ESI-05 PROLONGS THE ACTION POTENTIAL AND INCREASES SUSCEPTIBILITY TO EAD ARRHYTHMIAS. Hannah M. Kirtor, 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, Yasuho 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, Varoslav Tkachev, Yuri Nesmelov

706-Pos  Board B476  Education Travel Awardee  CARDIOMYOPATHY-LINKED MUTATION K15N IN TROPOMYSIN 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

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 Vlassaksis, 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 Tchereshnyshov, Jennifer Van Eck, 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, Mikael Kerleau, Antoine Jégou, Guillaume Romet-Lemonne

721-Pos  Board B491  MDA1 SENSES BOTH FORCE AND TORQUE DURING F-ACTIN FILAMENT POLYMERISATION. Miao Yu, Xin Yuan, Michael Sheetz, Alexander Bereshdsky, Jie Yan

Biophysical Society
COMPETITION AMONG MULTIPLE PATHWAYS FOR SUBUNIT ADDITION IN FORMIN-MEDIATED ACTIN FILAMENT ELONGATION. Mark E. Zweifel, Naomi Courtemanche

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 Vaylonis, Jeetain Mittal

THE DROSOPHILA FORMIN FHOD NUCLEATES ACTIN FILAMENTS. Aanand A. Patel, Zeynep A. Oztag Durer, Aaron P. van Loon, Kathryn V. Bremer, Margot E. Quinlan

COFIUN 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

MECHANOTRANSMISSION AND MECHANOSENSING OF HUMAN ALPHA-ACTININ 1. Shimin Le, Xian Hu, Mingxi Yao, Hu Chen, Michael P. Sheetz, Jie Yan

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

BINDING OF THE N2A REGION OF TITIN TO ACTIN FILAMENTS. Christopher M. Tsiros, Humra Athar, Matthew Gage

STOCHASTIC SIMULATIONS OF TROPOMYSIN BINDING AND DIFFUSION ON FILAMENTOUS ACTIN. Mikkel H. Jensen, Ashley Luiz, Hai Tran

C1 IG-DOMAIN OF MYOSIN BINDING PROTEIN-C ACTIVATES CARDIAC THIN FILAMENT BY MEANS OF THETHERING TROPOMYSIN TO THE SUBDOMAIN-1 OF ACTIN. Cristina Risi, Betty Belknap, Tyler Glendrange, Samantha Harris, Howard D. White, Gunnar Schröder, Vitold E. Galkin


Membrane Pumps, Transporters, and Exchangers 1 (Boards B502- B525)

THERMAL EQUILIBRIUM AND ENERGY CONVERSION OF A NEW PHOTORECEPTOR WITH TWO CHROMOPHORES AS STUDIED IN SITU SPECTROSCOPY. Xiaoyan Ding, Chao Sun, Haolin Cui, Yujiao Gao, Juan Wang, Yanan Yang, Xin Zhao

MEASURING TRANSPORT KINETICS OF LIGHT DRIVEN MEMBRANE PROTEIN, HALORHODOPSIN. Hasan M. Feroz, Bryan Ferlez, Cecile Lefoulon, Hossein Mohammadiani, Tingwei Rei, Carol S. Baker, Peter J. Butler, Jonas Hünn, Cheryl A. Kerfeld, Nigel J. Burroughs, Harish Vashisth, Wolfgang Parak, Mike Blatt, John Golbeck, Manish Kumar

THE ELUSIVE PROTON IN THE GASTRIC PROTON POTASSIUM ATPASE. Víkas Dubey, Kazuhiro Abe, Ilià Solov’yov, Himanshu Khandelia

PROPERTIES OF OSCILLATING ELECTRICAL PULSE INDUCED NA/K PUMP CURRENT ON SINGLE FROG SKELETAL MUSCLE. Pengfei Liang, Wei Chen

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

BETA-DEPENDENT MODULATION OF NA+ BINDING AND RELEASE OF THE ALPHA-3 NA+ K+ PUMP. Cristina Moreno Vadillo, Miguel Holmgren

CRYSTAL STRUCTURES OF SERCA2A AND SERCA2B. Haruo Ogawa, Yoshiki Kabashima, Rie Nakajima, Chikashi Toyoshima

DISCOVERY OF SERCA2A/PLB ACTIVATORS AND INHIBITORS BY STRUCTURE-BASED HIGH-THROUGHPUT SCREENING USING LIVE CELL FRET BIOSENSORS. Daniel R. Ströik, Samantha L. Yuen, Kevyn A. Janicek, Tony M. Schaaf, Razvan L. Cornea, David D. Thomas

BINDING AFFINITY OF SERCA REGULATORY COMPLEXES QUANTIFIED BY STEERED MOLECULAR DYNAMICS SIMULATIONS. Nikolai Smolin, Seth L. Robia

THE ALLOSTERIC COUPLING OF THE CYTOPLASMIC PHOSPHORYLATION AND TRANSMEMBRANE DOMAIN DEOCCLUSION IN THE CA2+ SERCA PUMP ELUCIDATED BY FREE ENERGY SIMULATIONS. Huan Rui, Avishek Das, Benoît Roux

IS ATP HYDROLYSIS THE POWER STROKE IN ABC TRANSPORTERS? Hendrik Göddeke, Marten Prieß, Gerrit Groenhof, Lars Schäfer

MECHANISM OF LARGE-SCALE ALTERNATING ACCESS CONFORMATIONAL TRANSITION IN THE ABC EXPORTER TM287/288. Hendrik Göddeke, Mikko Karttunen, Lars V. Schäfer

LIPID-DEPENDENT ALTERNATING ACCESS MECHANISM IN ABC EXPORTERS REVEALED USING MICROSECOND-LEVEL MOLECULAR DYNAMICS SIMULATIONS. Mahmoud Moradi, Jeevapani Hettige

STUDY OF CONFORMATIONAL TRANSITION OF A PROTEIN SECRETION ABC TRANSPORTER USING MOLECULAR DYNAMICS. Ahmad Raesi Najafi, Reza Dastvan, Hassane S. Mchaourab, Emad Tajkhorshid

LIPID BINDING AND LIPID- UPTAKE IN P-GLYCOPROTEIN: COMPARISON OF THE INWARD- AND OUTWARD-FACING CONFORMATION. Estefania Barreto-Ojeda, Abigail Gritter, Valentina Corradi, Peter Tieleman

LIPIDS AND IONS TRAVERSE THE MEMBRANE BY THE SAME PHYSICAL PATHWAY IN THE NHTMEM16 SCRAMBLASE. Tao Jiang, Kuai Yu, H Criss Hartzell, Emad Tajkhorshid
Genetic Regulatory Systems
(Boards B526-B535)

748-Pos  Board B518  
MECHANISMS OF AP PROLONNATION AND TRIGGERED ACTIVITY IN A TBX5 MODEL OF ATRIAL FIBRILLATION. Leonid Tyan, Wendi Dai, Rajiv Nadadur, Yitang Wang, Stefan Mazurek, Jenna Bekenyi, Kaitlyn Shen, Margaret Gadek, Brigitte Laforest, Francisco Alvarado, Hector Valdivia, Michael Broman, Le Shen, Ivan Moskowit, 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. Krauda, Arvind Balijepalli

750-Pos  Board B520  
DESOMOPRESSIN CAUSES DIFFERENT EFFECTS ON WATER AND UREA PERMEABILITY OF PRINCIPAL CELLS IN OMCD AND IMCD. Evgeny I. Solenov

751-Pos  Board B521  
DROPLET INTERFACE BILAYERS ON A PETRI DISH—FORMATION MECHANISMS OF PROTEIN LOCALIZATION. Sanhita Dixit, Alexandra Pincus, Bin Guo, Gregory W. Faris

752-Pos  Board B522  
ANION-TRANSPORT MECHANISM OF A TRIAZOLE-BEARING DERIVATIVE OF PRODIGIOSINE. Claudia Cassa, Michele Fiore, Valeria Capurro, Emanuela Caci, Roberto Quesada, Oscar Moran

753-Pos  Board B523  
STRUCTURAL EVENTS IN A BACTERIAL UNIPORTER LEADING TO TRANSLLOCATION OF GLUCOSE INSIDE THE CYTOSOL. Indrani Bera, Jeffery B. Krauda

754-Pos  Board B524  
STRUCTURAL DETERMINANTS IN THE IF-OF TRANSITION IN HUMAN GLUTOSE 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
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_1.2 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 Oleosixime in Alpha-Synuclein-Induced Mitochondrial Dysfunction. Amandine M.F. Rovini, Maria Queralt-Martin, Philip Gurney, 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 Wolelsey, 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. Giovanucci

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 Magneto sensation. A. Martin Bell, Jacob T. Robinson

788-Pos
Board B558

789-Pos
Board B559
Single Molecule Co-localization Analysis of TRPV1 Interactions in Unroofed HEK293T/17 Cells. Eric Senning, Sharona E. Gordon

790-Pos
Board B560
Synthetic Peptides Derived 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 Bourguin, 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. Romanjuk, 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, Hamning 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 Bourguin, Alexandre Pouilhazan, 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
Electron Microscopy (Boards B575–B598)

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 DOWR 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 GYCINE RIBOSWITCH APTAMER II VIA SITE-DIRECTED SPIN LABELING EPR. Michelle Ehrenberger

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 Gitaï, Enoch P. Baldwin, Justin M. Kollman

809-Pos  Board B579

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 Grubmüller

811-Pos  Board B581
TITLE—‘FIXING’ THE GATEWAY BETWEEN ELECTRON MICROSCOPY AND BSLS 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 Terashii, Daisuke Kihaara

814-Pos  Board B584
CRYO-ELECTRON MICROSCOPY OF A POLYHEDRAL VIRUS INFECTION HY-PERTHERMOPHILIC 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 Sevillaño, Nancy Li, Yifan Cheng, Charles Craik

817-Pos  Board B587
A NOVEL FILAMENTOUS VIRUS INFECTS HY-PERTHERMOPHILIC 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 Cassella, Ali Hadjikhan, Joseph Favata, Sina Shahbazzmohamed

821-Pos  Board B591
HIGH RESOLUTION CRYO-EM STRUCTURE OF A HIV NEF-INHIBITED AP-1 CLATHRIN ADAPTOR COMPLEX. Kyle L. Morris, Cosmo Buffallo, 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 Dallakian, 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. Landar

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-STRUCTURAL 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. Lisa Riachi, Dalil 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, Akiko Usuki

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, Sunan Ranjij, Francesco Cardarelli, Enrico Gratton

836-Pos Board B606
ADAPTIVE PRECISION REAL-TIME 3D SINGLE PARTICLE TRACKING MICROSCOPY. Shangguo Hou, Kevin Welch

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 Doccchi, 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

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 Lofreda, Moreno Zamai, Valeria R. Caiolfio, Carlo Tacchetti, Davide Mazza

842-Pos Board B612
CHARACTERIZATION OF MALRIA DETECTION BASED ON THIRD HARMONIC GENERATION IMAGING OF HEMOZOA. 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. Sunan Ranjij, 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 Vandenberg

845-Pos Board B615
CONFORMATIONAL DYNAMICS OF A SINGLE HSP90 MOLECULE MONITORED FOR 24HRS AT VIDEO RATE. Carsten Sönntichsen, Weixiang Ye, Laura Tütting, Sirin Celiksoy, Rubén Ahijado-Guzmán, Markus Götz, Thorsten Hugel

846-Pos Board B616
CHEMO-MECHANICAL COUPLING OF ROTARY MOLECULAR MOTOR ENTEROCOCCUS HIRAE V -ATPASE AS REVEALED BY SINGLE-MOLECULE ANALYSIS. Tatsuya Iida, Yoshitoyo 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 PHYCOCYANINE'S ELECTRONIC STRUCTURE. Peter D. Dahlberg, Allison H. Squires, Anindita 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 NANO Particles 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 Lofreda, Eugenia Cammarota, Emanuela Jacchetti, Serena Capozi, Samuel Zambrano, Edouard Bertrand, Marco E. Bianchi, Carlo Tacchetti, Davide Mazza
Optical Spectroscopy: CD, UV-VIS, Vibrational, Fluorescence (Boards B628-B650)

854-Pos  Board B624
DECRYPTING THE ROLE OF ATPASE DOMAINS OF CLPA USING SINGLE-MOLECULE OPTICAL TWEEZERS. Hema Chandra Kotamartti, Robert Sauer, Tania Baker

855-Pos  Board B625
MEASURING OLIQUONUCLEOTIDE 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 FLUORESCIN ARSENICAL HAIRPIN (FLASH) AS A PROBE FOR SINGLE-MOLECULE FLUORESCENCE SPECTROCOPY. Dennis D. Fernandes, Jasbir Bamrah, Sent-hilkumar 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

858-Pos  Board B628
MEASURING STRUCTURE AND DISORDER OF (CY3)2 DIMER LABELED DNA FORK-JUNCTIONS USING TWO-DIMENSIONAL FLUORESCENCE SPECTROCOPY (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

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 Vazias, Keiske Hasegawa

864-Pos  Board B634
MONITORING NATIVE AND AGGREGATE STRUCTURE OF AMINO ACIDS AND HUMAN INSULIN WITH BLUE AUTOFLUORESCENCE. Nathan Cumberbatch, Jillian Madine, Heike Arnold

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 Aayed, Madhu Gaire, Martin Heidelman, Paul Urayama

867-Pos  Board B637
MODULATIONS OF Ca2+ SENSITORS 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 13C-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 SPECTROCOPY OF THE BACTERIORHODOPSIN PHOTOCYCLE WITH QUANTUM CASCADE LASER FREQUENCY COMBS. Markus Geiser, Jessica L. Klocce, 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. 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. Carbalaj-Tinoco, Carmen G. Granados-Ramirez, Claudia G. Benitez-Cardoza

877-Pos  Board B647
PROBING LOCAL PROTEIN ENVIRONMENTS WITH A VIBRATIONAL REPORTER UNNATURAL AMINO ACID. Gwendolyn Fowler, Caroline Kearney, Trelxer Hirn, Lukasz Olenzinski, 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 Brodl, Maximilian Bettenhausen, Marcin Kazmierczak, Subhajit Guha, Changjiang You, Bernd Witzigmann, Thomas Schroeder, Jacob Piehler
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 MICROWENVIRONMENT. Pierre-Olivier Strale, Louise Bonnemay, Nadia Ziane, Matthieu Opitz, Josselin Ruaudel

882-Pos  Board B652  ELECTRONIC TONGUE DEVELOPMENT USING DIELECTRIC SPECTRO-COPY. 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 BIOMICTIC 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, Adelaade 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 SPAHAERIDIES 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 OPTOPHOTIC 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 ANTI CANCER 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 HFO2 MEMBRANES FOR NANOPORE-BASED DNA SEQUENCING. Yinghua Qiu, Christopher Arcadia, Mohammad Amin Alibakhshi, Jacob Rosenstein, Meni Wanunu


904-Pos  Board B674  CONTROLLING THE CONFORMATION OF DOUBLE-STRANDED DNA DURING TRANSLLOCATION THROUGH A GLASS NANOCAPILLARY. Niklas Ermann, Nikita Hanikel, Ulrich F. Keyser
SLOWING DOWN DNA TRANSLATION SPEED THROUGH A NANOPORE BY A NANOFLIBRE MESHED LAYER. Daming Zhou, Yue Zhao, Enling Tian, Deqiang Wang

DETECTION AND DIFFERENTIATION OF CYTOSINE AND METHYLATED CYTOSINE IN LICL USING BIOLOGICAL NANOPORE. Trang A. Vu, Shanna-Leigh Davidson, Julia Borgesi, Joanna Soypring, Melissa D’Alia, Jiwook Shim

LARGE SCALE PARALLEL DNA DETECTION BY 2D SOLID-STATE MULTI-PORE SYSTEM. Nagendra Bala Murali Athreya, Aditya Sarathy, Jean-Pierre Leburton

TRANSVERSE DETECTION OF DNA IN A MOS, NANOPORE. Michael Graf, Ke Liu, Aditya Sarathy, Jean-Pierre Leburton, Aleksandra Radenovic

SENSITIVE DETECTION AND IDENTIFICATION OF NUCLEIC ACID NANO PARTICLES IN SOLID-STATE NANOPORES. Mohammad Amin Alibakhshi, Justin R. Halman, James Wilson, Alexsei Aksimentiev, Kirill A. Afonin, Meni Wanunu

MULTIPLE NANOPORES FABRICATION IN A SIN MEMBRANE VIA CONTROLLED BREAKDOWN. Yunlong Wang, Cuifeng Ying, Wenyuan Zhou, Zhibo Liu, Jianguo Tian

SLOWED DOWN DOUBLE-STRANDED DNA TRANSPORT THROUGH SOLID-STATE NANOPORE BY USING A LITHIUM CHLORIDE CONCENTRATION GRADIENT. Julian Bello, Maksudul Mowla, Nicholas Troise, Jiwook Shim

HIGH THROUGHPUT CHARACTERIZATION OF DIELECTRIC BREAKDOWN NANOPORE SENSORS IN A MENISCUS CONTACT PLATFORM. Christopher E. Arcadia, Rukshan T. Perera, Jacob K. Rosenstien

AMYLOID FIBRIL ANALYSIS USING SINGLE NANOPORE. Nicoletta Gianblanco, Diego Coglitore, Tianji Ma, Pierre Eugene Coulon, Emmanuel Balanzat, Mikael Bechelany, Jean-Marc Janot, Sebastien Balme

NANOPORE-BASED, MULTI-PARAMETRIC CHARACTERIZATION OF SINGLE, UNLABELED PROTEINS IN SOLUTION. Jared Houghtaling, Olivia M. Eggemberger, Cuifeng Ying, Michael Mayer

OFF-AXIS EFFECT ON THE DETERMINATION OF NANO PARTICLE VOLUME AND SHAPE BY RESISTIVE-PULSE BASED NANOPORE SENSING. Cuifeng Ying, Jared Houghtaling, Michael Mayer

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

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

DIRECT MEASUREMENTS OF THE SIZE AND CORRELATIONS BETWEEN SINGLE IONS IMPELLED THROUGH A SUB-NANOMETER-DIAMETER PORE. Gregory Timp

BROADBAND AMPLIFIER FOR NANOPORE-BASED BIO MOLECULAR ANALYSIS. Frank Tsang, Michael Goryll

MEMBRANE ARRAYS FOR SINGLE-CHANNEL RECORDINGS. Ekaterina Zaitseva, Sönke Petersen, Juan Del Rio Martinez, Ibrahim Hallme, Jan C. Behrends, Gerhard Baaken

IONIC TRANSPORT THROUGH 1.5 NM DIAMETER CARBON NANO TUBE PORINS. Yun-Chiao Yao, Robert Henley, Ramya Tunuguntla, Meni Wanunu, Aleksandar Noy

CARBON NANO TUBE PORINS: A VERSATILE SYNTHETIC BIOMIMETIC MEMBRANE CHANNEL PLATFORM. Aleksandar Noy

ENHANCED FLUIDIC TRANSPORT THROUGH CNT MEMBRANE BASED PLATFORMS. Steven F. Buesbaum, Eric Meshot, Owen Chaitai Chen, Anh Pham, Shirui Guo, Ngoc Bui, Viktor Rosza, Francesco Fornasier

Biophysical Society (Boards B694–B701)
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 OVEREXPRESSION AFFECTS BOTH LACTIC FERMENTATION AND MITOCHONDRIAL METABOLISM IN GROWING PRO-LYMPHO CYTES.
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)
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 MICROSCOPE 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, B621)

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.
Florea 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-CYCLEDEXTRIN ENCAPSULATED POLYPHENOLS COMBAT OXIDATIVE STRESS? A CASE STUDY WITH RIBONUCLEASE A PROTEIN.
Pritam Roy (1987-Pos, B3)

Biopolymers in vivo

Board S33
PM2.5 EXPOSURE AND ROS PRODUCTION IN NR8383 RAT ALVEOLAR MACROPHAGES.
Anthony Waterston (1658-Pos, B567)

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)

Intrinsically Disordered Proteins

Board S48
MEMBRANE ELASTICITY: UNDERSTANDING THE GAUSSIAN CURVATURE MODULUS FROM LIPID TILT THEORY.
M. Mert Terzi (512-Pos, B282)

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 S54
MANIPULATION OF TAU Oligomerization AND AGGREGATION CHARACTERIZED BY TIME-RESOLVED FRET.
Chih Hung Lo (2906-Pos, B114)

Mechanobiology

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.
Aparka Unnikrishnan (334-Pos, B104)

Board S63
ZINC AVAILABILITY-DEPENDENT UNFOLDING OF LOZ1 ZINC FINGER.
Vibhuti Wadhwa (2003-Pos, B19)
Membrane Biophysics

Board S59
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)

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,1.4: 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 CA2+ 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-HT3A-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-HT3A 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)

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 '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 PHOSPHATIDYLDERTINE.
Daniel Kerr (1401-Pos, B310)

Board S106
MEMBRANE CHOLESTEROL REDUCES POLYMYSIN 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 PHOSPHATIDYLCHEL/CHOLESTEROL BILAYER: MODEL PREDICTIONS AND COMPUTER SIMULATIONS.
Nihit Pokhrel (2983-Pos, B191)

Board S112
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Vivek Ramakrishna (526-Pos, B296)

Board S113
REVERSIBLE SEPARATION OF LIVING, UNPERTURBED CELL MEMBRANES INTO LIQUID PHASES.
Glennis Rayermann (2235-Pos, B251)

Board S114
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Jiemin Shen (2109-Pos, B125)

Board S115
ASSEMBLY OF CELLULAR ENVELOPES - A STEP TOWARD CELL-SCALE SIMULATIONS.
Eric Shinn (2184-Pos, B200)

Board S116
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Nhi Tran (2252-Pos, B268)

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Lie Wang (2096-Pos, B112)
| Board S118 | RING OPENING MECHANISM OF EPOXIDE INHIBITORS IN ASPARATE 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 NUCLETIDYLTRANSFERASE 4’ (ANT4) VARIANTS WITH DIFFERENT LEVELS OF THERMOSTABILITY.  
Seda Kocaman (271-Pos, B41) |
| Board S130 | INFLUENZA VIRAL ENVELOPE SIMULATION REVEALS NOVEL DRUG-GABLE 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 MODELLING UNDERSTANDING GRP1 PH DOMAIN-LIPID INTERACTION USING AN ACCELERATED MEMBRANE MODEL.  
Shashank Pant (1386-Pos, B295) |
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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) |
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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) |
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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) |
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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) |
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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**

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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 TWEETERS TO STUDY DNA:PROTEIN INTERACTIONS.
Julene Madariaga-Marco (464-Pos, B234)

Board S166
NEW INSIGHTS INTO THE DYNAMICS AND ENERGETICS OF PHAGE T4 INJECTION MACHINERY 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)

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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 ELECTROPORATION FORMATION AND PORE-MEDIATED CALCIUM TRANSPORT WITH AN IMPROVED CA²⁺ 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
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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 CA²⁺ 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
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Qingnan Liang (1635-Pos, B544)

Board S186
UNDERSTANDING THE MOLECULAR MECHANISM OF CATION PERMEATION IN THE CARDIAC RYANO DINE 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, B544)

Board S188
DISSECTING THE THERMODYNAMICS OF TRANSPORT OF A SODIUM-CALCIUM EXCHANGER.
Irina Shlosman (1643-Pos, B552)
# Daily Program Summary

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<td>Graduate Student Breakfast</td>
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<td>7:30 AM-5:00 PM</td>
<td>Registration/Exhibitor Registration</td>
<td>South Lobby</td>
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<td>8:00 AM-10:00 PM</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Symposium: Fibril Assembly and Structure: Progress and Challenges</td>
<td>North, Lower Lobby, Room 24</td>
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<td>Co-Chairs</td>
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<td></td>
<td>Robert Griffin, MIT</td>
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<td>Joan Emma-Shea, University of California, Santa Barbara</td>
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<tr>
<td></td>
<td>HIGH RESOLUTION STRUCTURE DETERMINATION OF AMYLOID FIBRILS. Robert G. Griffin</td>
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<td></td>
<td>AGGREGATION OF THE TAU PROTEIN: INSIGHTS FROM ATOMICISTIC AND MESOSCALE SIMULATIONS. Joan-Emma Shea</td>
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<tr>
<td></td>
<td>HIGH RESOLUTION FIBRIL STRUCTURE OF AMYLOID-B(1-42) BY CRYOELECTRON MICROSCOPY. Dieter Willbold</td>
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<td></td>
<td>FIBRIL FORMATION BY AMYLOID-BETA AND BY LOW-COMPLEXITY SEQUENCES: INSIGHTS FROM SOLID STATE NMR. Robert Tycko</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Symposium: Biophysics of Lipid-modified GTPases</td>
<td>North, Lower Lobby, Room 25</td>
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<td>Co-Chairs</td>
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<td>Sharon Campbell, University of North Carolina</td>
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<td>Roland Winter, Technical University of Dortmund, Germany</td>
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<td>RAS-MEMBRANE INTERACTIONS AND THEIR MODULATION BY EFFECTOR PROTEINS. Roland Winter</td>
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<td>ALLOSTERIC REGULATION OF SMALL GTPASES ON MEMBRANES. Jacqueline Cherfils</td>
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<td>LIPID BINDING SPECIFICITY OF THE KRAS MEMBRANE ANCHOR. John F. Hancock</td>
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<td>ROLE OF THE MEMBRANE IN EXCHANGE FACTOR - MEDIATED REGULATION OF RAP1B IN PLATELET ACTIVATION. Sharon L. Campbell</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Optical Microscopy and Superresolution Imaging: Methods II</td>
<td>South, Level Two, Room 207/208</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Membrane Pumps, Transporters, and Exchangers</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Protein Structure and Conformation II</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Platform: Bioengineering and Biomaterials</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Protein-Nucleic Acid Interactions</td>
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<td>8:15 AM-10:15 AM</td>
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<td>Exhibitor Presentation: TA Instruments – Waters LLC</td>
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<td>8:30 AM-10:30 AM</td>
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<td>9:30 AM-11:00 AM</td>
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<td>10:00 AM-11:00 AM</td>
<td>Career Development Center Workshop: Demystifying the Academic Job Search II: Preparing your Written Application Materials: CV, Cover Letter, and Research Statement</td>
<td>South, Lower Level, Room 2</td>
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<tr>
<td>10:00 AM-5:00 PM</td>
<td>Exhibits</td>
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<tr>
<td>10:15 AM-11:00 AM</td>
<td>Coffee Break</td>
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<tr>
<td>10:15 AM-11:15 AM</td>
<td>New Member Welcome Coffee</td>
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<tr>
<td>10:30 AM-12:00 PM</td>
<td>Exhibitor Presentation: Dynamic Biosensors GmbH</td>
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<td>Biophysical Analysis of Molecular Interactions with the switchSENSE Biosensor</td>
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### Monday

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<tr>
<td>10:45 AM-12:45 PM</td>
<td>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</td>
<td>North, Lower Lobby, Room 24</td>
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<tr>
<td>10:45 AM-12:45 PM</td>
<td>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</td>
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<tr>
<td>10:45 AM-12:45 PM</td>
<td>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</td>
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<tr>
<td>10:45 AM-12:45 PM</td>
<td>Platform: Protein-Lipid Interactions II Platform: Protein Folding, Stability, and Evolution Platform: Membrane Receptors and Signal Transduction Platform: Ion Channels, Pharmacology, and Disease Platform: Systems Biophysics</td>
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<tr>
<td>11:30 AM-12:30 PM</td>
<td>Career Development Center Workshop: Networking for Nerds: How to Create Your Dream Career</td>
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<td>11:30 AM-1:00 PM</td>
<td>Exhibitor Presentation: Asylum Research, an Oxford Instruments Company High Resolution and High Speed Imaging Innovations and Advancements for Visualizing Dynamic Processes at the Nanoscope</td>
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<td>12:30 PM-2:00 PM</td>
<td>Exhibitor Presentation: Nanion Technologies GmbH Part One: Ion Channel Analysis – Today’s Contemporary Systems for Safety and Efficacy Screening</td>
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<td>1:00 PM-2:30 PM</td>
<td>Industry Panel: Avenues to Industry Biophysics 101: Mechanobiology</td>
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<tr>
<td>1:30 PM-3:00 PM</td>
<td>Exhibitor Presentation: Journal of General Physiology Journal of General Physiology: Celebrating 100 Years</td>
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<tr>
<td>1:30 PM-3:00 PM</td>
<td>NSF Funding 101</td>
<td>Esplanade, Room 157</td>
</tr>
<tr>
<td>1:30 PM-4:00 PM</td>
<td>Snack Break Poster Presentations and Late Posters Data Visualization</td>
<td>Exhibit Hall ABC Exhibit Hall ABC Esplanade, Room 151</td>
</tr>
<tr>
<td>2:30 PM-3:30 PM</td>
<td>Career Development Center Workshop: Nailing the Job Talk, or Erudition Ain’t Enough Speed Networking How to Project Your Best Self: Confidence Matters Just as Much as Competence</td>
<td>South, Lower Level, Room 2 Esplanade Rotunda North, Lower Lobby, Room 20/21</td>
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</tbody>
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**Biophysical Society**

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>2:30 PM-4:00 PM</td>
<td>Exhibitor Presentation: Nanion Technologies GmbH&lt;br&gt;Part Two: Paving the Way for In Depth Pore-, Ion Channel- and Electrogenic Transporter Analysis</td>
<td>Exhibit Hall, Room 6</td>
</tr>
<tr>
<td>3:30 PM-5:00 PM</td>
<td>Exhibitor Presentation: KinTek Corporation&lt;br&gt;Using KinTek Explorer Software to Understand Kinetics and Rigorously Fit Data</td>
<td>Exhibit Hall, Room 5</td>
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<tr>
<td>3:30 PM-5:30 PM</td>
<td>Membership Committee Meeting</td>
<td>South, Level Three, Room 306</td>
</tr>
<tr>
<td>4:00 PM-5:00 PM</td>
<td>Career Development Center Workshop: Careers in Entrepreneurship (Spoiler Alert: There’s more here than launching your own start-up!)</td>
<td>South, Lower Level, Room 2</td>
</tr>
<tr>
<td>4:00 PM-6:00 PM</td>
<td>Symposium: Energy Transduction&lt;br&gt;Co-Chairs: Susan Buchanan, NIH&lt;br&gt;Krysztof Palczewski, Case Western University</td>
<td>North, Lower Lobby, Room 24</td>
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<tr>
<td></td>
<td>STRUCTURAL INSIGHT INTO THE ROLE OF THE TON COMPLEX IN ENERGY TRANSDUCTION. Susan K. Buchanan&lt;br&gt;DISSOCIATION OF THE HETEROFRIMERIC G PROTEIN COMPLEX BY NANOBODIES: POTENTIAL USES IN THE MODULATION OF DIVERSE GPCR SIGNALING. Krysztof Palczewski&lt;br&gt;WATER OXIDATION REACTION IN PHOTOSYSTEM II STUDIES WITH XFELS. Junko Yano&lt;br&gt;EFFICIENT ENERGY TRANSDUCTION IN RESPIRATORY COMPLEXES AND SUPERCOMPLEXES. Carola Hunte</td>
<td>North, Lower Lobby, Room 25</td>
</tr>
<tr>
<td></td>
<td>Symposium: Protein Structure and Dynamics in the Lipid Bilayer Membrane&lt;br&gt;Co-Chairs: Timothy Cross, Florida State University&lt;br&gt;Song-I Han, University of California, Santa Barbara</td>
<td>North, Lower Lobby, Room 25</td>
</tr>
<tr>
<td></td>
<td>FUNCTIONAL CONSEQUENCES OF MEMBRANE PROTEIN OLIGOMERIZATION. Song-I Han&lt;br&gt;A (PASSIVE TO ACTIVE) CHASER: NMR AND MD OF MEMBRANE PROTEINS. Wonpil Im&lt;br&gt;DECIHERING TRANSPORT MECHANISMS OF BACTERIAL EFFLUX PUMPS USING NMR SPECTROSCOPY. Nathaniel Traaseth&lt;br&gt;UNIQUE INSIGHTS INTO THE STRUCTURAL AND FUNCTIONAL BIOLOGY OF MEMBRANE PROTEINS FROM SOLID STATE NMR SPECTROSCOPY. Timothy Cross</td>
<td>North, Lower Lobby, Room 25</td>
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<tr>
<td>4:00 PM-6:00 PM</td>
<td>Platform: Molecular Dynamics I</td>
<td>South, Level Two, Room 207/208</td>
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<tr>
<td>4:00 PM-6:00 PM</td>
<td>Platform: Protein Dynamics and Allostery I</td>
<td>South, Level Two, Room 215/216</td>
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<tr>
<td>4:00 PM-6:00 PM</td>
<td>Platform: Muscle and Motors Biophysics</td>
<td>Esplanade, Room 153</td>
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<tr>
<td>4:00 PM-6:00 PM</td>
<td>Platform: Calcium Channels and Signaling</td>
<td>Esplanade, Room 154</td>
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<tr>
<td>4:00 PM-6:00 PM</td>
<td>Platform: RNA Structure and Dynamics</td>
<td>Esplanade, Room 155</td>
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<tr>
<td>4:00 PM-6:00 PM</td>
<td>Platform: Micro- and Nanotechnology</td>
<td>Esplanade, Room 156</td>
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<tr>
<td>4:30 PM-6:00 PM</td>
<td>Exhibitor Presentation: Bruker Corporation&lt;br&gt;Harnessing the Power of Superresolution Single Molecule Localization&lt;br&gt;Microscopy with the Vutra 352: Labeling and Imaging Strategies</td>
<td>Exhibit Hall, Room 6</td>
</tr>
<tr>
<td>5:30 PM-7:00 PM</td>
<td>Exhibitor Presentation: Sutter Instrument&lt;br&gt;Scientists Empowering Scientists</td>
<td>Exhibit Hall, Room 5</td>
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<tr>
<td>5:30 PM-5:45 PM</td>
<td>Dinner Meet-Ups</td>
<td>South Lobby, Society Booth</td>
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<tr>
<td>8:00 PM-9:00 PM</td>
<td>Awards and 2018 Biophysical Society Lecture</td>
<td>North, Lower Lobby, Room 24/25</td>
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<tr>
<td>9:30 PM-12:00 AM</td>
<td>Reception and Dance</td>
<td>Marriott Marquis, Yerba Buena Ballroom</td>
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<tr>
<td>9:30 PM-12:00 AM</td>
<td>Reception and Quiet Room</td>
<td>Marriott Marquis, Golden Gate A</td>
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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 ATOMICISTIC AND MESOSCALE SIMULATIONS. Joan-Emma Shea

934-Symp 9:15 AM
HIGH RESOLUTION FIBRIL STRUCTURE OF AMYLOID-B1-42 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

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 Celia Zanacchi, Raffaella Magrassi, Alberto Diaspro, Carlo Manzo, Nathan D. Herr, 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
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

951-Plat 9:00 AM
HOW GLUT1 TRANSPORTER ACCOMPANIES GLUCOSE ALONG TRANSPORT: A DETAILED ATOMIC VIEW OF THE MECHANISM. Matthieu Ng Fuk Chong, Lysia Challali, Sonia Abbar, Catherine Etchebest

952-Plat 9:15 AM
DISSECTING STEPS IN ATP-DRIVEN PROTEIN TRANSLOCATION THROUGH THE SECY TRANLOCALON 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 Megeat, 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
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 8:45 AM
HIGH THROUGHPUT ELECTROPORATION SYSTEM FOR BIO-MOLECULE DELIVERY INTO ZEBRAFISH FOLLICLE. Tayyebeh Saberbaghi, Ebrahim Ghafor-zadeh, Chun Peng

966-Plat 8:45 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

969-Plat 9:30 AM
INTERCONNECTED MICROCHANNELS IN HYDROGELS TO CONTROL CELL ADHESION AND MECHANOTRANSDUCTION. Mohammadreza Taale, Christine Arndt, Christine Selhuber-Unkel

Platform
Protein-Nucleic Acid Interactions
8:15 am–10:15 am, Esplanade, Room 155

Co-Chairs
Kalli Kappel, Stanford University
Polly Fordyce, Stanford University

963-Plat 10:00 AM

969-Plat 9:30 AM
FLOURESCENT NANSENSORS 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

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 Shenck, Catherine Yip, Kathryn J. Wahl
972-Plat 8:15 AM

973-Plat 8:30 AM
SLIDING OF LAC REPRESSOR ALONG DNA IS SEQUENCE-DEPENDENT AND ALLOSTERICALLY REGULATED. Alessia Tempestini, Carina Monica, 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". Kyoto Kamagata

975-Plat 9:00 AM
STRUCTURAL CHARACTERIZATION OF THE HIV-1 REVERSE TRANSCRIPTASE INITIATION COMPLEX. Kevin Larsen, Yamuna Mathiharvan, 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, Jan 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. Young, 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 DYNENEINS FOR PROCESSIVE MOTILITY. Danielle A. Grothjahn, 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
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 Köivomägi, 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 ENDOSONES 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 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

CPOW Committee Meeting

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


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.

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 ($K_r$). Interactions between proteins, DNA/RNA, and small molecules can be detected with femtomolar sensitivity. At the same time, protein diameters ($D_p$) 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 Brung, Stanford University
Diasynou Fioravante, University of California, Davis

988-Symp
10:45 AM
MOLECULAR MECHANISMS OF SYNAPTIC VESICLE PRIMING.
Axel Brung

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
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-Folding, Stability, and Evolution
10:45 AM–12:45 PM, ESPALANDA, 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 Teilm, 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 β-LACTAMASES.
Samuel H. Schneider, Jacek A. Kozuch, Steven G. Boxer

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
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 Sevsik, Technische Universität Wien, Germany

1012-Plat 10:45 AM
DIFFERENTIAL LAT MICROCLUSTER COMPOSITION AND ACTIN-DEPENDENT MOVEMENT AT THE IMMUNOLOGICAL SYNPASE CENTER.
Anthony Vega, Jonathon Dittev, Danis Kostler, 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 Sevsik

1014-Plat 11:15 AM
Education Travel Awardee
BIOPHYSICAL FEATURES OF THE ABTCR MECHANOME THAT DRIVE HIGH AVOIDANCE OF T-CELL RECOGNITION.
Yinlinna Li Peng, 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.

1016-Plat 11:45 AM
GLYCOPROTEIN CROWDING AFFECTS CELL MEMBRANE SIGNALLING.
Hao Pan, Matthew Paszek

1017-Plat 12:00 PM
TRANSIENT HETERODIMORIZATION OF OPIOID RECEPTORS (GPROCS) REVEALED BY SINGLE-MOLECULE TRACKING.
Peng Zhou, Rinshi S. Kasai, Koichi K. Tada, Nobu C.

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
CP0W 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 Maekawa, 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. Sorensen, Neil Butt, John McCafferty

1024-Plat 11:45 AM
DIFFERENTIAL METABOLIC AND NUCLEOTIDE SENSITIVITY OF BETA-CELL AND CARDIAC KATP CHANNELS.
Natascha 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, Reisul 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 MANANTADINE, 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 H1V. 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 Franzen, Simon Alberti, Jochen Guck

1029-Plat 11:00 AM
ANALYSIS OF APOPTOTIC EVENT TIME CORRELATIONS IN SINGLE CELLS.
Alexandra Murschhauser, Peter Röttingermann, 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 Munskey

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. Shy-Shen 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 electrophoretic 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.
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 Rios, 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–2:45 PM, EXHIBIT HALL ABC

Poster Presentations and Late Posters
1:45 PM–4:45 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 Forest University
Julio Cordero-Morales, University of Tennessee Health Science Center
Daryl Eggers, San Jose State University
Erine Fuentes, University of Iowa
M O N D A Y

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 SURFE2R product family enables label-free real time measurement of electrogenic transporter protein activity. Employing SSM (solid supported membrane)-based electrophysiology, the SURFE2R 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, SURFE2R N1 is ideally suited for basic research, whereas the SURFE2R 96E 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, SURFE2R, 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.kinтекcorp.com for more information.

Speaker
Kenneth Johnson, Professor of Biochemistry, University of Texas at Austin, President, KinTek Corporation

Member 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
Krzysztof Palczewski, Case Western University
1036-Symposium
4:00 PM
STRUCTURAL INSIGHT INTO THE ROLE OF THE TON COMPLEX IN ENERGY TRANSDUCTION.
Herve Celia, Nicholas Noinaj, Stanislav D. Zakarov, Enrica Bordignon, Istvan Botos, Monica Santamaria, Travis J. Barnard, William A. Cramer, Roland Lloubes, Susan K. Buchanan

1037-Symposium
4:30 PM
DISSOCIATION OF THE HETEROTRIMERIC G PROTEIN COMPLEX BY NANOBODIES: POTENTIAL USES IN THE MODULATION OF DIVERSE GPCR SIGNALING.
Krzysztof Palczewski

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Biophysical Society
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, Amporn 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, Eduard Cherkmenev, 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 TRANLOCATION 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

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 AB2 PEPTIDE-FIBRIL ADSORPTION. Mathias MJ Balleiache, Tuomas Pj Knowles, Robert B. Best

1050-Plat 5:30 PM
INTERNATIONAL TRAVEL AWARD FOR INITIAL STEPS IN THE P(4,5)IP 2 DEPENDENT FIBROBLAST GROWTH FACTOR 2 OLIGOMERIZATION. Fabio Lolicato, Chetan Poojari, Unal 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. Kiernan, Vijay S. Pande
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

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. Ntrirumudalige, 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

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, Srboljub 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, Verli Siththanandar, Yi Yang, Amy Hong, Fang Zhang, Xufeng Wu, Neil Billington, Yasuharu Takaqi, 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  
THE POWER OF A SYNTHETIC MACHINE BASED ON THE FAST MYOSIN ISOFORM OF SKELETAL MUSCLE.  
Irene Pertici, Lorenzo Borgini, 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 Schobert, Johannes Kepler University Linz, Austria

1068-Plat  
4:00 PM  
ROLE OF NPC1 IN REGULATING STORE-OPERATED CALCIUM ENTRY: LESSONS FROM NIEMANN PUCK TYPE C DISEASE.  
Scott A. Tiscione, Oscar Vivas, Eamonn J. Dickson

1069-Plat  
4:15 PM  
MOLECULAR INSIGHTS INTO THE PATHOPHYSIOLOGY OF THE CA2⁺ SENSING PROTEIN STIM1.  
Romana Schobert, Irene Frischauf, Victoria Lunz, Christoph Romanin, Rainer Schindl

1070-Plat  
4:30 PM  
MIXED SIGNALS: INTERACTION BETWEEN RYR AND IP₃ 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  
IP₃-INDUCED SR-CA²⁺ 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 CALCMODULIN 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 CA²⁺-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 CA²⁺ INFLUX AT HYPERPOLARIZED MEMBRANE POTENTIALS ALTERS DEPOLARIZATION-TRIGGERED ECXOSTYSIS 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 4:00 pm
EDUCATION TRAVEL AWARD
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 4:05 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 Tzafati, 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, Michael Ryckelynck, Peter Unrue, David Rueda

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**Platform Micro- and Nanotechnology**

4:00 PM–6:00 PM, ESPLANADE, ROOM 156

Co-Chairs
Jiwook Shim, Rowan University
Utku Sozmen, 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 Smith, David Estrada, SuA Myong, Ann Nardulli, Eric Pop, Rashid Bashir, Jiwook Shim

1085-Plat 4:15 pm
THE NANOPORE MASS SPECTROMETER. Mathilde Lepoitevin, William Malsbetsch, Benjamin Wiener, Derek Stein

1086-Plat 4:30 pm
ACTIVE TRANSPORT BY A MEMBRANE EMBEDDED BIOMOTOR NANOPORE. Ke Sun, Yuejia Chen, Changjiang Zhao, Xiaolin 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. Gozd M. Demirer, Roger Chang, Huan Zhang, Linda Chio, Markita P. Landry

1089-Plat 5:15 pm
GOLD NANOWIRE FABRICATION WITH SURFACE-ATTACHED LIPID NANO-TUBE 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

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**Exhibitor Presentation**

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 OligoPaint, 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.

**Exhibitor Presentation**

4:30 PM–6:00 PM, EXHIBIT HALL, ROOM 5

**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 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 Abstract Issue. Board numbers indicate where boards are located in the Exhibit Hall.

Odds-Numbered Boards 1:45 PM–2:45 PM | Even-Numbered Boards 2:45 PM–3:45 PM

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<td>Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating II</td>
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<td>B415–B438</td>
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<td>B439–B461</td>
<td>Ion Channels, Pharmacology, and Disease I</td>
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<td>B462–B480</td>
<td>Cardiac Muscle Mechanics and Structure I</td>
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<td>Cell Mechanics, Mechanosensing, and Motility I</td>
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<td>Computational Methods and Bioinformatics I</td>
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<td>B620–B649</td>
<td>Optical Microscopy and Superresolution Imaging: Applications to Cellular Molecules I</td>
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<td>B675–B689</td>
<td>Biosensors I</td>
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<td>Biomaterials</td>
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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**  
Conversed Domain Architecture of Human BLM Helicase Maintains Balance Between D-Loop Disruption and Extension.  
Gábor M. Harami, Yeonee Seol, János Pálánkis, 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, Mihály Kovács, 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 Bhattacharai, 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 Eiller, Qyandamola 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, André Nascimento, André F. Faustino, Filomena A. Carvalho

**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 Alzheimer’s Disease: Hg(II) Ions Display Specific Binding to the Amyloid-Beta Peptide and Modulate Its Aggregation. Sebastian Warmlander, Cecilia Wallin, Sabrina Shohts, Per Roos, Jiří 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 Gournath

**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**  

**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 Zielinski, 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, Zhengdng 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**  

**1118-Pos**  
**Board B27**  
Biochemical and Biophysical Characterisation of Influenza A Virus Proteins. Muhd Faiz-Hafiz Mohd Kipli, Jolyon Claridge, Jason Schnell
Protein-Small Molecule Interactions II (Boards B31-B50)

122-Pos Board B31
**ENGINEERING TARGETED LECTINS BY COMPUTER-GUIDED DIRECTED EVOLUTION.** Ismail C. Kazan, Prerna Sharma

123-Pos Board B32
**PROBING THE INTERACTION OF ABETA42 AMYLOID SPECIES WITH AN AGGREGATION SUPPRESSOR MOLECULE BY INFRARED NANOSPECTROCOPY.** Francesco Simone Ruggeri, Johnny Habchi, Sean Chia, Michele Vendruscolo, Tuomas P. J. Knowles

124-Pos Board B33
**INTERACTIONS OF QUINAZOLINE DERIVATIVES WITH BETA-AMYLOID.** Praveen Nekkar Rao, Tarek Mohamed, Arash Shakeri

125-Pos Board B34
**LIGAND BINDING STUDIES OF A PLASMID ENCODED DIHYDROFOLATE REDUCTASE BY 19F NMR.** Gabriel J. Fuente Gomez

126-Pos Board B35
**THE REGULATION OF SURFACE CHARGE BY BIOLOGICAL OSMOLYTES.** Roy Govrin

127-Pos Board B36
**MECHANISM OF ALLOSTERIC MODULATOR BINDING TO THE ADENOSINE A1 RECEPTOR.** Yinglong Miao

128-Pos Board B37
**EFFECTS OF TRIMETHYLAMINE-N-OXIDE ON THE CONFORMATION OF PEPTIDES AND PROTEINS.** Zhaqian Su, Farbod Mahmoudinobar, Cristiano Dias

129-Pos Board B38
**INDUCIBLE GENE EXPRESSION AND PROTEIN LOCALIZATION USING CRISPR/DCAS9 AND ANTIVIRAL PROTEASE INHIBITORS.** Elliot P. Tague, John Ngo

130-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

131-Pos Board B40
**ARRHYTHMOGENIC CARDIOMYOPATHY RELATED DSG2 MUTATIONS AFFECT DESOMOSMAL BINDING KINETICS.** Mareike Deding, Jana D. Debus, Raimund Kerkhoff, Anna Gaertner-Rommel, Volker Walhorn, Hendrik Milting, Dario Anselmetti

Protein Assemblies II (Boards B51-B68)

1142-Pos Board B51
**INTERNATIONAL TRAVEL AWARD.** Swapaneta Date, Katherine Rush, Xiaping Yin, Judy Wall, Stephen Ragsdale, Jerry Parks, Dwayne Elias, Baohua Gu, Alexander Johs

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, Minral Shekhar, Byron S. Drown, Paul J. Hergenrother, Emad Tajkhorshid

1136-Pos Board B45
**MEASUREMENTS OF ENZYME ACTIVITY WITH FIELD-EFFECT TRANSISTORS.** Nicholas Guro, 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
**AMYLOID AGGREGATION OF HIAPP, AB, AND CALCITONIN ALTERED BY A CURCUMIN DERIVATIVE.** Sarah J. Cox, Diana C. Rodriguez Camargo, Young-Ho Lee, Bernd Reif, Magdalena Ivanova, Ayyalusamy Ramamoorthy

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
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
A PHARMACOPHORE APPROACH FOR PROTEIN INTERFACE DESIGN.
Andras Fiser

1148-Pos  Board B57
BOTH CELL-ASSOCIATED AND SECRETED FORMS OF THE P. AERUGINOSA
ADHESIN CDRA PROMOTE BIOFILM FORMATION. Courtney Reichhardt,
Cynthia Wong, Daniel Passos da Silva, Daniel J. Wozniak, Matthew R.
Parshek

1149-Pos  Board B58
UNDERSTANDING THE ENDOGENOUS INHIBITION OF IAPP AGGREGA-
TION. Feng Ding

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
INTEGRATIVE STRUCTURAL BIOLOGY OF THE CALCIUM DEPENDENT TYPE
2 SECRETION PSEUDOPILUS. Arcarelis Lopez-Castilla, Benjamin Bardiaux,
Jenny-Lee Thomasin, Welli Zheng, Michael Nilges, Edward Egelman,
Olivera Francetic, Nadia Izadi Pruneyre

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. Romeo, 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
EXPLICIT SOLVENT MOLECULAR DYNAMICS SIMULATIONS OF SELF-AS-
SEMBLING AMYLOIDOGENIC PEPTIDES. Maksim Kouza, Andrzej Kolinski,
Irina Alexandra Buhimschi, Kloczkowski Andrzej

1157-Pos  Board B66
MEMBRANE INTERACTION AND ASSEMBLY MECHANISM OF AB IN
ALZHEIMER’S DISEASE. Ya-Ling Chiang, Hsien-Shun Iiao, 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 INHIBI-
TION 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 Cegel-
ski

1160-Pos  Board B69
ANTIGEN PROCESSING AT THE ATOMIC LEVEL: MD SIMULATIONS OF
MHC I AND ITS PEPTIDE-LOADING COMPLEX. Olivier Fisette, Sebastian
Wingbermuehle, Lars Schaefer

1161-Pos  Board B70
PROTEIN LOCAL CONFORMATIONS AT THE LIGHT OF A STRUCTURAL
ALPHABET. Alexandre G. de Brevern

1162-Pos  Board B71
ANCIENT THOREDOXINS EVOLVED TO MODERN DAY STABILITY-FUNC-
TION REQUIREMENT BY ALTERING NATIVE STATE ENSEMBLE. Tushar
Modi, Jonathan Huihui, Kingshuk Ghosh, Banu Ozkan

1163-Pos  Board B72
MECHANISMS OF PROTEIN-PROTEIN SLIDING: COILED COILS AS A TOOL
MODEL. David Gomez, Yaakov Levy

1164-Pos  Board B73
MOLECULAR BASIS FOR THE FUNCTIONALITY OF γ-SECRETASE INFERRED
FROM STRUCTURE-BASED MODELING AND DRUGGABILITY SIMULA-
TIONS. Ji Young Lee, Zhiwei Feng, Xiang-Qun (Sean) Xie, Ivet Bahar

1165-Pos  Board B74
MECHANISM OF COMPLEX FORCE-DEPENDENT UNFOLDING DYNAMICS
OF TITIN IMMUNOGLOBULIN DOMAIN REVEALED BY MAGNETIC TWE-
ZERS. Guohua Yuan, Wenjun Chen, Xin Zhou, Jie Yan, Hu Chen

1166-Pos  Board B75
STRUCTURAL DYNAMICS IS A DETERMINANT OF THE FUNCTIONAL SIG-
IFICANCE OF MISSENSE VARIANTS. Luca Ponzioni, Ivet Bahar

1167-Pos  Board B76
ATOMIC SIMULATIONS REVEAL A HINDERED TRANSITION OF THE B-
LOOPDOMAIN OF INFLUENZA HEMAGGLUTININ. Xingchun Lin, Jeffrey
K. Noel, Qinghua Wang, Jianpeng Ma, Jose N. Onuchic

1168-Pos  Board B77
DYNAMIC MODULATION OF BINDING AS A MECHANISM FOR REGULAT-
TING INTERFERON SIGNALING. Hongchun Li, Nanaocha Sharma, Ignacio J.
General, Joseph M. Salino, Gideon Schreiber, Ivet Bahar

1169-Pos  Board B78
A COMPARISON OF COLLECTIVE COORDINATES FOR ANALYZING PROTEIN
DYNAMICS. Eric R. Beyerle, Marina Guenza

1170-Pos  Board B79
INVESTIGATING PHOSPHOANTIGEN-INDUCED CONFORMATIONAL
CHANGE OF BUTYROPHILIN 3A1 USING ALL-ATOM MOLECULAR DYNAM-
ICS SIMULATIONS. Christopher T. Boughter, Benoît Roux, Erin J. Adams

1171-Pos  Board B80
UNDERSTANDING HOW ENVIRONMENTAL PRESSURE INFLUENCES EVO-
LUATION REQUIREMENT BY ALTERING NATIVE STATE ENSEMBLE.
Tushar Modi, Jonathan Huihui, Kingshuk Ghosh, Banu Ozkan

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
1177-Pos Board B86
CORRELATED MOTIONS IN SEVERAL VARIANTS OF THE DHFR-NADPH COMPLEX. Annika Hirmer, Malvika Dua, Craig J. Early, Paul F. Maxson, Muhammad Mujtaba, Moataz Noureddine, Arish Mudra Rakshasa, Heather A. Carlson, Michael G. Lerner

1178-Pos Board B87
DISSECTING THE STRUCTURAL MECHANISM OF A NATURALLY OCCURRING VARIANT OF THE PRION PROTEIN IN PREVENTING PRION DISEASE. Yiming Tang, Guanghong Wei

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

Membrane Protein Structures I (Boards B90-B110)

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 LIPOPEPPTIDE. Guillaume Ferré, Marjorie Damian, Céline M’Kadmi, Olivier Saurel, Georges Czaplicki, Pascal Demange, Jacky Marie, Nicolas Flouquet, Jean-Alain Fehrentz, Alain Milon, Jean-Louis Banères

1183-Pos Board B92
HOT-SPOT RESIDUES TO BE MUTATED COMMON IN G PROTEIN-COUPLED RECEPTORS OF CLASS A: IDENTIFICATION OF THERMOSTABILIZING MUTATIONS FOLLOWED BY DETERMINATION OF THREE-DIMENSIONAL STRUCTURES FOR TWO EXAMPLE RECEPTORS. Satoshi Yasuda, Yuta Kajiwara, Yosuke Toyoda, Kazushi Morimoto, Ryoji Suno, So Iwata, Takuya Kobayashi, Takeshi Murata, Masahiro Kinoshita

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 β3-ADRENOCEPTOR AGONIST CARAZOLOL ON SKELETAL MUSCLE, A DIRECT INTERACTION WITH SERCA. Ibrahim A. Ramirez, Eduardo Rodriguez, Rocio Alvarez, Eugenio Quiroz, Alicia Ortega

1186-Pos Board B95
SPATIALLY CONSTRAINED WATER MOLECULES ARE CONSERVED IN GPCR ACTIVATION. Aj Venkatarkrishnan, 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
TOWARDS TRULY STEALTH NANODISCS. Cheol Jeong, Ryan Franklin, Karen Edler, Joseph E. Curtis

1190-Pos Board B99
QUATERNARY STRUCTURE OF SMALL AMINO ACIDS TRANSPORTER OPRG OF PSEUDOMONAS AERUGINOSA. Raghavendar Reddy Sanganna Gari, Patrick Seelheim, Brendan Marsh, Volker Kiessling, Carl Creutz, Lukas Tamm

1191-Pos Board B100
NMR STRUCTURAL STUDIES OF THE YERSINIA PESTIS OUTER MEMBRANE PROTEIN ALL IN LIPID BILAYERS. Yong Yao, Lynn Fujimoto, Samit Dutta, Francesca Marassi

1192-Pos Board B101
MEMBRANE INTERACTIONS OF THE PROTEASE MT1-MMP. Tara C. Marcink, Bo An, Barbara Brodsky, Tommi White, Steven R. Van Doren

1193-Pos Board B102
STRUCTURES, DYNAMICS, AND FUNCTIONS OF VIRAL MEMBRANE PROTEINS BY NMR. Luis G. Basso, Sang H. Park, Antonio J. Costa-Filho, Stanley J. Opella

1194-Pos Board B103
SITE-DIRECTED SPIN-LABEL EPR SPECTROSCOPY OF INFUENZA A M2 PROTEIN. Aaron Holmes, Kathleen Howard

1195-Pos Board B104
A STRUCTURAL AND COMPUTATIONAL STUDY OF BARIUM BLOCKADE IN THE KCSA CHANNEL. Ahmed Rohaim, LiDong Gong, Jing Li, Huan Rui, Benoît Roux

1196-Pos Board B105
STRUCTURAL AND FUNCTIONAL STUDIES UNCOVER TWO NETWORKS STABILIZING THE ACTIVE FORM OF GLIC, A BACTERIAL PROTON-GATED PENTAMERIC ION CHANNEL. Haidai Hu

1197-Pos Board B106
NOVEL MECHANISM OF CHANNEL GATING BY A RING OF RCK DOMAINS. Hanzhi Zhang, Yaping Pan, Zhao Wang, Ming Zhou

1198-Pos Board B107
NMR STRUCTURE OF THE HUMAN KCNQ1 VOLTAGE-SENSING DOMAIN. Keenan C. Taylor, Georg Kuenze, Hui Huang, Chuck R. Sanders

1199-Pos Board B108
USING FRET TO ELUCIDATE THE LIPID TRAFFICKING MECHANISM OF SP-B N AND C TERMINAL PEPTIDES IN COMPARISON WITH KL. Kayla Kroning, Otonye Braide-Moncoeur

1200-Pos Board B109
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
IMPROVED PURIFICATION AND CRYSTAL FORMATION OF NATIVE MUS AND C TERMINAL PEPTIDES IN COMPARISON WITH KL. Rafael Maldonado-Hernández, Claudia Silva, Adriana Pastrana, Claude Maysonet, José Lasalde
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

DISTINCT DYNAMICS OF BIASED AGONISTS BOUND AT 1R. **Sangbae Lee**, Anita K. Nivedha, HyunDeok Song, Nagarajan Vaidehi

IDENTIFICATION OF GPCR TRANSITION PATHWAYS USING GO MODELS. **Leslie A. Salas-Estrada**, Stephen J. Constable, Anthony Pane, Alan Grossfield

DIVERSE DIFFUSION REGIMES OF INDIVIDUAL M2 MUSCARINIC RECEPORS AND GI PROTEINS IN LIVE CELLS. **Claudiu Gradinaru**

MOLECULAR BASIS OF CLASS B GPCRs REVEALED BY MULTISCALE MODELING. **Chenyi Liao**, **Jianing Li**

DYNAMIC BEHAVIORS OF VARIOUS CONFORMATIONAL STATES OF A2A RECEPTOR. **Sangbae Lee**, Anita K. Nivedha, Christopher Tate, Nagarajan Vaidehi

HYDRATION THERMODYNAMICS OF A POWDERED G-PROTEIN-COUPLED RECEPTOR. **Andres M. Salinas**, Suchithranga MDC Perera, Michael F. Brown

EXPLORING THE RHODOPSIN DIMER INTERFACE IN LIVE CELLS. **Donald P. Mallory**, Adam Smith, Beata Jastrzebska, Elizabeth Gutierrez

SUBSTRATE INTERACTIONS IN THE LACY MEMBRANE PROTEIN TRANSPORTER. **Lutimba Stuart**, Stephen H. White, Ronald H. Kaback, Magnus Andersson


THE NAPA ANTIPORTER UNDERGOES ROCKING-BUNDLE ALTERATION BETWEEN OPPOSITELY-FACING CONFORMATIONS: A SIMULATION STUDY. **Gal Masrati**

MICROSCOPIC VIEW OF THE OUTWARD- TO INWARD-FACING TRANSITION PATHWAY OF THE HUMAN DOPAMINE TRANSPORTER. **Zhiyu Zhao**, Emad Tajkhorshid

CONFORMATIONAL TRANSITIONS IN YDDG BACTERIAL TRANSPORTER: A MECHANISTIC PICTURE. **Shashank Pant**, Emad Tajkhorshid

MEMBRANE PROTEIN DYNAMICS II (Boards B111-B133)

1202-Pos Board B111
CHARACTERIZING GPCR ALLOSTERY BY NMR SPECTROSCOPY. **Shuya K. Huang**, Libin Ye, Robert S. Prosser

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 AT 1R. **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 RECEPORS AND GI PROTEINS IN LIVE CELLS. **Claudiu Gradinaru**

1207-Pos Board B116
CPOWER 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
EXPLORING THE RHODOPSIN DIMER INTERFACE IN LIVE CELLS. **Donald P. Mallory**, Adam Smith, Beata Jastrzebska, Elizabeth Gutierrez

1211-Pos Board B120
SUBSTRATE INTERACTIONS IN THE LACY MEMBRANE PROTEIN TRANSPORTER. **Lutimba Stuart**, Stephen H. White, Ronald H. Kaback, Magnus Andersson

1212-Pos Board B121

1213-Pos Board B122
THE NAPA ANTIPORTER UNDERGOES ROCKING-BUNDLE ALTERATION BETWEEN OPPOSITELY-FACING CONFORMATIONS: A SIMULATION STUDY. **Gal Masrati**

1214-Pos Board B123
MICROSCOPIC VIEW OF THE OUTWARD- TO INWARD-FACING TRANSITION PATHWAY OF THE HUMAN DOPAMINE TRANSPORTER. **Zhiyu Zhao**, Emad Tajkhorshid

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 T1 AND T2 NMR RELAXATION IN ALIGNED LIPID BILAYERS. **Alexander Nezvzorov**, 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

1220-Pos Board B129
FREE ENERGY STUDY ON HBD-3 TRANSLOCATION ON LIPID MEMBRANE. **Liquan 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
CHARACTERIZATION OF COLLECTIVE PROTEIN-WATER-MEMBRANE DYNAMICS. **Christopher Paeslack**, Lars Schaefer, Matthias Heyden

1224-Pos Board B133

MEMBRANE PROTEIN FOLDING (Boards B134-B146)

1225-Pos Board B134
HUMAN MITOCHONDRIAL VDAC FUNCTIONALITY GOVERS 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 UNFOLDED-STATE ENSEMBLE OF OUTER MEMBRANE PHOSPHOLIPASE A. **Georg Krainer**, Pablo Gracia, Erik Frotscher, Neharika Chamachi, Andreas Hartmann, Philip Gröger, Sandro Keller, **Michael Schlierf**

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Biophysical Society
Transcription (Boards B147- B167)

1238-Pos
Board B147
WAYS OF UPSTREAM PROMOTER DNA IN BACTERIAL TRANSCRIPTION INITIATION. Munish Chhabra, Christina Mcnerny, Katelyn Callies, Claire Cimperman, Andrew Xue, Irina Shkel, Tom Record

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, Achilles N. Kapanidis
**Protein-Nucleic Acid Interactions II**

**1259-Pos**
**Board B168**
**EDUCATION TRAVEL AWARD**
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**

**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 CAULO-BACTER CRESCENTUS. **Camille Bayas**; Jiariui 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 ANTI-TERMINATOR. **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

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**Chromatin and the Nucleoid I**

**1278-Pos**
**Board B187**
ARTIFICIAL MODIFICATION OF HISTONES AND THE EFFECT ON EPIGENETICS. **Kyrsen 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**
HIGH-RESOLUTION MAPPING OF CHROMATIN DYNAMICS DURING TRANSCRIPTION IN MAMMARY TUMOR CELLS. Haitham Ahmed Shaban, Roman Barth, Kerstin Bystricky

Membrane Physical Chemistry II
(Boards B207–B229)

Board B207
ELECTROSTATICS IN CLOSED SYSTEMS. Joel A. Cohen

Board B208
ISOTHERMAL TITRATION CALORIMETRY OF BE2⁺ AND CA2⁺ WITH PHOSPHATIDYLSTERINE MODELS GUIDES ALL-ATOM FORCE FIELD DEVELOPMENT FOR LIPID-ION INTERACTIONS. Alison Leonard, Sergei Suharev, Jeffery B. Klauda

Board B209
ASSOCIATION OF NEUROTRANSMITTERS WITH LIPID BILAYER MEMBRANES. Brian Josey, Frank Heinrich, Mathias Lische

Board B210
MEMBRANE COMPOSITION DETERMINES MECHANISM OF MIN WAVE CYCLE. Carsten Sönnschien, Weixiang Ye, Rubén Ahijado-Guzmán, Sirin Celicsoy

Board B211
THERMODYNAMIC STUDIES OF INDOMETHACIN ADSORPTION TO PHOSPHOLIPID MEMBRANES. Grace Yin Stokes

Board B212
CHANGES IN THE BIOPHYSICS OF LIPID MEMBRANES MEDIATED BY PEPTIDES AND DRUGS. Hannah M. Britt, Vian S. Ismail, Vanessa J. Lyne, Jackie A. Mosely, John M. Sanderson

Board B213
LIPID MEMBRANES AS A TARGET FOR REACTIVE ALDEHYDE ACTION. Olga Jovanovic, Mario Vazdar, Elena E. Pohl

Board B214

Board B215
RESVERATROL PROTECTS MEMBRANES FROM PLA1 AND PLA2 HYDROLYTIC ATTACK. Yung Luo, Qinqin Fei, Wesley M. Botello-Smith, David Kent, Abdelaziz Alsamarah, Payal Chatterjee, Maria Lambros

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

Board B217
CYCLOSPORINE A DEMONSTRATES BILAYER MODIFICATION WITH SLOW KINETICS. Hanan A. Baker, Thasin Peyear, Olaf S. Andersen

Board B218
SILDENAFIL AND TADALAFIL AFFECT ION CHANNELS FORMED BY ANTIMICROBIAL PEPTIDES VIA MEMBRANE DIPOLE POTENTIAL. Anastasia A. Zakharova, Svetlana S. Efimova, Daria A. Khaleneva, Olga S. Ostroumova

Board B219
GEOMETRIC SHAPE OF LIPIDS VERSUS MOLECULAR INTERACTIONS IN MEMBRANE PORE FORMATION. Neha Awasthi
Membrane Active Peptides and Toxins I
(Boards B230–B257)

1311-Pos Board B220
LADDERNANE PHOSPHOLIPIDS FORM DENSE MEMBRANES WITH LOW PROTON PERMEABILITY. Frank R. Moss, Steven R. Shuker, 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. Gailimzyanov, Irene Jiménez-Munguía, Veronika V. Aleksandrova, Peter I. Kuzmin, Oleg V. Batishchev

1313-Pos Board B222
INTERNATIONAL TRAVEL Awardee EFFECTS OF TPPS2A-PHOTOSENSITIZATION LYOSOMAL 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 Umajoshi

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
OXSTEROL TRANSLOCATION THROUGH LIPID BILAYERS. Waldemar Kulig, Heikki Mikkolainen, Agnieszka Olzynska, Piotr Jurkiewicz, Lukasz Cwiklik, Ilpo Vattulainen

1320-Pos Board B229
THEORETICAL AND COMPUTATIONAL INVESTIGATIONS INTO LIPID BILAYER PERMEATION OF DRUGS. Sunny Hwang, James C. Gumbart

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 Bacherl, Patrick Drücker, Alex T. Müller, Céline Del Don, Eduard B. Babychuk, 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. Nesterovich

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-Uribé, Alexey S. Ladokhin

1327-Pos Board B236
STUDYING LIPID DYNAMICS DUE TO LISTERIOYSIN O BINDING AND PORE FORMATION ON ARTIFICIAL PHOSPHOLIPID MEMBRANE SYSTEMS. Ilanila Ilangumaran Ponnmaral, Ganapathy K. Ayappa, Jaydeek K. Basu

1328-Pos Board B237
INTERNATIONAL TRAVEL Awardee UNDERSTANDING THE PORE-FORMING MECHANISM OF PEPTIDES DERIVED FROM THE N-TERMINUS OF STICHOYSIN. Haydee Mesa Galloso, Urs 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, Shailagone Yutuc, Angela C. Brown

1335-Pos Board B244

1336-Pos Board B245
EBOLA VIRUS DELTA-PEPTIDE ACTS AS AN ENTEROTOXIC VIROPOIN IN VIVO. Shantanu Guha, Lilia Melnik, Robert F. Garry, William C. Wimley
General Protein-Lipid Interactions I (Boards B288-B311)

1363-Pos  Board B272
ASSEMBLY OF CELLULAR ENVELOPES–A STEP TOWARD CELL-SCALE SIMU-
LATIONS.  Eric Shinn, Emad Tajkhorshid, Joshua Vermaas

1364-Pos  Board B273
MOLECULAR MECHANISM OF CENTRAL NERVOUS SYSTEM MYELINO-
GENESIS: 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-Rosas, Iván
Ortega-Blake, Jorge Hernández-Cobos

1374-Pos  Board B276
VESICLES. CELL-LIKE MECHANICAL RESPONSE IN PASSIVE PLASMA MEMBRANE
MELLARITY: A SMALL ANGLE NEUTRON SCATTERING STUDY .  Denise Li, Michael Rappolt

1380-Pos  Board B289
SOFT MATTER INFLUENCES ON G-PROTEIN-COUPLED-RECEPTOR ACTIVA-
TION 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 DYNAM-
ICS 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.  Nirupa 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 GPCRs 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 MODE-
L.  Muyun Lihan, Emad Tajkhorshid

1386-Pos  Board B295
UNDERSTANDING GRP1 PH DOMAIN-LIPID INTERACTION USING AN
ACCELERATED MEMBRANE MODEL UNDERSTANDING GRP1 PH DOMAIN-
LIPID INTERACTION USING AN ACCELERATED MEMBRANE MODEL.  Sha-
shank Pant, Emad Tajkhorshid

1387-Pos  Board B296
MULTIVALENT MEMBRANE LIPID TARGETING BY THE CALCIUM-INDEPEN-
DENT C2A DOMAIN OF SLP-4/GRANUPHILIN.  Abena Watson-Siriboe, Aml
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 Garcia

1389-Pos  Board B298
SPECIFIC COATING OF CELLULAR LIPID DROPLETS BY A GIANT AND RE-
PETITIVE AMPHIPATHIC HELIX.  Manuel Giménez Andrés, Sandra Antoine-
Bally, Marco M. Manni, Cathy Jackson, Bruno Antony, Alenka Copic

1390-Pos  Board B299
SINGLE MOLECULE PARALLAX FLUORESCENCE QUENCHING MEASURE-
MENTS REVEAL C2 DOMAINE COOPERATIVITY IN THE MEMBRANE
PENETRATION ACTIVITY OF OTOFERLIN.  Shauna C. Otto, Nicole J. Hams,
Weihong Qu, Colin P. Johnson
**Exocytosis and Endocytosis**

**Exocytosis**

**1391-Pos** Board B300
MEMBRANE BINDING AND DIMERIZATION OF VINCULIN TAIL. Lukas Braun, Ingmar Schönh, 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-Sirboe, Jefferson Knight

**1394-Pos** Board B303
EXPLORING FERROCYANIDE-MEDIATED PHOTOREDUCTION MECHANICS OF CYTOCHROME C IN THE PRESENCE AND ABSENCE OF CARDIOLIPIN. Dmitry Malysheka, 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, Anreas 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/CYS FLUOROPHORE-LIPID INTERACTIONS AND THEIR EFFECTS ON MEMBRANE PROTEIN DYNAMICS. Kin Lam, Emad Tahkhorshid

**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

**Endocytosis**

**1403-Pos** Board B312
DRUG DELIVERY PLATFORM BASED ON AmPHIPathic 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. Shlumt, 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 Aagnarsson, 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, Kern A. Sochacki, Susann Kummer, Hans-Georg Kraschill, Karl Rohr, Justin W. Taraska, Steeve Boulant, Ulrich S. Schwarz

**1409-Pos** Board B318
CPW TRAVEL Awardee CLATHRIN COAT CONTROLS VESICLE ACIDIFICATION BY BLOCKING VACUOLAR ATPase ACTIVITY. Zohreh Farsi, Sujinda Gowrisankaran, Mattia Krunic, Burkhard Rammner, Andrew Woeheiler, 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 MECHANOCHEMISTRY 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
Calcium Signaling I (Boards B340–B355)

1431-Pos
Board B340

STORE-OPERATED CALCIUM ENTRY IN ADULT WILD TYPE VENTRICLE CARDIOMYOCYTES. Dmitry Grekhnov, Konstantin Gusev, Vladimir Vigont, Elena Kaznacheyeva

1433-Pos
Board B342


1432-Pos
Board B341

STIM1 FUNCTION IS CONTROLLED BY MULTIPLE Ca2+ BINDING SITES IN ITS LUMINAL DOMAIN. Aparna Gudlur, Ana Eliza Zeraik, Nupura Hirve, Rajanikath Vangipurapu, Andrey Bobkov, Guolin Ma, Sisi Zheng, Youjun Wang, Yunbin 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, Xiaoyu 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 Ca2+ ACTIVATED K+ CHANNELS. Adela Krizova, Romana Schober, Sonja Lindinger, Carmen Botorac, 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

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
Interstitial 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. Parkih, 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 CA2+ SPARKS ALTER REPOLARIZATION RATE OF RABBIT CARDIOMYOCYTES. Priyanka Saxena, Godfrey Smith, Niall Macquaid

1450-Pos
Board B359
RE-TRIGGERABILITY OF CA2+ SPARKS FOLLOWING EVOKEOED CA2+ 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 MELIFERA. 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 Nikolaenko, 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 (SAN). 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 CAPTICITATE 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. Griedrius Kanaporis, Jaime DeSantiago, Zane M. Kalk, Kathrin Banach, Lothar A. Blatter

1458-Pos
Board B367
CONNEXIN-43-HEMICHELLE CHANNEL-MEDIATED ATP EFFLUX TRIGGERS ARRHYTHMIC GENOCAL 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
CELLSPECCKS: 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. Rios Pérez, Fang Liu, Whitney Stevens-Sostre, Gail A. Robertson

1466-Pos
Board B375
I<sub>K</sub> 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<sup>+</sup> BLOCK THE CARDIAC POTASSIUM CHANNEL HERG AT AN OUTER PORE SITE. Gagandeep Singh, Kavaldeep Singh, Souad Hamade, Alan Miller
**Ligand-gated Channels II (Boards B393-B414)**

**1484-Pos**

Board B393

AGONIST-SPECIFIC PHARMACOLOGICAL EFFECTS OF CMPI AND NS9283 AT (A4)(3B2) NEURONAL NICOTINIC ACETYLCHOLINE RECEPTORS. Kem-burlu 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. Ehlaw, 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 PEN-TAMERIC 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, Wenzuan Jiao, Qi Sun, Kewei Wang

**1490-Pos**

Board B399

FUNCTIONAL CHARACTERIZATION OF NOVEL PHOTO-SWITCHABLE NEUROMUSCULAR BLOCKERS. Clara Herrera-Arozamena, Olaia Marti-Mari, 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 OCYTES. Joseph Farley, Jayharsh Panchal, Kristi DeBoeuf, Mohammed Islam, Jonathan Blake Anderson, Vasu Sheel, Josh Hoffer

**1492-Pos**

Board B401

AGONIST BINDING TO ENDPLATE ACHR: MWC IS A-OK. Anthony Auerbach, Tapan K. Nayak

**1493-Pos**

Board B402

DISSECTING KINETIC DIFFERENCES IN ANCESTRAL/EXTANT HYBRID ACE-TYLCHOLINE 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, Jan Kem

**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
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. Iulia 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, Katsuki Miura, Yoshiko Hino, Yosieh Moriura, Junko Kawasaki, Hiromu Sakai, Miyuki Kuno

1525-Pos Board B434 THE SIGMA-1 RECEPTOR MODULATES K_1.2 CHANNELS IN THE ABSENCE OF THE K_B2 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 170 SOLID STATE NMR SPECTROSCOPY IN A 1.5 GHZ SPECTROMETER. Joanna 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. Marrión, 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 B439-461)

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_7.1 LQTS MUTATION UNCOVERS A KEY RESIDUE FOR I_K1 VOLTAGE-DEPENDENCE. Cristina Moreno, Anna Oliveras, Chiara Bartolucci, Carmen Muñoz, Alícia 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 A1B3F2 GABA 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, Kevin 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. Froilan Gomez-Lagunas, Carolina Barriga-Montoya, Areli Huanostá-Gutiérrez


1538-Pos Board B447 IDENTIFICATION OF AN ETHANOL RECOGNITION SITE IN BK BETAL SUBUNIT THAT MEDIATES ETHANOL-INDUCED CEREBRAL ARTERY MYOCYTE BK CHANNEL INHIBITION AND THE RESULTING ARTERY CONSTRICTION. Guruprasad Kuntamallapannavar, Anna Bukiya, Alex Dopic

1539-Pos Board B448 INTRODUCING SIMULATED I_Na INTO HUMAN IPSC-CARDIOMYOCYTES USING DYNAMIC CLAMP ON AN AUTOMATED PATCH CLAMP PLATFORM. Corina Bot, Nadine Becker, Birgit Goversen, Sonja Staeheli-Feix, Alison Obergrussberger, Toon A.B. Van Veen, Niels Fertig, Teun P. De Boer

1540-Pos Board B449 CID TRAVEL AWAREDEE 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_1.3-BLOCKING MONOCLONAL ANTIBODIES USING TETRAHYMENA THERMOPHILA. Janna Bedenekno, 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 NMURA RECEPTORS. Vojtech Vyaklicky, Barbora Karusova, Bohdan Kysilov, Marek Ladislav, Pavla Hubalkova, Tereza Smejkalova, Martin Horak, Hana Chodounska, Eva Kudova, Jiri Cerny, Ladislav Vyaklicky

1543-Pos Board B452 NOVEL DRUGS THAT AUGMENT KCNQ (KV7, "M-TYPE") POTASSIUM CHANNELS AS A POST-TREATMENT TREATMENT FOR TRAUMATIC BRAIN INJURY. Isamar Sanchez, Fabio Antonio Borges Vigil, Eda Bodzemir, 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, Gautam Palui, Glenn F. King, Hedi Mattoussi, Debra A. Fadool

**MONDAY**
1542-Pos  Board B460
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

1553-Pos  Board B462
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

Cardiac Muscle Mechanics and Structure I
(Boards B462-480)

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. Roksan A. Nikoport, 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 C. 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, Jill 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 Caremami, Joseph Powers, Serena Govenari, Massimo Reconditi, Theyencheri Narayan, 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, Nicolleta Pirotti, Beatrice Scellini, José 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 CALPOININ 2 ATTENUATES THE DEVELOPMENT OF CALCIFIC AORTIC VALVE DISEASE. Olesya Piazvo, Jian-Ping Jin

1567-Pos  Board B476

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. Bryan Chase, Thomas Irving, Jose R. Pinto

1569-Pos  Board B478
CHARACTERIZATION OF A FLUORESCENT LEVOSIMENDAN ANALOG BINDING TO CARDIAC TROPONIN. Brittnney 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, Rosemene 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

1576-Pos Board B485
A MIXED-KINETIC MODEL DESCRIBES UNLOADED VELOCITIES OF SMOOTH, SKELETAL, AND CARDIAC MYOSIN FILAMENTS IN VITRO. Richard Brizendine, Gabriel Sheehy, Diego Alcala, Sabrina Noven,chi, Josh Baker, Christine Cremo

1577-Pos Board B486
SINGLE MOLECULE, OPTICAL TRAPPING STUDIES OF OMECAMTIV MER-CARBIL 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. Muguinai, Devarajan Thirumalai

1579-Pos Board B488
OPTICAL CONTROL OF FAST AND PROGRESSIVE 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 Tsavallaris, Matthias Preller

1584-Pos Board B493
TUNING THE MECHANICAL OUTPUT OF NONMUSCLE MYOSIN-2 FILAMENTS. Luca Melli, Neil Billington, Attila Nagy, Hajer Ennornani, Yasuharu Takagi, Laurent Blanchoin, James R. Sellers

1585-Pos Board B494
VARIATION IN STRIDE LENGTH OF MYOSIN-5A REVEALED BY INTERFERO-METRIC SCATTERING MICROSCOPY (ISCAT). Joanna Andrecka, Adam Fineberg, Daniel Cole, Alistair Curr, 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 Zoalak, 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 Ijpmma, 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 MONO-MERS. 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
BIOPHYSCICS 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
### 1608-Pos Board B507
EQUILIBRIUM STRUCTURE AND MECHANICS OF THE CELLULAR GLYCOCA-LYX. Jay G. Gandhi, Donald L. Koch, Matthew J. Paszek

### 1609-Pos Board B508
FREQUENCY AND CURVATURE OF THE FLAGELLAR WAVEFORM OF CHLAMYDOMONAS REINHARDTI 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 Kinosita, Gustavo Campos, Tayana Tsubone, Vila Soloyeva, 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, Hamidri S. Samanta, Surmit Sinha, Dave Thirumalai

### 1603-Pos Board B512
THE APICAL CONSTRICITION FORCE OF MADIN-DARBY CANINE KIDNEY (MDCK) CELLS. Ching-chung Hsuhe, Ivan Alex Priela Lazarte, Mathieu Prouveur, Wen-hsiu Wu, Ying-ting How, Xing-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 SIMULATION OF LIVING CELLS. Alexis E. Coullomb, Cecile M. Bidan, Mario Fratzl, Philippe Moreau, Alain H. Lombard, Irene Wang, Martial Ballard, 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. Yuan-chang 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-INDUCED ACTIVATION OF THE SWIMMING MOTILITY OF MAGNETOTACTIC BACTERIUM. Masayoshi Nishiyama, Ruan Juanfang, Takayuki Katoh, Toru Minamino, Keichi Namba, Akitoshi Seiyama, Long-Fei Wu, Yoshi Harada

### 1610-Pos Board B519
INTERNATIONAL TRAVEL Awardee

### 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 NEUTROPHIL AND BREAST CANCER CELL MIGRATION AND THEIR MIGRATORY INTERACTION. Jolly Hipoiloto, 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 PHOSPHORYLYATION. 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 Qj, Bobby Tofig, 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 MEAN VISCOITY. 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. Nagarathan, Mander R. 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 Martinez 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 Chamouset, Erwin van Rijin, 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 Samsuddin, Alister Boags, Thomas J. Piggot, Syma Khalid

1627-Pos  Board B536  NUCLEOLIC 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-TEMPERATURE 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 OF ESCHERICHIA COLI AT 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


1637-Pos  Board B546  MOLECULAR DYNAMICS SIMULATIONS REVEAL SPECIFIC INTERACTIONS OF THE BAND 3 ANION EXCHANGER WITH LIPIDS AND GLYCOPHORIN A. Andreas C. Kalli, Reinhart A.F. Reithmeier

1638-Pos  Board B547  EXPLORING THE TRANSPORT MECHANISM OF THE HUMAN AE4 (SLC4A9) CL-/HCO3- 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 ADENYLYLIMIDODIPHOSPHATE ON K+ BINDING SITE IN PROKARYOTIC MULTI-DRUG EXCHANGER. Carolina Tropini, Fabrizio Marinelli, Joseph A. Mindell, José D. Faraldo-Gómez

1642-Pos  Board B551  TRANSPORTED BY LIGHT: OPTOGENETIC CONTROL OF NCX1. Riccardo Rizzetto, Viviana Agus, Silvia Caimarca, Lucia Ruttigliano, Loredana Redaelli, Lila Scarabottolo, Jean-François 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 Fici, José Faraldo-Gómez

1645-Pos  Board B554  EAAT3 INVESTIGATED USING SSM-BASED HTS ELECTROPHYSIOLOGY ON THE SURFE'R 96SE. Maria Barthmes, Andre Bazzone, Stephan Holzhauser, Michele 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 Heilsberg, Lucy R. Forrest, Anna Stary-Weinzinger, Gerhard F. Ecker

1648-Pos  Board B557  TRANSLATION 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 Fici, Wenchang Zhou, José D. Faraldo-Gómez
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 Chimma, 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 Hameiberg

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
1687-Pos  Board B587
THE EFFECTS OF LINKER HISTONE ISOFORMS ON THE STRUCTURE AND DYNAMICS OF THE CHROMATOSOME. Dustin C. Woods, Jeff Wereszczyński

1679-Pos  Board B588
HOW PROTEINS BIND TO DNA. TARGET DISCRIMINATION AND DYNAMIC SEQUENCE INTERROGATION ON TELOMERES. MiloszWieczor, 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. AliRezaTafazzol, Yong Duan

1682-Pos  Board B591
CHARACTERIZING THE MOTIONS OF N2-N3 DOMAINS OF ISDH. Joseph Clayton, Jeff Wereszczyński

1683-Pos  Board B592
COVALENT COMPLEX MODEL OF DNA TOPOISOMERASE AND DNA FOR MOLECULAR DYNAMICS SIMULATION. Purushottam Tiwari, Prem Chapagain, Yuk-Ching Tse-Dinh, Akyut Uren

1684-Pos  Board B593
MOLECULAR DYNAMICS AND DOCKING STUDIES ON ACETYLCOLINESTERASE (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 Wereszczyński

1687-Pos  Board B596
MOLECULAR DYNAMICS SIMULATION STUDIES OF POLYMYXIN B DERIVATIVES IN HOMOGENEOUS E. COI/K12 BILAYERS. Seonghoon Kim, Marcos Pires, Wonpil Im

1688-Pos  Board B597
MOLECULAR DYNAMICS SIMULATIONS FOR CONFORMATIONAL CHANGES ON A REACTION STEP OF SR-Ca2+-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

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
MOQL: 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 MOLECULEN–DATABASE AND TOOL FOR ANALYSIS OF BIOMACROMOLECULAR TUNNELS AND PORES. Lukáš Pravda, David Sehnal, Karel Berka, Veronika Navrátilová, Dominik Toušké, Václav Bzgierz, Radka Svobodová Vaňeková, 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
EXPLORE 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
CHARRM-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
Optical Microscopy and Superresolution Imaging: Applications to Cellular Molecules I (Boards B620- B649)

1710-Pos Board B619 DETRENDING: HOW TO CORRECT IMAGES FOR BLEACHING. Rory Nolan, Luis Alvarez, Sergi Padilla-Parra

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. Ricault, 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 WAVELENGTH MIXING FOR EFFICIENT AND SIMULTANEOUS 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 SHARING INTERFEROMETRY. Sherazezade Aknoun, Antoine Federici, Flor A. Medina, Pierre Bon, Julien Savatier, Benoit Watteillier, 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 Pellicci, 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-STEM imaging of NUCLEAR STRUCTURES. Luca Lanzano’, Maria J. Sarmento, Lorenzo Scipioni, Michele Oneto, Simone Pellicci, Melody Di Bona, Luca Pesce, Mario Faretta, Laura Furia, Gaetano I. Dellino, Pier G. Pellicci, 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 Pallickuth, Keith A. Lidke

1725-Pos Board B634 NANOPLYCOS WITH MULTIPLE OFF-STATES. Johann G. Danzl, Sven Sidenstein, Carola Gregor, Nicolai Urban, Peter Ilsen, Stefan Jakobs, Stefan W. Hell

1726-Pos Board B635 MULTICOLOR IMAGING BASED ON INTERFEROMETRIC INFORMATION IN 4PI SINGLE- MOLECULE SWITCHING NANOPLCOS. 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 Yanovsky, Joshua Zimmerman
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, Cern Unsal, Zhilu Chen, Xinning Huang, Luis Vidal, Erkan Tuzel

1744-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

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 REGULATORY PROTEIN IN LIVE CAULOBACTER USING SINGLE-MOLECULE IMAGING. Jiarui Wang, Lucy Shapiro, W.E. Moerner

1736-Pos  Board B645
CID TRAVEL AWARDER
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 KJ 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 TWEETERS. 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 Tokumatsu, Takao Shimizu

1743-Pos  Board B652
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 Castelli Cn

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 Mauccoli, 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 Krasnoslodbodtsev

1750-Pos  Board B659
NEW OBLIGATE FOLDING INTERMEDIATE OF AN RNA PSEUDOKNOT OBSERVED USING ATOMIC FORCE MICROSCOPY BASED FORCE SPECTROCOPY WITH 10 ΜS 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 BIO-PHYSICAL PROPERTIES OF BACTERIA USING ATOMIC FORCE MICROSCOPY. Catherine Volle, Kanesa 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 Csik, Levante 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
MICROPETITE GEOMETRY-INDUCED ELECTROSTATIC TRAPPING OF NANOPARTICLES. Yazgan Tuna, Ji-Tae Kim, Hsuan-Wei Liu, Vahid Sandoghdar
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 RIBOFлавIN GOLD NANOASSEMBLY: DNA DAMAGE AND APOPTOSIS INDUCTION IN CANCER CELL. Abhishek Sau, Sabyasachi Sen, Kailol 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. Petroche

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, Nadège Bercovici, Florence Gazeau, Francois Guyot, Imène Chebbi

1787-Pos Board B696
BIOCOMPATIBLE COATED MAGNETOSOME MINERALS FOR APPLICATION IN THE MAGNETIC HYPERTHERMIA TREATMENT OF TUMORS. Yasmima 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 Martinez, Ingeborg Maria Storm, Wolf Rohmbouts, 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, Yaroслаva 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 Laura Cicirete, 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, Constantinios 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 Stepień, Karolina Podobinska

1795-Pos Board B704
ON THE SUCROSE-INDUCED SELF-ASSEMBLY KINETICS OF HM PEC- TIN. 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. S., 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, Gergő 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 Witteborn

1804-Pos Board B713
NMR STUDY OF ELASTIN’S ELASTICITY MECHANISM. Nour Jamhawi, Richard Witteborn
## Tuesday, February 20, 2018

### Daily Program Summary

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

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<th>Time</th>
<th>Event</th>
<th>Location</th>
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<td>7:30 AM-5:00 PM</td>
<td>Registration/Information</td>
<td>South Lobby</td>
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<tr>
<td>8:00 AM-9:00 AM</td>
<td>Biophysical Society Business Meeting</td>
<td>South, Level Three, Room 307/308</td>
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<td>8:00 AM-4:00 PM</td>
<td>Poster Viewing</td>
<td>Exhibit Hall ABC</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Symposium: RNA Structure and Function</td>
<td>North, Lower Lobby, Room 24</td>
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<td>Co-Chairs</td>
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<td>Teresa Carломagno, Leibniz University of Hanover, Germany</td>
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<td>Karla M. Neugebauer, Yale University</td>
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<td>COUPLING BETWEEN TRANSCRIPTION &amp; SPlicing TUNES GENE EXPRESSION. Karla Neugebauer</td>
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<td>CRYSTAL STRUCTURES OF A GROUP II INTRON LARIAT AND IMPLICATIONS FOR THE SPLICEOSOME. Maria Costa</td>
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<td>CRYO-EM SNAPSHOTs OF THE SPLICEOSOME. Kiyoshi Nagai</td>
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<td>A SOLID VIEW ON RNA: SOLID-STATE NMR OF RNA AND RNP COMPLEXES. Teresa Carломagno</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Symposium: Interrogating Membrane Organization and Dynamics</td>
<td>North, Lower Lobby, Room 25</td>
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<td>Co-Chairs</td>
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<td>Mary Kraft, University of Illinois</td>
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<td>Siewert-Jan Marrink, University of Groningen, The Netherlands</td>
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<td>INSIGHT INTO PLASMA MEMBRANE ORGANIZATION ACQUIRED WITH SECONDARY ION MASS SPECTROMETRY (SIMS). Mary L. Kraft</td>
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<td>COMPUTATIONAL MODELING OF REALISTIC CELL MEMBRANES. Siewert J. Marrink</td>
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<td>MIXING WATER, TRANSDUCING ENERGY, SHAPING MEMBRANES. Atul N. Parikh</td>
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<td>UNCOVERING THEORGANELLE INTERACTOME: DYNAMIC IMAGING OF MULTIPLE ORGANELLES. Jennifer Lippincott-Schwartz</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Platform: Intrinsically Disordered Proteins (IDP) and Aggregates I</td>
<td>South, Level Two, Room 207/208</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Platform: EPR, NMR, Electron Microscopy, Diffraction, and Scattering</td>
<td>South, Level Two, Room 215/216</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Platform: Cell Mechanics and Motility II</td>
<td>Esplanade, Room 153</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Protein Assemblies</td>
<td>Esplanade, Room 154</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Voltage-gated K Channels I</td>
<td>Esplanade, Room 155</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Membrane Active Peptides and Toxins</td>
<td>Esplanade, Room 156</td>
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<td>9:00 AM-10:30 AM</td>
<td>Subgroup Chairs Meeting</td>
<td>South, Level Three, Room 313</td>
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<td>9:30 AM-10:30 AM</td>
<td>Career Development Center Workshop:</td>
<td>South, Lower Level, Room 2</td>
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<td></td>
<td>Looking Beyond Academia: Identifying Your Career Options Using MyIDP, Linkedin, and More</td>
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<tr>
<td>10:00 AM-4:00 PM</td>
<td>Exhibits</td>
<td>Exhibit Hall ABC</td>
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<td>10:15 AM-11:00 AM</td>
<td>Coffee Break</td>
<td>Exhibit Hall ABC</td>
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<tr>
<td>10:30 AM-12:00 PM</td>
<td>Exhibitor Presentation: Sophion Bioscience A/S</td>
<td>Exhibit Hall, Room 6</td>
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<td>Ion Channel Profiling and Electrophysiological Characterization Using Automated</td>
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<td>Patch Clamp (QPatch), Cell Line Generation, and iPSC Derived Cardiomyocytes: Tools for Finding Antibodies and Peptides for Ion Channel Targets</td>
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| 10:45 AM-12:45 PM | Symposium: Awards  
Chair: Lukas Tamm, University of Virginia and BPS President | North, Lower Lobby, Room 24                  |
|              | 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 E. Partch |                                               |
|              | TOPOGRAPHIC CUES FOR MANIPULATING INTRACELLULAR SIGNALING AT NANOSCALE. Bianxiao Cui |                                               |
|              | PHYSICS OF DNA AND CHROMATIN FUNCTION. Taekjip Ha |                                               |
|              | HYPERTROPHIC CARDIOMYOPATHY AND THEMYSIN MESA: VIEWING AN OLD DISEASE IN A NEW LIGHT. James Spudich |                                               |
|              | MICROPARTICLE ASSEMBLY PATHWAYS ON LIPID MEMBRANES. Daniela J. Kraft |                                               |
| 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                             | 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 | North, Lower Lobby, Room 24                  |
|              | 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 |                                               |
| 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 | North, Lower Lobby, Room 25                  |
<p>|              | PRINCIPLES OF PROTEIN STRUCTURAL ENSEMBLE DETERMINATION. Michele Vendruscolo |                                               |
|              | EVOLUTIONARY COUPLINGS REVEAL ALTERNATIVE 3D STRUCTURES. Debra 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 |                                               |
| 4:00 PM-6:00 PM | Platform: Optical Spectroscopy                                         | South, Level Two, Room 207/208                |</p>
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<td>Platform: Membrane Dynamics and Fusion I              South, Level Two, Room 215/216</td>
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<td>4:00 PM-6:00 PM</td>
<td>Platform: Neuroscience                                               Esplanade, Room 153</td>
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<td>4:00 PM-6:00 PM</td>
<td>Platform: Replication, Recombination, Repair, Transcription, and Translation Esplanade, Room 154</td>
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<td>4:00 PM-6:00 PM</td>
<td>Platform: TRP Channels                                               Esplanade, Room 155</td>
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<td>4:00 PM-6:00 PM</td>
<td>Platform: Protein Dynamics and Allostery II                        Esplanade, Room 156</td>
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<td>5:30 PM-5:45 PM</td>
<td>Dinner Meet-Ups                                                      South Lobby, Society Booth</td>
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<td>6:00 PM-10:00 PM</td>
<td>Publications Committee Meeting                                      Marriott Marquis, Pacific A</td>
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<td>7:30 PM-9:30 PM</td>
<td>Workshop: Probing Atomic Single Sites in Cells and Bio-Assemblies:  Esplanade, Room 153a</td>
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<td>Advances in In-Cell NMR</td>
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<td>Co-Chairs</td>
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<td>Lucia Banci, University of Florence, Italy</td>
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<td>Ichio Shimada, University of Tokyo, Japan</td>
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<td>IN-CELL NMR: ITS CONTRIBUTION FOR UNDERSTANDING FUNCTIONAL PROCESSES. Lucia Banci</td>
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<td>STUDYING PROTEINS INSIDE EUKARYOTIC CELLS IN NMR. Ichio Shimada</td>
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<td>CELLULAR SOLID-STATE NMR APPLIED TO BACTERIAL AND HUMAN CELLS. Marc Baldus</td>
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<td>IN-CELL NMR SPECTROSCOPY FOR THE INVESTIGATION OF THE CONFORMATION OF MACROMOLECULES. Volker Dotsch</td>
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<td>DISSECTING BACTERIA AND MAMMALIAN CELLS BY WHOLE-CELL NMR: CELL WALLS, RIBOSOMES, NUCLEI, OH MY! Lynette Cegelski</td>
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<td>7:30 PM-9:30 PM</td>
<td>Workshop: Atoms to Cells: Modeling Biological Complexity            Esplanade, Room 154</td>
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<td>Leslie Loew, University of Connecticut Health Center</td>
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<td>Banu Ozkan, University of Arizona</td>
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<td>BIOMOLECULAR SIMULATION FOR ALL. Ron O. Dror</td>
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<td>CROWDED AND COMPLEX: MOLECULAR SIMULATIONS OF BIOLOGICAL MEMBRANES. Mark S.P. Sansom</td>
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<td>RAS SIGNALING: ALLOSTERY, CONFORMATION, AND FUNCTION. Ruth Nussinov</td>
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<td>ALLOSTERY AND CONFORMATIONAL DYNAMICS IN PROTEIN EVOLUTION. S. Banu Ozkan</td>
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<td>CELL BIOPHYSICS WITH VIRTUAL CELL. Leslie Loew</td>
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<td>7:30 PM-9:30 PM</td>
<td>Workshop: From Molecules to Mammals: Imaging, Sensing, and Light Control Esplanade, Room 155</td>
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<td>Gang Han, University of Massachusetts Medical School</td>
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<td>Jin Hyung Lee, Stanford University</td>
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<td>SMALL AND BRIGHT: TAILORING LUMINESCENT NANOPARTICLES FOR BIOLOGY. Gang Han</td>
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<td>OPTOGENETIC FMRI AND THE INVESTIGATION OF GLOBAL BRAIN CIRCUIT MECHANISMS. Jin Hyung Lee</td>
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<td>BUILDING PROTEINS TO PEEK AND POKE AT GTPASE CIRCUITS IN VIVO. Klaus M. Hahn</td>
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<td>ILLUMINATING THE BIOCHEMICAL ACTIVITY ARCHITECTURE OF THE CELL. Jin Zhang</td>
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<td>ENGINEERING OF BACTERIAL PHYTOCHROMES FOR NEAR-INFRARED IMAGING, SENSING AND LIGHT-CONTROL IN MAMMALS. Vladislav V. Verkhusha</td>
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<tr>
<td>7:30 PM-9:30 PM</td>
<td>Workshop: Biomembrane Models and Tools                             Esplanade, Room 156</td>
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<td>Rumiana Dimova, Max Planck Institute, Germany</td>
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<td>J. Antoinette Killian, Utrecht University, The Netherlands</td>
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<td>GIANT VESICLES AS HANDY TOOLS FOR ASSESSING MEMBRANE MECHANICS, WETTING AND RESHAPING. Rumiana Dimova</td>
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<td>CONSTRUCTING AND USING PHASE DIAGRAMS OF MULTI-COMPONENT LIPID MIXTURES. Gerald W. Feigenson</td>
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<td>THE STYRENE-MALEIC ACID COPOLYMER: A VERSATILE TOOL IN MEMBRANE RESEARCH. J. Antoinette Killian</td>
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<td>PLASMA MEMBRANE MODELS. Kalina Hristova</td>
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<td>NANOPORE-CONFINED BILAYERS: A MODEL OF BIOMEMBRANES WITH DEFINED CURVATURE AND A TOOL FOR ORIENTED SAMPLE MAGNETIC RESONANCE. Alex I. Smirnov</td>
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<tr>
<td>8:00 PM-10:00 PM</td>
<td>SOBLA (The Society for Latinoamerican Biophysicists) Meeting        Esplanade, Room 158</td>
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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

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-Jann 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, TRANSDUCING ENERGY, SHAPING MEMBRANES. Wan-Chih Su, Doug Gettel, Shiva Emami, Sowmya Purushothaman, Morgan Chabanon, Padmini Ranganami, Atul N. Parikh

1812-Symp 9:45 AM
UNCOVERING THE ORGANELLE 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, Güllzerze, 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. Grădinaru

1816-Plat 9:00 AM
SEQUENCE-ENCODED HETEROGENEITY OF INTERACTIONS DECOPLES 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
SEQUENCE-ENCODED HETEROGENEITY OF INTERACTIONS DECOPLES 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

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

Biophysical Society
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 NANOCLUSTERS 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, Fenzbin 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 NEUROPHIL 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 MICROPHOTOMETRY.  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 Srivastava, 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


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. Hogan

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,
Xiongyu Wu, Nina E. Ottosson, E. Peter Münger, Ingemar Lundström, Peter Konradsson, Fredrik Elinder

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. Klechkin, Baron Chanda

1848-Plat 9:00 AM
ATOM-BY-ATOM TUNING OF AN ELECTROSTATIC POTASSIUM-CHANNEL
MODULATOR. Malin Silveré Enevby, Ingemar Lundström, Petar 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 ANTICONVUL-
SANT: SYNERGISTIC KCNQ2/3 POTASSIUM CHANNEL ACTIVATION BY
DUAL COMPONENTS OF MALLOTUS OPPOSITIFOLIUS EXTRACT.
Rian 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 CHAN-
NELS. Yun Xu, Fei-Fei Zhang, Jie Xu, Wen Sun, Xiao-Yun Zhao, Qiong-Yao
Tan, 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 PE-
PVIDES: EFFECT OF NEGATIVE CHARGE. Sarah Y. Kim, William C. Wimley,
Kalina Hristova

1855-Plat 8:45 AM
ASSESSING THE TRANSLLOCATION 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-PERMEA-
BLIZATION OF E. COLI MEMBRANES. Zhilin Yang, Heejun Choi,
James Weisshaar

1857-Plat 9:15 AM
THE ANTIMICROBIAL PEPTIDE PISCIDIN P1 USES WEAK SPOTS IN MEM-
BRANES AS SITES OF ACTION. Laura Lucas, Roderico Acevedo, Myriam
Cotten, Ella Mihailsescu

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 Akl, 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, auto-
mated patch clamp to the pharmaceutical industry and universities. The
QPatch is a fully automated patch clamp system, executing simultaneous

Biophysical Society
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 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 THEMYSIN 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 Kukovecz, 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 Cid, 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.

1868-Plat
12:30 PM
INSIGHTS ON GATING FUNCTIONS OF CYTOSOLIC DOMAINS OF CONEXIN26 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, Laura Paulowski, M. Teresa Pérez-García, T. Lerch, John W. Patrick, Christian Altenbach, Paola Bisignano, Arthur Laganowsky, Michael Grabe, Wayne Hubbell, Jeff Abramson

1872-Plat
11:30 AM
A STEP FORWARD IN THE DESIGN OF LIPOSOMES: SYMMETRIC & ASYMMETRIC METRIC VESICLES FROM LIPID EXTRACTS.
Abir Maarouf Kabbani, Xinxin Woodward, Laura Paulowski, M. Teresa Pérez-García, T. Lerch, John W. Patrick, Christian Altenbach, Paola Bisignano, Arthur Laganowsky, Michael Grabe, Wayne Hubbell, Jeff Abramson

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 Letošky-Papst, John Katsaros, 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, Kotoro 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, Ehsan 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 HARNESS BY DCX. Szymon W. Manka, Carolyn A. Moores

1883-Plat 12:15 PM 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 Commonwealth 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 MECHANISM OF PROTECTION AGAINST MYOCARDIAL ISCHEMIA-REPERFUSION INJURY IN MICE RESISTANT TO CAMKII OXIDATION. Yuejin Wu, Ning Feng, Qin-chuan Wang, Mark E. Anderson

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 FACILITATION OF SK CHANNEL ACTIVITY VIA INHIBITION OF PYK2-DEPENDENT PYROSINE PHOSPHORYLATION ALLEVIATES VENTRICULAR TACHYARRHYTHMIA IN CARDIAC HYPERTROPHY. Shanna Hamilton, Iulia Polina, Radmila Terentyeva, Karim Roder, Tae Yun Kim, Jin O-Uchi, Gideon Koren, Bum-Rak Choi, Dmitry Terentyev

1889-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 Hohlbach, 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
VIDEO RATE ATOMIC FORCE MICROSCOPY OF BIOLOGICAL SAMPLES. Sophia V. Hohibauch

A SIMPLE AND FAST DRIFT CORRECTION METHOD FOR HIGH-THROUGH-PUT MICROSCOPY. Arin Marchesi, Ignacio Casumo, Simon Scheuring, Felix Rico

AN ELECTROMAGNETIC TWEEZERS FOR STUDYING FAST PROTEIN FOLDING DYNAMICS. Rafael Tapia-Rojo, Jaime Andres Rivas-Pardo, Julio M. Fernandez

DIRECT AND INDIRECT MAGNETIC FORCE MICROSCOPY IN HISTOLOGY. Gunjan Agarwal, Brooke Ollander, Joshua Sifford, Kevin J. Walsh, Angela R. Blissert, Ping Wei, Dana M. McGtigue

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

MOVING BEYOND THE MECHANICAL CLAMP: AN EXPLORATION INTO DIFFERENTIAL MECHANICAL STABILITY OF UBQUITIN FAMILY PROTEINS. Mona Gupta, Ravindra Venkatramani, S Rama Koti Aminarupu

DECONSTRUCTING THE SINGLE MOLECULE MECHANICS OF AN ULTRASTABLE PATHOGEN ADHESIN. Lukas F. Milles, Rafael C. Bernardi, Klaus Schulten, Hermann E. Gaub

PROTEIN YOGA: CONFORMATIONAL FLEXIBILITY OF A NOVEL FOLD. Schwieters, Nico Tjandra

MOVING BEYOND THE MECHANICAL CLAMP: AN EXPLORATION INTO CYTOSKELETAL STRUCTURE REMODELLING AND MEMBRANE PHYSICAL PROPERTIES DURING POLARIZED MIGRATION IN ASTROCYTES. Maciej Gielnik, Michal Nowakowski, Michal Taube, Igor Zhukov, Wojciech M. Kwiatek, Dmitry M. Lesovoy, Maciej Kozak

A WATER-SOLUBLE DSBB VARIANT THAT CATALYZES DISULFIDE-BOND FORMATION IN VIVO. Dario Mizrachi, Matthew DeLisa

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.

Biotherapeutic Development Process

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.

Platform

Protein Structure and Conformation III

10:45 AM–12:45 PM, ESPLANADE, ROOM 156

Co-Chairs
Jakub Kubiat, Heinrich Heine Universität Düsseldorf, Germany
Corie Ralston, Lawrence Berkeley National Laboratory

TIME-RESOLVED FLUORESCENCE SPECTROSCOPY CAPTURES EXCITED STATES OF A MEMBRANE ASSOCIATED PROTEIN. Jakub Kubiat, Thomas Peulen, Claus A. M. Seidel

A GLIMPSE INTO THE SEQUENCE OF STRUCTURAL CHANGES IN THE ORANGE CAROTENOIDS PROTEIN WHICH SWITCH ON THE PHOTOPRODUCTION 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

REFINING PePTIDE CONFORMATIONAL LANDSCAPE BY AmIDE I INFRARED SPECTROSCOPY AND MD SIMULATIONS. Chi-Jui Feng, Balamurugan Dhayalan, Xinling Zhang, Andrei Tokmakoff

MAGNETIC ALIGNMENT OF A PROTEIN WITH TWO SPIN-LABELS: 1 + 1 ≠ 2? James M. Gruschus, Madeleine Strickland, Marie-Paule Strub, Charles Schwieters, Nico Tjandra

PROTEIN YOGA: CONFORMATIONAL FLEXIBILITY OF A NOVEL FOLD. Anne R. Kaplan

STRUCTURAL BASIS OF REVERSIBLE AMYLOID-LIKE INTERACTION IN MEDIATING HNRNP A1 PHASE SEPARATION. Xinrui Gui, Feng Luo, Dan Li, Cong Liu

CONFORMATIONAL DYNAMICS OF HUMAN PRION PROTEIN AND BINDING SITES OF ZN CATIONS. Maciej Gielnik, Michal Nowakowski, Michal Taube, Igor Zhukov, Wojciech M. Kwiatek, Dmitry M. Lesovoy, Maciej Kozak

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

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 cause 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 NANOPIRICLES USING SURFACE ENHANCED RAMAN SCATTERING. Vesna Zivanovic, Christoph Arenz, Janina Kneipp

1920-Plat
4:45 PM

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
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

1923-Plat
5:30 PM
SELF-CONSISTENT ANALYSIS OF LARGE FLUORESCENCE DATA SETS FOR INTEGRATIVE TIME-RESOLVED MODELS OF BIOMOLECULES. Thomas-Otavio Peulen, Hemmen Katherine, 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

1925-Plat
Elizabeth Webster, Stanford University
Co-Chairs

1926-Plat
4:15 PM
VOLUME AND SURFACE AREA DYNAMICS OF GIANT UNILAMELLAR VESICLES. Morgan Chabannon, 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 LIPIp 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. Mallikarjuniah, 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

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 Vukojovic

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 Cretch, Laura Sola, Renzo Vanna, Paola Gagni, Federica Biscaglia, 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, José 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, Kellinn 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

1942-Plat
4:15 PM
WHEN HELICASE AND POLYMERASES COLLIDES AND UNFOLDS G4-QUA- DRPLEX 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 Grozely, 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 POLYMOLAR ACTIVATION: IS ALLOSTERIC COUPLING BETWEEN THE TOXIN AND THE VANILLOID BINDING SITES MEDIATED BY ANNUAR LIPSIDS? 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
OXYTACIN 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, Aysemur Yazici, John del Rosario, Abhijeet Kapoor, Sandip Basak, Amrita Samanta, Sudha Chakrapani, Z. Hong Zhou, Marta Filizola, Tibor Rohács, 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 PIP2 BINDING SITE ON A HUMAN TRP CHANNEL: SIMULATION STUDIES OF PKD2. Qirnui 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, Jaeyo 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 AWARDDEE INVESTIGATING CHEMOKINE RECEPTOR CCR2 DYNAMICS AND DRUG-GABILITY 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 Günter, 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 PHOTORECEPTORS 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

Biophysical Society
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 will 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

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<th>Board Numbers</th>
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<td>Protein Structure and Conformation II</td>
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<td>B30–B48</td>
<td>Protein Structure, Prediction, and Design I</td>
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<tr>
<td>B49–B67</td>
<td>Protein Stability, Folding, and Chaperones II</td>
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<td>B68–B890</td>
<td>Protein-Small Molecule Interactions III</td>
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<td>B158–B187</td>
<td>RNA Structure and Dynamics</td>
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<td>B462–B480</td>
<td>Cardiac Muscle Mechanics and Structure II</td>
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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 PLA2BETA 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 CAPSULED 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, Lissette 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 ELONGED 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


1992-Pos Board B8 MONOMERIZATION OF XIAP BY EXECUTIONER CASPASES. Jamshid Davoodi, Hossein Hozhahri, Hossein Hozhahri

1993-Pos Board B9 THE STABILITY REDUCTION POTENTIAL AND LIGAND STATE OF TWO CONFORMATIONAL OF A C-TYPE CYTOCHROME FROM THE DIATOM THALAS-SIOSIRA PSEUDONANA. Saveeta May Rampur, Evelyn Bordeaux, Emily Tabaei, 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 Mikosvka, 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 INTERNATIONAL 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, Ruihai Luo, Marielle E. Yohe, Paul A. Randazzo

1999-Pos Board B15 INTERNATIONAL 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 AMONIA-LYASE REVEAL KEY INSIGHTS INTO LIGAND BINDING DYNAMICS. Zsofia Bata, Erzsebet Madaras, Ibiolya Leveles, Friedrich Hammerschmidt, Csaba Paizs, László Poppe, Beáta G. Vértessy

2002-Pos Board B18 INTERNATIONAL TRAVEL Awardee RESOLVING THE MECHANISM OF ADHESION MEDIATED BY A NON-CLUSTERED DELTA-1 PROTOCADHERIN. Debadrita Modak

2003-Pos Board B19 INTERNATIONAL TRAVEL Awardee 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, Nasyoung Suh

2007-Pos Board B23 INTERNATIONAL TRAVEL Awardee FLEXIBILITY OF THE MYELIN SCAFFOLDING PROTEIN PERIAXIN. Arne Raaakka, Huijong Han, Matti Myllykoski, Petri Kursula

2008-Pos Board B24 EFFECTS OF HYDROXYLATION AT PROLINE 567 IN HIF-1А ON THE BINDING TO PVHL. Hongsheng Qian, Junhang Hu, Qingwen Zhang

2009-Pos Board B25 INTERNATIONAL TRAVEL Awardee 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 INTERNATIONAL TRAVEL Awardee BOTULINUM TOXINS A AND E INFLECT DYNAMIC DESTABILIZATION ON T-SNARE TO IMPAIR SNARE ASSEMBLY AND MEMBRANE FUSION. Ryan Khounlo

2011-Pos Board B27 INTERNATIONAL TRAVEL Awardee MODULATION OF THE PEROXIDASE ACTIVITY OF HUMAN CYTOCHROME C BY Ω LOOPS C AND D. Haotian Li, Shiloh Nold, Bruce Bowler

2012-Pos Board B28 INTERNATIONAL TRAVEL Awardee PROBING LOCAL SOLVATION ENVIRONMENTS IN H-NOX PROTEINS USING UNNATURAL AMINO ACIDS. Caroline Kearney, Trelxer D. Hirn, Gwenedolyn D. Fowler, Lukasz T. Olenginski, Daniyal Tariq, Scott H. Brewer, Christine M. Phillips-Piro
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 Yu-merefendi

2015-Pos  Board B31  MOLECULAR DESIGN OF ARTIFICIAL RING FINGERS FOR DETECTING UBQUITINATION 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 Warahozhmayev, 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. Martinez, Steven G. Boxer

2026-Pos  Board B42  EDUCATION TRAVEL Awardee
STRUCTURAL DESIGN OF NOVEL PROTEIN ACETYLTRANSFERASES. Logan Kaler, Yadellite Rivera-Colón

Protein Stability, Folding, and Chaperones II (Boards B49–B67)

2023-Pos  Board B49  QUANTITATIVE PREDICTION OF BACTERIAL FITNESS FROM A PROTEIN’S ENERGY LANDSCAPE. Catherine R. Knoverek, Kathryn M. Hart, Gregory R. Bowman

2024-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

2025-Pos  Board B51  PROBING PROTEIN FOLDING LANDSCAPE BY USING COMBINED FORCE SPECTROSCOPY AND MOLECULAR DYNAMICS SIMULATIONS. Ha H. Truong, Susan Marqusee

2026-Pos  Board B52  THE STRUCTURAL BASIS OF THERMOSTABILITY IN AN ENGINEERED VARIANT OF THE ENGRAILED HOMEODomain. Jennifer T. Young, Catrina Nguyen, Michelle E. McCully

2027-Pos  Board B53  CHEMICAL CHAPERONE ACTIVITY OF NAD⁺ IN PROTEIN FOLDING. Chen Chen, Pei-Fen Liu, Chiwook Park

2028-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

2029-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. Anaïs M. Cassaignau, Christopher Waudby, Tomasz Wiłodarski, Lisa Cabrita, John Christodoulou

2046-Pos  Board B62
THERMODYNAMIC STABILITY OF POLAR AND NON-POLAR FIBRILS. Farbod Mahmoudinobar, Zhaqian 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 Clafin, 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 CHEMICAL-MECHANICAL FOLDING. Emily Guinn, Susan Marqusee

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 COBRETASTATIN 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. Gualiev

2055-Pos  Board B71
AN EFFICIENT CELL MODEL FOR SCREENING SMALL MOLECULE AGONISTS OF GLP-1 RECEPTOR. Ni Pi, Xiuxo Cheng, Yongqi Huang, Zhengding Su

2056-Pos  Board B72
DETERMINATION OF EFFECTOR BINDING AFFINITIES USING PHOTOACOUSTIC CALORIMETRY. Jovany J. Betancourt, Jaroslava Mikosovska

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 Ehler, 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. Slavoshi, 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 HARSNESS. 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
ISO THERMAL 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 ALPHAAMYLASE BY PHOTON STREAMING TIME-RESOLVED FLUORESCENCE. Graham Hungerford, Rachael Divers, M. Adilia Lemos, Boon-Seang Chu
Protein Dynamics and Allostery III (Boards B91-B106)

2074-Pos Board B90 DISTINCT MECHANISM OF OXYGEN AND CARBON MONOXIDE INTERACTIONS WITH HEME PROTEIN. Jaroslava Miksovska, Ruipeng Lei, Sophie Bernad, Valerie Derrien

2077-Pos Board B93 EVOLUTION OF CASPASE ALLOSTERY AND ENZYME SPECIFICITY. Clay Clark, Robert Grishpon, 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. Cuenedt, 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 COUPLERS (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

Membrane Protein Structures II (Boards B107-B127)

2091-Pos Board B107 INTERNATIONAL TRAVEL AWARD

2092-Pos Board B108 INTERACTION BETWEEN A-SYNUCLEIN AND VAMP2 PROMOTES SNARE-DEPENDENT 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 KRS48-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
Intrinsically Disordered Proteins (IDP) and Aggregates II (Boards B128-B157)

2112-Pos Board B128
CONFORMATIONAL FLEXIBILITY OF HIV-1 VIF IN COMPLEX WITH RECRUITED HOST CELL PROTEINS. Lieza M. Chan, Elise Tierney, Sampriti Thapa, John Gross, Katherine Ball

2114-Pos Board B130
EXPLORING THE HENDRA VIRUS REPLICATIVE COMPLEX USING THIOCYANTE 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, Alex Voegele, Patrice Vachette, Julia Chamon Roeke, 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
POLYPHOSPHATE-INDUCED AGGREGATION-PRONE CONFORMATIONS OF TAU. Hope E. Merens, Sanjula Wickramasinghe, Justine Lempart, Ursula Jakob, Elizabeth Rhoades

2125-Pos Board B141
CAPTURING CONFORMATIONAL CHANGES OF THE TAU PROTEIN UPON AGGREGATION. Yann Fichou, Neil Eschmann, Songi Han
RNA Structure and Dynamics (Boards B158-187)

2126-Pos Board B142
FIBRILLATION OF N-TERMINAL PRION PROTEIN FRAGMENT IN PRESENCE OF ZINC IONS. Maciej B. Gielnik, Michal Nowakowski, Aneta Szymańska, Igor Yu Zhukov, Wojciech Maria Kwiatek, Maciej Leszek Kozak

2127-Pos Board B143
POLYMORPHISM OF PRION PROTEIN Amyloid-Like FIBRILLS. Tomas Šneideris, Elżbieta Kulicka, Vytautas Smirnovas

2128-Pos Board B144
AMYLOID-B PEPTIDE INTERACTION WITH LIPID BILAYER PROMOTES PEPTIDE AGGREGATION ON THE SURFACE AND MODULATES LIPID BEHAVIOR. Jacob Usadi, Arthur Vale, Sashin Natesh, Karl Freed, Esmael Haddadian

2129-Pos Board B145

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

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

2134-Pos Board B150
THE FUNCTIONAL Amyloid ORB2A INTERACTS WITH LIPID BILAYERS. Maria A. Soria, Silvia A. Cervantes, Thalia H. Bajakian, Ansgar B. Siemer

2135-Pos Board B151
FIBRILLATION OF A-BETA PEPTIDES IN PRESENCE OF PHENOLIC INHIBITORS: COARSE-GRAINED SIMULATIONS. Carol K. Hall, Yiming Wang

2136-Pos Board B152
ATOMIC-LEVEL INSIGHTS INTO THE DYNAMICS OF ENZYMES AND INTRINSICALLY DISORDERED PROTEINS WITHIN SEA SPRAY AEROSOL PARTICLES. Jamie Schiffer, Rommie Amaro

2137-Pos Board B153
MODELING INTRINSICALLY DISORDERED PROTEINS AND Amyloid FIBRILLS IN PYROSETA. John Ferrie, Abhinav Nath, E. James Petersson

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
INCREASING THE ACCURACY IN ALL-ATOM SIMULATIONS OF INTRINSICALLY DISORDERED PROTEINS BASED ON THE ABSINTH MODEL. Martin J. Fossat, Tyler S. Harmon, Ammon E. Posey, Jeong-Mo Choi, Rohit V. Pappu

2140-Pos Board B156
COMBINING PREDICTION OF PROTEIN AGGREGATION PROPENSIW WITH PREDICTION OF OTHER ONE-DIMENSIONAL PROPERTIES. Andrzej Kloczkowski, Maksim Kouza, Giriilk Malik, Irina Buhimschi, Eshel Faraggi

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
BENCHMARKING RNA FORCE FIELDS USING HAIRPIN LOOP FOLDING FREE ENERGY CHANGE. Louis G. Smith, Zhen Tan, Aleksandar Spasic, Alan Grossfield, David H. Mathews

ENHANCED SAMPLING OF LncRNA CONFORMATIONAL SPACE FOR DEFINING ENSEMBLES OF STRUCTURES USED IN ENSEMBLE DOCKING AND VIRTUAL SCREENING OF RNA-FOCUSED SMALL MOLECULES. Michael Yonkunas, Nathan Baird

CHARACTERIZING THE FOLDING AND MISFOLDING OF THE AQUIFEX AEOLICUS TMRNA FRAMESHIFTING PSUEDOKNOT VIA MASSIVELY PARALLEL MOLECULAR DYNAMICS SIMULATIONS. Xavier Martinez

MESO-SCALE MODELING FOR PREDICTING PROPERTIES OF RNA COMPLEXES. Eckart Bindewald, Mathias Viard, Bruce A. Shapiro

IN-SILICO, IN-VITRO, AND IN-VIVO STUDIES OF SirNA DELIVERY USING CATIONIC BOLAAMPHIPEL VELOCITIES. Taejin Kim, Kirill Afonin, Mathias Viard, Eilahu Heldman, Bruce Shapiro

AN EFFECTIVE SCORING FUNCTION FOR RNA-RNA INTERACTIONS DERIVED WITH A DOUBLE-ITERATIVE METHOD. Yumeng Yan, Zeyu Wen, Di Zhang, Jiahua He, Xiaojun Xu, Fengfei Cheng, Ping H. Wang, Huan Yang, Robert Henley, Pradeep Waduge, Evanseck, Jennifer Zarew, Zhen Tan, Aleksandar Spasic, Taejin Kim, Kirill Afonin, Mathias Viard, Bruce A. Shapiro

RNA STRUCTURE PREDICTION GUIDED BY COEVOLUTIONARY INFORMATION. Mehar Bayou Zerihun, Alexander Schug

HELIX-BASED RNA TWO-DIMENSIONAL STRUCTURE PREDICTION. Fengfei Wang, Xiaojun Xu

MARTINI COARSE-GRAINED FORCE FIELD FOR RNA. Jaakko J Uusitalo, Helgi Ínghólfsson, Siewert J Marrink, Ignacio Faustino

AUTOMATED FORCE-FIELD PARAMETRIZATION GUIDED BY MULTISYSTEM ENSEMBLE AVERAGES. Andrea Cesari, Sandro Bottaro, Giovanni Bussi

TOPOLOGICAL CONSTRAINTS AND THEIR CONFORMATIONAL ENTROPIC PENALTIES ON RNA FOLDS. Ethan N.H. Phan, Chi H. Mak

EXAGGERATED SWIVEL MOTIONS OF THE SMALL SUBUNIT HEAD DOMAIN ARE REQUIRED FOR TRNA TRANSLLOCATION THROUGH THE BACTERIAL RIBOSOME. Wataru Nishima, Scott C. Blanchard, Karissa Y. Sanbonmatsu

A MULTI-COLOR RIBOSWITCH-BASED PLATFORM FOR IMAGING OF MRNA AND SMALL NON-CODING RNA IN LIVE MAMMALIAN CELLS. Esther Braselmann, Aleksandra Wierzba, Jacob T. Polaski, Mikolaj Chromiński, Dilara Batan, Dorota Gryko, Robert T. Batey, Amy Palmer

SUBNANOMETER CRYO-EM STRUCTURE OF T-BOX AND TRNA COMPLEX. Zhaoming Su

PROBING MECHANICAL PROPERTIES OF BIOMOLECULES USING NANOPORES. Prasad Bandarkar, Huan Yang, Robert Henley, Pradeep Waduge, Meni Wanunu, Paul C. Whitford

ORNITHINE DECARBOXYLASE ANTIZYME PSUEDOKNOT RNA BINDING TO SPERMINE REGULATES GENE EXPRESSION. Juliane Strauss-Soukop, Jodi Monahan, Katie Del Vecchio, Molly McDevitt, Zachariah Holmes, Samantha Stoupa, Garrett Soukop

SELECTED POLYCATIONIC SURFACANTS AS SirNA CARRIERS FOR GENE THERAPY. Weronika J. Andrzejewska, Michalina Wilkowska, Barbara Peplińska, Maciej Kozak

ABBIOTIC FABRICATION OF SUGAR PHOSPHATES AND RIBONUCLEOSIDES IN WATER MICRODROPLETS. Inho Nam, Jae Kyoo Lee, Hong Gil Nam, Richard N. Zare

SENSITIZED DSDNA-PEPTIDE COMPLEX AND ITS PHYSICOCHEMICAL PROPERTIES. Pawel Wityk, Janusz Rak

A GENERAL SAXS-BASED SCREENING PROTOCOL VALIDATED IN RNA-PROTEIN INTERACTIONS. Po-chia Chen, Pawel Masiewicz, Vladimir Rybin, Dmitri Svergun, Janosch Hennig

ALLOSTATIC CONTROL OF HUMAN CGAS DIMERIZATION UNDERPINS ITS CONTEXT-DEPENDENT RESPONSE TO CYTOPLASMIC DNA. Richard Hooy, Jungsan Sohn

VIZUALIZING THE MECHANISM OF H-NS GENE REGULATION. Kathy R. Chaurasiya, Ramon van der Valk, Bram Henneman, Remus T. Dame

G QUADREPLEX AND STEM INTERACTIONS IN RGG BOX DOMAIN RECOGNITION. Kendy A. Pellegrene, Mihaela-Rita Mihailescu, Jeffrey D. Evanseck

A COMPARISON OF BASIC SIDE CHAIN INTERNAL MOTIONS FOR THE FREE AND DNA-BOUND STATES OF THE ANTENNAPEDIA HOMEODOMAIN. Dan Nguyen, Zee A. Hoffpaur, Junji Iwahara

MECHANISTIC INSIGHT INTO THE ASSEMBLY OF THE HERA-NURA HELIX-CASE NUCLEASE DNA END RESECTION COMPLEX USING NATIVE MASS SPECTROMETRY. Zainab Ahdash, Andy M. Lau, Robert Thomas Byrne, Katja Lammens, Paula J. Booth, Eamonn Reading, Karl-Peter Hopfner, Argyris Politis

ARE CAJAL BODIES DROPLET ORGANELLES? Edward M. Cournchaine, Karla M. Neugebauer

LIQUID-LIQUID PHASE TRANSITIONS AT THE ORIGINS OF LIFE? Helen G. Hansma

PROTEIN-SENSING RIBOSWITCHES. Roee Amit

WIDESPREAD INCREASE IN TRANSCRIPTION FACTOR-DNA BINDING DUE TO MISMATCH DAMAGE. Ariel Afek, Raluca Gordan
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2183-Pos  Board B199
LARGE DOMAIN MOVEMENTS UPON UVRD DIMERIZATION AND HETERICASE ACTIVATION. Binh Nguyen, Yerdos Or dabayev, Joshua Sokoloski, Elizabeth Weiland, Timothy M. Lohman

2184-Pos  Board B200
EDUCATION TRAVEL AWARDEE
ALLOSTERIC EFFECT OF E. COI SSB C-TERMINAL TAILS ON RECR BINDING TO DNA. Min Kyung Shinn, Alexander G. Kozlov, Timothy M. Lohman

2185-Pos  Board B201
EDUCATION TRAVEL AWARDEE
TEMPLATED CROSS CATALYSIS BY OLIGOPETIDES AND OLIGONUCLEOTIDES. Eun Ae Park

2186-Pos  Board B202
MOLECULAR DYNAMICS SIMULATIONS OF BRG1 BROMODomain INTERACTING WITH DNA IN BOTH PRESENCE AND ABSENCE OF BRG1 AT-HOOK. Stefania Evoli, Jeff Weresczczynski

2187-Pos  Board B203
DISSECTING THE ELECTROSTATICS OF NUCLEIC ACIDS. Magdalena Gebala, Benjamin E. Allred, Daniel Herschlag

2188-Pos  Board B204
TRANSLATION INITIATION COMPLEX EIFISO4F TARGETS POKEWEED ANTI-VIRAL PROTEIN (PAP) TO SELECTIVELY DEPURINATE UNCAPPED TOBACCO ETCH VIRUS (TEV) RNA. Artem V. Domashevskiy, Shu-Yuan Cheng

2189-Pos  Board B205
MAPPING INTERACTIONS OF SINGLE-STRANDED (SS) DNA WITH THE SS- DNA BINDING PROTEIN (GP32) OF THE T4 DNA REPLICATION COMPLEX AT SPECIFIC NUCLEOTIDE RESIDUE POSITIONS. Benjamin Camel, Anson Dang, Katherine Meze, Davis Jose, Peter H. von Hippel

2190-Pos  Board B206
QUANTIFYING PROTEIN-DNA INTERACTIONS BY KINETICS EXCLUSION AS-SAY. Elizabeth Leung, Troy Rohn, Daniel Fologea

2191-Pos  Board B207
COOPERATION OF DNA HELICASES DURING DSDNA END RESOLUTION. Kristina Kasaciunaite, Fergus Fettes, Maryna Levkova, Petr Cejka, Ralf Seidel

2192-Pos  Board B208
INVESTIGATION OF MRNA TRANSLATION REGULATION BY FMRP VIA THE MICRORNA PATHWAY. Joshua A. Imperatore, Brett A. DeMarco, Mihaela Rita MihaiIescu

2193-Pos  Board B209
DIFFERENT MEMBRANE INSERTION POTENTIAL OF GENE NANOFLARICLES STUDIED BY USING PHOSPHOLIPID MONOLAYER AND BILAYER MODELS. Nabil Abdulhafiz Alhakamy, Cory J. Berkland, Pranjaparamita Dhar

2194-Pos  Board B210
KINETIC PATHWAYS OF TOPOLOGIE SIMPLIFICATION BY TYPE II TOPOISOMERASES IN KNOTTED, SUPERCOILED DNA. Andreas Hanke, Riccardo Ziraldo, Stephen D. Levene

2195-Pos  Board B211
IDENTIFICATION OF SURAMIN AS A POTENT AND SPECIFIC INHIBITOR OF THE MAMMALIAN HIGH MOBILITY GROUP PROTEIN AT-HOOK 2 (HMGA2)-DNA INTERACTIONS. Linjia Su, Steve Vasile, Layton Smith, Fenfei Leng

2196-Pos  Board B212
ENGINEERING A TUNABLE DNA LOOP IN E. COI. Nicole A. Becker, Tanya L. Schwab, Karl J. Clark, L. James Maher III

2197-Pos  Board B213
PROTAMIN-INDUCED DNA LOOPTING. Ashley R. Carter, Obinna A. Ukogu, Adam D. Smith, Luka M. Devenica, Ryan McMillian, Yuxing Ma, Hilary Bediako

2198-Pos  Board B214
A TALE OF TWO MECHANISMS: DNA RECOGNITION BY THE ETS-FAMILY TRANSCRIPTION FACTORS. Gregory M. K. Poon

2199-Pos  Board B215
VISUALIZATION OF DISTINCT EPIGENETIC STATES AT THE SINGLE MOLECULE LEVEL. Luke Strauszkulage, Olga Cisne-Thompson, Jessica Hurst, Barbara Panning, Sy Redding

2200-Pos  Board B216
REGULATION OF UVRD HELICASE ACTIVITY BY MUTL. Yerdos Or dabayev, Binh Nguyen, Anita Niedziela-Majka, Timothy Lohman

Chromatin and the Nucleolus II
(Boards B217- B228)

2201-Pos  Board B217
PROBING THE LIQUID-LIKE NATURE OF HUMAN NUCLEOLI AND THEIR INTERACTION WITH THE INTERPHASE CHROMATIN. Christina M. Caragine, Shannon C. Haley, Alexandra Zidovska

2202-Pos  Board B218
ACTIVE HYDRODYNAMICS OF INTERPHASE CHROMATIN: COARSE-GRAINED MODELING AND SIMULATIONS. David Saintillan, Alexandra Zidovska, Michael J. Shelley

2203-Pos  Board B219
A FIRST-PRINCIPLES APPROACH TO LARGE-SCALE NUCLEAR ARCHITECTURE. Ankit Agrawal, Nirmalendu Ganai, Surajit Sengupta, Gautam I. Menon

2204-Pos  Board B220
PHASE SEPARATION DRIVES HETEROCHROMATIN DOMAIN FORMATION. Amy R. Strom, Alexander V. Emelyanov, Mustafa R. Mir, Dmitriy V. Fyodorov, Xavier R. Darzacq, Gary H. Karpen

2205-Pos  Board B221
ON THE ORIGIN OF SHAPE FLUCTUATIONS OF THE CELL NUCLEUS. Fang-Yi Chu, Shannon C. Haley, Alexandra Zidovska

2206-Pos  Board B222
PHASE SEPARATION OF MITOCHONDRIAL DNA IN THE PREMATURE AGING DISEASE HUTCHINSON-GILFORD PROGERIA SYNDROME. Marina Mahynski, Tom Misteli

2207-Pos  Board B223
THE EHZ2 SANT1 DOMAIN IS A HISTONE READER PROVIDING SENSITIVITY TO THE MODIFICATION STATE OF THE H4 TAIL. Tyler M. Weaver, Jiachen Liu, Katelyn E. Connelly, Chris Coble, Katayoun Varzavand, Emily C. Dykhhuizen, Catherine A. Musselman

2208-Pos  Board B224
DYNAMICS OF EUKARYOTIC HISTONE EXCHANGE WITH SINGLE MOLECULE RESOLUTION. Mohamed Ghoneim, Chia-Liang Lin, Elizabeth A McCormack, Dale B Wigley, David Rueda

2209-Pos  Board B225
GENOME WIDE MEASUREMENTS OF THE SEQUENCE DEPENDENCE OF NUCLEOSOMAL DNA FLEXIBILITY. Aakash Basu, Michael T. Morgan, Basilio C. Huaman, Tunc Kayikcioglu, Thuy Ngo, Qiucen Zhang, Cynthia Wolberger, Taekjip Ha

2210-Pos  Board B226
EXPOSING CHROMOSOME ARCHITECTURE AND MECHANICS USING OPTICAL MANIPULATION AND FLUORESCENCE MICROSCOPY. Anna EC Meijering, Kata Sarlos, Anna H. Bizard, Seyda Acar, Andres B. Venegas, Rahul Bhownick, Ying Liu, Iddo Heller, Ian Hickson, Erwin JG Peterman, Gijs JL Wuite
**Membrane Physical Chemistry III**
(Boards B229-B252)

**2211-Pos** Board B227
FOLDING, BRIDGING, AND COMPACTION OF DNA BY NUCLEOID ASSOCIATED PROTEIN HFQ. **Johan R.C. van der Maarel**, Antoine Malabrade, Veronique Arluison

**2212-Pos** Board B228
STRUCTURE AND FUNCTION OF ARCHAEOAL HISTONES. **Bram Henneman**, Clara Van Emmerik, Thomas Brouwer, Ramon A. Van der Valk, Nancy Kirolos, Hugo Van Ingen, John Van Noort, Remus T. Dame

**2213-Pos** Board B229
THE PHYSICAL CHARACTERIZATION OF MICROVESICLES SECRETED FROM THERMOACIDOPHILIC ARCHAEA AND LIPOSOMES RECONSTITUTED FROM MICROVESICLE LIPIDS. **Alexander P. Bonanno**, Parkson L.-G. Chong

**2214-Pos** Board B230
BIOPHYSICAL ANALYSIS OF EXTRACELLULAR VESICLES. **Pietro Parisse**

**2215-Pos** Board B231
NON-LAMELLER LIPID LIQUID CRYSTALLINE PHASES—CONTROLLING THE FORMED STRUCTURE USING LIPOLYTIC ENZYMES WITH DIFFERENT SPECIFICITY. **Maria Wadsater**, Justas Barauskas, Fredrik Tiberg, **Tommy Nylander**

**2216-Pos** Board B232
DEPTH-DEPENDENT PHYSICAL PROPERTIES OF MODEL BIOLOGICAL LIPID BILAYERS. **Ganesh Shahane**

**2217-Pos** Board B233
BIOPHYSICAL CHARACTERIZATION OF LIPID MEMBRANES: EFFECT OF LIPID HEAD GROUPS AND TAILS ON SYNTHETIC AND NATURAL LIPID MEMBRANES. **Young Hun Kim**, Joon Lee, Ratnash Lal, Jerry Yang

**2218-Pos** Board B234
QUANTIFYING ASYMMETRY IN DETERGENT-MEMBRANE INTERACTIONS. **Helen Y. Fan**, Ndjali Quarta, Heiko Heerklotz

**2219-Pos** Board B235
CARDIOLIPIN PARTITIONING IN MIXED MEMBRANE SYSTEMS. **Margaret M. Elmer-Dixon**, Bruce E. Bowler

**2220-Pos** Board B236
STRUCTURAL ANALOGS OF PALMITOYL CERAMIDE AND THEIR FUNCTIONS IN MEMBRANES. **Anna Mörts**, Elina Vattulainen, Takaaki Matsufujii, Masanao Kinoshiita, Nobuki Matsumori, J. Peter Slotte

**2221-Pos** Board B237
COMPLEX EFFECTS OF 24:1 SPHINGOLIPIDS IN MEMBRANES CONTAINING DIOLEOYLPHOSPHATIDYLCHOLINE AND CHOLESTEROL. **Aritz B Garcia-Arribas**, Emilio J Gonzalez-Ramirez, Jesus Sot, Itziar Areso, Alicia Alonso, **Felix M Goni**

**2222-Pos** Board B238
REGIONAL COOPERATIVITY IN THERMOTROPIC LIPID PHASE TRANSITIONS—A COMMENT ON THE FINE STRUCTURE OF THE MAIN TRANSITION PEAK. **Beate Klüs gen**, 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-DE-RIVED 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 Tige, 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)P2 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 K. Khondker**, Richard J. Alsop, Alexander K. Dhaliwal, Sokuntheearath Saem, Jose Moran-Mirabal, Maikel C. Rheinstadter
ENVELOPES THROUGH 2 ANTIMICROBIAL PEPTIDES BP100 AND MSI-78 WITH BACTERIAL CELL
UNRAVELING THE ROLE OF PEPTIDOGLYCAN IN THE INTERACTION OF
AND MEMBRANE DISRUPTIVE EFFECTS OF HOST DEFENSE PEPTIDES
IMPACT OF METALLATION AND OXIDIZED LIPIDS ON THE STRUCTURE
DYNAMIC MEMBRANE BOUND STRUCTURES OF MELITTIN AND ALAM
CONFORMATIONS AND DYNAMIC TRANSITIONS OF A MELITTIN DERIVA
AGGREGATION VS. FUSION OF NEGATIVELY CHARGED LIPID BILAYERS IN
BACTERIAL STRAINS. katrina P. Montales, Heidi M. Wade, Dania M. Figueroa, Louise E. O. Darling, Donald E. Elmore
FIRST EXAMPLE OF KINETIC MODELLING OF MULTI-STATE MEMBRANE
BINDING, EXPANSION AND DISRUPTION FOR AN ANTIMICROBIAL PEP
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
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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, Nelmarri Harmzen, Juan J. Dominguez, Maritijn 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

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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. Koepepe 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


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2275-Pos  Board B291  FUNCTION, PROPERTY, AND INTERACTION OF ARCHAEAL LIPIDS: A MOLECULAR DYNAMICS SIMULATION STUDY. Shasha Feng, Jeffery B. Klauda, Wonpi Im

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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 Füloó

2282-Pos  Board B298  INTERNATIONAL TRAVEL Awardee A COMBINED COMPUTATIONAL AND EXPERIMENTAL STUDY TO INVESTIGATE THE ROLE OF COQ3 IN PROMOTING COQ BIOSYNTHESIS. Deniz Aydin, Danielle C. Lohman, David J. Pagliarini, Matteo Dal Peraro

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2284-Pos  Board B300  LIPID-DEPENDENT ALTERNATING ACCESS MECHANISM OF A BACTERIAL MULTIDRUG ABC TRANSPORTER: A MOLECULAR DYNAMICS STUDY. Je-evapani Hettige, Seyed Hamid Tabari, Mahmoud Moradi


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2289-Pos  Board B305  INVESTIGATING THE ASSOCIATION OF EPHRIN TYPE-B RECEPTOR TYROSINE KINASES IN LIVE CELLS. Taylor Patrick Light, Kalina Hristova

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2320-Pos Board B336 EFFECT OF CALCIUM FLUX ON FILOPODIA OF EPITHELIAL CELLS. Omolade M. Ademuyiwa, Carol A. Heckman

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2323-Pos Board B339 ALTERED EYE MUSCLE FUNCTION IN RYR3KO MICE. Jan Eckhardt, Hiroshi Takeshima, Miyuki Nishi, Jianjie Ma, Francesco Zorzato, Susan Treves

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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

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INCREASED PANNEXIN 1 EXPRESSION AND ACTIVITY IN VENTRICLE OF MDX DYSTROPHIC HEARTS. Frank J. Raucchi, 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

2409-Pos Board B425
IDENTIFICATION OF A MODULATORY SITE OF ACTION FOR THE VOLATILE ANESTHETIC ISOFLURANE IN TREK1 TANDEM PORE POTASSIUM CHANNELS. Shao-Shao Zhang, 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. Guizing 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 Jung 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 Lyckells, 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 KᵥCl CHANNELS TO INFECT CELLS. Samantha Hover, John N. Barr, Steven A. 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 D. Artega, Ricardo Félix, Enrique Soto

2420-Pos Board B436
AN SCN1B VARIANT FOUND IN A CHILD DIAGNOSED WITH EPILEPSY AND BRUGADA SYNDROME MODIFIES BRAIN-TYPE (NAᵥ,1.1) AND CARDIAC-TYPE (NAᵥ,1.5) SODIUM CURRENTS. Rebecca Martinez-Moreno, Helena Riuró, Elisabeth Selga, Michael F. Wangler, Ramon Brugada, Guillermo J. Pérez, Fabiana S. Scornik
2442-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 Shafaatallah, Glen Tlibbits, Tom Clayton

2423-Pos  Board B439  STREPTOMYCIN ENTRY IS MEDIATED BY THE MECHANOSENSITIVE CHANNEL MS CG 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 (HEMCKA): EFFECT OF BA2+ 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/ANOS 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 MEDITATED BY LRRC8 PROTEINS OF VOLUME-REGULATED ANION CHANNELS. Philipp Burow, Manuela Klappe, Frits Markwardt

2430-Pos  Board B446  ZINC INHIBITION OF AN INSECT VOLTAGE-GATED PROTON CHANNEL. Gustavo Chaves, Stefanie Bugert-Plümke, Arne Franzen, Boris Musset

2431-Pos  Board B447  OPTICALLY ACTIVE, SELF-ASSEMBLED SOLID-STATE NANOPORES FOR SINGLE PARTICLE DETECTION. Andreas Schlegel, Paul V. Gwozdzi, Christian Heyn, August Dorn, André Drews, Wolfgang Hansen, Robert H. Blick


2433-Pos  Board B449  UNITARY WATER PERMEABILITY MEASUREMENTS VIA LIPID VESICLE SYSTEMS. Andreas Horner, Thomas Barta, Christof Hannenschläger, Peter Pohl

2434-Pos  Board B450  CIC TRAVEL Awardee CONTROL OF MEMBRANE PERMEABILITY VIA VOLTAGE REGULATED DYS ENIN CHANNELS. Philip Belzelski, 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. Lilla Leisle, Eva Forteza, 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 Reedy 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. Wenle Yi, Tena W. Han, Layla M. Nassar, Mario Zuba, Yuh Nung Jan, Lily Y. Jan

2441-Pos  Board B457  COOPERATIVITY AND FLEXIBLE DOMAINS PARTICIPATION IN PIP AQUPORIN GATING. Karina Alleva, Florencia Scochera, Agustina Canessa Fortuna, CINTA JOZEKOWICZ, 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 Kiseloyev, Sebastian Brauchi

2443-Pos  Board B459  CRYO ELECTRON TOMOGRAPHY AND REACTION-DIFFUSION SIMULATIONS REVEAL A MOLECULAR AND EVOLUTIONARY BASIS FOR CHARGED ARCHAEA 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 MEDITATED VRAC CURRENTS BY OXIDATION. Antonella Gradogna, Paola Gavazzo, Anna Boccaccio, Michael Pusch

2445-Pos  Board B461  SUBTLE MODIFICATIONS OF THE PANXEXIN-1 N-TERMINUS RESULTS IN ALTERED CHANNEL ACTIVITY. Kevin Michalski, Toshi Kawate

Cardiac Muscle Mechanics and Structure II (Boards B462–B480)

Cardiac Muscle Regulation II (Boards B481-B496)

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. **Phillip Hornburg**, Atsushi Fukuzawa, Mathias Gautel, Matthias Wilmanns

2449-Pos  Board B465  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 Kooker, Arjun Adhikari, Kathleen Ruppel, Daniel Bernstein, James Spudich, Beth Pruitt

2453-Pos  Board B469  THE ROLE OF CTNT ISOMORPH SWITCHING IN MODULATING SARCOMERIC CARDIOMYOPATHIES. **Melissa L. Lynn**, Teryn A. Holeman, Grace Benitez, Mark T. McConnell, Lauren Tal-Grinspan, Jill 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 Beusman, Andrea Leonard, Marion von Frieling-Salewsy, Li Pabon, Hans Reinecke, Xiulan Yang, Wolfgang A. Zaunbrecher, 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, Jill 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  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 TROPOMYSIN D230N AND S215L MUTATION SPECIFIC CORRELATES TO DISEASE. **Andrea Deranek**, Anthony Baldo, Melissa L. Lynn, Mark T. McConnell, Michael R. Williams, Steven D. Schwartz, Jill C. Tardiff

2464-Pos  Board B480  QUANTIFYING NUCLEAR REMODELING IN HEART FAILURE. **Logan Bailey**, Danny Smyl, Sven Bossuyt, Julie Bossuyt

2465-Pos  Board B481  DEFINING A UNIFYING MECHANISM FOR SELECT CARIOMYOPATHY-LINKED VARIANTS OF DESMOPLAKIN. **Heather R. Manning**, 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  TTN-T2 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


2468-Pos  Board B484  INFLUENCE OF CTN CA2+ 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  TRIBUTYTRIN INDUCES NEGATIVE INOTROPIC EFFECT, REDUCES CARDIAC SR CALCIUM CONTENT AND INCREASES CALCIUM SPARKS FREQUENCY IN CARDIOMYOCYTES. **Ivanita Stefanon**, Cleydiianne 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, Jill C. Tardiff

2474-Pos  Board B490  MEMBRANE DOMAINS AND CAMP COMPARTMENTATION IN CARDIAC MYOCYTES. **Shailesh R. Agrawal**, 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. Diedeloff 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  METHYLGLOXAL 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

2482-Pos  Board B498  ALL TUBULINS ARE NOT ALIKE: DIMER DISSOCIATION AND MONOMER EXCHANGE DEPENDING ON THE BIOLOGICAL SOURCE OF TUBULIN. Felipe Montecinos-Franjola, Sumit Chaturvedi, Peter Schuck, Dan L. Sackett

2483-Pos  Board B499  BINDING INTERACTIONS WITH TUBULIN’S C-TERMIAL TAIL AS STUDIED BY SOLUTION NMR. **Allison M. White**, 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 Luchniak, Erik Schäffer, Jonathon Howard

2489-Pos  Board B505  CATASTROPHIC DEPOLYMERIZATION OF MICROTUBULES DRIVEN BY SUB-UNIT 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 Padinhatereei, 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 MICROTUBE 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 MICROTUBE STRUCTURES. **Maria del Rocio Cantero**, Paula L. Perez, Cecilia Villa Etchegoyen, Noelia Scarinci, Horacio F. Cantiello

2495-Pos  Board B511  MICRORHEOLOGY OF MICROTUBE AQUEOUS SOLUTION. **Kazutaka Satou**, Daisuke Takeuchi, Suzyi Fujii, Hiroshi Orihara, Kentarou Kayano, Arif Md Rashidul Kabir, Ituki Kunita, Akira Kakugo

2496-Pos  Board B512  FORMATION OF SHEAR BAND IN A MICROTUBE SOLUTION. **Kei Hamasaki**, Daisuke Takeuchi, Shuji Fujii, Hiroshi Orihara, Katsuhiko Sato, Itsuki Kunita, Kentaro Kayano, Arif Md. Rashidul Kabir, Akira Kakugo

2497-Pos  Board B513  NUMA RECRUITS DYNHE ACTIVITY TO MICROTUBE MINUS-ENDS AT MITOSIS. **Christina L. Hueschen**, Samuel J. Kenny, Ke Xu, Sophie Dumont

2498-Pos  Board B514  GEOMETRICAL PROPERTIES OF ANTIPARALLEL ARRAYS REGULATE MICRO-TUBULE SLIDING AND STALLING BY PR1 AND KIF4A. **Sithara Wijeratne**, Radhika Subramanian

2499-Pos  Board B515  KINESIN BINDING EXPANDS AND STABILISES THE GDP-MICROTUBE LATITUDE. **Daniel Peet**, Nigel Burroughs, **Robert A. Cross**
Kinesins, Dyneins, and Other Microtubule-based Motors (Boards B527-B545)

2500-Pos Board B516 EDUCATION TRAVEL AWARD
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 Stanger, 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 AWARD
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. *Breton 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

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. *Aligirdas 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 Oktten

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
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 MECHANOSENSING 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 Mimititz, 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. Vasil 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 CHEMOTACTANT. 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 VISCOSCETIC 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, Hsiao-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 Morimitsu, 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 Abuhatum, 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
CONTROLLING CANDIDATE PHYSICAL INPUTS TO THE SPINDLE ASSEMBLY CHECKPOINT. Jonathan A. Kuhn, Eline G. Ter Steege, Sophie Dumont

MECHANICAL RELAXATION OF ALPHA-ACTININ IN THE CELLULAR CYTOPLASM PROBED WITH MAGNETIC TWEEZERS. Christopher C. Sitaram, Allen J. Ehrlicher

PROBING HOW THE MAMMALIAN KINETOCHORE HOLDS ON TO GROWING VERSUS SHRINKING MICROTUBULES. Alexandra F. Long, Dylan B. Udy, Pooja Suresh, Sophie Dumont

INERTIAL MICROCAVITATION AS A NEURAL CELL DAMAGE MECHANISM IN A 3D IN VITRO MODEL OF BLEST TRAUMATIC BRAIN INJURY. Harry C. Cramer III, Jonathan B. Estrada, Mark T. Scimone, Christian Franck

CELLULAR CONTRACTION CAN DRIVE RAPID EPITHELIAL FLOWS. Alex Hamby

DISTINCT RELAXATION TIMESCALES OF NEURITES REVEALED BY MICRORHEOLOGY AND RELAXATION TESTS. Chao Fang

INFLUENCE OF MECHANICAL ENVIRONMENTAL FACTORS ON CELL MIGRATION PHENOMENON. Zbigniew Baster, Tomasz Witko, Zenon Rajfur

ELECTROTACTIC MIGRATION OF CHONDROCYTES IN A 3D COLLAGEN MATRIX. Joshua Bush, Xavier Palmer, Anthony Asmar, Michael Stacey

USING FLIM-FRET TO MEASURE FORCE IN ZEBRAFISH EMBRYOS USING AN EPCAM-EMBEDDED MOLECULAR TENSION SENSOR. Melanie R. Malinas

MODELLING THE DYNAMICS AND DISTRIBUTIONS OF FOCAL ADHESIONS. Laurent MacKay

SPATIOTEMPORAL CHANGE IN CELL STIFFNESS DURING EARLY EMBRYOGENESIS INVESTIGATED BY ATOMIC FORCE MICROSCOPY. Yuki Fuji, Taichi Imai, Wataru Koizumi, Kohji Hotta, Kotaro Oka, Takaharu Okajima

Controlling Candidate Physical Inputs to the Spindle Assembly Checkpoint

Energy Transduction Involving Light Harvesting, and Electron and Proton Transfer (Boards B580-B600)

EVOLUTIONARY TRADEOFFS IN EFFICIENCY AND TURNOVER RATE FOR FOF1-ATPase. Jason A. Wagoner, Ken Dill

A THEORY FOR RATE CONSTANTS IN ROTATION TRAJECTORIES OF F1-ATPASE. Sandor Volkman-Kacso, Rudolph Marcus

ISOLATION AND CHARACTERIZATION OF A NOVEL ATPase-PHOTOSYSTEM I REACTION CENTER COMPLEX IN THE CHLOROPLAST THYLAKOID MEMBRANE. Satarupa Bhaduri

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

FLUORESCENCE LIFETIME IMAGING SHOWS THAT RESPIRATORY SUPER-COMPLEXES CHANGE WITH DIFFERENT METABOLIC CONDITIONS. Karin B. Busch

EPR DETECTION OF RADICAL(S) IN CYTOCHROME C OXIDASE. Daniel Jancura, Marian Fabian

O-O BOND FORMATION IN PHOTOSYSTEM II OXYGEN EVOLVING COMPLEX. Yulia Pushkar, Scott Jensen, Katherine Davis

GRAVITATIONAL STRAIN AS A DRIVING MECHANISM FOR CELL METABOLISM. Steve Thorne

ELUCIDATING THE 30-YEAR-LONGSTANDING BIOENERGETIC MYSTERY IN ALKALOPHILIC BACTERIA. James W. Lee

ATOMIC-LEVEL CHARACTERIZATION OF THE STRUCTURAL DYNAMICS OF AZURIN VARIANTS WITH TUNED REDUCTION POTENTIALS. Anthony T. Meger, Steven M. Berry, Alessandro Cembran

DISSIPATION IN A SEQUENCE OF RELAXATIONS: THE LADDER THEOREM. Peter Salamon, Ty N.F. Roach, Forest L. Rohwer

DIRECT OBSERVATION OF POLARIZATION IN SHORT HYDROGEN BONDS DUE TO PROTON DELOCALIZATION. Chi-Yun Lin, Steven G. Boxer

MIMICKING NATURAL PHOTOSYNTHESIS: CHARGE TRANSFER IN PPCA-RU(BPY)3 COMPLEXES. Daniel R. Marzolf, Matthew O’Malley, Coleman Swaim, Oleksandr Kokhan

REGULATING PHOTONIC PROPERTIES OF LAMELLAR CHLOROPLAST AND THE ENVIRONMENTAL ADAPTATION. Ming-Chih Shih, Ping-Yun Tsai, Ming-Huang Wu, Jianxyue Chen, Chiou-Rong Sheue

IDENTIFICATION OF RED PIGMENTS IN THE PHOTOSYSTEM I COMPLEX OF OXYGENIC PHOTOSYNTHESIS. Yuval Mazor, Hila Toporik, Su Lin

A MULTISCALE MODEL OF PHOTOSYNTHESIS. Doran I.G. Bennett, Graham R. Fleming, Kapil Amarnath

MOLECULAR DYNAMICS OF LIGHT-HARVESTING COMPLEX II EMBEDDED IN THE THYLAKOID MEMBRANE. Sebastian Thallmair, Petteri A. Vainikka, Siwert-Jan Marrink

INCREASE IN DYNAMICAL COLLECTIVITY AND DIRECTIONALITY OF ORANGE CAROTENOID PROTEIN IN THE PHOTO-PROTECTIVE STATE. Yanling Deng, Catherine H. Luck, Tod D. Rome, Alan M. Grossfield, Sepalika Bandara, Zhong Ren, Xiaoqing Yang, Andrea G. Markelz
TUESDAY

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, Kelya 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 Elcock

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

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 PHILIP 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 AWARD: 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

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 NANOPIRATE 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. Abraham

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, Jurgen Köfinger, Gerhard Hummer

2608-Pos  Board B624
THERMODYNAMICS OF MEMBRANE PARTITIONING AND FOLDING OF AN ANIONIC CELL-PEENETRATING PEPTIDE. Austin R. Clark, Zachary Bonham, Blake Mertz
Optical Microscopy and Superresolution Imaging: Novel Approaches and Analysis II (Boards B633- B657)

2609-Pos Board B625
MOLECULAR SIMULATIONS OF LIPID ELECTROPORE FORMATION AND PORE-MEDIATED CALCIUM TRANSPORT WITH AN IMPROVED CA2+ 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 BACK-BONE AMIDES IN POLYGLUTAMINE MONOMERS AND FIBRILS. Riley J. Workman, Jeffrey D. Evanseck

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 MICROSPETROSCOPY WITH NANOMETER PEAK POSITION RESOLUTION: NOVEL APPLICATIONS OF ENVIRONMENT-SENSITIVE PROBES. Zoran Arsov, Iztok Urbanic

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 HOMEOASTIS LOCALIZE TO SPECIFIC 3D GEOMETRIES. Benjamin P. Bratron, 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. Bitten

2627-Pos Board B643

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 EMMITTER 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 Pellicci, 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 Palikkuth, Marjolein Meddens, Mohamad Fazel, Hanieh Farsibaf, Farzin Farzam, Michael Wester, Keith Lidke
Optical Microscopy and Superresolution Imaging: Applications to Cellular Molecules II (Boards B658-8678)

2637-Pos  Board B653  SCATTERING OF EVANESCENT ILLUMINATION BY SAMPLE INHOMOGENEITIES IN TIRF MICROSCOPY: A THEORETICAL STUDY. Jeremy J. Axelrod, Daniel Axcelrod

2638-Pos  Board B654  ADAPTIVE OPTICS IN DEEP TISSUE MICROSCOPY. Simon W. Leemans, Alexander Dvorinovik, 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, Uluc 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 Diasprio, Luca Lanzanò, Enrico Gratton

2637-Pos  Board B653  SCATTERING OF EVANESCENT ILLUMINATION BY SAMPLE INHOMOGENEITIES IN TIRF MICROSCOPY: A THEORETICAL STUDY. Jeremy J. Axelrod, Daniel Axcelrod

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2641-Pos  Board B657  AIRYSCAN COMPREHENSIVE SUPERRESOLUTION CORRELATION ANALYSIS. Lorenzo Scipioni, Alberto Diasprio, Luca Lanzanò, Enrico Gratton

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 Vasistes, Cong Liu, Evan P. Perillo, Hannah Horng, Mien-Chie Hung, Andrew K. Dunn, Tim Yeh

2644-Pos  Board B660  NANOSCALY 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 Don tenwill, Maxime Lehmann, Rodolphe Jaffiol

2646-Pos  Board B662  SUPERRESOLUTION MICROSCOPY OF THE T CELL RECEPTOR IN THE IMMUNOLOGICAL SYNSAPSE. Florian Baumgart, Benedikt K. Rossboth, Andreas M. Arnold, Mario Bameshuber, 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  NANOMOLECULAR 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. Rikfa 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 Wiegrebe, 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 MOLECULAR 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 MOLECULAR 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-MOLECULAR 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 Awardeee. 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, Jakob 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 Gloger, Markus Engstler, Susanne Fenz

2659-Pos  Board B675  BIOLUMINESCEENCE RESONANCE ENERGY TRANSFER (BRET)-BASED IMAGING OF G-PROTEIN COUPLED RECEPTOR SIGNALING AND TRAFFICKING. Hiroyuki Kobayashi, Louis-Philippe Picard, Anne-Marie Schöneegge, Michel Bouvier

2660-Pos  Board B676  QUANTITATIVE SUPERRESOLUTION IMAGING REVEALS MAMMALIAN GLYCOCALYX DYNAMICS. Leonard 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 Brozgal

2662-Pos  Board B678  INTERNATIONAL TRAVEL Awardeee. THE MICROSCOPIC STRUCTURE OF CRUNCHY AND CRISPY JELLYFISH. Mie T. Pedersen, Morten Christensen, Lars Duelund, Per L. Hansen, Jonathan R. Brewer, Mathias P. Clausen
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BPS18
San Francisco, California
February 17–21, 2018

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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 PEPHIGINUS VULGARIS IMPACTS THE NANOSCALE ARCHITECTURE OF DESMOSOMES. Tara Urner, Emily Bartle, Tejeshwar Rao, Andrew Wolcyzk, Alexa Matteyses

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 APPENDEAGES 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 Scalsi, Andrea Barberis, Enrica Maria Petринi, Alberto Diaspro, Francesca Cellal 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-MITOCHELONAL CONTACTS WITH FULLY QUANTIFIED FLUORESCENCE MICROSCOPY. Christopher R. King, Jennifer Lippincott-Schwartz

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

Bioengineering II (Boards B688–B696)

2672-Pos
Board B688
QUANTITATIVE CHARACTERIZATION OF GEL ELECTROPHORESIS IMAGG. 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 Scheidele, Emma Cimeneil, Lydia L. Sohn

2677-Pos
Board B693
A MARKOV STATE MODEL OF THE SARCOREME 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 Haushka, Jeffrey Chamberlain, Farid Moussavi-Harami, Michael Regnier

2679-Pos
Board B695
MICROSCOPY ELECTROPORATION PROBE. Tayyebeh (Azita) Sberbagh, 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
**Wednesday, February 21, 2018**

**Daily Program Summary**

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

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<td>New Council Meeting</td>
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<tr>
<td>8:00 AM-3:00 PM</td>
<td>Poster Viewing</td>
<td>Exhibit Hall ABC</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td><strong>Symposium: Transmembrane Signals and Signaling Mechanisms</strong></td>
<td>North, Lower Lobby, Room 24</td>
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<td><strong>Co-Chairs</strong></td>
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<td>William Cramer, Purdue University</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td><strong>Symposium: Protein Dynamics, Folding, and Allostery II: Dynamics and Function</strong></td>
<td>North, Lower Lobby, Room 25</td>
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<td>Walter Chazin, Vanderbilt University</td>
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<td>Christina Redfield, University of Oxford, United Kingdom</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platforms: Voltage-gated K Channels II</td>
<td>South, Level Two, Room 207/208</td>
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<tr>
<td>8:15 AM-10:15 AM</td>
<td>Platform: Optical Microscopy and Superresolution Imaging: Applications</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Cardiac Muscle Mechanics, Structure, and Regulation II</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Membrane Dynamics and Fusion II</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Chaperone-assisted Protein Folding</td>
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<td>8:15 AM-10:15 AM</td>
<td>Platform: Endocytosis, Exocytosis, and Intracellular Transport</td>
<td>Esplanade, Room 156</td>
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<td>10:30 AM-12:30 PM</td>
<td>Poster Presentations and Late Posters</td>
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<td>1:00 PM-3:00 PM</td>
<td><strong>Symposium: Biophysical Insights from Surface Engineering</strong></td>
<td>North, Lower Lobby, Room 24</td>
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<td><strong>Co-Chairs</strong></td>
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<td></td>
<td>Deborah Leckband, University of Illinois at Urbana-Champaign</td>
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<td>Kathleen Stebe, University of Pennsylvania</td>
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<td><strong>INTERCELLULAR MECHANOTRANSDUCTION. Deborah Leckband</strong></td>
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<td><strong>CELLS SENSE AND RESPOND TO CURVATURE BY PATTERNING STRESS FIBERS AND UNDERGOING CURVATURE GUIDED MIGRATION. Kathleen Stebe</strong></td>
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<td><strong>SPATIO-TEMPORAL CONTROL OF CELLULAR DYNAMICS USING A CELL-FRIENDLY PHOTORESIST. Junsang Doh</strong></td>
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<td><strong>THE INFLUENCE OF MONOLAYER MORPHOLOGY AND DYNAMICS ON LUNG STABILITY. Joseph A. Zasadzinski</strong></td>
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<td>1:00 PM-3:00 PM</td>
<td><strong>Symposium: Cytoskeletal Motors</strong></td>
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<td>William Hancock, Pennsylvania State University</td>
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<td>Erica Holzbaur, University of Pennsylvania</td>
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<td><strong>SINGLE-MOLECULE NANOMECHANICS OF KINESIN AND KINESIN-FAMILY PROTEINS. Steven M. Block</strong></td>
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<td><strong>ALLOSTERIC TUNING OF MYOSIN FORCE GENERATION: NEW AVENUES TOWARDS THERAPEUTICAL TREATMENT. Anne Houdusse</strong></td>
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<td><strong>KINESIN MOTOR DOMAIN DYNAMICS DURING SINGLE-MOTOR STEPPING AND MULTI-MOTOR TRANSPORT. William O. Hancock</strong></td>
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<td><strong>ONE MOTOR, MANY FUNCTIONS: LOCALIZED REGULATION OF CYTOPLASMIC DYNEIN IN NEURONS BY EFFECTOR PROTEINS. Erika Holzbaur</strong></td>
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<td>1:00 PM-3:00 PM</td>
<td><strong>Symposium: New and Notable</strong></td>
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<td><strong>Co-Chairs</strong></td>
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<td>Anne Kenworthy, Vanderbilt University School of Medicine</td>
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<td>Francesca Marassi, Sanford Burnham Prebys Medical Discovery Institute</td>
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<td><strong>ULTRAFAST GLUTAMATE SENSORS RESOLVE SYNAPTIC SHORT-TERM PLASTICITY. Katalin Torok</strong></td>
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<td><strong>THE DYNAMIC ORGANIZATION OF MODIFIED CHROMATIN FIBERS REVEALED BY SINGLE-MOLECULE FRET. Beat Fierz</strong></td>
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<td><strong>FUNDAMENTAL TRADE-OFFS BETWEEN INFORMATION FLOW IN SINGLE CELLS AND CELLULAR POPULATIONS. Eric J. Deeds</strong></td>
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<td><strong>NEW TOOLS AND TECHNIQUES FOR MEASURING AND MANIPULATING CHAIN COLLAPSE IN INTRINSICALLY DISORDERED PROTEINS. Patricia L. Clark</strong></td>
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<td><strong>STRUCTURE OF THE COLD AND MENTHOL SENSOR TRPM8. Seok-Yong Lee</strong></td>
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<td><strong>INTEGRATING X-RAY SCATTERING INTO PROTEIN STRUCTURE PREDICTION. Susan Tsutakawa</strong></td>
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<td>1:00 PM-3:00 PM</td>
<td>Platform: Molecular Dynamics II</td>
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<td>1:00 PM-3:00 PM</td>
<td>Platform: Membrane Protein Dynamics</td>
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<td>1:00 PM-3:00 PM</td>
<td>Platform: Intrinsically Disordered Proteins (IDP) and Aggregates II</td>
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<td>1:00 PM-3:00 PM</td>
<td>Platform: Membrane Physical Chemistry II</td>
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<td>1:00 PM-3:00 PM</td>
<td>Platform: Chromatin and the Nucleoid</td>
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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-SYM 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-SYM 8:45 AM
TUNING THE SIGNALING OUTPUT OF PROTEIN KINASE C. Alexandra C. Newton

2691-SYM 9:15 AM
REDOX DEPENDENT TRANS-MEMBRANE SIGNALING. William A. Cramer

2692-SYM 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-SYM 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-SYM 8:45 AM
PROTEOSTASIS FUNCTION AND DISFUNCTION: THE FOLDING MACHINES THAT MAINTAIN PROTEOME HEALTH. Judith Frydman

2695-SYM 9:15 AM
STRUCTURE AND DYNAMICS OF HIV-1 CAPSID ASSEMBLIES: INSIGHTS FROM AN INTEGRATED APPROACH. Tatyana Polenova

2696-SYM 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 T1 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 KCSSA’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, Amaya 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. Fujitaya, 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**, Gado 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, Jia Li, Ulrich Martin, Robert Zweigerdt, Bernhard Brenner, **Theresa 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 TWITCH 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. **Shouryadiptha 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. **Rikhipa 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, Amareesh Sahu, Roger Sauer

2726-Plat 9:30 AM
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 THERMO-DYNAMIC 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, Pawel Dabrowski-Tumanski, Szymon Niewieczeral

2733-PLAT  
9:15 AM  
A NOVEL CONFORMATION OF THE POLYPEPTIDE-BINDING POCKET SUPPORTS AN ACTIVE SUBSTRATE RELEASE FROM HSP70S. Jiao Yang, Yinong Zong, Jiajue 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, Kerrie L. Mack, Elizabeth Sweeney, Elizabeth C. Duran, James Shorter, Aaron L. Lucia

2736-PLAT  
10:00 AM  
A PROTEAN CLAMP GUIDES MEMBRANE TARGETING OF TAIL-ANCHORED PROTEINS. Shu-ou Shan, Un Seng Chio

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**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 S3 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

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**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

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**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
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. Erika Holzbaur

1:20 PM
THE DYNAMIC ORGANIZATION OF MODIFIED CHROMATIN FIBERS REVEALED BY SINGLE-MOLECULE FRET. Beat Fierz

1:40 PM
FUNDAMENTAL TRADE-OFFS BETWEEN INFORMATION FLOW IN SINGLE CELLS AND CELLULAR POPULATIONS. Eric J. Deeds

2:00 PM
NEW TOOLS AND TECHNIQUES FOR MEASURING AND MANIPULATING CHAIN COLLAPSE IN INTRINSICALLY DISORDERED PROTEINS. Patricia L. Clark

2:20 PM
STRUCTURE OF THE COLD AND MENTHOL SENSOR TRPM8. Seok-Yong Lee

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

1:00 PM
SIMULATION OF GEOMETRICALLY ACCURATE, MULTIBILLION ATOM CELLULAR MEMBRANE STRUCTURES. Noah Trebesch, Emad Takhorsehid

1:15 PM
COMPUTATIONAL HIGH-THROUGHPUT SCREENING OF DRUG-MEMBRANE THERMODYNAMICS. Tristan Bereau

1:30 PM
ATOMIC-LEVEL CHARACTERIZATION OF PROTEIN-PROTEIN ASSOCIATION. Albert C. Pan, Daniel Jacobson, Konstantin Borisov, Duluxan Srintharan, Thomas M. Weinreich, David E. Shaw

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

2:00 PM
DYNAMIC HISTOGRAM ANALYSIS TO DETERMINE FREE ENERGIES AND RATES FROM BIASED SIMULATIONS. Lukas S. Stelzl, Adam Kells, Edina Rosta, Gerhard Hummer

2:15 PM
WEIGHTED ENSEMBLE SIMULATION STUDIES OF MILLISECOND FOLDER NTL9. Upendra Adhikari, Barmak Mostofian, Daniel M. Zuckerman

2:30 PM
ENHANCED SAMPLING AND BAYESIAN INFERENCE TO MODEL THE CONFORMATIONAL DYNAMICS OF PEPTOID MACROCYCLES. Matthew Hurley, JD Northrup, Vincent Voelz, Chris Schafmeister

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

1:00 PM
CONFORMATIONAL LANDSCAPE OF SODIUM GLUCOSE TRANSPORTERS. Paola Bisignano, Sara Capponi, John M. Rosenberg, Michael Grabe

1:15 PM
SINGLE-MOLECULE ANALYSIS OF PHOSPHOLIPID SCRAMBLING BY TMEM16F. Rikiya Watanabe, Takaharu Sakuragi, Hiroyuki Noji, Shigekazu Nagata

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

1:45 PM
A COMBINED SIMULATION AND SAXS STUDY OF THE DYNAMICS OF LIPID NANODISCS. Tone Bengtson, Viktor L. Holm, Søren R. Midtgaard, Lise Arleth, Kresten Lindorff-Larsen

2:00 PM
EFFECT OF THE ENDOSOMAL ACIDIFICATION ON SMALL ION TRANSPORT THROUGH THE ANTHRAX TOXIN PA63 CHANNEL. Nnanya Kalu, Antonio Alcaraz, Goli Yamini, Sanaz Momben Abolfath, Laura Lucas, Clare Kenney, Vicente M. Aguilella, Ekaterina M. Nestorovich

2:15 PM
COMBINED HIGH-SPEED SINGLE PARTICLE TRACKING OF MEMBRANE PROTEINS AND SUPERRESOLUTION OF MEMBRANE-ASSOCIATED STRUCTURES. Hanieh Mazloom-Farsibaf, Keith Lidke

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

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, ESPALANDE, ROOM 154

Co-Chairs
Martina Huber, Leiden University, The Netherlands
Rebecca Berlow, The Scripps Research Institute

2776-Plat
2:45 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

2780-Plat
1:45 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

2781-Plat
2:00 PM
REGULATION OF LIPID DROPLET FORMATION BY MEMBRANE TENSION. Abdou Rachid Thiam

Platform
Chromatin and the Nucleoid
1:00 PM–3:00 PM, ESPALANDE, 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
EMERGENCE OF MEMBRANE MATERIAL PARAMETERS REVEALED BY SOLID-STATE 2H NMR SPECTROSCOPY. Jacob J. Kinnun, K. J. Mallikarjuniah, Horia I. Petrache, Michael F. Brown

2779-Plat
1:30 PM
DETERMINING THE BENDING MODULUS OF ASYMMETRIC BILAYERS BY SIMULATION. Sophia Wheeler, Marley Samways, Jonathan Essex

2782-Plat
2:15 PM
PUNCHING MEMBRANES: HOW LIPID BILAYERS WITHSTAND AND PROPAGATE MECHANICAL LOAD. Florian Franz, Camilo Aponte-Santamaria, Sergi Garcia-Manyes, Frauke Gräter
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
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

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<td>B47–B64</td>
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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 Vandenbergk

2802-Pos Board B10
INVESTIGATING 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, Ciroano 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. Patricia Alves Silva, Thyago José Arruda Pacheco, Ana Karina Rodrigues Abadio, Erika Seki Kishoishi, Nahum Hernández 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, Napoleon 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

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, Wei 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, Shunning Fang, Matt Martin, Jenny Hinshaw

2813-Pos Board B21

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, Andrezej 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 ZN²⁺-DRIVEN CIS INTERACTION WEAKENED BY N-TERMINAL DELETIONS. Kate Markham, Glenn Millhauser
ERICA S. SANCATE

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. Christian Salesse, Nor C. Law, Sebastian Kelm, Jiye Shi, Charlotte M. Deane

2824-Pos
Board B32

INSIGHT INTO LIGAND BINDING AND CONFORMATIONAL DYNAMICS OF KYNURENINE 3-MONOXYGENASE. Rajni Verma, Katie Mitchell-Koch

2825-Pos
Board B33

INVESTIGATING THE ROLE OF THROMBOMODULIN IN THE ACTIVATION OF COMPLEMENT. Julia R. Kooppe, Gary Ellis, Nicholas Joannides, Vanesssa Wiltsie

2826-Pos
Board B34

HOST-PATHOGEN INTERACTIONS VIA UBIQUITINATION PATHWAYS. Kathy Wong, Guennadi Kozlov, John D. Perpich, Miroslaw Cylger, Youssef 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 Awardeee

STRUCTURE-FUNCTION STUDIES OF THE HYPOXIA-INDUCIBLE PROLY 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


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. Khanna, 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 ISOPEREPID 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

PREDMAP: 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


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, Eleonor 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, Chao Seok, Matthias Buck
Protein Stability, Folding, and Chaperones III
(Boards B65–B92)

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 Garcia-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. Kondrotas, 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, Chrysovali Vasileiou, Babak Borhan, James Geiger

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, Chunjuang 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 DESTABLIZATION 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 PROTEINS FROM A PSYCHROPHILIC AND A MESOPHILIC DIALYSIS. Logan Tallery, 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 Stankiewicz

2865-Pos  Board B73
KNOB-SOCKET PREDICTIONS OF ALPHA-HELICAL STABILITY. Taylor R. Rabara, Joshua 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
EXPLORED 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. Sininas, 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-Águilar, Lina Andrea Rivillas Acevedo, Leidys French Pacheco, Gilberto Valdes Garcia, Roberto Maya Martinez, Nina Pastor Colón, Carlos Amaro 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
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  MANIPULATION OF TAU OLIGOMERIZATION AND AGGREGATION CHARACTERIZED BY TIME-RESOLVED FRET. Chih Hung Lo, Tony 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 OLGOMERIC TRANSITIONS IN PROTEINS. Mohd. Ziauddin Ansari, Amrendra Kumar, Dileep Ahari, Anurag Priyadarshni, Padmavathi Lolla, Rashna Bhandari, Rajaram Swaminathan

2909-Pos  Board B117  PRIYING INTO HYDRATION WATER IN AMYLOIDOGENIC INTRINSICALLY DISORDERED PROTEINS. Samrat Mukhopadhyay, Shruti Arya, Karishma Bhasme, Priyanka Dogra, Avinash K. Singh, Tuhin Khan, Anindya Datta, Payel Das

2910-Pos  Board B118  UTILIZING FORSTER RESONANCE ENERGY TRANSFER (FRET) AND PHOTO-CROSSLINKING TO VISUALIZE CONFORMATIONAL CHANGES OF ALPHA-SYNuclein. John J. Ferrie, Conan 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. Gradi-naru

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, Shamshadreep 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, Tejibir 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 Ezerksi, Pengzhi Zhang, Margaret Cheung

2921-Pos  Board B129  DESIGNING LIGANDS FOR STRUCTURE-LESS PROTEINS. Anirban Das, Anju Yadav, Barun Kumar Maity, Bappadiyta Chandra, Alexander Korn, Jumiane 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 FTZS 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
Ribosomes & Translation
(Boards B142-B161)

2934-Pos  Board B142  ALLOSTERIC LOGIC OF THE V. VULNIFICUS ADENINE RIBOSWITCH RESOLVED BY FOUR-DIMENSIONAL CHEMICAL MAPPING. Riju Das

2935-Pos  Board B143  SIMULTANEOUS FORCE AND FLUORESCENCE MEASUREMENTS ON SINGLE RIBOSOMES DEMONSTRATE THAT mRNA SECONDARY STRUCTURES DO NOT RESTRICT EF-G CATALYZED TRANSLATION. Varsha P. Desai, Filipp Frank, Maurizio Addabbo, Silvia Cavagnero

2936-Pos  Board B144  HOW 2’-O-METHYLATION IN MRNA DISRUPTS TRNA DECODING DURING TRANSLATION ELONGATION. Junhong Choi, Gabriele Idrissinulait, Hasan DeMirici, Ka-Weng leong, 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


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 TWEETERS 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 CON DenSATION 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. Emi 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: EPISOMATIC 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, Padma 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, Ruizhen 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 NANOFI LDIC 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 Ditterweich, 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 LIHD 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-hong 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 PLASM 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, Lai Kong Song

2978-Pos  Board B186
1 + 1 = 0? — NANosecond Bipolar Pulse Cancellation and the Electrop ermeome. Esin B. Sozer, P. Thomas Vernier

2979-Pos  Board B187
THE IMAGING FCS DIFFUSION LAW FOR MULTIPLE DIFFUSIVE MODES. Satehsvanar Veenapathiran, Thorsten Wohland

2980-Pos  Board B188
THE ROLE OF TRACTION IN MEMBRANE CURVATURE GENERATION. Haleh Alimohamadi, Ritvik Vasan, Julian Hassinger, Jeanne Stachowiak, Padmni 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 Khuyfets, 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, Amarendra Sahu, Yannick A.D. Omar, Kranthi K. Mandalapu

Membrane Fusion and Non-Bilayer Structures (Boards B201-B229)

2993-Pos  Board B201  LIPOSOOME-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-ENRICHEO MEMBRANE MICRODOMAINS TO COOPERATIVELY REGULATE DRP1-MEDIATED MITOCHONDRIAL FISSION.  Patrick Macdonald, Natalia Stepzyns, 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. Nynheuis, Elizabeth A. Nelson, Volker Kiesllng, David S. Caffso, 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 DISCOVER 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 LIPOSOMES AND MINERAL SURFACES. Brenda L. Kesseneich, 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


3015-Pos  Board B223  INVESTIGATION OF SYNAPTIC VESICLE FUSION MECHANISMS WITH NOVEL VESICULAR FORCE MICROSCOPY. Ines Lüchtefeld, Tomaszo Zambelli, Janos Vörös

3016-Pos  Board B224  MOLECULAR CONFORMATION AND TOPOGRAPHY OF A SYNAPIC LIPO-PEPTIDE IN SIMULATED SYNAPTOSOMAL MEMBRANE LIPOSOMES. Julian Whitelegge, Piotr Ruchala, Alan Waring, Cameron Gunderson

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 Kubisch, 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 OF MEMBRANE PROTEINS BY LIPOSOMES. 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-Martín, Vicente M. Aguilera

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, Daejeong Kim, Moon Ki Kim

3029-Pos  Board B237  THE FUNCTIONAL RELATIONSHIP BETWEEN A KIR CHANNEL AND THE LIPID MEMBRANE. Benjamin Wylie, Collin Borck, 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  PIP2 AND CA2+ ARE BOTH REQUIRED TO OPEN TMEM16A CHANNELS IN XENOPUS LAEVIS OOCYTES. Malwaise 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 GABA2A 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. Koeppel 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, Jefferon D. Knight, Arun Anantharam
SPHINGOMYELIN-CHOLESTEROL COMPLEXES IN PLASMA MEMBRANES. Shreya Endapally, Donna Frias, Diana Tomchick, Arun Radhakrishnan

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

MEMBRANE BINDING PROPERTIES OF BACILLOMYCIN-D DERIVATIVES WITH MODEL MEMBRANES COMPOSED OF DIFFERENT STEROLS. Carlos Munoz-Garay, Sathishkumar Munusamy, Agustin Luna Bulbarela, Romina Vazquez, Venesa Herlax, Sabina Mate, Leobardo Serrano Carreon

MULTISCALE SIMULATIONS OF MEMBRANE RECOGNITION BY LIPID KINASES. Sarah-Beth Amos, Antreas C. Kalli, Jiye Shi, Mark S. P. Sansom

THE FLOW OF PROTEINS AND IDEALISED PORES WITHIN THE MEMBRANES OF GRAM-NEGATIVE BACTERIA. Jonathan Shearer, Syra Khalid

TWO-COLOR STED MICROSCOPY TO VISUALIZE S-LAYER BIOGENESIS IN CAULOBACTER CRESCENTUS. Collin J. Comerci, Jonathan Herrmann, Lucy Shapiro, Soichi Wakatsuki, W. E. Moerner

MECHANISMS GOVERNING PROTEIN CLUSTERING AND SHAPE CHANGES IN BIOLOGICAL MEMBRANES. Sunil Kumar Palakurissi Balagopal, Sreeja K K

INTERPLAY OF CURVATURE SENSING AND GENERATION MEDIATED BY PERIPHERAL MEMBRANE PROTEINS. Sachin Krishnan Thkke Veettil, Sovan Lal Das, Sunil Kumar Palakurissi Balagopal

STRUCTURAL LIPIDS STABILISE FUNCTIONAL OLGOMERS OF THE EUKARYOTIC PURINE SYMPORTER UAPA. Euan Pyle, Antreas Kalli, Zoe Hall, Bernadette Byrne, Argyris Politis

INVESTIGATING STRUCTURAL PROPERTIES OF PSEUDOMONAS AERUGINOSA EXO TOXIN UPON INTERACTION WITH LIPOSOOME AND NANODISC BILAYERS BY EPR SPECTROSCOPY. Tzvia I. Springer, Samantha Kohn, Jimmy Feix

INVESTIGATING THE CONFORMATIONAL DYNAMICS AND MEMBRANE INTERACTION NEAR THE CATALYTIC SERINE OF EXO ON INTERACTION WITH DIUBQUITIN AND MEMBRANES BY EPR SPECTROSCOPY. Samantha Kohn, Tzvia Springer, Jimmy Feix

THE MINIMUM CONDITIONS FOR BAX TO INDUCE APOPTOTIC MEMBRANE POSES. Yei-Chen Lai, Yun-Wei Chiang

STRUCTURAL CHARACTERIZATION OF MEMBRANE-ASSOCIATED BCL-2 FAMILY PROTEINS. Yong Yao, Vindana Ekanayake, Pavel Ryzhov, Francesca M. Marassi

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

HUMAN DOMAIN SWAPPED CYTOCHROME C: THE EVOLUTIONARY FORERUNNER OF APOPTOSIS? Harmen B. Steele, James T. Rogan, JB Alexander Ross, Bruce E. Bowler

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

IMPLEMENTING A STATISTICAL THERMODYNAMIC MODEL TO DESCRIBE FUNCTIONALLY RELEVANT CYTOCHROME C–CARDIOLIPIN L-SITE BINDING. Bridget Milorey, Reinhard Schweitzer-Stenner

ISOOTHERMAL 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

LIPID MEMBRANE TEMPLATED MISFOLDING AND SELF-ASSEMBLY OF INTRINSICALLY DISORDERED TAU PROTEIN. Jaroslav P. Majewski, Emmalee M. Jones, Jacek Biernat, Eckhard Mandelkow, Eva Y. Chi

EFFECT OF CHOLESTEROL ON MEMBRANE PORE FORMATION BY AMYLIOID B25-35. Nabin Kandel, Jason O. Matos, Suren A. Tatulian

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

STRUCTURE OF E. COI SECA BOUND TO LIPID VESICLES AND NANO-DISCs. Guillaume Roussel, Stephen H. White

INVESTIGATING THE MEMBRANE ASSOCIATION OF THE HUMAN N-TERMINAL ACETYLTRANSFERASE 60 (HNA60). Qaiser Waheed, Nathalie Reuter

CONFORMATIONAL CHANGES OF SEVI PRECURSOR PEPTIDE PAP248–286 UPON MEMBRANE BINDING. Shushan He, Lutz Malbaum

CYCLOOXYGENASE 1 LIPID INTERACTIONS REVEALED BY ALL-ATOM AND COARSE-GRAINED MOLECULAR DYNAMICS SIMULATIONS. Besian I. Sejdiu, D Peter Tieleman

THE EFFECT OF OESTROGEN ON CA2+ AND NA+ REGULATION IN HEART FAILURE. Jahn M. Firth, Hsiang-Yu Yang, Alice J. Francis, Anita Alvarez-Laviada, Kenneth T. MacLeod

TNF-ALPHA MEDIATES GENDER SPECIFIC CA2+ 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 CA2+ LEAK AND ARRHYTHMIA. Magali Samia el Hayek, Donald Bers, Ana-Maria Gomez, Laetitia Pereira

3067-Pos | Board B275 | INTERPLAY BETWEEN TRIPALadin AND CALSEQUESTRIN IN THE PATHOGENESIS OF CVPT. Marine Cacheux, Jérôme Thireau, Jérémy Fauchonner, Alexis Osseni, Nathalie Roux-Buisson, Julie Brocard, Julien Fauré, Alain Lacampagne, Isabelle Marty


3069-Pos | Board B277 | CHOLESTEROL PROTECTS AGAINST ACUTE STRESS-INDUCED T-TUBE REMODELING IN MOUSE VENTRICULAR MYOCYTES. Azadeh Nikouee, Keita Uchida, Anatoli N. Lopatin

3070-Pos | Board B278 | T-TUBULAR CONSTRICCTIONS PROMOTE T-TUBE SEALING. Keita Uchida, Azadeh Nikouee, Greta Tamkus, Anatoli N. Lopatin

3071-Pos | Board B279 | THE ROLE OF NCX1 ON THE MAINTENANCE OF T-TUBE ARCHITECTURE IN PRESSURE-OVERLOADED HEARTS. Yoshihiro Ujihara, Satomi Takatsu, Keiji Naruse, Satoshi Mohri, Yuki Katanosaka

3072-Pos | Board B280 | RECOVERY OF CARDIAC T-TUBES AFTER HYPOSOMATIC 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 CARDIOMYOCTE 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-CELL SYSTEM. John Shaw

3076-Pos | Board B284 | MECHANICAL LOAD EFFECTS ON CARDIOMYOCYTE ACTION POTENTIAL, CALCIUM TRANSIENT, AND CONTRACTION REVEALED BY USING A NOVEL PATCH-CLAMP-IN-GEL TECHNOLOGY. Zhong Jian, Yi-je Chen, Bence Hegyi, Tamás Banyasz, Zana Coulibaly, Rafael Shimkunas, Nipavan Chiamvimonvat, Kit S. Lam, Leighton T. Izu, Ye Chen-Izu

3077-Pos | Board B285 | SUPERRESOLUTION (DSTORM) IMAGING OF CALCIUM HANDLING PROTEINS IN CARDIOMYOCYTES. Ornella Manfra, Xin Shen, Johannes W. Hell, William Edward Louch


3079-Pos | Board B287 | SUPER RESOLUTION IMAGING OF RYANODINE RECEPTOR CLUSTER MORPHOLOGY IN RABBIT AND HUMAN ATRIAL MYOCYTES. Daria Boyd, Antony Workman, Niáll Macquaid

3080-Pos | Board B288 | ASSOCIATION OF CARDIAC MYOSIN BINDING PROTEIN-C WITH THE RYANODINE RECEPTOR-CA2+ RELEASE CHANNEL: PUTATIVE RETROGRADE REGULATION? Paulina Stanczyk, Monika Seidel, Judith White, Cedric Viero, Chris George, Spyros Zissimoopoulos, F. Anthony Lai

3081-Pos | Board B289 | TRAFFICKING OF PHOSPHOLAMIN AND SERCA2A FOLLOWS THE NUCLEAR ENVELOPE-TO-SR ALONG T-TUBES (NEST) PATHWAY COMMON TO JUNCTIONAL SARCOPLASMIC RETICULUM (SR) PROTEINS. Dan Wong, 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


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 CA2+ BINDING OF RYR2 FOR CHANNEL ACTIVATION AND DISEASE 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, Syeveda Sirensko, Rostislav Bychkov, Larissa A. Maltsvea, Mary S. Kim, Bruce D. Ziman, Kirill V. Tarasov, Mingyi Wang, Alexander V. Maltsvej, Jakyn A. Brennan, Igor R. Efimov, Michael D. Stern, Victor A. Maltsvej, Edward G. Lakatta

3087-Pos | Board B295 | POSITIVE FEEDBACK MECHANISMS AMONG LOCAL CA RELEASES, NCX, & IP3I IGNITE PACEMAKER ACTION POTENTIALS. Victor A. Maltsvej, 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. Hoekker, 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 | 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
Voltage-gated Na Channels
(Boards B335–B362)

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 Tschritsch, Mary E. Porter, Ahmet Yıldız

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 ENDOSONE 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 Irigoin, 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, Long-fang Yao, Lan Mi, Biao Dong, Jiong Ma

3127-Pos Board B335 ELUCIDATING THE SPECIFICITY AND BINDING RATE OF A SUBTYPE SELECTIVE SODIUM CHANNEL INHIBITOR WITH MOLECULAR DYNAMICS 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 A 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 Chaahine, Hugo Poulin, Pascal Gosselin-Badaroudine, Savine Vicart, Karima Habbout, Damien Sternberg, Serena Giuliano, Bertrand Fontaine, Said Bendahhou, Sophie Nicole


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 Winsten, Karin Jurkat-Rott

3134-Pos Board B342 NAV1.4 LOSS OF FUNCTION CHANGES FOR RECESSIONALLY INHERITED MYOPATHY WITH FLUCTUATING WEAKNESS. Nathaniel Elia, Perry Shieh, Marbella Quinonez, Christopher Maffeo, Wei Si, Aleksei Aksimentiev

3135-Pos Board B343 A COMPUTATIONAL MODEL OF THE CARDIAC SODIUM CHANNEL III 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. Bergjan, 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 1 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, Celine Boiteux, Toby W. Allen
**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_{Ca,L} IN ARTERIAL SMOOTH MUSCLE CELLS. INVOLVEMENT OF GLUCOSE-6-PHOSPHATE DEHYDROGENASE AND GPCR SIGNALING. **Rikuo Ochi**, Sukrutha Chettimad, Sachin A. Gupte

**3157-Pos**
**Board B365**
PROBING THE VOLTAGE-SENSING MECHANISM OF CA_{1,1} 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 Dobkins, 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_{1,2} AND INHIBIT CALCIUM-DEPENDENT INACTIVATION. **Marta Campiglio**, Pierre Costé de Bagneaux, Nadine J. Ortner, Petronel Tuluc, Bernhard E. Flucher

**3163-Pos**
**Board B371**

**3164-Pos**
**Board B372**
A NOVEL FORM OF CA_{1,4} 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_{1,1}. **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
TRP Channels II (Boards B379–B398)

3171-Pos  Board B379  DROSOPHLA-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<sub>R</sub> 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 Svobođova, Wolfgang Schreibmayer, Dieter Platzer, David T. Yue, Ivy E. Dick

Skeletal Muscle Mechanics, Structure, and Regulation II (Liu Yuxia)

3177-Pos  Board B385  EDUCATION TRAVEL Awardee ISCHEMIC NEURONAL CELL DEATH MEDIATED BY TRPC CHANNELS. Jaepyo Jeon, Sun Guanghua, Jinbin Tian, Sung-Ming Ting, Jaroslav Aronowski, Michael X. Zhu

3178-Pos  Board B386  FUNCTIONAL CHARACTERIZATION OF ZEBRAFISH TRANSIENT RECEPTOR POTENTIAL MELASTATIN 2. Ha Nam Tran, Jure Hederič, Tomohiro Numata, Masayuki X. Mori, Shingo Maegawa, Hiroshi Hosokawa, Yasuo Mori

3179-Pos  Board B387  BIOCHEMICAL CHARACTERIZATION OF THE INTERACTION OF TRPM3 WITH G<sub>q</sub> 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 Lisztés, 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, Yegeyn Yudin, Doreen Badheka, Istvan Borbörü, Aysekur Yazici, Siyuhan 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<sub>2</sub> DEPLETION CONTRIBUTES TO INHIBITION OF TRPM8 ACTIVITY BY G<sub>q</sub> PROTEIN COUPLED RECEPTORS. Luyu Liu, Yegeyn 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 Raddatt, Melissa Alegria-Arcos, German Miño-Galaz, Ignacio Díaz-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  POLICYSTIN-1/POLICYSTIN-2 MEDIATED CALCIUM ENTRY INTO CILIA DURING SONIC HEDGhog 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. Cantielo

3189-Pos  Board B397  FUNCTIONAL CHARACTERIZATION OF A CALCIUM-SENSING RECEPTOR-POLICYSTIN-2 CHANNEL COMPLEX IN THE PLASMA MEMBRANE OF LLC-PK1 CELLS. Noelia Scarinci, Paula L. Perez, Maria del Rocio Cantero, Horacio F. Cantielo

3190-Pos  Board B398  ACTIVATION MECHANISMS UNDERLYING INFLUX-OPERATED CALCIUM ENTRY OF TRPP CHANNELS. Liu Yuxia

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, Horacio F. Cantielo

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, Theresa Kraft, Bernhard Brenner
3193-Pos
THE SUPER RELAXED STATE OF MYOSIN IN HUMAN MUSCLE. Clyde F. Wilson, Nariman Naber, Roger A. Cooke

3194-Pos
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
DECIPHERING THE MOLECULAR MECHANISM OF MYOMESIN ELASTICITY. Matthias Wilmanns, Spyros D. Chatziiefthimiou

3196-Pos
NEBUJIN STIFENS 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
MYOSIN ORIENTATION IN A FUNCTIONING MUSCLE FIBER WITH HIGH ANGULAR RESOLUTION. Yahor Savich, Benjamin P. Binder, Peter D. Martin, Andrew R. Thompson, David D. Thomas

3198-Pos
CRYO-ELECTRON TOMOGRAPHY OF ISOLATED, RELAXED THICK FILAMENTS FROM LETHOCERUS INDICUS FLIGHT MUSCLE. Nadia Daneshparvar

3199-Pos
ELECTRON TOMOGRAPHY OF RELAXED LETHOCERUS FLIGHT MUSCLE REVEALS THIN FILAMENT BINDING OF DISORDERED “BLOCKED” HEADS. Hamidreza Rahmani

3200-Pos
ROLE OF MYOSIN CAATPASE IN MUSCLE CONTRACTION. Jinhua Ge, Akhil Gargey Iragavarapu, Yuri E. Nesmelov

3201-Pos
EFFECTS OF MYOSIN INHIBITORS ON THE X-RAY DIFFRACTION PATTERNS OF RELAXED AND CALCIUM-ACTIVATED RABBIT SKELETAL MUSCLE FIBERS. Hiroyuki Iwamoto

3202-Pos
COOPERATIVE ACTIVATION OF STRIATED MUSCLE THICK FILAMENTS BY S2 BINDING. Da’a Quedan, Andrea Bernardino-Schaefer, Rohit Singh, Christopher Thang, Mithilesh Bhaskaruni, Riti Srivastava, Douglas D. Root

3203-Pos
TOPOLOGY OF INTERACTIONS BETWEEN TITIN MOLECULES AND MYOSIN THICK FILAMENTS. Miklos Kellermayer, Dominik Siklai, Zsombor Papp, Brennan Decker, Eszter Lakatos, Zsolt Martonfalvi

3204-Pos
USING BROWNIAN DYNAMICS SIMULATIONS TO IDENTIFY BEST PRACTICES IN SINGLE PARTICLE TRACKING. Annan S. I. Cook

3205-Pos
SUBSTATE MOBILITY PRODUCES VELOCITY TIME DEPENDENCE IN MICROTUBULE GLIDING. Joseph D. Lopes, David Quint, Dail Chapman, Ajay Gopinathan, Linda Hirst, Jing Xu

3206-Pos
MICROFLUIDIC DEVICE TO MEASURE COLLECTIVE FORCE DYNAMICS OF KINESIN MOTOR PROTEINS. Joseph M. Cleary, William O. Hancock

3207-Pos
HIGH-SPEED ATOMIC FORCE MICROSCOPIC OBSERVATIONS ON DEMEMBRANATED CHLAMYDOMONAS AXONEMES AND NYEIN ARMS. Misaki Shiraga, Yuka Matsuda, Junya Kirima, Kazuhiro Oiwa

3208-Pos
STRUCTURAL INSIGHTS INTO COMPLEX FORMATION OF THE AXONEMAL NYEIN LIGHT CHAIN-1 AND OAFD STALK. Akiyuki Toda, Hideaki Tanaka, Yosuke Nishikawa, Toshiaki Yagi, Genji Kurisu

3209-Pos
CREATING PROTEIN-BASED MOLECULAR MOTORS THAT MOVE ALONG DNA NANOTUBES. Ryota Ibusuki, Kazuhiro Oiwa, Hiroaki Kojima, Ken’ya Furuta

3210-Pos
F-ACTIN MEDITATED FOCUSING OF VESICLES AT THE CELL TIP IS ESSENTIAL FOR POLARIZED GROWTH. Jeffrey P. Bibeau, James L. Kingsley, Fabienne Furt, Erkan Tüzel, Luis Vidali

**Cytoskeletal Assemblies and Dynamics (Boards B419–B432)**

3211-Pos
MECHANICAL REGULATION OF ACTIN FILAMENT DISASSEMBLY BY ADF/COFILIN. Antoine Jegou, Hugo Woland, Guillaume Romet-Lemonne

3212-Pos
INTRINSICALLY DISORDERED REGION OF ACTIN BINDING PROTEIN REGULATES DYNAMIC ACTIN ASSEMBLY. He Sun, Yansong Miao

3213-Pos
LARGE-SCALE COARSE GRAINED SIMULATIONS OF F-ACTIN INTERACTING WITH MODEL MEMBRANES. Carsten F. E. Schroer, Siewert J. Marrink

3214-Pos
STABILITY ON THE EDGE: PROBING THE BIOPHYSICAL MECHANISMS OF POLARITY MAINTENANCE IN MOTILE CELLS. Rikki M. Garner, Elena Koslover, Andrew J. Spakowitz, Julie A. Theriot

3215-Pos
ULTRA FAST CONTRACTIONS AND EMERGENT DYNAMICS IN A LIVING ACTIVE SOLID–THE EPITHELIUM OF THE PRIMITIVE ANIMAL TRICHOPLAX ADHAERENS. Shahaf Armon, Manu Prakash

3216-Pos
MATURATION OF THE HUMAN MOTILE CILIA WAVEFORM IN AIRWAY CELLS. Alina Oltean, Philip V. Bayly, Steven L. Brody

3217-Pos
SELF-ORGANIZED WAVE LIKE BEATING OF ACTIN BUNDLES IN A MINIMAL ACTO-MYOSIN SYSTEM OF CONTROLLED ARCHITECTURE. Marie Pochitaloff, Mathieu Richard, Takagi Yasuharu, Enrique De La Cruz, Jim Sellers, Jean-François Joanny, Frank Jülicher, Laurent Blanchoin, Pascal Martin

3218-Pos
CHARACTERIZATION OF ACTIN MODULATING PROTEINS IN THE CYTOKINETIC RING MACHINERY OF YEAST USING A MINIMAL INVITRO SYSTEM. Saravanan Palani, Paola Zambon, Anton Kamnev, Tomoyuki Hatano, Mohan K. Balasubramanian, Darius V. Köster

3219-Pos
MICRO-MANIPULATING THE SPINDLE TO STUDY CHROMOSOME SEGREGATION IN ANAPHASE. Jun Takagi, Takeshi Itabashi, Shin’ichi Ishiwata, Yuta Shimamoto
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

INVESTIGATING QUALITY OF MIXING IN A BIOLOGICAL ACTIVE NEMATIC. Amanda J. Tan, Eric Roberts, Kevin A. Mitchell, Linda S. Hirst

EDUCATION TRAVEL AWARDSEE ORGANIZATION AND DYNAMICS OF GLIDING FLEXIBLE FILAMENTS. Jeffrey M. Moore, Tyler N. Thompson, Matthew A. Glaser, Meredith D. Betterton

A NOVEL KINASE ACTIVITY OF CALPONIN. Nicholas W. Dilocero

BIOPHYSICS OF COLLECTIVE PHOTOTAXIS OF EUGLENA GRACILIS. Alan C. H. Tsang, Amy T. Lam, Ingmar H. Riedel-Kruse

FRUSTRATED PHAGOCYTIC SPREADING OF HUMAN NEUTROPHILS ON DIFFERENT DENSITIES OF SURFACE-IMMOLIZED IGG. Zhiyu Xiao, Emmet A. Francis, Volkmar Heinrich

COORDINATION OF MORPHOGENETIC GROWTH AND CELLULAR MECHANICS ACROSS MULTIPLE CELL LAYERS TO SHAPE THE DROSOPHILA WING DISC. Ali Nematbakhsh

LAMIN A/C GUIDED NUCLEAR MECHANOTRANSDUCTION. Jeong-Ki Kim, Dong-Hwee Kim

DEFORMABLE MICROPARTICLES AS REPORTERS FOR PROBING CELLULAR FORCES IN PHAGOCYTOSIS. Daan Vorselen, Julie Theriot

MATRIX STIFFNESS REGULATES THE FATE OF BREAST CANCER CELLS. Deep Parikh, Mary Stack, Hongjun Wang

LOCAL EPITHELIAL FRACTURE AND HEALING MECHANICS DICTATE MORPHOGENESIS AND ASEXUAL REPRODUCTION IN TRICHOPLAX ADHAERENS. Vivek N. Prakash, Arjun Bhargava, Manu Prakash

COHERENT TIMESCALES AND MECHANICAL STRUCTURE OF MULTICELLULAR AGGREGATES. Miao Yu, Aria Mahttabar, Paul Beelen, Yasir Demiryurek, David I. Shreiber, Jeffrey D. Zahn, Ramsey Foty, Leping Liu, Hao Lin

A NODE ORGANIZATION GENERATES TENSION AND PROMOTES STABILITY IN THE FISSION YEAST CONTRACTILE RING. Sathish Thiyagarajan, Shuyuan Wang, Ben O’Shaughnessy

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

MOLECULAR MECHANISMS FOR DISTINCT FUNCTIONS OF TALIN ISOFORMS. Krishna Chinthalapudi, Tina Izard

LIM KINASE 1 AND 2 REGULATE MOTILITY AND INVASION IN GLOBLASTOMA. Joseph Chen, Badriprasad Ananthanarayanan, Kelsey Springer, Sanjay Kumar

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VERSATILE PHOTOTACTIC BEHAVIORS OF THE CHIRAL MICROSWIMMER EUGLENA GRACILIS. Alan Tsang, Amy Lam, Ingmar H. Riedel-Kruse

DIRECT MEASUREMENT OF THE MAGNITUDE AND DYNAMICS OF MECHANICAL FORCES EXERITED BY SINGLE INTEGRINS IN LIVING CELLS. Steven Tan, Alice Chang, Cayla Miller, Sarang Nath, Alexander Dunn

MODELING INSIGHTS INTO THE MECHANICAL COORDINATION IN THE COLLECTIVE LOCOMOTION OF HEART PROGENITOR CELLS. Galina Copos, Yelena Bernadskaya, Lionel Christiaen, Alex Mogilner

CELL CYCLE INHIBITION BY CONSTRICTED MIGRATION. Charlotte R. Pfeifer, Victor M. Morales Garcia, Leeza M. Santiago Millan, Brandon Niese, Jerome Irianto, Dennis E. Discher


MECHANOSENSING OF SOLID TUMORS BY CANCER-ATTACKING MACROPHAGES. Cory Alvey, Charlotte Pfeifer, Jerome Irianto, Yuntao Xia, Lucas Smith, Larry Dooling, Dennis E. Discher

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

CURVATURE DEPENDENCE OF NUCLEAR RUPTURE FREQUENCY REVEALED BY AFM FORCE SPECTROSCOPY. Irena L. Ivanovska, Yuntao Xia, Jerome Irianto, Dennis E. Discher

COMPUTATIONAL MODEL OF DICTYOSTELIUM MIGRATION BY CHEMO-, MECHANO-, AND RIGIDITY SENSING. Atsushi Suzuki, Takumi Hayakawa, Kyungtaek Lim, Kazushi Ikeda, Chika Okimura, Yoshiaki Iwadate, Yuichi Sakumura

STRUCTURAL AND BIOMECHANICAL CHANGES DURING PLATELET-DRIVEN CLOT CONTRACTION. Oleg Kim

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
MOLECULAR MECHANISMS OF DYNEIN FORCE PERSISTENCE IN LIPID DROPLET TRANSPORT. Babu Reddy Janakaloty Narayananreddy, Dail Chapman, Deanna Smith, Steven Gross

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 LYOSOMES PROMOTES THEIR INTERACTIONS WITH ENDOOSOMES. Qinle Ba, Gururaprasad 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. Bowyn, Jared Bergman, Lorenzo Dovale, 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 Tjoe, 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 CA2+ 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

3261-Pos Board B467
THE ”M” CONFORMATION OF ADENINE NUCLEOTIDE TRANSLOCASE ENHANCES CYCLOSPORINE A-INDUCED DELAY OF MITOCHONDRIAL CA2+ UPTAKE AFTER CARDIAC ISCHEMIA/REPERFUSION INJURY. Mark A. Goss, James S. Heisner, Wai-Meng Kwok, Amadou K.S. Camara, David F. Stowe

3261-Pos Board B468
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 Glat, 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 Zakharina, Elisabeth 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, Elisabeth A. Jonas

3265-Pos Board B473
GENIPIN LACKS THE SPECIFICITY FOR UCP2 INHIBITION. Jürgen Kreiter, Anne Rupprecht, Lars Zimmermann, Maria Fedorova, Michael Moschinger, Tatyan A. 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 UNBUFFERING. Enrique Balderas-Angeles, Salah Sommamakia, 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 Vármai, György Csdóds, György Hajnóczky

3269-Pos Board B477
CYCLOSPORIN A: NEW INSIGHTS INTO ITS POTENTIAL ROLE IN MITOCHONDRIAL CA2+ EXCHANGER IN CARDIAC MITOCHONDRIA-ER INTERFACE. Rafaela Bagur, Arnaldo Souza, Georgia Günther, Raymond Reif, Péter Vármai, György Csdóds

3270-Pos Board B478
THE SPATIAL DISTRIBUTION OF THE NA+/CA2+ EXCHANGER IN CARDIAC MITOCHONDRIA ENHANCES THE EFFICINCY OF THE MITOCHONDRIAL CA2+ SIGNAL GENERATION. Sergio De la Fuente, Celia Fernandez-Sanz, Jonathan F. Lambert, John W. Elrod, Shey-Shing Sheu, Gyorgy Hajnoczky

3271-Pos Board B479
MGR2 AND THE CHANNEL ACTIVITY OF TIM23, A GATEWAY FOR MITOCHONDRIAL PROTEIN IMPORT. Ogugul Mirzalieva, Layla Dwresw, Abdussalam Azem, Cory Dunn, Pablo Peixoto

3272-Pos Board B480
PHOSPHORYLATION OF CARDIAC MITOCHONDRIAL VDAC1 AT S215 FACILITATES CELL DEATH. Melying Yang, Michael Grzybowski, Quindi Cheng, David F. Stowe, Aron Geurts, Po-Chao Wen, Nandan Haloi, Emad Tajkhoshid, Amadou K.S. Camara, Wai-Meng Kwok

3273-Pos Board B481
CPower Travel Awardee ASSESSING THE ROLE OF RESIDUE E73 IN VDAC1 VOLTAGE GATING. Maria Queralt-Martín, Lucie Bergdoll, Jeff Abramson, Daniel Jacobs, Sergey M. Bezrukov, Tatiana K. Rostovtseva

3274-Pos Board B482
CPower Travel Awardee INORGANIC POLYPHOSPHATE (POLYP) PROMOTES PROTEIN AGGREGATION TO PROTECT MITOCHONDRIA AGAINST STRESS. M. de la Encarnación Sóloso Torregrosa, Federico Amodeo, Pia Elustondo, Alejandro Cohen, Evgeny V. Pavlov
Systems Biology and Disease (Boards B493–B508)

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-COMPARISON 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

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 TRANSLLOCATION 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

3285-Pos  Board B493
TARGETING PROTEOME-SCALE NETWORKS TO DESIGN AND SYNTHESIZE POTENT ANTICANCER AND CELL-SPECIFIC IMMUNOMODULATORY COMPOUNDS. Gaurav Chopra

3286-Pos  Board B494
SYSTEMS ANALYSIS OF A COMBINED INTERACTOME OF LITHIUM-SENSITIVE PROTEINS. WeiHao Ge, Eric Jakobsson

3287-Pos  Board B495
VIALE PATHOGENIC ORGANISM TRANSPORTATION AND RECOVERY FROM A LOW-COST SUPPORT. Tonya Santas, 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 Manuechehrfar, 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, Henrik Heyne, Kasper Lage, Rikke Steensbjerg 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
MECHANISTIC SYSTEMS MODELING TO IMPROVE UNDERSTANDING AND PREDICTION OF CARDIOTOXICITY CAUSED BY TARGETED CANCER THERAPEUTICS. Jaehee Shim

3294-Pos  Board B502
RADIODERECTIVE EFFECTS OF LACTOBACILLI WITH ANTAGONISTIC ACTIVITIES AGAINST HUMAN PATHOGENS. Astghik Pepoyan, Marine Balayan, Anahit Manvelyan, Softi Pepoyan, Lilit Malkhassian, Tatевик 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
REFLECTED CONDUCTION ATTRIBUTED TO SODIUM CHANNEL DISTRIBUTION WITHIN CARDIOMYOCYTES: A POSSIBLE MECHANISM OF VENTRICULAR FIBRILLATION INDUCTION IN BRUGADA SYNDROME. Kunichika Tsumoto, Yoshihisa Kurachi

3299-Pos  Board B507
EXAMINING UBE3A’S POSSIBLE ROLE IN DENDRITIC SPINE MORPHOGENESIS. Judy E. Bloom, Carissa Sirois, Michael L. Blinov, Stormy J. Chamberlain, Leslie M. Loew

3300-Pos  Board B508
TUBERCULOSIS (TB) AND NOODLETREE: VERIFYING GENETIC SEQUENCE DATA AND FUNCTIONALITY OF A GENERALLY TRANSDUCED M. TUBERCULOSIS TOXIN THROUGH A VIRAL CARRIER. Britt Int-Hout, Lydia Flores
Emerging Techniques and Synthetic Biology (Boards B509–B517)

3301-Pos Board B509
A GENETICALLY ENCODED TOOLBOX OF ORTHOGONAL ADHESIONS 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 Campás

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
TUNING DNA AND LIPID BINDING PROTEINS TO SENSE CHANGES IN CELLULAR GEOMETRY. Clifford W. Sandlin, Matthew C. Good

3308-Pos Board B516
PROBING DYNAMICS OF PROTEINS VIA SELF-LABELING TAGS. Heejun Choi, Ya-Cheng Liao, Luke Lavis, Yoon J Young, Jennifer Lippincott-Schwartz

3309-Pos Board B517
KNOCKOUT SUDOKU OF ESOTERIC MICROBES FOR SUSTAINABLE ENERGY. Buz Barstow, Oluwakemi Adesina, Isao Anzai, Michael Baym, Lev Shkret

Neuroscience: Experimental Approaches and Tools (Boards B518–B542)

3310-Pos Board B518
THE POSITION AND DYNAMICS OF GLUTAMATE RECEPTORS MEASURED BY BRIGHTNESS- AND SIZE-EQUALIZED SMALL QUANTUM DOTS. Sang Hak Lee, Phuong Le, Yeon Youn, Andrew M. Smith, Paul R. Selvin

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, Yeon Youn, Pinghua Ge, Okonola B. Jeyfous, Andrew M. Smith, Sheldon Park, William N. Green, Paul R. Selvin

3313-Pos Board B521
POTASSIUM CHANNEL-BASED TWO COMPONENT OPTOGENETIC TOOL FOR SILENCING OF EXCITABLE CELLS. Yinth Andrea Bernal Sierra, Benjamin Rost, Silvia Oldani, Franziska Schneider-Warne, Reinhard Seifert, Dietmar Schmitz, Peter Hegemann

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 Gordeljy, 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
SOLAR CELL NANOWIRES AS APPROACH FOR SINGLE CELL DIRECT ACTIVATION. Jann I. Harberts, Aune Koolmäe, Robert Zierold, Cornelius Fendler, Irene Fernandez-Cuesta, Gabriele Loers, Maria Thereza Perez, Christelle Prinz, Gaute Otnes, Magnus Borgström, Heiner Linke, Robert H. Blick

3317-Pos Board B525
NANOPARTICLE-MEDIATED HEATING OF CELLULAR MEMBRANE INDUCES CHANGES IN MEMBRANE CAPACITANCE AND IONIC CONDUCTION. Bernardo I. Pinto, João L. Carvalho-de-Souza, Francisco Bezanilla

3318-Pos Board B526
MAGNETOGENETIC PROTEINS: MECHANISM AND NEW CANDIDATES. Guillaume Duret, Sruthi Polali, Martin A. Bell, Constantine N. Tzouanas, Jacob T. Robinson

3319-Pos Board B527
MAGNETOGENETICS FOR DROSOPHILA. Charles E. Sebesta, Guillaume Duret, Constantine N. Tzouanas, Jacob T. Robinson

3320-Pos Board B528
MAGNETOTHERMAL DEEP BRAIN NEUROMODULATION IN AWAKE, FREELY MOVING MICE. Rahul Munshi, Shahnaz Qadri, Arnd Pralle

3321-Pos Board B529
HOPPING-MODE SCANNING ION-CONDUCTANCE MICROSCOPY RESOLUTION DURING SYNAPTIC IMAGING. Jake H. Rabinowitz, Krishna Jayant, Martin A. Edwards, Ozgur Sahin, Rafael Yuste, Kenneth L. Shepard

3322-Pos Board B530
IMPROVEMENTS IN ACTION POTENTIAL RECORING IN HUMAN STEM CELL-DERIVED NEURONS USING DYNAMIC CLAMP. Mark W. Nowak, Brian K. Panama, Sanjot Singh, Brandon Franks, Glenna C L Bett, Randall L. Rasmusson

3323-Pos Board B531
APPLICATION OF ELECTROCHROMIC THIN FILMS FOR ELECTROPHYSIOLOGY. Felix Alfonso

3324-Pos Board B532
PARTIAL TREATMENT OF IN VIVO SINGLE AXONS BY MOUNTING A MICROFLUIDIC DEVICE DIRECTLY. Anthony Fan, Alireza Tofangchi, Taher Saif

3325-Pos Board B533
HIGH-THROUGHPUT CELL SCREENING FOR SPIONS STUDIES USING IMPEDANCE SPECTROSCOPY. Sonia Tan, Ebrahim Ghafar-Zadeh

3326-Pos Board B534
CHARACTERIZING VESICLES USING SPR. Ann-Sofie Cans, Hoda Fathali, Thomas Olsson, Fredrik Höök

3327-Pos Board B535
INTERNATIONAL TRAVEL Awardee MEASUREMENT OF FLUID MOVEMENT IN SCALA VESTIBULI. Eli Elyas, William E. Brownell, Anders Fridberger
Molecular Dynamics III (Boards B543-566)

Board B543
EVRIS is a user-friendly tool for simulating the dynamics of proteins and nucleic acids in solution. It uses a flexible forcefield and a variety of simulation protocols to explore the conformational space of biologically relevant systems. Evris, A. K. S. Nelson, R. N. Tyson, T. R. Jolliffe

Board B547
A unified framework for alchemical mutations in proteins, DNA, and ligands: Vytautas Gapsys, Bert L. de Groot

Board B548
Computational epitope prediction and screening precision antibody therapeutics for Alzheimer’s disease: Xubiao Peng, Ebrima Gibbs, Judith M. Silverman, Neil R. Cashman, Steven S. Plotkin

Board B549
A unified framework for alchemical mutations in proteins, DNA, and ligands: Vytautas Gapsys, Bert L. de Groot

Board B550
New QM/MM interface to NAMD probes tRNA charging mechanism: Marcelo C. Melo, Rafael C. Bernardi, Klaus Schulten, Zaida Luthey-Schulten

Board B551
A scalable and efficient approach to polarizable force fields in molecular dynamics simulations: Jonathan P. Coles, Michel Masella

Board B552
A refined free energy perturbation Hamiltonian replica exchange molecular dynamics method for absolute binding affinity predictions: Wei Jiang

Board B553
Inference of calmodulin’s Ca2+-dependent free energy landscapes via Gaussian mixture model validation: Annie M. Westerlund, Tyler J. Harpole, Christian Blau, Lucie Delemotte

Board B554
The combined force field-sampling problem in simulation of intrinsically disordered peptides: James Lincoff, Sukanya Sasmal, Teresa Head-Gordon

Board B555
Towards an efficient computational method to construct 3-D atomic resolution glycosaminoglycan models: Elizabeth Whitmore, Hanna Sihler, Olgun Guvench

Board B556
Finite-size effect on the charging free energy in the alchemical perturbation and "WARP DRIVE" method: Toru Ekimoto, Tsutomu Yamane, Mitsunori Ikeguchi

Board B557
Biomolecular simulations in a continuum ionic solvent with polarizable force fields, using Python and GPUs: Christopher D. Cooper

Board B558
Flexible choice of solute in replica exchange with solute tempering can improve performance of conformation search for small proteins: Motoshi Kamiya, Yuji Sugita

Board B559
Towards realistic models of lung surfactant–MD simulations with improved water and ion force fields: Pauline Delcroix, Agnieszka Olzynska, Lukasz Cwiklik

Board B560
Elastic moduli of fibrous proteins from equilibrium molecular dynamics simulation: Russell Hawkins, Daniel Cox

Board B561
New automated and high-throughput tools for the Martini forcefield: Peter C. Kroon, Tsjerk A. Wassenaar, Jonathan Barnoud, Siewert-Jan Marrink

Board B562
An accurate computation of a physical quantity of a protein with a Markov state model constructed using a manifold-learning technique: Reika Ito, Takashi Yoshidome

Board B563
WESTPA 2.0 advances in sampling, storage, and analysis of weighted ensemble simulations: Adam Pratt, Daniel M. Zuckerman, Lillian T. Chong

Board B564
Combining weighted ensemble method and lyapunov weighted dynamics: Application to proteins: Hiroshi Fujisaki, Kei Moritsugu, Yasuhiro Matsunaga, Hiromichi Suetani
Computational Methods and Bioinformatics II (Boards B567-B585)

3359-Pos  Board B567  AN ATOMIC FOUR-BODY STATISTICAL POTENTIAL TO DISTINGUISH NATIVE RNA STRUCTURES FROM NONNATIVE FOLDS. Majid Masso

3360-Pos  Board B568  RNA SECONDARY STRUCTURE PREDICTION GUIDED BY CHEMICAL SHIFTS. Kexin Zhang, Aaron Frank

3361-Pos  Board B569  MULTIPLE CRYPTIC BINDING SITES ARE NECESSARY FOR ROBUST FIBROTECTIN ASSEMBLY. Christopher A. Lemmon, Seth H. Weinberg

3362-Pos  Board B570  MOLECULAR DYNAMICS SIMULATION OF THE CONFORMATIONAL CHANGES IN THE PROCASPARASE 9 ACTIVATION. Humberto Gasperin, Claudia G Benítez-Caradoza, Jorge L Rosas-Triguero, Absalom Zamorano-Carrillo

3363-Pos  Board B571  QUANTIFICATION OF SARCOMERIC DISCONTINUITIES IN MOUSE EAR MUSCLE USING DEEP LEARNING. Brad Busse, John Heuser, Glen Humphrey, Joshua Zimmerman

3364-Pos  Board B572  MULTI-CELLULAR MODELLING OF CELLULAR MECHANISMS GIVES INSIGHTS ON THE MAINTENANCE OF EPIDERMAL TISSUE STRUCTURE. Claire Miller, James Osborne, Edmund Crampin

3365-Pos  Board B573  DETERMINING RECEPTOR INTERACTION KINETICS THROUGH SINGLE MOLECULE IMAGING AND COMPUTATIONAL MODELING. Luciana R. de Oliveira, Robel Yirdaw, Khuloud Jaqaman

3366-Pos  Board B574  THE SIMSHAPE METHOD FOR PROTEIN-DETERGENT INTERACTION RESEARCH. Yuhang Wang, Emad Tajkhorshid

3367-Pos  Board B575  PREDICTING DRUG DELIVERY EFFICIENCY INTO TUMOR TISSUES THROUGH MOLECULAR SIMULATION OF TRANSPORT IN COMPLEX VASCULAR NETWORKS. Evan P. Troendle, Ayesha Khan, Peter C. Season, Martin B. Ulmschneider

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Moscone Center

Part One: Ion Channel Analysis - Today’s Contemporary Systems for Safety and Efficacy Screening

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2:30 – 4:00 PM
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Sunday, February 18 .................................................... 10:00 AM–5:00 PM
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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

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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.

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Annual Meeting Sponsors*

AAT Bioquest Inc               Cellular Dynamics International, a FUJIFILM company
Allen Institute for Cell Science Molecular Devices LLC
Alvéole                        Pall ForteBio
Apl Bioengineering             Photonics Media
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Biochemistry                   Princeton University Press
Biologic USA                   Science Advances
Bruker Corporation             Sophion Bioscience A/S
Burroughs Wellcome Fund        Sutter Instrument
Carl Zeiss Microscopy LLC       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 spectrophotometers. 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
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

LUMICKS BV

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
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:


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 bio-molecular 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 manifold different 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 product’s 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 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
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 SURFE2R product family enables label-free real time measurement of electrogenic transporter protein activity. Employing SSM (solid supported membrane)-based electrophysiology, the SURFE2R 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, SSURFE2R N1, is ideally suited for basic research, whereas the SURFE2R 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, SURFE2R, 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

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**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
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, opto-genetics 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
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.

Abberior Instruments America
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
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
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Melville, NY 11747
www.journals.aip.org

AIP Bioengineering publishes high-impact manuscripts specific to the understanding and advancement of physics and engineering of biological systems.

ALA Scientific Instruments
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.

Alembic Instruments Inc
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
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
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.
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<td>325 Chapala Street</td>
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<td>Santa Barbara, CA 93101</td>
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<td><a href="http://www.anasysinstruments.com">www.anasysinstruments.com</a></td>
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<td>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.</td>
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<td>Anatrace Products LLC</td>
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<tr>
<td>434 West Dussel Drive</td>
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<td>Maumee, OH 43537</td>
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<td><a href="http://www.anatrace.com">www.anatrace.com</a></td>
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<td>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.</td>
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<tr>
<td>Andor Technology</td>
<td>610</td>
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<tr>
<td>425 Sullivan Avenue, Suite 3</td>
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<tr>
<td>South Windsor, CT 06074</td>
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<td><a href="http://www.andor.com">www.andor.com</a></td>
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<td>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.</td>
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<td>Anton Paar USA</td>
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<tr>
<td>10215 Timber Ridge Drive</td>
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<tr>
<td>Ashland, VA 23005</td>
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<td><a href="http://www.anton-paar.com">www.anton-paar.com</a></td>
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<td>Anton Paar is a leading supplier of analytical instrumentation focused on the biophysical characterization of proteins, liposomes and other nanoscale analytes.</td>
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<td>Applied Photophysics</td>
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<td>100 Cummings Center</td>
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<td>Beverly, MA 01915</td>
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<td><a href="http://www.photophysics.com">www.photophysics.com</a></td>
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<td>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.</td>
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<td>Arago Biosciences</td>
<td>1019</td>
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<tr>
<td>Physical and Theoretical Chemistry Laboratory, University of Oxford</td>
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<tr>
<td>South Parks Road</td>
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<tr>
<td>Oxford, Oxfordshire OX1 3QZ</td>
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<td>United Kingdom</td>
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<td>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 µL 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.</td>
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<td>ASI/Applied Scientific</td>
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<tr>
<td>Instrumentation Inc</td>
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<td>29391 West Enid Road</td>
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<td>Eugene, OR 97402</td>
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<td><a href="http://www.asiimaging.com">www.asiimaging.com</a></td>
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<td>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.</td>
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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.
Asylum Research, an Oxford Instruments Company
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 Scientific Inc
25 Industry Street, Unit 3
Aurora, Ontario L4G 1X6
Canada
www.aurorascientific.com


Avanti Polar Lipids Inc
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
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.
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<td>Carl Zeiss Microscopy LLC</td>
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<td>Cedarlane</td>
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<td>BioLogic USA</td>
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<td>Cell Press</td>
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<td>Cellular Dynamics International, a FUJIFILM company</td>
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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.

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 is a not-for-profit organization that advances learning and research via the global publication of academic books, journals and digital content.

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/intercellular 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.

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® 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.
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 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 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 Cybecyte 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., fluorescence measurements and cloned channels expressed in cultured cells.

DNASTAR Inc is a global software 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 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 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.
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<td><strong>eLife Sciences</strong></td>
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<td><strong>Publications Ltd</strong></td>
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<td>1st Floor, 24 Hills Road</td>
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<td>Cambridge, Cambridgeshire</td>
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**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 eiflsciences.org or follow @eLife on Twitter.**

**Expression Systems LLC**

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.

**Flucell AB**

Arvid Wallgrens Backe 20
Gothenburg 41346
Sweden
www.flucell.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**

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 ultrasensitive mutation detection from CTCs and ctDNA, and the ERASE-Seq variant caller for liquid biopsies.

**Gwydion Inc**

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**

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.
ID Quantique
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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
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.

INTEGRA Biosciences
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
396 University Avenue
Westwood, MA 02090
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.

Ionovation GmbH
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.

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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
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.
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 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 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 brings to market revolutionary single-molecule technologies that enable – for the first time – visualization of molecular interactions and acoustic manipulation of biomolecules.

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<td>Leica Microsystems</td>
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<td>Micro Photonics</td>
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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 multispectral 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.

The RM21™ Single Molecule Microscopes are designed for advanced fluorescence microscopy and are nanopositioner-ready to facilitate nanoscopy methods. Advantages: direct optical pathway access, high stability & precision alignment, flexible configurations, and TIRF module options.
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.

See how you can expedite your results with our latest innovation – AXON™ pCLAMP™ 11 Software Suite at booth #601.

Montana Molecular       921
366 Gallatin Park Drive, Unit A
Bozeman, MT 59715
www.montanamolecular.com

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
Richmond, CA 94804
www.mtitx.com

MTI supplies crystal substrates from A-Z. We provide laboratory R&D equipment including mixing, cutting, polishing machines, muffle and tube furnaces, film coaters, melting and casting systems.

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.

Nanonion Technologies GmbH       629
Ganghoferstraße 70a
Munich, 80339
Germany
www.nanion.de

Nanonion is a leading provider of automated patch clamp instrumentation with throughput capabilities ranging from 1, 8 and up to 768 cells in parallel. Nanonion 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!

Nanolane GmbH       431
57 Boulevard Demorieux
Le Mans, 72100
France
www.nano-lane.com

Nanolane offers innovative characterization solutions based on the patented SEEC Microscopy. This technique enables the label-free and real-time quantitative imaging of samples (layer, structure, biochip, nano-objects) with a sub-nanometric sensitivity. Main SEEC features: - Live nanoscale quantitative imaging; - Multiplex surface interaction studies; - Morphological/topographical analyses (3D view, profile/surface/roughness analyses). Main SEEC applications: - Biofilms, Biochips, Phospholipid/Polyelectrolyte/Polymer layers, Soft lithography, Protein/Cell/Bacteria adhesion, DNA combing.

NanoSurface Biomedical Inc       411
4000 Mason Road, Suite 304
Seattle, WA 98195
www.nanosurfacebio.com

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       728
400 Oyster Point Boulevard
South San Francisco, CA 94080
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.

Narishige International       1104
USA Inc
415 Bayview Avenue
Amityville, NY 11701
www.usa.narishige-group.com

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, microforge, patch clamp systems, perfusion systems, and stereotoxic 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
Bunsenstrasse 5
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Germany
www.neaspec.com

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.

Nanosurface Biomedical Inc
4000 Mason Road, Suite 304
Seattle, WA 98195
www.nanosurfacebio.com

Multianalytic Nanoimaging
For researchers and companies who need to image in living cells, including cardiomyocytes, neurons, pancreatic islets and standard cell lines.

Nanofil Ltd
80 St Helens Road
Walton-On-Thames, Surrey KT12 1EE
England
www.nanofil.com

Nanofil is a nanotechnology company specialized in the development and production of nanomaterials.

Newcastle Integrated Ltd
124 Newcastle Street
Richmond, BC V7E 2H9
Canada
www.nidel.ca

Nidel is a company that specializes in developing innovative solutions for the pharmaceutical and biotechnology industries.

Nanosurface Biomedical Inc
4000 Mason Road, Suite 304
Seattle, WA 98195
www.nanosurfacebio.com

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.
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<td>Newport Corporation</td>
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<tr>
<td>1791 Deere Avenue&lt;br&gt;Irvine, CA 92606&lt;br&gt;www.newport.com</td>
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<tr>
<td>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 epifluorescence microscopes, cytometers, DNA analyzers, in-vivo imagers, and many more. For more information, please visit our websites at <a href="http://www.corion.com">www.corion.com</a> and <a href="http://www.newport.com">www.newport.com</a>.</td>
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<td>Nicoya Lifesciences</td>
<td>519</td>
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<tr>
<td>226-283 Duke Street West&lt;br&gt;Kitchener, Ontario N2H 3X7&lt;br&gt;Canada&lt;br&gt;www.nicoyalife.com</td>
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<tr>
<td>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 <a href="http://www.nicoyalife.com">www.nicoyalife.com</a>.</td>
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<td>Nikon Instruments Inc</td>
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<tr>
<td>1300 Walt Whitman Road&lt;br&gt;Melville, NY 11747&lt;br&gt;www.nikoninstruments.com</td>
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<td>Nikon Instruments Inc provides optical components to complete microscopic systems including live-cell imaging platforms, confocal, MP, super resolution, HCA, all powered by NIS-Elements imaging software.</td>
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<td>NKT Photonics Inc</td>
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<tr>
<td>3514 N Vancouver Avenue, Suite 310&lt;br&gt;Portland, OR 97227&lt;br&gt;www.nktphotonics.com</td>
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<td>NKT Photonics is the leading supplier of high performance fiber lasers, fiber optic sensing systems, and photonic crystal fibers. Our main markets are within imaging, sensing and material processing. Our products include ultrafast lasers, supercontinuum white light lasers, low noise fiber lasers, distributed temperature sensing systems and a wide range of specialty fibers.</td>
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<td>npi electronic GmbH</td>
<td>628</td>
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<tr>
<td>Bauhofring 16&lt;br&gt;Tamm, 71732&lt;br&gt;Germany&lt;br&gt;www.npielectronic.com</td>
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<td>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 micro-electrode and patch clamp techniques.</td>
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<td>Olis Inc</td>
<td>901</td>
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<tr>
<td>130 Conway Drive, Suites A&amp;B&lt;br&gt;Bogart, GA 30622&lt;br&gt;www.olisweb.com</td>
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<td>UV/Vis and NIR absorbance, fluorescence, and CD spectrophotometers complement the all new CLARITY UV/Vis line for suspension studies in vivo. Brilliant breakthroughs happen and ours can lead to yours.</td>
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<td>Oxford Nanoimaging</td>
<td>1028</td>
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<tr>
<td>King Charles House, Park End Street&lt;br&gt;Oxford, OX2 8DR&lt;br&gt;United Kingdom&lt;br&gt;www.oxfordni.com</td>
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<td>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.</td>
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<tr>
<td>47661 Fremont Boulevard&lt;br&gt;Fremont, CA 94538&lt;br&gt;www.fortebio.com</td>
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<td>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 <a href="http://www.fortebio.com">www.fortebio.com</a>.</td>
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<td>Company Name</td>
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<tr>
<td>PCO America</td>
<td>404</td>
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<tr>
<td>6930 Metroplex Drive</td>
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<tr>
<td>Romulus, MI 48174</td>
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<td><a href="http://www.pco-tech.com">www.pco-tech.com</a></td>
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<td>PCO is a world leading manufac-</td>
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<td>turer of scientific sCMOS, CCD</td>
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<td>and intensified camera systems. Founded in 1987, PCO has three decades of technical know-how and expert knowledge in the development of high performing cameras with offices in Germany, North America, China and Singapore. In-house competence of all significant technical disciplines and partnering with leading image sensors manufacturers ensures cutting edge sCMOS and CCD-technology for all PCO cameras. Constant advancement of hardware and software guarantees profound innovational strength and enables powerful competitive capacity.</td>
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<td>PhaseView</td>
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<td>2 Impasse de la Noisette</td>
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<tr>
<td>Verrieres Le Buisson, 91370</td>
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<tr>
<td>France</td>
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<td><a href="http://www.phaseview.com">www.phaseview.com</a></td>
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<td>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.</td>
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<td>PHASICS</td>
<td>811</td>
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<td>Bâtiment Explorer - Espace Technologique</td>
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<tr>
<td>Route de l’Orme des Merisiers</td>
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<tr>
<td>Saint Aubin, 91190</td>
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<tr>
<td>France</td>
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<td>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.</td>
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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 restrainers, 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
South Easton, MA 02375
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
Liberty Lake, WA 99019
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.

Rapp OptoElectronic GmbH
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Hamburg, 22559
Germany
www.rapp-opto.com

We offer products for:
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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 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.

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London, SW1Y 5AG
United Kingdom
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RPMC Lasers Inc 1000
203 Joseph Street
O’Fallon, MO 63366
www.rpmclasers.com

RPMC Lasers Inc (Incorporated in 1996) is the leading laser distributor in North America. We offer diode lasers, laser modules, solid state lasers and amplifiers, and fiber lasers and amplifiers. We also offer custom solid-state lasers and laser diode subsystems. We have over 1500 different laser diodes and solid-state lasers from technology leading manufacturers in the US, Europe, and Asia. Our goal is to provide high quality technical advice with an in-depth knowledge of the products we offer at an attractive value proposition, the best laser at a fair price.
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<td>Spectrolight INC</td>
<td>735</td>
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<tr>
<td>19800 MacArthur Boulevard, Suite 300</td>
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<tr>
<td>Irvine, CA 92612</td>
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<td><a href="http://www.spectrolightinc.com">www.spectrolightinc.com</a></td>
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<tr>
<td>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 <a href="http://www.spectrolightinc.com">www.spectrolightinc.com</a>.</td>
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| Washington, DC 20005                 |
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| SciMeasure                            | 818          |
| 1240 Clairmont Road, Suite 100       |
| Decatur, GA 30030                     |
| www.scimeasure.com                    |
| High-speed low-noise CMOS and CCD cameras. Specialized in ion and voltage imaging. New Non-Destructive Read (NDR) mode in Da Vinci CMOS cameras allows analog overlapping frames at high frame rate while maintaining sufficient integration time, ideal for single molecule tracking, Super Resolution (STORM & PALM) Microscopy. Post-hoc determination of integration time of NDR mode can improve SNR in a way that conventional cameras cannot. |

| Sophion Bioscience A/S               | 518          |
| Baltorpej 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. |

| 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. |

| Springer Nature                      | 213          |
| 233 Spring Street                    |
| New York, NY 10013                   |
| www.springernature.com               |
| Springer Nature is one of the world’s leading global research, educational and professional publishers, home to an array of respected and trusted brands. |

<p>| Strex                                 | 430          |
| 7098 Miratech Drive, Suite 100       |
| San Diego, CA 92121                  |
| <a href="http://www.strexcell.com">www.strexcell.com</a>                    |
| Strex manufactures innovative biological research instruments. Our most popular product is the Cell Stretching System for cell culture and uniaxial stretch, the STB-140. The system mimics mechanical cell strain. Strex also provides microscope-mountable cell-stretching systems for single cell observation. Biaxial strain and manual stretching apparatus are available options for these unique models as well. We recently launched a liquid nitrogen-free, bench top controlled rate freezer. It freezes down cells at a controlled rate to -80°C, minimizing damage to the most precious cells. |</p>
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<td><strong>Sutter Instrument</strong></td>
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<td>One Digital Drive</td>
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<td>Novato, CA 94949</td>
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<td><a href="http://www.sutter.com">www.sutter.com</a></td>
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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.

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<td><strong>TA Instruments – Waters LLC</strong></td>
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<td>159 Lukens Drive</td>
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<td>New Castle, DE 19720</td>
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<td><a href="http://www.tainstruments.com">www.tainstruments.com</a></td>
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At TA Instruments we believe in offering solutions through quantitative understanding and multi-parameter analysis. By measuring native systems via their heat production, we enable scientists to address both questions of “how stable” and “how fast,” two tenets of a chemical system. Our Affinity ITC and Nano DSC, both with automated options, are high precision calorimeters for label-free measurements of binding interactions, biomolecular structure and stability. We also offer the ultrasensitive TAM IV isothermal calorimeter, a configurable platform with applications ranging from shelf-life stability for small molecule and biologics, amorphicity content, microbial activity, and more. Visit us to learn about the very latest in our applications using native assays.

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<td>Peabody, MA 01960</td>
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<td><a href="http://www.techmfg.com">www.techmfg.com</a></td>
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TMC manufactures a complete line of Optical Tops and Precision Vibration Isolation Systems. New products include the patented Everstill™ Bench-top Active Vibration Cancellation Platform and CleanBench™ Vibration Isolation Tables with Gimbal Piston™ Isolators. Other products include CleanTop® II Spill-proof Optical Tops, Non-Magnetic Tops, Vacuum compatible Tops, Lightweight Breadboards, and STACIS® III piezoelectric active vibration cancellation systems.

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<tr>
<td>620 Hearst Avenue</td>
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<tr>
<td>Berkeley, CA 94710</td>
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<td><a href="http://www.techsafety.com">www.techsafety.com</a></td>
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Technical Safety Services is the nation’s largest provider of cleanroom and laboratory equipment testing, certification and calibration services. For nearly 50 years, TSS has provided consistent quality and convenient service to America’s leading biotech, pharma, research and healthcare institutions. Now, TSS has joined with Aries FilterWorks to offer sales, maintenance and calibration of laboratory water purification systems.
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<td>The Journal of Physiology publishes groundbreaking original research that elucidates new physiological principles or mechanisms. There are no submission or publication costs.</td>
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<td>Thorlabs has been proud to serve the photonics industry for over 25 years. With increasing use of photonics technologies in the life sciences, we have grown our capabilities to serve the life science and biomedical markets with purpose-built components and systems. Thorlabs offers multiphoton, OCT, and wide-field imaging systems, as well as cameras, lasers, optics, fiber, electronics, and mechanical components. Our offices, located in 11 countries, are focused on providing same-day shipping of stocked components, a fast response to customer inquiries, and fast turnaround on custom needs.</td>
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<td>Next-generation Stage Top Incubator will be introduced at BPS2018. Our system maintains optimal cell-culture environment for Live-Cell Imaging on microscope stage.</td>
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<td>TOPTICA is a privately held technology driven company, which develops, produces and sells diode and ultrafast fiber lasers for scientific and industrial applications. The company sets its own challenge to regularly present exciting product innovations and world firsts.</td>
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<td><a href="http://www.unchainedlabs.com">www.unchainedlabs.com</a></td>
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<td>Here’s the deal. We’re all about helping biologics researchers break free from tools that just don’t cut it. Unleashing problem-tackling products that make a huge difference in the real science they do every day. That’s our mantra, our promise and we own it.</td>
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<td>Warner Instruments manufactures a large selection of products ideal for biophysics and electrophysiology. Imaging/recording chambers, perfusion and temperature control systems are our specialties. We also offer an extensive line of intra and extracellular amplifiers and a planar lipid bilayer workstation. By combining the expertise and experience of Warner with our sister brands - HEKA, Multi Channel Systems, and Triangle BioSystems -- under the umbrella of “Smart Ephys,” we offer complete solutions for all areas of electrophysiology. We look forward to continuing as a trusted partner in your laboratory, finding the right solution to support your electrophysiological research.</td>
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<td>Since 1982, Wyatt Technology® has been the recognized leader in light scattering instrumentation and software for the characterization of macroparticles and nanoparticles in solution. It provides cutting-edge tools for determining absolute molar mass, size, conformation, charge and interactions, based on the technologies of multi-angle and dynamic light scattering, differential viscometry, field-flow fractionation, electrophoretic mobility, and composition-gradient interaction analysis. Wyatt’s emphasis on comprehensive training and personal support makes it the gold standard in this field.</td>
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