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**National Lecturer: Carlos Bustamante**  
University of California, Berkeley  
*A Journey Through Cellular Processes: One Molecule at a Time*
List of Advertisers in the 2014 Annual Meeting Program

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As of December 10, 2013
Hotel Map

1. San Francisco Marriott Marquis
2. Parc 55 Wyndham San Francisco
3. The Westin San Francisco Market Street
4. Villa Florence Hotel
5. Holiday Inn San Francisco Civic Center Hotel
6. Good Hotel
7. Hotel Metropolis
8. Best Western PLUS Americania Hotel
9. Hotel Stratford
10. Mystic Hotel by Charlie Palmer
11. W San Francisco
12. Courtyard by Marriott San Francisco Downtown
13. King George Hotel
14. Hotel Abri
15. The Mosser Hotel
16. The Powell Hotel
17. Grand Hyatt San Francisco
18. Clift
19. InterContinental San Francisco
20. Sir Francis Drake, a Kimpton Hotel
21. Serrano Hotel
22. Chancellor Hotel
23. Hotel Fusion
24. Hotel Bijou
25. Palace Hotel
Moscone Center Facilities

Esplanade Level (Street Level)

- Undergraduate Student Lounge “Rotunda”
- Meeting Rooms
- Career Center
- Undergraduate Poster Session

- Registration
- Coat Check
- Luggage Storage
- Society Help Desk

Biophysical Society 58th Annual Meeting, San Francisco, California
2014 Program Committee

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Karen Fleming, Johns Hopkins University
Rebecca Heald, University of California, Berkeley
Peter Hinterdorfer, University of Linz, Austria
Linda Kenney, University of Illinois at Chicago
Tanja Kortemme, University of California, San Francisco
Carol Robinson, University of Oxford, United Kingdom
Emad Tajkhorshid, University of Illinois at Urbana-Champaign
Claudia Veigel, Ludwig Maximilians University, Germany
Jody Puglisi, Stanford University School of Medicine, Past Chair

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Marcia Levitus
Merritt Maduke
Daniel Minor
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David Yue

Term Ending 2016
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Antoine van Oijen
Bonnie Wallace

Biophysical Journal

Leslie Loew, Editor-in-Chief
Kathleen Hall, Associate Editor
Peter Hunter, Associate Editor
E. Michael Ostap, Associate Editor
Dave Piston, Associate Editor
Michael Pusch, Associate Editor
Lukas Tamm, Associate Editor
Brian Salzberg, Reviews Editor

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Beth Staehle, Journal Manager
Ellen Weiss, Director of Policy & Communications
Alisha Yocum, Director of Member Services & Publications
Monika Zakrzewska, Senior Graphic Designer/Project Manager
Ying Zhu, Meetings Coordinator
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 the North Lobby. Guest registration includes admittance to the Opening Mixer on Saturday night and Reception on Monday night. It does not include admission to scientific sessions, posters, or exhibits.

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

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

ATM is open 24 hours.

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

Sunday  10:00 AM–5:00 PM
Monday  10:00 AM–5:00 PM
Tuesday  10:00 AM–5:00 PM
Wednesday  10:00 AM–3:00 PM

Career Center, Room 300
Services are available for both those seeking a position and employers with positions to fill. Please note, the career center is the only place to post job openings. Unauthorized notices placed elsewhere in the Moscone Center will be removed.

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

Certificates of Attendance
Certificates of Attendance may be obtained in person in the Society Meeting Office, Room 120, or at the Society Help Desk located at registration in the North Lobby.

Child Care
Child care is provided by KiddieCorp. On-site registration is available on a limited basis. Visit the BPS Meeting Office, Room 120, for additional information.

Coat Check/Luggage Storage, North Lobby
The cost is $2.00 per checked coat or small handbag and $3.00 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  8:00 AM–7:30 PM
Sunday–Tuesday  7:30 AM–6:30 PM
Wednesday  7:30 AM–4:00 PM

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

Exhibits, Exhibit Hall D
The Exhibit Hall features the most advanced equipment, products, services, and publications available. A list of exhibitors as of 11/18/13 can be found beginning on page 218. Please see Addendum for those registered after 11/19/13.

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

Exhibitor Coupons
Pick up the Exhibitor Coupons at the on-site registration counters and inside the Exhibit Hall next to the push pin stations. The coupons are valid for special offers and discounts on exhibiting company's products and services.

Family Room, Room 112
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, Exhibit Hall D
In case of medical emergency, dial x511 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–10:00 PM
Sunday  7:30 AM–10:00 PM
Monday  7:30 AM–10:00 PM
Tuesday  7:30 AM–10:00 PM
Wednesday  7:30 AM–3:00 PM

Hotel Telephone Numbers
Marriott Marquis  (415) 896-1600
W San Francisco  (415) 777-5300
Westin San Francisco Market Street  (415) 974-6400
Intercontinental San Francisco  (415) 616-6500
Courtyard Marriott San Francisco Downtown  (415) 947-0700
Grand Hyatt San Francisco  (415) 398-1234
Parc 55 Wyndham San Francisco - Union Square  (415) 392-8000
Sir Francis Drake Hotel  (415) 392-7755
Clift Hotel  (415) 775-4700
Hotel Abri  (415) 392-8800
The Palace Hotel  (415) 512-1111
Mystic Hotel by Charlie Palmer  (415) 400-0500
The Mosser Hotel  (415) 986-4400
Chancellor Hotel  (415) 362-2004
Villa Florence Hotel  (415) 397-7700
Serrano Hotel  (415) 885-2500
The Powell Hotel  (415) 398-3200  
Hotel Fusion  (415) 568-2525  
Holiday Inn San Francisco Civic Center  (415) 626-6103  
Best Western PLUS Americana  (415) 626-0200  
Hotel Stratford  (415) 397-7080  
King George Hotel  (415) 781-5050  
Hotel Metropolis  (415) 775-4600  
Hotel Bijou  (415) 771-1200  
Good Hotel  (415) 621-7001  

**Individuals Requiring Assistance**

Attendees requiring special assistance during the meeting should visit the Society Meeting Office, Room 120 of the Moscone Center, or call (415) 978-3500. Society staff will do their best to accommodate requests; however, we cannot assure 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, a **Cyber Cafe** is located in the Lower North Lobby outside of Exhibit Hall D. 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.

**Message Center, Lower North Lobby**

Send and receive messages with meeting attendees through the online message center. Available online and at the cyber cafe. If you have an emergency situation and need a staff member to take a message, please call (415) 978-3500 to reach the BPS Office.

**Mobile App**

The Biophysical Society’s “BPS Event” mobile application is available for download in the “App Store”, “Google Play,” and as an html5 application for all other devices. You can view/create schedules, view abstracts, and interact virtually with other attendees when using the app.

**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 cleanings 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.

Recordings of any kind (audio taping, videotaping, camera or cell phones) in the session rooms, Exhibit Hall, and poster areas are strictly prohibited, unless accompanied by a member of the Society staff. Any individual seen taking photographs of any session or presentation will be escorted out by security.

**Poster Pickup**

Posters ordered in advance through AlphaGraphics San Francisco will be available for pick up at the Moscone Center in the Lower North Lobby near Exhibit Hall D during the following hours:

- **Saturday**: 3:00 PM–7:00 PM
- **Sunday–Tuesday**: 8:00 AM–4:00 PM
- **Wednesday**: 7:00 AM–9:00 AM

**Poster Sessions, Exhibit Hall D**

**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 from 1:45–2:45 PM (10:30–11:30 AM on Wednesday); even-numbered posters should present from 2:45–3:45 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 1, 2013, are scheduled each day, Sunday–Wednesday, during the regular poster sessions. These board numbers will begin with “#LB.”**

Posters are to be removed by 5:00 PM on Sunday and Monday, 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.

**Raffles**

**Exhibitor Raffle:** Want to win an Apple iPad Air? Earn raffle entries by visiting with exhibitors Sunday, February 16, through Tuesday, February 18, to collect tickets. The more booths you visit, the more chances to win. Drop the raffle tickets at the Society Booth, in the Lower North Lobby, by 3:00 PM Tuesday, February 18. The winner will be announced in the Exhibit Hall at 3:00 PM Tuesday afternoon—you must be present at the Meeting to win. Good luck!

**Meet the Speakers/Meet the Editors Raffle:** Attend the Wednesday poster session and Meet the Speakers/Meet the Editors event in the Exhibit Hall for a chance to win a Kindle Paperwhite! The event allows attendees the opportunity to meet the speakers who are the leading experts in their field, ask questions for which there was not enough time in the sessions, and foster interactions and collaborations among attendees. Drop your ticket in the ballot box in the Exhibit Hall. Winner will be announced at 12:30 PM on Wednesday at the event. You must be present in the Exhibit Hall to win.

**Registration Hours, North 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.
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 audio/visual 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.

Audio-visual technicians will be available during the hours listed below to answer questions.

- 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 computers. The Society does not provide laptops for those with flash drives or other storage devices.

**Transportation**

**BART and Muni Railways**
The 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 Stations and exit to 4th and Market Streets. Turn right on 4th Street, walk two blocks south to Howard Street 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 & Townsend). Across 4th Street from the train station, catch the #15, #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 North Lobby of the Moscone Center at the corner of 3rd Street and Howard Street.
- ABC Taxicab:   (415) 401-8900
- DeSoto Cab Company:   (415) 970-1300
- Luxor Cab, Inc.:   (415) 282-4141
- Yellow Cab Cooperative, Inc.: (415) 333-3333
Committee Meetings
All rooms are located in the Moscone Center unless noted otherwise.

**Committee Meetings**

**Friday, February 14**

- **3:00 PM–4:30 PM**
  *New Council Orientation*
  Marriott Marquis, Pacific F

- **5:00 PM–9:00 PM**
  *Joint Council Reception, Dinner, and Meeting*
  Marriott Marquis, Club Room

**Saturday, February 15**

- **8:30 AM–11:00 AM**
  *Joint Council Meeting (continued)*
  Marriott Marquis, Club Room

**Sunday, February 16**

- **9:00 AM–10:30 AM**
  *Committee for Professional Opportunities for Women (CPOW) Meeting*
  Room 122

- **11:00 AM–NOON**
  *International Relations Committee Meeting*
  Room 122

- **12:45 PM–2:15 PM**
  *Public Affairs Committee Meeting*
  Room 122

- **3:30 PM–4:30 PM**
  *Early Careers Committee Meeting*
  Room 122

- **6:00 PM–10:00 PM**
  *Biophysical Journal Editorial Board Dinner*  
  (Boulevard Restaurant)

**Monday, February 17**

- **8:30 AM–10:00 AM**
  *Minority Affairs Committee (MAC) Meeting*
  Room 122

- **4:00 PM–5:00 PM**
  *Membership Committee Meeting*
  Room 122

**Tuesday, February 18**

- **8:00 AM–9:00 AM**
  *Biophysical Society Business Meeting*
  Room 302

- **9:00 AM–10:00 AM**
  *Subgroup Chairs Meeting*
  Room 124

- **3:00 PM–5:00 PM**
  *Education Committee Meeting*
  Room 122

**Wednesday, February 19**

- **8:00 AM–11:00 AM**
  *New Council Meeting*
  Room 124

- **12:30 PM–3:00 PM**
  *Publications Committee Meeting*
  Room 122

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The Biophysical Society would like to thank Society members who serve on Council or Committees.
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 16–Tuesday, February 18 in the Rotunda in Moscone South.

Sessions in italics will be held in Career Center, Room 300.

**Saturday, February 15, 2014**
- 1:00 PM–2:40 PM One-on-One Resume Critiques*
- 3:00 PM–4:00 PM Networking Now: How to Maximize Success at BPS 2014
- 3:30 PM–4:30 PM Undergraduate Mixer and Poster Fest
- 4:30 PM–5:30 PM One-on-One Resume Critiques*

**Sunday, February 16, 2014**
- 7:30 AM–8:30 AM Postdoctoral Breakfast
- 8:30 AM–1:00 PM One-on-One Resume Critiques*
- 9:00 AM–10:00 AM Beyond the Bench: Preparing for Your Career Transition in the Life Sciences
- 10:00 AM–5:00 PM Biomolecular Discovery Dome
- 10:30 AM–11:30 AM Career Catalyst: Understand Who You Are to Get What You Want
- NOON–1:00 PM Selling Yourself to the Life Sciences Industry
- NOON–2:00 PM Mid-Career Interactive Forum: The Art and Perils of Networking **
- 1:00 PM–2:30 PM Moving on from Your Postdoc Position: Negotiating the Transition
- 2:00 PM–3:30 PM Teaching Science Like We Do Science: Integrating Research and Education
- 2:30 PM–3:30 PM Networking Now: How to Maximize Success at BPS 2014
- 2:30 PM–4:00 PM Funding: If Not from Federal Agencies, from Where?
- 2:30 PM–6:00 PM One-on-One Resume Critiques*
- 4:00 PM–5:00 PM Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)

**Monday, February 17, 2014**
- 7:30 AM–8:30 AM Graduate Student Breakfast
- 8:30 AM–10:00 AM One-on-One Resume Critiques*
- 10:00 AM–11:00 AM Career Open Forum/Career Q&A Session
- 10:00 AM–5:00 PM Biomolecular Discovery Dome
- 11:30 AM–12:30 PM Beyond the Bench: Preparing for Your Career Transition in the Life Sciences
- 11:30 AM–1:00 PM One-on-One Resume Critiques*
- 11:30 AM–1:00 PM Undergraduate Student Pizza “Breakfast”

**Tuesday, February 18, 2014**
- 8:00 AM–9:00 AM One-on-One Resume Critiques*
- 9:30 AM–10:30 AM The Power of Groups: How to Help Others Help You in Your Job Search
- 10:00 AM–5:00 PM Biomolecular Discovery Dome
- 11:00 AM–1:00 PM One-on-One Resume Critiques*
- NOON–2:00 PM Postdoc to Faculty Q & A: Transitions Forum and Luncheon**
- 12:30 PM–2:00 PM Career Opportunities at Primarily Undergraduate Institutions: Finding a Job & Finding Success
- 1:00 PM–2:00 PM Networking with Minority Biophysicists: Resources & Opportunities
- 1:30 PM–2:30 PM Science and Policy with Steven Chu
- 2:15 PM–3:30 PM Wiki-Edit 2014 Contest Kick-Off: The Importance of Open License Media to Our Science
- 2:15 PM–3:30 PM The Basics, the Discoveries and the Controversies
- 2:30 PM–4:30 PM PhD Careers Beyond the Bench
- 4:00 PM–5:00 PM One-on-One Resume Critiques*

**Wednesday, February 19, 2014**
- 8:30 AM–11:45 AM Rapid Resume Review Process–15 minute one-on-one resume critique sessions
- 10:00 AM–1:00 PM Biomolecular Discovery Dome

* Slots for the one-on-one resume critiques are available on a first-come, first-served basis and fill up quickly. You may sign up for a critique beginning at noon on Saturday, February 15 in the Career Center, Room 300.

** These events required 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.
Interested in interdisciplinary science? Want to work in the fast growing area of biomedical research? Looking to get some hands-on lab experience this summer? Check out the Summer Research Program in Biophysics, an 11 week course for undergraduate minority students at the University of North Carolina, Chapel Hill! Course expenses, travel costs, meals, and housing are covered.

Program includes:

- Lectures with UNC faculty members and seminars with visiting professors from graduate programs across the country
- Mentored research experience
- Team-building activities and field trips

Recommended Courses:

- Studying quantitative science: chemistry, physics, biochemistry, and/or computer science
- 2 semesters of biology
- 2 semesters of calculus-level physics
- 3.0 cumulative or higher GPA in science courses

Questions? Contact Ellen Mackall, Summer Research Program Administrator at emackall@biophysics.org or call (240) 290-5611.

The Biophysical Society Summer Course in Biophysics: Case Studies in the Physics of Life is funded by The National Institute of General Medical Sciences, National Institutes of Health. [2T36-GM075791]
Travel Grant Awardees

CPOW

Sunday

Kseniya Korobchevskaya, Italian Institute of Technology, Italy
1016-Pos, #B771
DEVELOPMENT OF PUMP-PROBE NANOSCOPY ARCHITECTURE.

Elena Molokanova, Sanford-Burnham Medical Research Institute
772-Pos, #B527
DIFFERENTIAL EFFECTS OF SYNAPTIC AND EXTRASYNAPTIC NMDA RECEPTORS ON Aβ-INDUCED NITRIC OXIDE PRODUCTION IN CEREBROCORTICAL NEURONS.

Eva Sevcsik, Yale University
452-Pos, #B207
CREATING OBSTACLE COURSES FOR RAFT PROTEINS - HOW MICROPATTERNING CAN HELP DECIPHER PLASMA MEMBRANE ORGANIZATION.

Yi H. Zhang, University of Bristol, United Kingdom
709-Pos, #B464
INVESTIGATING STEREOSELECTIVITY OF PHARMACOLOGICAL INHIBITION OF HERGY CHANNELS.

Monday

Autumn Carlsen, Wake Forest University School of Medicine
2088-Pos, #B818
SOLID-STATE NANOPORE MAPPING OF DNA WITH SITE-SPECIFIC BOUND LIGANDS.

Irena Ivanovska, University of Pennsylvania
1596-2-Pos, #B326B
LAMIN-A IS MECHANOSENSITIVE TO MATRIX STIFFNESS AND COUPLES TO THE RETINOIC ACID PATHWAY IN DIFFERENTIATION.

Radda Rusinova, Weill Cornell Medical College
1519-Pos, #B249
REGULATION OF ION CHANNEL FUNCTION BY THE HOST LIPID BILAYER EXAMINED BY A STOPPED-FLOW SPECTROFLUORIMETRIC ASSAY.

Liqun Zhang, Case Western Reserve University
1571-Pos, #B301
EXPLORING THE STRUCTURE AND DYNAMICS OF ALL-ATOM MODELS FOR THE PLEXIN TRANSMEMBRANE RECEPTOR BOUND TO GTPASES AND TO LIPID BILAYER.

Tuesday

Simona Casini, Leiden University Medical Center, The Netherlands
2795-Pos, #B487
ISOGENIC SETS OF HUMAN PLURIPOTENT STEM CELLS AS MODEL OF LQT2 SYNDROME.

Ulrike Endesfelder, Frankfurt University, Germany
2464-Pos, #B156
SUPER-RESOLUTION FLUORESCENCE MICROSCOPY OF TRANSCRIPTION SITES IN E. COLI.

Hannah R. Malcolm, University of Texas Southwestern
2802-Pos, #B494
A LACK OF SIGNIFICANT LIPID INTERACTIONS IN THE OPEN STATE OF MSCS IMPLIES A JACK-IN-THE-BOX TYPE CHANNEL GATING MECHANISM.

Hanne Poulsen, University of Aarhus, Denmark
2161-Plat
SOMATIC MUTATIONS IN THE NA,K-ATPASE CAN CAUSE HYPERTENSION.

Wednesday

Mily Bhattacharya, Indian Institute of Science Education and Research, India
3461-Pos, #B189
NANOSCALE ASSEMBLY OF PROTEINS INTO AMYLOID Oligomers, Fores and Fibrils.

Irina Moreira, University of Porto, Portugal
3534-Pos, #B262
HOT-SPOTS DETECTION - APPLICATION TO A VARIETY OF DIFFERENT PROTEIN-BASED SYSTEMS.

Milica Vukmirovic, Florida State University
3910-Pos, #B638
MYOSIN HEAVY CHAIN ISOFORM SWITCHING IN SKELETAL MUSCLES IN AN A8V-TROPONIN C HYPERTROPHIC CARDIOMYOPATHY KNOCK-IN MOUSE MODEL.

EDUCATION

Sunday

Maïwenn Beaugrand, University of Quebec at Montreal, Canada
703-Pos, #B458
EXPRESSION AND PURIFICATION OF A FUNCTIONAL HERGY PORE DOMAIN FOR BIOPHYSICAL AND ELECTROPHYSIOLOGICAL STUDIES.

Ben C. Chung, Duke University
89-Plat
CRYSTAL STRUCTURE OF MRAY, AN ESSENTIAL MEMBRANE ENZYME FOR BACTERIAL CELL WALL SYNTHESIS.

Yue Ding, Emory University
984-Pos, #B739
A COMBINED SINGLE MOLECULE FRET / MAGNETIC TWEETERS INSTRUMENT TO CALIBRATE MOLECULAR TENSION - BASED FLUORESCENCE PROBES.

Thais A. Enoki, University of São Paulo, Brazil
453-Pos, #B208
THE INTERACTION BETWEEN THE ANTIMICROBIAL PEPTIDE K-HYA1 AND MODEL MEMBRANES: DISTINCT ACTION IN NEUTRAL OR NEGATIVELY CHARGED BILAYERS.

Amy D. Hanna, University of Wyoming, USA
594-Pos, #B349
MECHANISMS OF ANTIRACYCLINE-INDUCED DYSFUNCTION OF CALCIUM HANDLING PROTEINS IN THE HEART.
Avelino Javer, University of Cambridge, United Kingdom
420-Pos, #B175
SHORT-TIME DYNAMICS E. COLI CHROMOSOMAL LOCI REVEAL A DEPENDENCE ON COORDINATE AND INDICATE THE PRESENCE OF A SPORADIC BUT UBQUITOUS SUPER-DIFFUSIVE MOTION.

Sangwoo S. Kim, Swarthmore College
272-Pos, #B27
PROBING AND CHARACTERIZING DISTINCT CONFORMATIONAL STATES POPULATED BY INFLUENZA A M2 PROTEIN.

Jonathan P. Litz, University of Washington
498-Pos, #B253
PROBING CHOLESTEROL-LIPID INTERACTIONS AND CHEMICAL ACTIVITY OF CHOLESTEROL IN BILAYERS VIA CYCLODEXTRIN DEPLETION.

Linnea Olofsson, Center for Structural Biochemistry, France
534-Pos, #B289
SPECIFIC REGULATION OF TRANSITION RATES BETWEEN ACTIVE AND INACTIVE STATES OF THE METABOTROPIC GLUTAMATE RECEPTOR DETERMINES AGONIST EFFICACY.

Katarina Siposova, Slovak Academy of Sciences, Slovakia
304-Pos, #B59
TRIPERPTIDES SCREENING REPORT: PROLINE IS IMPORTANT FOR Aβ FIBRILS DEPOLYMERIZATION.

Min-Yeh Tsai, National Chiao Tung University, Taiwan
320-Pos, #B75
KINETIC ISING MODEL STUDY OF PROTEIN AGGREGATION.

Katherine E. Ward, University of Notre Dame
487-Pos, #B242
CHARACTERIZING THE CURVE: A MECHANISTIC STUDY OF CPLA2-MEDIATED MEMBRANE BENDING.

Monday

Ashley J. Chui, California State University, Fullerton
1377-Pos, #B107
STATHMIN EXISTS AS AN OLIGOMER IN SOLUTION, AS EVIDENCED BY STATIC LIGHT-SCATTERING, NATIVE GEL ELECTROPHORESIS, AND EPR SPECTROSCOPY.

Joseph Fogarty, University of South Florida
2049-Pos, #B779
OPTIMIZATION OF COARSE-GRAINED WATER-ION INTERACTION PARAMETERS FOR BIOLOGICAL SIMULATION.

Manuela Gabriel, Laboratory for Fluorescence Dynamics
2011-Pos, #B741
SPECTROSCOPIC PROPERTIES OF INTRINSIC PROTEINS IN COLLAGEN SAMPLES BY USING GOLD-NANOPARTICLES AND TWO-PHOTON EXCITED FLUORESCENCE MICROSCOPY.

Tobias M.P. Hartwich, Yale University
2021-Pos, #B751
A SIMPLE CHEMICAL OXYGEN SCAVENGING SYSTEM FOR IMPROVED DSTORM TISSUE IMAGING.

Jonathan M. Kessler, Washington University
1827-Pos, #B557
INTRAFLAGELLAR TRANSPORT INHOMOGENEITY IN CHLAMYDOMONAS IMP3 MUTANT.

Mona Mirheydari, Kent State University
1545-Pos, #B275
STUDYING LIPID INTERACTIONS OF PERILIPIN 3/ TIP 47 USING PHOSPHOLIPID MONOLAYERS.

David D. Mowrey, University of Pittsburgh
1728-Pos, #B458
INSIGHTS INTO THE DISTINCTLY DIFFERENT SENSITIVITIES OF a7 AND a7β2 NACHRS TO THE VOLATILE ANESTHETIC ISOFLURANE.

Ana Sofia F. Oliveira, New University of Lisbon, Portugal
1863-Pos, #B593
MD SIMULATIONS REVEAL AN ALTERNATIVE PATHWAY FOR DIOXYGEN DIFFUSION IN aa3 CYTOCHROME C OXIDASES.

Akash Pandhare, Texas Tech University Health Science Center
1719-Pos, #B449
NEURONAL NICOTINIC ACETYLCHOLINE RECEPTORS: THE DEVELOPMENT OF METHODS FOR PRODUCING AFFINITY-PURIFIED AND LIPID-RECONSTITUTED RECEPTORS THAT RETAIN FUNCTIONALITY.

Stefania Perticaroli, University of Tennessee
1325-Pos, #B55
SUPPRESSION OF PICOSECOND DYNAMICS IN β-CASEIN UPON CALCIUM BINDING.

Piotr Popov, Kent State University
2097-Pos, #B827
LIQUID-CRYSTAL-BASED BIOSENSOR WITHOUT ALIGNMENT SUBSTRATE.

Eduardo A. Quiroz-Manriquez, Central University of the Caribbean, Puerto Rico
1585-Pos, #B315
THE C2B DOMAIN OF SYNAPTOTAGMIN-1 AND COMPLEXIN REDUCE THE ASYNCHRONOUS RELEASE ACTIVATION.

Omer Shafraz, Iowa State University
1960-Pos, #B690
CHARACTERIZING THE INTERACTION OF DESMOSOMAL CADHERINS AT SINGLE MOLECULE LEVEL.

He Tian, Rockefeller University
1559-Pos, #B289
MUTAGENESIS STUDY OF RETINAL ENTRY PATHWAY OF RHODOPSIN.

Chi-Fu Yen, Iowa State University
1961-Pos, #B691
SINGLE MOLECULE CHARACTERIZATION OF THE ROLE OF DIVALENT IONS IN PRION PROTEIN AGGREGATION.

Yongxin Zhao, University of Alberta, Canada
2094-Pos, #B824
A COMPREHENSIVE LIVE CELL SCREENING APPROACH FOR DEVELOPING IMPROVED MICROBIAL RHODOPSIN-BASED VOLTAGE BIOSENSORS.

Tuesday

Mario Brameshuber, Vienna University of Technology, Austria
2589-Pos, #B281
DIRECT IMAGING OF MOBILE NANODOMAINS IN THE LIVE CELL PLASMA MEMBRANE BY USING A TWO-COLOR PHOTOBLEACHING APPROACH.
Hugo B. Brandao, McGill University, Canada
3053-Pos, #B745
MEASURING LIGAND-RECEPTOR BINDING RATES WITH K-SPACE IMAGE CORRELATION SPECTROSCOPY: THEORY AND EXPERIMENTAL APPLICATIONS.

Elin Edwald, University of Michigan
2587-Pos, #B279
SIZE AND ACYLATION INFLUENCE THE LATERAL MOBILITY OF PLASMA MEMBRANE PROTEINS IN LIVE CELLS.

Jose C. Flores-Canales, Carnegie Mellon University
2229-Plat
MULTISCALE SIMULATIONS OF DIPHTHERIA TOXIN T-DOMAIN MEMBRANE ASSOCIATION.

Yaser Hashem, Columbia University
2487-Pos, #B179
STRUCTURE OF THE MAMMALIAN RIBOSOMAL 43S PREINITIATION COMPLEX BOUND TO THE SCANNING FACTOR DHX29.

Sha Jin, Max Delbrück Center for Molecular Medicine, Germany
2381-Pos, #B73
AMYLOID-ß42 AGGREGATION ON CELLULAR MEMBRANES FACILITATES ITS CELLULAR UPTAKE.

Sherry S. W. Leung, Simon Fraser University, Canada
2571-Pos, #B263
EFFECTS OF FLUORESCENT PROBES ON LIPID MEMBRANE PHYSICAL PROPERTIES.

Zachary A. Levine, University of California, Santa Barbara
2443-Pos, #B135
TAU(273-284): A MOLECULAR DYNAMICS STUDY OF INTRINSICALLY DISORDERED PROTEIN CONFORMATIONS IN THE PRESENCE OF OSOMOLYTES.

Divakaran Murugesapillai, Northeastern University
2172-Plat
ARCHITECTURAL ROLE OF HMO1 IN BENDING, BRIDGING AND COMPACTING DNA.

Dakshesh Patel, State University of New York, Upstate Medical University
2778-Pos, #B470
ALTERATIONS IN IONIC CURRENTS AND GAP JUNCTIONAL COUPLING BY PAN-HISTONE DEACETYLASE INHIBITION.

Erika Rieberer, Skidmore College
2756-Pos, #B448
ALCOHOL MODULATION OF A EUKARYOTIC LIGAND-GATED ION CHANNEL OF KNOWN STRUCTURE.

Nuria Roldan, Complutense University of Madrid, Spain
2600-Pos, #B292
PALMITOYLATION AS A KEY FACTOR TO UNDERSTAND SP-C-LIPIID INTERACTIONS IN THE LUNG SURFACTANT SYSTEM.

Yurou Sang, University of British Columbia, Canada
2425-Pos, #B117
PROBING THE INTERACTIONS BETWEEN U24 FROM HHV-6A/7 AND FYN-SH3 OR WW DOMAIN PROTEINS.

Suleyman Ucuncuoglu, Emory University
2472-Pos, #B164
SINGLE MOLECULE INVESTIGATION OF RNA POLYMERASE I USING MULTIPLEXED TETHERED PARTICLE MOTION.

Chi Wang, Columbia University
2184-Plat
A ROBUST HIGH-THROUGHPUT ASSAY FOR THERMODYNAMIC CORRECTORS OF THE PREDOMINANT MOLECULAR DEFECT CAUSING CYSTIC FIBROSIS.

Sylvain Zorman, Yale University
2564-Pos, #B256
COMPARATIVE STUDY OF THE SNARES ZIPPERING WITH SINGLE MOLECULE RESOLUTION.

Wednesday

Ahmed S. Abdelfattah, University of Alberta, Canada
3183-Plat
DEVELOPMENT OF A RED GENETICALLY-ENCODED VOLTAGE INDICATOR AND ITS USE WITH CHANNELRHODOPSIN FOR ALL-OPTICAL ELECTROPHYSIOLOGY.

Andrew Allan, University of Glasgow, United Kingdom
3189-Plat
CORRELATION BETWEEN VENTRICULAR REPOLARISATION PATTERNS AND T-WAVE GENERATION IN ISOLATED RABBIT HEARTS USING PANORAMIC IMAGING.

Gaetano Bonifacio, University of Lausanne, Switzerland
3241-Plat
COORDINATED MOVEMENTS DURING ASIC1A ACTIVITY.

Eleni K. Degaga, Syracuse University
3638-Pos, #B366
THE CELLULAR CONTENT OF NON-ERYTHROID SPECTRINS AND ANKYRINS IS MODULATED BY EXTERNAL FORCES.

Melinda M. Diver, Memorial Sloan-Kettering Cancer Center
3418-Pos, #B146
MAPPING THE SUBSTRATE BINDING SITES OF THE INTEGRAL MEMBRANE METHYLTRANSFERASE ICMT BY MUTATIONAL ANALYSIS.

Kaitlyn P. Gerhart, Georgetown University
3482-Pos, #B210
ENANTIOSPECIFIC RECOGNITION OF THE INTRINSICALLY DISORDERED C-MYC ONCOPROTEIN BY SMALL MOLECULES.

Lindsey D. Handley, University of California, San Diego
3282-Pos, #B10
THE DYNAMIC FUNCTIONAL CONSEQUENCES OF THE THROMBIN-THROMBOMODULIN INTERACTION.

Nida F. Hasan, University of Maryland
3448-Pos, #B176
CHARGE CROWDING PROMOTES SELF-ASSEMBLY OF COLLAGEN HETROTITRIMERS.

You Jung Kang, Pennsylvania State University
3196-Plat
ELECTROFORMATION OF UNIFORMLY SIZED GIANT LIPOSOMES WITH FUNCTIONAL MEMBRANE PROTEINS.

Shweta Kothari, Children’s Hospital Oakland Research Institute
3611-Pos, #B339
ANALYSIS OF THE MOLECULAR ORGANIZATION OF LIPOPROTEIN-ASSOCIATED APOLIPOPROTEIN E, AN ANTI-ATHEROGENIC PROTEIN.

Daniel Lauster, Humboldt University of Berlin, Germany
3272-Plat
RASTERING THE INFLUENZA VIRUS SURFACE WITH MOLECULAR RULERS AND NANOPARTICLES TO DESIGN OPTIMAL MULTIVALENT INHIBITORS.
Taylor P. Light, James Madison University
3365-Pos, #B93
INFLUENCE OF HOFMEISTER SALTS ON THE STRUCTURE, AGGREGATION, AND UNFOLDING OF RECA.

Nicole L. Michmerhuizen, Calvin College
3526-Pos, #B254
A BIOPHYSICAL STUDY OF THE G-QUADRUPLEX-INSULIN INTERACTION.

William B. Monteith, University of North Carolina at Chapel Hill
3724-Pos, #B452
PROTEIN STABILITY IN LIVING CELLS.

Suchithranga M. D. C. Perera, University of Arizona
3206-Plat
G-PROTEIN-COUPLED RECEPTOR ACTIVATION INVESTIGATED USING SMALL-ANGLE NEUTRON SCATTERING.

Priya Putta, Kent University
3629-Pos, #B357
INTERPLAY OF MEMBRANE LIPIDS DIFFERENTIALLY AFFECTS LIPID BINDING OF PHOSPHATIDIC ACID EFFECTORS

Utsab R. Shrestha, Wayne State University
3288-Pos, #B16
DYNAMIC BEHAVIOR OF OLIGOMERIC INORGANIC PYROPHOSPHATASE (IPPASE) STUDIED BY QUASIELASTIC NEUTRON SCATTERING.

A. Catalina Vélez-Ortega, University of Kentucky
4024-Pos, #B752
HIGH-SPEED HOPPING PROBE SCANNING ION CONDUCTANCE MICROSCOOPY.

Xiaolin Xu, University of Arizona
3293-Pos, #B21
GENERALIZED MODEL-FREE SPECTRAL DENSITY ANALYSIS APPLIED TO RHODOPSIN ACTIVATION IN MEMBRANES.

INTERNATIONAL

Sunday

Dunja Aksentijevic, King’s College London, United Kingdom
945-Pos, #B700
METABOLIC INFLEXIBILITY OF MALONYL CoA DECARBOXYLASE (MCD) KNOCKOUT MICE LEADS TO CARDIAC REMODELLING AND HIGH MORTALITY DURING PERI-WEANING PERIOD.

Daniela Araiza-Olivera, National Autonomous University of Mexico, Mexico City
824-Pos, #B579
IN SACCHAROMYCES CEREVISIAE A GLYCOLYTIC METABOLON IS STABILIZED BY F-ACTIN.

Victor Banerjee, Bose Institute, India
319-Pos, #B74
INHIBITION OF INSULIN FIBRILLATION BY A NON TOXIC PEPTIDE NK9

Prajwal Ciriyam, University of Cambridge, United Kingdom
321-Pos, #B76
PROTEOME METASTABILITY IN HEALTH, AGING, AND DISEASE.

Leonel Malacrida, Clinical Hospital, Uruguay
449-Pos, #B204
PHASOR PLOTS AND SPECTRAL PHASOR ANALYSIS OF LAURDAN AND PRODAN FOR MEMBRANE HETEROGENEITY STUDIES: NEW FRONTIERS IN MEMBRANE BIOPHYSICS.

Guy Nir, Bar Ilan University, Israel
126-Plat
STUDYING PROTEIN-DNA DYNAMICS AND PROTEIN UNFOLDING USING A FORCE-FREE SINGLE-MOLECULE TECHNIQUE.

Sarah O. Oni, Lead City University, Nigeria
955-Pos, #B710
IDENTIFICATION OF HEAVY METALS IN WILD PLANTS GROWN ON BATTERY WASTE.

Yaroslav V. Tkachev, V. A. Engelhardt Institute of Molecular Biology, Russia
797-Pos, #B552
ROLE OF THE COIL-HELIX TRANSITION WITHIN LOOP2 IN CARDIAC MYOSIN KINETICS MODULATION.

Donna R. Whelan, Monash University, Australia
1040-Pos, #B795
MONITORING THE CONFORMATION AND CONCENTRATION OF DNA IN LIVE CELLS USING FOURIER TRANSFORM INFRARED SPECTROSCOPY.

Monday

Debanjan Bhowmik, Tata Institute of Fundamental Research, India
1371-Pos, #B101
DECOUPLING CONFORMATION, AGGREGATION AND FUNCTION OF AMYLOID-β MONOMERS AND OLIGOMERS: AN FCS, SERS AND AFM STUDY.

Jenu V. Chacko, Italian Institute of Technology, Italy
2001-Pos, #B731
INSIGHT INTO HYBRID NANOSCOPY TECHNIQUES: STED AFM & STORM AFM.

Ksenia Chekashkina, A.N. Frumkin Institute of Physical Chemistry and Electrochemistry, Russia
1468-Pos, #B198
LIPIDS AS REGULATORS OF EFFECTIVE MEMBRANE RIGIDITY.

André F. Faustino, University of Lisbon, Portugal
1959-Pos, #B689
DENGUE VIRUS CAPSID PROTEIN INTERACTS SPECIFICALLY WITH VERY LOW-DENSITY LIPOPROTEINS

Hema Chandra Kotamarthi, Tata Institute of Fundamental Research, India
1972-Pos, #B702
EXPERIMENTAL AND SIMULATION STUDIES ON THE MECHANICAL PROPERTIES OF SUMO PROTEINS.

Ariane Nunes-Alves, University of São Paulo, Brazil
3206-Plat
G-PROTEIN-COUPLED RECEPTOR ACTIVATION INVESTIGATED USING SMALL-ANGLE NEUTRON SCATTERING.

A. Catalina Vélez-Ortega, University of Kentucky
4024-Pos, #B752
HIGH-SPEED HOPPING PROBE SCANNING ION CONDUCTANCE MICROSCOOPY.

Xiaolin Xu, University of Arizona
3293-Pos, #B21
GENERALIZED MODEL-FREE SPECTRAL DENSITY ANALYSIS APPLIED TO RHODOPSIN ACTIVATION IN MEMBRANES.

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4024-Pos, #B752
HIGH-SPEED HOPPING PROBE SCANNING ION CONDUCTANCE MICROSCOOPY.

Xiaolin Xu, University of Arizona
3293-Pos, #B21
GENERALIZED MODEL-FREE SPECTRAL DENSITY ANALYSIS APPLIED TO RHODOPSIN ACTIVATION IN MEMBRANES.
Joaquim Trigo Marques, University of Lisbon, Portugal
1056-Pos, #B811
LIPID NANODOMAINS ON MODIFIED GOLD SURFACES - A BIOMIMETIC PLATFORM TO STUDY ELECTROACTIVE BIOMOLECULE-MEMBRANE INTERACTIONS

Weihua Ye, Stockholm University, Sweden
1521-Pos, #B251
THE ROLE OF TRP IN ARG-RICH PADDLE DOMAIN-LIPID INTERACTION.

Hannah Yevick, Curie Institute, France
1802-Pos, #B532
THE EFFECTS OF OUT OF PLANE CURVATURE ON COLLECTIVE CELL MIGRATION.

Tuesday

Ariel Afek, Ben Gurion University of the Negev, Israel
2518-Pos, #B210
GENOME-WIDE ORGANIZATION OF EUKARYOTIC PRE-INITIATION COMPLEX IS INFLUENCED BY NON-CONSENSUS PROTEIN-DNA BINDING

Soumen Basak, Saha Institute of Nuclear Physics, India
2380-Pos, #B72
USE OF FCS TO STUDY PROTEIN DENATURATION AND AGGREGATION

Juan P. Castillo, University of Valparaíso, Chile
2940-Pos, #B632
K⁺ TRANSLOCATION BY THE GIANT AXON OF THE HUMBOLDT SQUID NA⁺/K ATPASE.

Gloria de las Heras, University of the Basque Country, Spain
2646-Pos, #B338
IN-SITU DESCRIPTION OF THE ROLE OF PtdIns(3,4,5)P₃ AND PtdSer ON PDK1 REGULATION IN HUMAN CANCER CELLS BY ADVANCED QUANTITATIVE MICROSCOPY.

Federica De Leo, Namur Research College, Belgium
3130-Pos, #B822
STRUCTURAL AND DYNAMICAL PROPERTIES OF MONOCLONAL ANTIBODIES IMMOBILIZED ON CNTs: A COMPUTATIONAL STUDY.

Ramon Guixà-González, Pompeu Fabra University, Spain
2612-Pos, #B304
FUNCTIONAL AND STRUCTURAL CHARACTERIZATION OF PULMONARY SURFACTANT PROTEIN SP-C IN NANODISCS: A NANOTECHNOLOGICAL APPROACH.

Haibo Jiang, Oxford University, United Kingdom
3019-Pos, B711
QUANTITATIVELY IMAGING STABLE ISOTOPES AT SUBCELLULAR LEVEL WITH CORRELATIVE ELECTRON MICROSCOPY AND NANOSIMS ANALYSIS.

Benjamin Kollmitzer, University of Graz, Austria
2585-Pos, #B277
PROTEIN PARTITIONING IN LIQUID-ORDERED (LO) / LIQUID-DISORDERED (LD) DOMAINS DEPENDS ON LIPID COMPOSITION AND PROTEIN SHAPE.

Alexander Kyrchenko, V.N. Karazin Kharkiv National University, Ukraine
2569-Pos, #B261
REFINING ANALYSIS OF MEMBRANE PENETRATION WITH DEPTH-DEPENDENT FLUORESCENCE QUENCHING AND MOLECULAR DYNAMICS SIMULATIONS.

Eng Kuan Moo, University of Calgary, Canada
2282-Plat
STRAIN RATE-DEPENDENT MEMBRANE RESERVOIR-KEY TO CHONDROCYTE DEATH BY IMPACT.

Agustina Olivera-Couto, Pasteur Institute of Montevideo, Uruguay
2353-Pos, #B45
EISOSOMES AND PLASMA MEMBRANE DOMAIN FORMATION.

Louise Reilly, University of Dundee, United Kingdom
2935-Pos, B711
QUANTITATIVELY IMAGING STABLE ISOTOPES AT SUBCELLULAR LEVEL WITH CORRELATIVE ELECTRON MICROSCOPY AND NANOSIMS ANALYSIS.

Sri Rama Koti Ainavarapu, Tata Institute of Fundamental Research, India
3394-Pos, #B122
FORCED UNFOLDING OF PERIPLASMIC BINDING PROTEINS (PBPS) FOLLOWS KINETIC PARTITIONING.

Gregory P. Sutton, University of Bristol, United Kingdom
3604-Pos, #B332
TO BE OR NOT TO BE IN MEMBRANE DOMAINS: TRANSBILAYER ASYMMETRY AND SPHINGOMYELIN-DEPENDENT PREFERENTIAL PARTITIONING OF THE ACETYLCHOLINE RECEPTOR.
Neelanjana Sengupta, National Chemical Laboratory, India
3462-Pos, #B190
ATOMISTIC SIMULATIONS LEND MECHANISTIC INSIGHTS INTO PLAUSIBLE WAYS OF PERTURBING THE NUCLEATION THERMODYNAMICS OF THE FULL-LENGTH ββ PEPTIDE.

Varun K. A. Sreenivasan, Macquarie University, Australia
4006-Pos, #B734
MISMATCH BETWEEN THE RESTING MEMBRANE POTENTIAL AND THE VOLTAGE AT MAXIMUM AMPLIFICATION IN OUTER HAIR CELLS (OHCS) OF MAMMALIAN COCHLEA.

Orsolya Szilágyi, University of Debrecen, Medical and Health Science Center, Hungary
3740-Pos, #B468
THE SH3-BINDING DOMAIN OF KV1.3 CHANNELS IS REQUIRED FOR THEIR CORTACTIN-CONVEYED COUPLING TO ACTIN.

Anastasia Vasilyeva, Russian Academy of Sciences, Ural Branch, Russia
3698-Pos, #B426
CONTRIBUTION OF THE MECHANICAL LOADS TO SUSCEPTIBILITY TO ARRHYTHMIA IN SUBENDOCARDIAL AND SUBEPICARDIAL VENTRICULAR MYOCYTES.

Shuai Zhang, Aarhus University, Denmark
4032-Pos, #B760
STUDY SUB-MEMBRANE STRUCTURE AND CORRESPONDING FUNCTIONS OF CONDUCTIVE BACTERIA CABLE BY SPMS.

MINORITY AFFAIRS

Sunday

Rene Barro-Soria, University of Miami
725-Pos, #B480
KCNE1 SEPARATES THE MAIN VOLTAGE SENSOR MOVEMENT AND CHANNEL OPENING IN KCNQ1/KCNE1 CHANNELS.

Daniel Schlingman, Yale University
404-Pos, #B159
ROUTES TO DNA ACCESSIBILITY: ALTERNATIVE PATHWAYS FOR NUCLEOSOME UNWINDING.

Chanrith Siv, University of Michigan, Ann Arbor
1032-Pos, #B787
UNDERSTANDING THE PATHOGENICITY OF VIBRIO CHOLERAE VIA TWO-COLOR LIVE-CELL SUPER-RESOLUTION MICROSCOPY.

Monday

Ashton T. Brock, University of Virginia
1284-Pos, #B14
DETERMINANTS OF FIBRINOLYSIS IN SINGLE FIBRIN FIBERS.

Jacqueline M. Esquiaqui, University of Florida
1348-Pos, #B168
STUDYING DYNAMICS AND CONFORMATIONAL CHANGES IN THE GLYCINE RIBOSWITCH USING ELECTRON PARAMAGNETIC RESONANCE SPECTROSCOPY.

Johnnie W. Wright, Indiana University Purdue University
1475-Pos, #B205
ION EXCLUSION FROM MULTILAMELLAR LIPID VESICLES

Tuesday

Jeremiah Babcock, University of Texas, San Antonio
2513-Pos, #B205
THE TRANSPORTATION POTENTIAL OF HUMAN SERUM ALBUMIN FOR MIR106A.

Wednesday

Marcio Duarte Albasini Mourao, Mathematical Biosciences Institute
3995-Pos, #B723
UNRAVELLING THE IMPACT OF OBSTACLES IN DIFFUSION AND KINETICS OF AN ENZYME CATALYSED REACTION.

James Campbell, Baylor College of Medicine
3330-Pos, #B58
INSIGHTS INTO THE CYCLIC NUCLEOTIDE SELECTIVITY MECHANISM OF CYCLIC GMP DEPENDENT PROTEIN KINASE II.

Liezl E. Francisco, University of Texas, San Antonio
3495-Pos, #B223
SMALL MOLECULE INHIBITORS OF INTERACTION BETWEEN ERCC1 AND XPA.

Thursday

Jan-Michael Rives, Rutgers New Jersey Medical School
3826-Pos, #B554
REGULATION OF TRPV1 BY PHOSPHOINOSITIDES AND OTHER NEGATIVELY CHARGED LIPIDS.

Melissa Hernandez, University of New Mexico
See Addendum for programming
EFFECT OF UREA ON THE SURFACE AND MEMBRANE ACTIVITY OF AMYLOID BETA PEPTIDE.

Gelson Pagan Díaz, University of Puerto Rico, Mayaguez
See Addendum for programming
A NEW LASER-DRIVEN NMR PULSE SEQUENCE FOR NMR SENSITIVITY ENHANCEMENT.

Tomas Rodriguez, University of California, Davis
See Addendum for programming
TRACKING PAIRING AND COMPACTION OF MEIOTIC CHROMOSOMES USING FLUORESCENCE MICROSCOPY IN SACCHAROMYCES CEREVISIAE.
Ancillary Meetings

**Society of General Physiologists Council Meeting**  
Saturday, February 15, 9:00 AM–1:00 PM  
Room 124

**Korean Biophysicists Meeting**  
Sunday, February 16, 5:00 PM–8:00 PM  
Room 307

**Biophysical Society of Canada - Travel Awards and Mixer**  
Sunday, February 16, 6:00 PM–7:30 PM  
Room 302

**Biophysics Austria Mixer**  
Sunday, February 16, 6:00 PM–7:00 PM  
Room 121

**SOBLA (The Society for Latinoamerican Biophysicists) Meeting**  
Tuesday, February 18, 8:00 PM–10:00 PM  
Room 309

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**Wiki Contest**

Share what you know about biophysics with the world. Participate in the biophysics wiki-editing contest!

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To learn more, attend the Wiki-Edit Meet up,  
**Sunday, February 16, 2:15–3:30 pm in Room 309**  
or visit the website: [www.biophysics.org](http://www.biophysics.org)

*Deadline to finish your wiki article is **July 15, 2014**.*
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Biophysical Society

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Phone: 240-290-5600 | Fax: 240-290-5555
society@biophysics.org
Welcome to San Francisco, host to the 2014 BPS Annual Meeting and Biophysical Society TV—your brand new conference television channel dedicated to news and views from the Annual Meeting.

Biophysical Society TV is here to cover the important issues that emerge at the meeting, raise the visibility of the work of biophysicists, and provide an opportunity to learn about cutting-edge research and developments in biophysics.

We will be screening a new episode each day of the Annual Meeting featuring: interviews with key speakers, session highlights, feedback from attending delegates, and exclusive pieces produced in partnership with education institutions especially for the meeting.

Take part in Biophysical Society TV!

You will see our camera team touring throughout the Moscone Center. Please do say hello and share your comments on the speakers and sessions you attended. The Biophysical Society TV team welcomes all feedback and would like to hear what you think of your new Annual Meeting TV show, as well as your views on the various issues raised at the meeting.

We hope you enjoy the meeting and Biophysical Society TV!
Visit the Biomolecular Discovery Dome

Watch cells and viruses come to life in this stereo-3D portable Dome. See how difficult biophysical topics can be made accessible to the general public. The Public Affairs Committee is pleased to be sponsoring the Dome for the third year in a row. Short videos will present a range of topics that will convey how research visualization provides insights and medical opportunities as to the nature of pathogens and cells. Overall, these videos communicate the excitement of looking at macromolecular complexes and understanding the molecular basis for life. The Biomolecular Discovery Dome will be located in Hall D of the Moscone Center, Sunday, February 16–Wednesday, February 19.

This event is sponsored by the Public Affairs Committee.
NEW! Free Networking Cards for Poster Presenters

(Sponsored by Quartzy)

Are you presenting a poster at BPS this year?

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 carry your contact information, and they also have the title of your poster, your presentation date/time, and your abstract.

You can hand them out to other researchers before, during, or after your poster presentation. Please pick them up at the “Networking Card” tables in the Exhibit Hall.

The cards are sponsored by Quartzy, the world’s leading free online lab management platform.
## Daily Program Summary

All rooms are located in the MOSCONE CONVENTION CENTER unless noted otherwise.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>8:00 AM–5:00 PM</td>
<td>Exhibitor Registration</td>
<td>North Lobby</td>
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<tr>
<td>8:30 AM–5:00 PM</td>
<td>Drug Discovery Satellite Meeting</td>
<td>Room 130/131</td>
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<tr>
<td>2:00 PM–5:00 PM</td>
<td>Family Room</td>
<td>Room 112</td>
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<tr>
<td>3:00 PM–4:30 PM</td>
<td>New Council Orientation</td>
<td>Marriott Marquis, Pacific F</td>
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<tr>
<td>3:00 PM–5:00 PM</td>
<td>Registration</td>
<td>North Lobby</td>
</tr>
<tr>
<td>5:00 PM–9:00 PM</td>
<td>Joint Council Reception, Dinner, and Meeting</td>
<td>Marriott Marquis, Club Room</td>
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Friday, February 14

8:00 AM–5:00 PM, NORTH LOBBY
Exhibitor Registration

8:30 AM–5:00 PM, ROOM 130/131
Drug Discovery Satellite Meeting
Sponsored by Nanion Technologies; ChanTest; Cytocentrics; Molecular Devices, LLC; and Sophion Bioscience

Co-Chairs
Niels Fertig, Nanion Technologies
Chris Mathes, ChanTest Corporation
Jim Costantin, Molecular Devices, LLC
Morten Sunensen, Sophion Bioscience
Dirck Lassen, Cytocentrics Bioscience GmbH

The symposia will feature presentations from scientists using automated electrophysiology and other emerging technologies from pharmaceutical and biotechnology companies and academia who are actively involved in ion channel drug discovery. Presentations will be focused in the following areas:

- Integration of automated electrophysiology into the drug discovery process and its results
- Applications of automated electrophysiology for ion channel drug discovery (with an emphasis on new and/or novel applications)
- New developments of automated electrophysiology and other emerging technologies

2:00 PM–5:00 PM, ROOM 112
Family Room

3:00 PM–4:30 PM, MARriott MARquis, PACIFIC F
New Council Orientation

3:00 PM–5:00 PM, NORTH LOBBY
Registration

5:00 PM–9:00 PM, MARriott MARquis, CLUB ROOM
Joint Council Reception, Dinner, and Meeting
# Daily Program Summary

All rooms are located in the MOSCONE CONVENTION CENTER unless noted otherwise.

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<tr>
<td>8:00 AM–6:00 PM</td>
<td>Child Care</td>
<td>Marriott Marquis, Pacific H, I, J</td>
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<tr>
<td>8:00 AM–6:00 PM</td>
<td>Undergraduate Student Lounge</td>
<td>Rotunda, 300 Level</td>
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<tr>
<td>8:00 AM–6:30 PM</td>
<td>Registration/Exhibitor Registration</td>
<td>North Lobby</td>
</tr>
<tr>
<td>8:00 AM–7:00 PM</td>
<td>Family Room</td>
<td>Room 112</td>
</tr>
<tr>
<td>8:30 AM–11:00 AM</td>
<td>Joint Council Meeting</td>
<td>Marriott Marquis, Club Room</td>
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<tr>
<td>9:00 AM–1:00 PM</td>
<td>Society of General Physiologists Council Meeting</td>
<td>Room 124</td>
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<tr>
<td>9:00 AM–1:00 PM</td>
<td>Subgroup: Molecular Biophysics</td>
<td>Room 134</td>
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<tr>
<td>9:00 AM–5:10 PM</td>
<td>Subgroup: Membrane Structure &amp; Assembly</td>
<td>Room 132/133</td>
</tr>
<tr>
<td>9:00 AM–7:00 PM</td>
<td>Subgroup: Bioenergetics</td>
<td>Room 310</td>
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<tr>
<td>10:30 AM–7:00 PM</td>
<td>Subgroup: Intrinsically Disordered Proteins</td>
<td>Room 135</td>
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<tr>
<td>12:00 PM–6:00 PM</td>
<td>Subgroup: Nanoscale Biophysics</td>
<td>Room 304</td>
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<tr>
<td>12:00 PM–7:00 PM</td>
<td>Career Center</td>
<td>Room 300</td>
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<tr>
<td>12:15 PM–6:00 PM</td>
<td>Subgroup: Biopolymers in vivo</td>
<td>Room 307</td>
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<tr>
<td>1:00 PM–4:45 PM</td>
<td>Subgroup: Biological Fluorescence</td>
<td>Room 303</td>
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<tr>
<td>1:00 PM–5:05 PM</td>
<td>Subgroup: Mechanobiology</td>
<td>Room 306</td>
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<tr>
<td>1:00 PM–6:00 PM</td>
<td>Subgroup: Membrane Biophysics</td>
<td>Room 130/131</td>
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<tr>
<td>1:00 PM–6:15 PM</td>
<td>Subgroup: Motility</td>
<td>Room 305</td>
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<tr>
<td>1:00 PM–6:30 PM</td>
<td>Subgroup: Exocytosis &amp; Endocytosis</td>
<td>Room 301</td>
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<tr>
<td>1:30 PM–4:00 PM</td>
<td>Subgroup: Permeation &amp; Transport</td>
<td>Room 309</td>
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<tr>
<td>3:00 PM–4:00 PM</td>
<td>Career Center Workshop: Networking Now: How to Maximize Success at BPS 2014</td>
<td>Room 300</td>
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<tr>
<td>3:30 PM–4:30 PM</td>
<td>Undergraduate Mixer and Poster Fest</td>
<td>Outside of Room 300</td>
</tr>
<tr>
<td>5:00 PM–7:00 PM</td>
<td>Opening Mixer</td>
<td>Lower North Lobby</td>
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<tr>
<td>5:00 PM–7:00 PM</td>
<td>Meet and Greet</td>
<td>Lower North Lobby</td>
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<tr>
<td>5:00 PM–7:00 PM</td>
<td>First-Time Attendee Drop-By</td>
<td>Room 111</td>
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<tr>
<td>6:00 PM–10:00 PM</td>
<td>Poster Viewing</td>
<td>Hall D</td>
</tr>
<tr>
<td>6:30 PM–7:30 PM</td>
<td>Education, Minority Affairs, and Professional Opportunities for Women Committees Travel Awardee Reception</td>
<td>Room 302</td>
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Saturday, February 15

8:00 AM–6:00 PM, MARRIOTT MARQUIS, PACIFIC H, I, J
Child Care

8:00 AM–6:00 PM, ROTUNDA, 300 LEVEL
Undergraduate Student Lounge

8:00 AM–6:30 PM, NORTH LOBBY
Registration/Exhibitor Registration

8:00 AM–7:00 PM, ROOM 112
Family Room

8:30 AM–11:00 AM, MARRIOTT MARQUIS, CLUB ROOM
Joint Council Meeting

9:00 AM–1:00 PM, ROOM 124
Society of General Physiologists Council Meeting

9:00 AM–1:00 PM, ROOM 134
Subgroup Molecular Biophysics

Subgroup Chair
Mari DeMarco, University of British Columbia, Canada

BIOMEDICAL APPLICATIONS OF MASS SPECTROMETRY

1-SUBG 9:00 AM
FAST PHOTOCHEMICAL OXIDATION OF PROTEINS (FPOP) FOR THE CHARACTERIZATION OF MACROMOLECULES. Lisa M. Jones

2-SUBG 9:30 AM
PROTEIN HYDROGEN EXCHANGE MEASURED BY MASS SPECTROMETRY. S. Walter Englander

3-SUBG 10:00 AM
PROTEIN FOLDING AND BINDING CHARACTERIZED BY MASS SPECTROMETRY. Lars Konermann, Siavash Vahidi, Modupeola A. Sowole

10:30 AM COFFEE BREAK

10:45 AM SUBGROUP BUSINESS MEETING

NO ABSTRACT 11:00 AM
SINGLE-MOLECULAR MASS SPECTROMETRY ENABLED BY NANOELECTROMECHANICAL SYSTEMS. Michael Roukes

4-SUBG 11:30 AM
NATIVE MASS SPECTROMETRY FOR STRUCTURAL BIOPHYSICS. Justin LP Benesch

5-SUBG 12:00 PM
A NOVEL SOFT IONIZATION PROCESS AND APPLICATIONS IN IMAGING MASS SPECTROMETRY. Lorelie Imperial, Sashiprabha M. Virhanarachchi, James Wager-Miller, Ken Mackie, Matthew J. Allen, Sarah Trimpin

6-SUBG 12:30 PM
TISSUE SHOTGUN PROTEOMICS: APPLICATIONS TO THE CLINICAL LABORATORY. Surendra Dasari, Jason D. Theis, Julie A. Vrana, Ahmet Dogan, Paul J. Kurtin

1:00 PM CONCLUDING REMARKS

9:00 AM–5:10 PM, ROOM 132/133
Subgroup Membrane Structure & Assembly

Subgroup Chair
Felix Goñi, Basque Country University, Spain

7-SUBG 9:00 AM
PROTEIN GYMNASTICS IN THE LIPID BILAYER: LIPIDS AS DETERMINANTS OF PROTEIN STRUCTURE. William Dowhan, Mikhail Bogdanov, Heidi Vitrac

8-SUBG 9:35 AM
HOW LIPIDS MEDIATE PTEN TUMOR SUPPRESSOR FUNCTION. Arne Gericke

9-SUBG 10:10 AM
NEW INSIGHTS INTO MITOCHONDRIAL PERMEABILIZATION IN APOPTOSIS. Ana J. Garcia-Saez

10:45 AM COFFEE BREAK

10-SUBG 11:05 AM
EFFECTS OF PHOSPHOINOSITIDES AND THEIR DERIVATIVES ON ENDOMEMBRANE MORPHOLOGY AND FUNCTION. Banafshe Larijani

11-SUBG 11:40 AM
MOLECULAR BASIS OF THE ASSEMBLY AND BUDDING OF THE EBOLA VIRUS FROM THE PLASMA MEMBRANE OF HUMAN CELLS. Robert V. Stahelin

12:15 PM COFFEE BREAK

12-SUBG 1:15 PM
VESICLES IN ELECTRIC FIELDS. Rumiana Dimova

13-SUBG 1:50 PM
LIPID NANOTUBES AS A TOOL FOR STUDYING NANOSCALE PROTEO-LIPID DOMAINS. Anna Shnyrova

14-SUBG 2:25 PM
HOW CELLS EXPLOIT FORCES TO SENSE AND RESPOND TO THEIR ENVIRONMENTS. Viola Vogel

3:00 PM COFFEE BREAK

3:20 PM SUBGROUP BUSINESS MEETING

4-SUBG 3:55 PM
MEMBRANE FUSION BY X-RAYS: FROM MODEL MEMBRANES TO ORGANELLES. Tim Salditt

16-SUBG 4:30 PM
T.E. THOMPSON AWARD LECTURE SOME OF MY GREATEST MISTAKES. Sarah L. Keller

5:10 PM SUBGROUP BUSINESS MEETING
Subgroup Co-Chairs
Jan Hoek and György Hajnóczky, Thomas Jefferson University

MORNING SYMPOSIUM: ION CHANNELS OF THE INNER MITOCHONDRIAL MEMBRANE

18-SUBG  9:00 AM
FOF1-ATP SYNTHASE DIMERS AND THE MITOCHONDRIAL PERMEABILITY TRANSITION PORE FROM YEAST TO MAMMALS.
Paolo Bernardi, Valentina Giorgio, Michela Carraro, Sophia von Stockum, Victoria Burchell, Justina Šileikytė, Valeria Petronilli, Mario Zoratti, Ildikó Szabó, Mike Forte, Giovanna Lippe

19-SUBG  9:30 AM

10:00 AM  COFFEE BREAK

20-SUBG  10:30 AM
MITOCHONDRIAL UNCOUPLING AND THERMOGENESIS. Yurii V. Kirichok

21-SUBG  11:00 AM
NEW MITOCHONDRIAL POTASSIUM CHANNELS. Adam Szewczyk, Anna Olszewska, Bartlomiej Augustynek, Michal Laskowski, Piotr Bednarczyk

22-SUBG  11:30 AM
INHIBITION OF A MITOCHONDRIAL POTASSIUM CHANNEL AS A NEW THERAPEUTIC STRATEGY FOR CHRONIC LYMPHOCYTIC LEUKEMIA. Ildikó Szabó, Luigi Leanza, Antonella Managò, Federica Frezzato, Karthik Becker, Livio Trentin, Gianpietro Semenzato, Erich Gulbins, Mario Zoratti

1:40 PM  YOUNG INVESTIGATOR AWARD PRESENTATION

AFTERNOON SYMPOSIUM: POST-TRANSLATIONAL MODIFICATIONS OF MITOCHONDRIAL PROTEINS

23-SUBG  2:00 PM
PROTEIN ACYLATION REGULATES METABOLISM. Matthew Hirschey

No Abstract  2:30 PM
SIRT3-MEDIATED ACETYLATION OF MITOCHONDRIAL PROTEINS. Eric Verdin

3:00 PM  COFFEE BREAK

No Abstract  3:30 PM
PKA SIGNALING AT THE MITOCHONDRIA. Susan Taylor

24-SUBG  4:00 PM
REGULATION OF MITOCHONDRIAL PROTEIN FUNCTION BY PTMS DURING ACUTE AND CHRONIC NUTRIENT STRESS. David Pagliarini

No Abstract  4:30 PM
CARDIAC-MITOCHONDRIA: NUTRIENT SENSORS FOR REDOX-DRIVEN METABOLIC REPROGRAMMING. Lukasz Zweda

5:20 PM  SUBGROUP BUSINESS MEETING

7:00 PM  SUBGROUP DINNER

10:30 AM–7:00 PM, ROOM 135

Subgroup
Intrinsically Disordered Proteins

Subgroup Chair
Ashok Deniz, Scripps Research Institute

INTRINSIC PROTEIN DISORDER: STRUCTURE AND MECHANISMS

25-SUBG  1:00 PM
FOLDING UPON BINDING—IS IT JUST A SIMPLE PROTEIN FOLDING PROBLEM? Jane Clarke, Keynote Speaker

26-SUBG  1:45 PM
INSIGHTS INTO THE BINDING MECHANISM OF IDPS FROM MOLECULAR SIMULATION. Robert Best

2:10 PM  POSTDOC TALK

27-SUBG  2:25 PM
ACCESSIBLE CONFORMATIONS OF N-TERMINAL ACETILATED ALPHA-SYNUCLEIN: IMPLICATIONS FOR FIBRIL FORMATION. Jean Baum

28-SUBG  3:15 PM
COFFEE BREAK

29-SUBG  3:45 PM
CONTROL OF DISORDER AND ORDER IN SIGNALING BY PROTEINS. Richard Kriwacki

30-SUBG  4:10 PM
NMR STUDIES OF THE FREE ENERGY LANDSCAPE OF INTRINSICALLY DISORDERED PROTEINS IN THEIR FREE AND BOUND FORMS. Martin Blackledge

4:35 PM  POSTDOC TALK

31-SUBG  4:50 PM
LINKING INTRINSIC DISORDER TO ALLOSTERIC REGULATION IN THE NMDA RECEPTOR. Mark Bowen

32-SUBG  5:15 PM
DECODING SEQUENCE-ENSEMBLE RELATIONSHIPS OF IDPS. Rohit Pappu

7:00 PM  SUBGROUP DINNER

12:00 PM–6:00 PM, ROOM 304

Subgroup
Nanoscale Biophysics

Subgroup Chair
Victoria Birkedal, Aarhus University, Denmark

33-SUBG  12:00 PM
NANOSCALE MECHANISMS UNDERLYING HIV-1 VIRAL PARTICLE ASSEMBLY AND RELEASE. Jennifer Lippincott-Schwartz, Prabuddha Sengupta, Antony Chen, Schuyler van Engelenburg
Biophysical Society 58th Annual Meeting, San Francisco, California

34-SUBG  12:30 PM  
NANOPLASMONICS MEETS BIO.  Jochen Feldmann

35-SUBG  1:00 PM  
SINGLE MOLECULE FLUORESCENCE STUDIES OF 
PROTEIN AGGREGATES AND THEIR ROLE IN 
NEURODEGENERATIVE DISEASE.  David Klenerman

36-SUBG  1:30 PM  
ENGINEERING ELECTRON NANOCONDUITS TO 
ELECTRONICALLY INTERFACE CELLS WITH MATERIALS.  
Caroline M. Ajo-Franklin

2:00 PM  COFFEE BREAK

37-SUBG  2:30 PM  
ADVANCES IN LIVE CELL NANOSCOPY.  Joerg Bewersdorf

3:00 PM  STUDENT/POSTDOC HIGHLIGHT  
COOPERATIVE MECHANICS OF MULTI-MOTOR AXONAL 
TRANSPORT REVEALED BY NOVEL NANOMANIPULATION 
IN LIVE NEURONS.  Praveen Chowdary  (SEE 1829-POS FOR ABSTRACT)

38-SUBG  3:15 PM  
SINGLE-MOLECULE OBSERVATION IN THE DNA ORIGAMI 
nANOSTRUCTURES.  Hiroshi Sugiyama

3:45 PM  STUDENT/POSTDOC HIGHLIGHT  
BEYOND THE SINGLE-MOLECULE LIMIT IN BIOLOGICAL IMAGING.  Duckhoe Kim  (SEE 4021-POS FOR ABSTRACT)

39-SUBG  4:00 PM  
SINGLE CELL GENOME ANALYSIS.  Stephen Quake

4:30 PM  SUBGROUP BUSINESS MEETING

6:00 PM  SUBGROUP DINNER

12:00 PM–7:00 PM, ROOM 300  
Career Center

12:15 PM–6:00 PM, ROOM 307  
Subgroup  
Biopolymers in vivo

Subgroup Chair  
Lila Gierasch, University of Massachusetts

MOLECULAR MACHINES AND HOW THEY FUNCTION INSIDE CELLS

12:15 PM  SUBGROUP BUSINESS MEETING

12:55 PM  INTRODUCTION BY GILAD HARAN AND JEFFREY SKOLNICK

40-SUBG  1:00 PM  
THE MACHINES THAT FOLD PROTEINS IN THE EUKARYOTIC 
CYTOSOL.  Judith Frydman, Keynote Speaker

41-SUBG  1:30 PM  
UNEXPECTED FUNCTIONS OF THE CLP AAA+ UNFOLDASES.  
Tania Baker

42-SUBG  2:00 PM  
COIL-COIL UNDER LOAD: STABILITY OF ESSENTIAL 
MACHINE COMPONENT.  Ron Elber

2:30 PM  POSTDOC TALK

2:50 PM  COFFEE BREAK

43-SUBG  3:15 PM  
STARLING’S LAW AT SMALL SCALE: SURPRISING SUB-CELLULAR 
ADAPTATION OF CARGO TRANSPORT TO OPPOSITION TO 
 MOTION.  Steven P. Gross, J.N Babu Reddy

3:45 PM  POSTDOC TALK

44-SUBG  4:05 PM  
STOCHASTIC SIMULATIONS OF CELLULAR PROCESSES; 
FROM SINGLE CELLS TO COLONIES.  Zaida Luthey-Schulten

45-SUBG  4:35 PM  
TRANSCRIPTION AGAINST SUPERCOILING.  Sunney Xie,  
Keynote Speaker

6:00 PM  SUBGROUP DINNER

1:00 PM–4:45 PM, ROOM 303  
Subgroup  
Biological Fluorescence

Subgroup Chair  
Joachim Mueller, University of Minnesota

46-SUBG  1:00 PM  
PROBING SPATIOTEMPORAL REGULATION OF SIGNAL 
TRANSDUCTION IN LIVING CELLS.  Jin Zhang

47-SUBG  1:30 PM  
IN VIVO DEEP TISSUE MULTIPHOTON MICROSCOPY.  Chris Xu

48-SUBG  2:00 PM  
FLUORESCENCE POLARIZATION AND FLUCTUATION 
ANALYSIS REVEALS CHANGES IN CAMKII HOLOENZYME 
ORGANIZATION WITH ACTIVATION AND SUBSEQUENT 
T-SITE INTERACTIONS.  Steven S. Vogel

2:30 PM  SUBGROUP BUSINESS MEETING

2:45 PM  COFFEE BREAK

49-SUBG  3:15 PM  
QUANTITATIVE SUPER-RESOLUTION IMAGING OF BIOLOGICAL 
PROCESSES WITH HIGH SPATIOTEMPORAL RESOLUTION.  
Melike Lakadamyali

50-SUBG  3:45 PM  
IMAGING FLUORESCENCE CORRELATION SPECTROSCOPY MEASURES DYNAMICS AND STRUCTURE IN LIVE SAMPLES.  
Thorsten Wohland

4:15 PM  YOUNG FLUORESCENCE INVESTIGATOR AWARD AND LECTURE

4:45 PM  THE GREGORIO WEBER AWARD AND LECTURE

1:00 PM–5:05 PM, ROOM 306  
Subgroup  
Mechanobiology

Subgroup Chair  
Linda Kenney, University of Illinois at Chicago

1:00 PM  INTRODUCTION

51-SUBG  1:05 PM  
IN VITRO CONTRACTION OF CYTOKININ RING DEPENDS 
ON MYOSIN II BUT NOT ON ACTIN DYNAMICS.  
Mohan Balasubramanian
52-SUBG  1:40 PM
SIGNALLING REACTIONS ON THE MEMBRANE: THE ROLES OF FORCE, SPACE, AND TIME. Jay Groves

2:15 PM
LAMIN-A IS MECHANOSENSITIVE TO MATRIX STIFFNESS AND COUPLES TO THE RETINOIC ACID PATHWAY IN DIFFERENTIATION. Irena L. Ivanovska, Joe Swift, Dennis E. Discher (see 1596.2-pos for abstract)

2:35 PM
COFFEE BREAK

54-SUBG  3:00 PM
ENVIRONMENTAL SENSING BY THE ENV MECHANOSENSOR. Linda Kenney

3:35 PM
POWER, DIRECTION, AND SYNCHRONY - MECHANICAL PROBLEMS AND SOLUTIONS FROM JUMPING LEAFHOPPER INSECTS. Gregory P. Sutton (see 3130-pos for abstract)

55-SUBG  3:55 PM
NONLINEAR ELASTICITY OF MUSCLE AND ITS ROLE IN MOTOR CONTROL. Neelima Sharma, Madhusudhan Venkadesan

3:30 PM
INTERPLAY BETWEEN CYTOSKELETAL HOMEOSTASIS AND TUMOR BIOLOGY. Mary Beckerle

5:05 PM
SUBGROUP BUSINESS MEETING

1:00 PM–6:00 PM, ROOM 130/131
Subgroup
Membrane Biophysics

Subgroup Chair
Henry Colecraft, Columbia University

NECESSARY (ACCESSORY) SUBUNITS OF ION CHANNELS: WHAT THEY DO AND HOW THEY DO IT

1:00 PM
OPENING REMARKS

56-SUBG  1:05 PM
CHILDHOOD SWEETHEART VS LATE SUITOR: CAV CHANNEL REGULATION BY AUXILIARY BETA AND ALPHA2DELTA SUBUNITS. Henry M. Colecraft

57-SUBG  1:35 PM
DUAL REGULATION OF M-TYPE K+ CHANNELS BY AKAP79/150 SIGNALING COMPLEXES. Mark S. Shapiro

58-SUBG  2:05 PM
AUXILIARY-SUBUNIT-DEPENDENT MODULATION OF SLO1 BK CHANNELS THAT UNDERLIES THE HYPOTENSIVE EFFECT OF FISH OIL. Toshinori Hoshi

59-SUBG  2:35 PM
POWERFUL AND ANCIENT EMBRACE OF FOUR-DOMAIN VOLTAGE-GATED CHANNELS WITH CALMODULIN. David T. Yue, Manu Ben Johny, Paul J. Adams

3:05 PM
SUBGROUP BUSINESS MEETING & COFFEE BREAK

60-SUBG  3:40 PM
SODIUM CHANNEL β1 SUBUNITS: OVERACHIEVERS OF THE ION CHANNEL FAMILY. Lori Isom

61-SUBG  4:10 PM
TRIP(8)ING UP AND DOWN HCN CHANNEL GATING AND TRAFFICKING. Steven A. Siegelbaum, Lei Hu, Bina Santoro

62-SUBG  1:10 PM
MOVEMENT OF SIGNALING RECEPTORS INSIDE PRIMARY CILIA. Maxence Nachury

63-SUBG  1:40 PM
PROBING FORCES ON NEWLY GENERATED SPINDLE MICROTUBULE MINUS-ENDS. Mary W. Elting, Christina L. Hueschen, Dylan B. Udy, Sophie Dumont

2:10 PM
COFFEE BREAK

64-SUBG  2:30 PM
STRUCTURAL, MECHANICAL, AND BIOCHEMICAL INSIGHTS INTO THE MECHANISM OF MYOSIN FORCE SENSING. E. Michael Ostap, Michael J. Greenberg, Adam Zwolak, Tianming Lin, Charles V. Sindelar, Yale E. Goldman, Roberto Dominguez, Henry Shuman

65-SUBG  3:00 PM
A STRUCTURAL MODEL OF THE KINESIN-5 MECHANOCHEMICAL CYCLE. Carolyn A. Moores, Adeline Goulet, Jennifer Major, Yonggun Jun, Steven Gross, Steven Rosenfeld

3:30 PM
SUBGROUP BUSINESS MEETING & COFFEE BREAK

66-SUBG  4:00 PM
FROM EXTENSILE MICROTUBULES BUNDLES TO SYNTHETIC CILIA AND SELF-MIXING ACTIVE GELS. Zvonimir Dogic

67-SUBG  4:30 PM
TUG-OF-WAR: MECHANICAL COORDINATION OF MOLECULAR MOTORS. Stefan Klumpp

5:00 PM
COFFEE BREAK

68-SUBG  5:20 PM
MECHANISMS OF DYNEIN-DRIVEN MICROTUBULE SLIDING AND CARGO TRANSPORT. Ronald Vale, Keynote Speaker, Hui-Chun Cheng, Gira Bhabha, Richard McKenna, Marvin Tanenbaum, Courtney Schroeder

6:15 PM
CLOSING REMARKS

1:00 PM–6:30 PM, ROOM 301
Subgroup
Exocytosis & Endocytosis

Subgroup Co-Chair
Elizabeth Seward, University of Sheffield, United Kingdom

1:00 PM
POSTER COMMUNICATIONS

69-SUBG  1:45 PM
EXOCYTOTIC FUSION PORE INTERMEDIATES OF DENSE-CORE VESICLES. Jernej Jorgačevski, Nina Vardjan, Ana C. Calejo, Alenka Guček, Boštjan Riteper, Ajda Flšker, Marko Kreft, Robert Zorec
2:15 PM  COFFEE BREAK

70-SUBG  2:30 PM  DYNAMIN-CATALYZED MEMBRANE FUSION.  Sandra Schmid

71-SUBG  3:00 PM  A NOVEL PLAYER IN EARLY BIOGENESIS OF INSULIN GRANULI FROM TRANS-GOLGI NETWORK.  Wen Du, Pingping Lv, Dongwan Cheng, Eli Song, Tao Xu

72-SUBG  3:30 PM  COMPLEXITY OF COMPLEXIN.  Robert Chow

4:00 PM  COFFEE BREAK

73-SUBG  4:15 PM  KATZ AWARD LECTURE  NEW INSIGHTS INTO THE MOLECULAR MECHANISM OF CALCIUM-TRIGGERED SYNFECTIVE VESICLE FUSION.  Axel Brunger

5:30 PM  SUBGROUP BUSINESS MEETING

6:30 PM  WELCOME RECEPTION AND SUBGROUP DINNER

1:30 PM–4:00 PM, ROOM 309  Subgroup Permeation & Transport

Subgroup Chair
Dirk Gillespie, Rush University Medical Center

NO ABSTRACT  1:30 PM  STRUCTURAL BASIS OF IRON PIRACY BY PATHOGENIC NEISSERIA.  Susan Buchanan

2:05 PM  POSTDOC RESEARCH HIGHLIGHT  ION SELECTIVITY OF AN ATP-SYNTASE MEMBRANE ROTOR DETERMINED BY ISOTHERMAL TITRATION CALORIMETRY.  Vanessa Leone

74-SUBG  2:30 PM  ION CONDUCTION MECHANISM OF A VIRAL PROTON CHANNEL FROM SOLID-STATE NMR.  Mei Hong

3:05 PM  STUDENT RESEARCH HIGHLIGHT  DEFINING THE CONFORMATIONAL STATE OF THE K+ CHANNEL SELECTIVITY FILTER DURING C-TYPE INACTIVATION.  Jared L. Ostmeyer

75-SUBG  3:30 PM  ALL-ATOM SIMULATION OF ION PERMEATION IN SINGLE-FILE CHANNELS.  Morten D. Jensen

4:00 PM  SUBGROUP BUSINESS MEETING

3:00 PM–4:00 PM, ROOM 300  Career Center Workshop

Networking Now: How to Maximize Success at BPS 2014

You have probably heard that you have to network, network, network to find a job or jump start your career. Meetings and conferences such as BPS 2014 provide many opportunities to network, but capitalizing on these opportunities can sometimes be a challenge. This highly interactive session will provide networking tips, techniques, strategies and practice to meet that challenge and ensure your success.

3:30 PM–4:30 PM, OUTSIDE OF ROOM 300  Undergraduate Mixer and Poster Fest

Come network with other undergraduates who are attending the meeting, socialize, and learn about their research projects. Undergraduates who are presenting posters at the meeting will be presenting their posters here as well. Limited presentation spots may be available for those who did not pre-register. Check with the Society Office in Room 120. Organized by the Education Committee.

5:00 PM–7:00 PM, LOWER NORTH LOBBY  Opening Mixer

All registered attendees are welcome to attend this cash bar and light refreshments reception.

5:00 PM–7:00 PM, LOWER NORTH LOBBY  Meet and Greet

Stop by the Early Careers Meet and Greet table on your way to the mixer! Members of the Early Careers Committee will be on hand to welcome first-time attendees and those attending solo, provide introductions to other newcomers and information about local San Francisco hotspots, and help interested attendees arrange self-organized dinners at nearby restaurants.

5:00 PM–7:00 PM, ROOM 111  First-Time Attendee Drop-By

Is this your first time attending a Biophysical Society Annual Meeting? Wondering what to do first? Feeling overwhelmed? Wondering how to get the most out of your time? Drop by the first-time attendee event on Saturday evening during the opening mixer to learn how to navigate the meeting. Society staff and Membership Committee Members will be on hand to answer your questions about the Meeting and help you gain the most from your time at the BPS 2014 San Francisco meeting.

6:00 PM–10:00 PM, HALL D  Poster Viewing

6:30 PM–7:30 PM, ROOM 302  Education, Minority Affairs, and Professional Opportunities for Women Committees Travel Awardee Reception

During this reception, recipients of travel awards will be honored and presented with their awards by the chairs of the Education, Minority Affairs, and Professional Opportunities for Women Committees.

Speaker:
Linda Columbus, University of Virginia
# Daily Program Summary

All rooms are located in the MOSCONÉ CONVENTION CENTER unless noted otherwise.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:30 AM–8:30 AM</td>
<td>Postdoctoral Breakfast</td>
<td>Room 302</td>
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<tr>
<td>7:30 AM–5:00 PM</td>
<td>Registration/Exhibitor Registration</td>
<td>North Lobby</td>
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<tr>
<td>7:30 AM–10:00 PM</td>
<td>Family Room</td>
<td>Room 112</td>
</tr>
<tr>
<td>8:00 AM–8:45 AM</td>
<td>Exhibitor Presentation: FEI Company High End Microscope Platform for Multimodal Live Cell Imaging</td>
<td>Room 123</td>
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<tr>
<td>8:00 AM–5:30 PM</td>
<td>Career Center</td>
<td>Room 300</td>
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<tr>
<td>8:00 AM–6:00 PM</td>
<td>Child Care</td>
<td>Marriott Marquis, Pacific H, I, J</td>
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<td>8:00 AM–6:00 PM</td>
<td>Undergraduate Student Lounge</td>
<td>Rotunda, 300 Level</td>
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<tr>
<td>8:00 AM–10:00 PM</td>
<td>Poster Viewing</td>
<td>Hall D</td>
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</table>

**Symposium: Membrane Transport in Fatty Acid Synthesis and Obesity**

Co-Chairs: Ana Pajor, University of California, San Diego, and Da-Neng Wang, New York University School of Medicine

- Sodium-dependent dicarboxylate and citrate transporters of the SLC13 family. Ana M. Pajor
- Structure and mechanism of a bacterial sodium-dependent dicarboxylate transporter. Da-Neng Wang
- I'm not dead yet: flies and mice. Stephen Helfand
- In vivo NMR studies on the mechanism of lipid-induced insulin resistance in humans. Gerald I. Shulman

**Symposium: Force Generation in Cell and Tissue Networks**

Co-Chairs: Michael Sheetz, Columbia University, and Clare Waterman, NHLBI

- Mechanosensing by tropomyosin-controlled myosin contractions. Michael Sheetz
- Myosin II controls cellular branching morphogenesis and migration in 3D by minimizing plasma membrane curvature. Clare Waterman
- Contractility-driven self-organization of the actin cytoskeleton. Alexander D. Bershadsky
- Dynamic organization of developing epithelia. Frank Julicher

**Platform: Membrane Protein Structure, Dynamics, and Interactions**

Room 130/131

**Platform: Voltage-gated K Channels: Activation/Inactivation Mechanisms**

Room 132/133

**Platform: Protein-Lipid Interactions I**

Room 303

**Platform: Biosensors**

Room 304

**Platform: Membrane Receptors and Signal Transduction I**

Room 305

**Platform: Protein-Nucleic Acid Interactions I**

Room 306

**Career Center Workshop: Beyond the Bench: Preparing for Your Career Transition in the Life Sciences**

Room 300

**CPOW Committee Meeting**

Room 122

**Exhibitor Presentation: Forte Bio, A Division of Pall Life Sciences**

Developing assays for kinetic characterization on the BLItz system

Room 123

**Biomolecular Discovery Dome**

Hall D

**Exhibits**

Hall D

**Coffee Break**

Hall D

**Career Center Workshop: Career Catalysts: Understand Who You Are to Get What You Want**

Room 300
### Symposium: RNA Assemblies and DNA Origami

Co-Chairs: Christina Smolke, Stanford University, and Andrew Turberfield, University of Oxford, United Kingdom

**Room 134**

10:45 am–12:45 pm

- **Designing Synthetic Regulatory RNAs: New Tools for Temporal and Spatial Control in Biological Systems.** Christina Smolke
- **Molecular Machinery from DNA: Synthetic Biology from the Bottom Up.** Andrew Turberfield
- **Structural Evolution of RNA Self-Assembly.** Luc Jaeger
- **Dynamic DNA Origami-Based Nanoparticle Assemblies.** Tim Liedl

### Symposium: New and Notable

Chair: Robert Nakamoto, University of Virginia Health Science Center

**Room 135**

10:45 am–12:45 pm

- **Structure of the CRISPR RNA-Guided Surveillance Complex from the Adaptive Immune System in Escherichia coli.** Blake Wiedenhef
- **Elucidation of Filamentous Structures in Immune Signaling.** Hao Wu
- **High Throughput 3D PALM Imaging Elucidates Mechanisms of Bacterial Cell Division.** Suliana Manley
- **Chromosome Territories Spatially Reorganize During DNA-Damage Response in Mammalian Nuclei.** Basudev Rao
- **Myosin II Functions as a Direct Mechanosensor for Intercellular Invasion During Cell-Cell Fusion.** Elizabeth Chen
- **Sterol Binding Controls Partitioning of the Amyloid Precursor C99 Protein Between Ordered and Disordered Membranes.** Anne Kenworthy
- **Structural Insights into TRP Channel Activation.** Erhu Cao

### Platforms

- **10:45 am–12:45 pm**
  - **Platform: Optical Microscopy and Super Resolution Imaging I** (Room 130/131)
  - **Platform: Protein Gymnastics of Large-Scale Structural Rearrangements** (Room 132/133)
  - **Platform: Bioenergetic Processes in Bacteria, Chloroplasts, and Mitochondria** (Room 303)
  - **Platform: Ligand-gated Channels I** (Room 304)
  - **Platform: Exocytosis and Endocytosis** (Room 305)
  - **Platform: Cardiac Muscle I** (Room 306)
- **11:00 am–12:00 pm**
  - **International Relations Committee Meeting** (Room 122)
  - **Exhibitor Presentation: Molecular Devices, LLC**
    - Investigating Use-Dependent Inhibition of Ion Channels on Automated Electrophysiology Systems including the IonWorks Barracuda® Instrument and the IonFlux™ Benchtop Reader (Room 123)
- **12:00 pm–1:00 pm**
  - **Career Center Workshop: Selling Yourself to the Life Sciences Industry** (Room 300)
  - **International Travel Awardee Luncheon** (Room 121)
- **12:00 pm–2:00 pm**
  - **Mid-Career Interactive Forum: The Art and Perils of Networking** (Room 302)
  - **Public Affairs Committee Meeting** (Room 122)
  - **Exhibitor Presentation: KinTek**
    - New Advances in Fitting Kinetic and Equilibrium Data by Simulation (Room 123)
- **1:00 pm–2:30 pm**
  - **Career Center Workshop: Networking Now: How to Maximize Success at BPS 2014** (Room 300)
  - **Moving on from Your Postdoc Position: Negotiating the Transition** (Room 307)
  - **Snack Break** (Hall D)
  - **Poster Presentations and Late Posters** (Hall D)
  - **Teaching Science Like We Do Science: Integration of Research and Education Workshop** (Room 310)
  - **Wiki-Edit 2014 Contest Kick-Off: The Importance of Open License Media to Our Science** (Room 309)
  - **Career Center Workshop: Networking Now: How to Maximize Success at BPS 2014** (Room 300)
  - **Funding: If Not from Federal Agencies, from Where?** (Room 301)
  - **Exhibitor Presentation: Nanosurf, Inc.**
    - Development of Automation and Nanofluidics to Extend Applications of Atomic Force Microscopy (Room 123)
- **2:30 pm–4:00 pm**
  - **Career Center Workshop: Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)** (Room 300)
### Symposium: Cellular Stress, Protein Folding, and Disease
**Co-Chairs:** Judy Kim, University of California, San Diego, and Conner Sandefur, University of North Carolina at Chapel Hill

- **SPECTROSCOPIC STUDIES OF MEMBRANE PROTEIN FOLDING: CHANGES IN HYDRATION.** Judy Kim
- **PROTEIN INTERACTIONS AND TRANSITION TIMES THAT INFLUENCE THE PATHOGENESIS OF PROTEIN FOLDING DISEASES.** Santiago Schnell
- **POST-TRANSLATIONAL MODIFICATIONS PROMOTE FORMATION OF SOD1 OLIGOMERS WITH POTENTIAL TOXICITY IN ALS.** Nikolay V. Dokholyan
- **CELL STRESS AND PROTEOSTASIS NETWORKS IN BIOLOGY, AGING, AND DISEASE.** Richard Morimoto

**Room 134**

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<th>Time</th>
<th>Event</th>
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<tr>
<td>4:00 PM – 6:00 PM</td>
<td>Symposium: Cellular Stress, Protein Folding, and Disease</td>
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</table>

### Symposium: Celebrating 100 Years of Crystallography: X-Rays Are Photons Too
**Co-Chairs:** Gregory Petsko, Brandeis University, and Jane Richardson, Duke University

- **CRYSTALLOGRAPHY - ENERGETICALLY INNOVATIVE AT 100.** Jane S. Richardson
- **CRYSTAL STRUCTURES OF ACTIVATED G-PROTEIN COUPLED RECEPTORS.** William Weis
- **COMBINING CRYSTALLOGRAPHIC AND STRUCTURE-MODELING APPROACHES IN MACROMOLECULAR CRYSTALLOGRAPHY.** Thomas C. Terwilliger
- **STRUCTURES OF THE UNIVERSAL TRANSLATOR, THE RIBOSOME.** Jamie H. D. Cate
- **XPELS FOR IMAGING MOLECULAR DYNAMICS.** John Spence
- **THE NEXT 100 YEARS OF CRYSTALLOGRAPHY: HOW THE HECK SHOULD I KNOW?** Gregory A. Petsko

**Room 135**

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### Symposium: Liquid Protein Assemblies in Spatial Organization and Ultrasensitive Signaling in Cells
**Co-Chairs:** Julie Forman-Kay, Hospital for Sick Children, Canada, and Tanja Mittag, St. Jude Children’s Research Hospital

- **PHASE SEPARATION OF DISORDERED PROTEIN IN THE FORMATION OF MEMBRANE-LESS ORGANELLES.** Julie D. Forman-Kay
- **THE LIQUID STATE OF (ELASTOMERIC) PROTEINS.** Régis Pomès
- **DECODING MOLECULAR PLASTICITY UNDERLYING NUCLEOCYTOPLASMIC TRANSPORT: FROM SINGLE MOLECULES TO LARGE ASSEMBLIES.** Edward A. Lemke
- **PHASE SEPARATION OF MULTI-VALENT SIGNALING PROTEINS.** Michael K. Rosen

**Room 130/131**

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<tr>
<td>4:00 PM – 6:00 PM</td>
<td>Symposium: Liquid Protein Assemblies in Spatial Organization and Ultrasensitive Signaling in Cells</td>
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### Platform: Voltage-gated Na Channels
**Room 132/133**

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<tr>
<td>4:00 PM – 6:00 PM</td>
<td>Platform: Voltage-gated Na Channels</td>
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### Platform: Molecular Dynamics I
**Room 303**

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<td>4:00 PM – 6:00 PM</td>
<td>Platform: Molecular Dynamics I</td>
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### Platform: Assemblies and Aggregates
**Room 304**

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<tr>
<td>4:00 PM – 6:00 PM</td>
<td>Platform: Assemblies and Aggregates</td>
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### Platform: Membrane Physical Chemistry I
**Room 305**

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<tr>
<td>4:00 PM – 6:00 PM</td>
<td>Platform: Membrane Physical Chemistry I</td>
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### Platform: Cell Mechanics and Motility I
**Room 306**

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<tr>
<td>4:00 PM – 6:00 PM</td>
<td>Platform: Cell Mechanics and Motility I</td>
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### Exhibitor Presentation: Asylum Research, an Oxford Instruments Company
**Room 123**

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<th>Time</th>
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<tr>
<td>5:00 PM – 6:30 PM</td>
<td>New blueDrive™ Photothermal Excitation for Superior AFM Tapping Mode Imaging</td>
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### Korean Biophysicists Meeting
**Room 307**

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<th>Time</th>
<th>Event</th>
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<tr>
<td>5:00 PM – 8:00 PM</td>
<td>Korean Biophysicists Meeting</td>
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### Biophysics Austria Mixer
**Room 121**

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<th>Time</th>
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<td>6:00 PM – 7:00 PM</td>
<td>Biophysics Austria Mixer</td>
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### Biophysical Society of Canada—Travel Awards and Mixer
**Room 302**

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<th>Time</th>
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<tr>
<td>6:00 PM – 7:30 PM</td>
<td>Biophysical Society of Canada—Travel Awards and Mixer</td>
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### Student Research Achievement Award (SRAA) Poster Competition
**Hall D**

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<tr>
<td>6:00 PM – 9:00 PM</td>
<td>Student Research Achievement Award (SRAA) Poster Competition</td>
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### Exhibitor Presentation: FEI Company
**Room 123**

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<tr>
<td>7:00 PM – 8:30 PM</td>
<td>Cryo-TEM: A New Era for 3D Structural Analysis of Protein Complexes</td>
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### Workshop: Polarizable Force Fields from Biomolecular Simulations
**Room 134**

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<th>Time</th>
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<tr>
<td>7:30 PM – 9:30 PM</td>
<td>Workshop: Polarizable Force Fields from Biomolecular Simulations</td>
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**Co-Chairs:** Alexander MacKerell, University of Maryland, and Benoit Roux, University of Chicago

- **DEVELOPMENT OF A POLARIZABLE FORCE FIELD FOR MACROMOLECULES BASED ON THE CLASSICAL DRUDE OSCILLATOR.** Alexander MacKerell
- **ION CHANNEL SIMULATION WITH EXPLICIT SOLVENT AND LIPID MEMBRANE BASED ON THE DRUDE POLARIZABLE FORCE FIELD.** Benoit Roux
- **FORCEBALANCE: A SYSTEMATIC, REPRODUCIBLE, STATISTICALLY DRIVEN APPROACH TO MORE ACCURATE MOLECULAR DYNAMICS MODELS.** Vijay Pande
- **ATOMISTIC AND COARSE-GRAINED MODELS FOR BIOMOLECULAR SIMULATIONS.** Teresa Head-Gordon
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<tr>
<th>Time</th>
<th>Workshop: Single Molecule Dynamics Using FRET/LRET</th>
<th>Room 135</th>
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<tr>
<td>7:30 PM-9:30 PM</td>
<td><strong>Co-Chairs:</strong> Irina Gopich, NIDDK, NIH, and Achillefs Kapanidis, University of Oxford, United Kingdom</td>
<td>Room 135</td>
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THEORY OF SINGLE-MOLECULE PHOTON SEQUENCES. *Irina V. Gopich*

TRANSITION-PATH TIMES IN PROTEIN FOLDING FROM SINGLE-MOLECULE FRET. *Hoi Sung Chung*

NEW FRET METHODS FOR STUDYING PROCESSING OF NUCLEIC ACIDS BY PROTEIN MACHINES. *Achillefs Kapanidis*

SINGLE MOLECULE FOUR COLOR FRET REVEALS THE MECHANISM OF AN ATP DRIVEN MULTICOMPONENT MOTOR. *Thorsten Hugel*
**High End Microscope Platform for Multimodal Live Cell Imaging**

Ultimately, the secrets of life can only be studied in the living stage - dynamic processes have to be followed in space and time in living cells to fully understand their interplay. Successful live cell imaging experiments require minimizing the phototoxicity while the acquisition speed has to match the dynamics of the process to be studied. Especially on rare samples, extraction of the highest possible amount of data from a single experiment is needed.

The iMIC, our digital fluorescence microscope, has been optimized to meet the challenges of live cell imaging. It offers fast measurement at best sensitivity and minimal bleaching. Depending on the sample and the process to be studied, a variety of specialized microscopy techniques can be chosen to optimize the result. Fast wide-field imaging, spinning disc confocal, FRAP and FRET can be combined in one flexible setup and used on the same sample. Moreover FEIs unprecedented solution for TIRF imaging makes the iMIC an even more valuable instrument.

TIRF is the way to get superior Z resolution using affordable laser and camera technology. However, constant need for realignment and inhomogeneous excitation have been drawbacks of this technology, especially for quantitative measurements. Our motorized multi-point TIRF module, giving full control over penetration depth for different excitation wavelengths, automatically adjusted TIRF angle and a simple user interface, brings the application to a next level. to monitor even fast processes in industry. They will also be available to answer questions about how the Committee serves postdocs in the biophysical community and to recruit new Committee members. Limited to the first 100 attendees.

**Speakers:**
Andrew Whitley, HORIBA Instruments, Inc.
Avia Rosenhouse-Dantsker, University of Illinois at Chicago

**FEI Company**

Most imaging techniques can also be combined with our two-photon microscopy solution. Based on the renowned digital Yanus laser scanner and GaAsP photomultipliers with large sensitive surface, the two-photon implementation yields very large fields of view with perfect resolution corner to corner.

**Presenters:**
Meike Pedersen, Product Marketing Manager, FEI Munich GmbH
Tilman Franke, Product Marketing Manager, FEI Munich GmbH
Gregor Heiss, Product Marketing Engineer, FEI Munich GmbH

8:00 AM–5:30 PM, ROOM 300
**Career Center**

8:00 AM–6:00 PM, MARRIOTT MARQUIS, PACIFIC H, I, J
**Child Care**

**Undergraduate Student Lounge**

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. Members of the Education Committee, which sponsors this lounge, will stop by to answer questions student attendees may have about career paths and opportunities.

8:00 AM–10:00 PM, HALL D
**Poster Viewing**

8:15 AM–10:15 AM, ROOM 134
**Symposium**

**Membrane Transport in Fatty Acid Synthesis and Obesity**

**Co-Chairs**
Ana Pajor, University of California, San Diego
Da-Neng Wang, New York University School of Medicine

76-SYMP 8:15 AM
**SODIUM-DEPENDENT DICARBOXYLATE AND CITRATE TRANSPORTERS OF THE SLC13 FAMILY.** Ana M. Pajor

77-SYMP 8:45 AM
**STRUCTURE AND MECHANISM OF A BACTERIAL SODIUM-DEPENDENT DICARBOXYLATE TRANSPORTER.** Romina Manuso, Da-Neng Wang

78-SYMP 9:15 AM
**I’M NOT DEAD YET: FLIES AND MICE.** Andreas L. Birkenfeld, Varman T. Samuel, Gerald I. Shulman, Rafaelde Cabo, Robert A. Reenan, Chen-Tseh Zhu, Stephen Helfand

79-SYMP 9:45 AM
**IN VIVO NMR STUDIES ON THE MECHANISM OF LIPID-INDUCED INSULIN RESISTANCE IN HUMANS.** Gerald I. Shulman

8:15 AM–10:15 AM, ROOM 135
**Symposium**

**Force Generation in Cell and Tissue Networks**

**Co-Chairs**
Michael Sheetz, Columbia University
Clare Waterman, NHLBI

80-SYMP 8:15 AM
**MECHANOSENSING BY TROPOMYOSIN-CONTROLLED MYOSIN CONTRACTIONS.** Michael Sheetz
MYOSIN II CONTROLS CELLULAR BRANCHING MORPHOGENESIS AND MIGRATION IN 3D BY MINIMIZING PLASMA MEMBRANE CURVATURE. Fischer A. R, Hunter Elliot, Clare Waterman, Gaudenz Danuser

CONTRACTILITY DRIVEN SELF-ORGANIZATION OF THE ACTIN CYTOSKELETON. Alexander D. Bershadsky

DYNAMIC ORGANIZATION OF DEVELOPING EPITHELIA. Frank Julicher

INTEGRATING THE SIGNALS: IMPLICATIONS OF CFTR NBD1 ALLOSTERY TO CYSTIC FIBROSIS. Dawson E. Jennifer, Andrew Chong, Robert Vernon, Rhea Hudson, Patrick Farber, Julie D. Forman-Kay

PROBING LIGAND DYNAMICS IN MEMBRANE-BOUND CYTOCHROME P450 3A4 TO CHARACTERIZE SUBSTRATE ACCESS AND PRODUCT EGRESS PATHWAYS. Javier Baylon, Emad Tajkhorshid

CHARACTERIZATION OF CHOLESTEROL AND DRUG LIGAND INTERACTIONS WITH TRANSLATOR PROTEIN 18 KDA (TSPO) FROM RHODOBACTER Sphaeroides. Fei Li, Lance Valls, Shelagh Ferguson-Miller

MONITORING INTRAMEMBRANE PROTEOLYTIC CLEAVAGE REACTIONS USING ISOTOPE-ASSISTED VIBRATIONAL INTERROGAITION OF MEMBRANE EMBEDDED (IVIBE) PROTEINS. Mia Brown, Renee D. Jiji, Iban Ubarretxena-Bilandia, Jason W. Cooley

INVESTIGATING LIGAND-MODULATION OF GPCR ACTIVATION PATHWAYS. Morgan Lawrence, Kai Kohlhoff, Diwakar Shukla, Greg Bowman, Russ Altman, Vijay Pande

EDUCATION TRAVEL AWARD EE CRYSTAL STRUCTURE OF MRAY, AN ESSENTIAL MEMBRANE ENZYME FOR BACTERIAL CELL WALL SYNTHESIS. Ben C. Chung, Jinshi Zhao, Robert Gillespie, Do Yeon Kwon, Ziqiang Guan, Jiyong Hong, Pei Zhou, Seok-Yong Lee

COMBINING MODELLING AND SITE-DIRECTED MUTAGENESIS TO EXPLORE AGONIST BINDING TO HUMAN OREXIN RECEPTORS. Alexander Heifetz, Oliver Barker, G. Benjamin Morris, Richard J. Law, Mark Slack, Philip C. Biggin

KINETIC EXCLUSION ANALYSIS (KINEXA) OF AVIDITY ENHANCEMENT OF A MULTI-VALENT ADNCTIN BINDING TO CLUSTERED RECEPTORS ON CHO CELLS. Lumelle A. Schneeweis, Sandra V. Hatcher, Bryan Barnhart, Thomas R. Glass, Lin Cheng, Benjamin Blum, Eric Lawrence, Rolf Ryseck, Ray Camphausen, Bozena M. Abramczyk, Anthony Della Pietra, Martin J. Corbett, Thomas McDonagh, Michael L. Doyle, James Bryson

8:15 AM–10:15 AM, ROOM 130/131

Platform

Membrane Protein Structure, Dynamics, and Interactions

Co-Chairs: Lumelle A. Schneeweis, Bristol-Myers Squibb
Philip Biggin, Oxford University, United Kingdom

INTEGRATING THE SIGNALS: IMPLICATIONS OF CFTR NBD1 ALLOSTERY TO CYSTIC FIBROSIS. Dawson E. Jennifer, Andrew Chong, Robert Vernon, Rhea Hudson, Patrick Farber, Julie D. Forman-Kay

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CHARACTERIZATION OF CHOLESTEROL AND DRUG LIGAND INTERACTIONS WITH TRANSLATOR PROTEIN 18 KDA (TSPO) FROM RHODOBACTER Sphaeroides. Fei Li, Lance Valls, Shelagh Ferguson-Miller

MONITORING INTRAMEMBRANE PROTEOLYTIC CLEAVAGE REACTIONS USING ISOTOPE-ASSISTED VIBRATIONAL INTERROGAITION OF MEMBRANE EMBEDDED (IVIBE) PROTEINS. Mia Brown, Renee D. Jiji, Iban Ubarretxena-Bilandia, Jason W. Cooley

INVESTIGATING LIGAND-MODULATION OF GPCR ACTIVATION PATHWAYS. Morgan Lawrence, Kai Kohlhoff, Diwakar Shukla, Greg Bowman, Russ Altman, Vijay Pande

EDUCATION TRAVEL AWARD EE CRYSTAL STRUCTURE OF MRAY, AN ESSENTIAL MEMBRANE ENZYME FOR BACTERIAL CELL WALL SYNTHESIS. Ben C. Chung, Jinshi Zhao, Robert Gillespie, Do Yeon Kwon, Ziqiang Guan, Jiyong Hong, Pei Zhou, Seok-Yong Lee

COMBINING MODELLING AND SITE-DIRECTED MUTAGENESIS TO EXPLORE AGONIST BINDING TO HUMAN OREXIN RECEPTORS. Alexander Heifetz, Oliver Barker, G. Benjamin Morris, Richard J. Law, Mark Slack, Philip C. Biggin

KINETIC EXCLUSION ANALYSIS (KINEXA) OF AVIDITY ENHANCEMENT OF A MULTI-VALENT ADNCTIN BINDING TO CLUSTERED RECEPTORS ON CHO CELLS. Lumelle A. Schneeweis, Sandra V. Hatcher, Bryan Barnhart, Thomas R. Glass, Lin Cheng, Benjamin Blum, Eric Lawrence, Rolf Ryseck, Ray Camphausen, Bozena M. Abramczyk, Anthony Della Pietra, Martin J. Corbett, Thomas McDonagh, Michael L. Doyle, James Bryson

8:15 AM–10:15 AM, ROOM 132/133

Platform

Voltage-gated K Channels: Activation/Inactivation Mechanisms

Co-Chairs: Manuel Covarrubias, Jefferson Medical College of Thomas Jefferson University
Serdar Durdagi, Bahcesehir University, Turkey

A-TYPE KV4 CHANNEL CLOSED-STATE INACTIVATION IS MODULATED BY THE TETRAMERIZATION DOMAIN INTERACTING WITH AUXILIARY KCHIP4A. Yi-Quan Tang, Fan Yang, Jinghong Zhou, Jie Zheng, KeWei Wang

TWO-IN-ONE: ACTIVATION AND INACTIVATION AT THE INTRACELLULAR GATE OF A KV CHANNEL. Manuel Covarrubias, Jeffrey D. Fineberg

DEVELOPMENT AND VALIDATION STUDIES OF UNIVERSAL PHARMACOPHORE MODELS FOR HERG CHANNEL OPENERS. Serdar Durdagi, Matthew Patterson, Sergei Y. Noskov

N-TERMINAL REGULATION OF HERG1 K+ CHANNEL DEACTIVATION. Steven J. Thomson, Angela Hansen, Michael C. Sanguinetti

LIPID AFFINITY TO THE VOLTAGE-GATED POTASSIUM CHANNEL KVAP. Elise Faure, Christine Thompson, Rikard Blunck

A STRUCTURAL DRIVEN KINETIC CYCLE FOR KCBA GATING. Luis G. Cuello, D. Marien Cortes, Eduardo Perozo

STATE-DEPENDENT CROSSLINKING IN IKS DEMONSTRATES A CLOSED-STATE INTERACTION BETWEEN KCNE1 AT F57 AND KCNQ1 THAT INHIBITS CHANNEL OPENING. Christopher I. Murray, Yasmeen Maurice, Jodene Elsdstrom, David Fedida

MOVING GATING CHARGES THROUGH THE GATING PORE IN A KV CHANNEL VOLTAGE-SENSOR. Jerome J. Lacroix, Clark H. Hyde, Fabiana V. Campos, Francisco Bezanilla
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
</tr>
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<tbody>
<tr>
<td>8:15</td>
<td>Platform</td>
<td>Protein-Lipid Interactions I</td>
<td>Co-Chairs: Scott Feller, Wabash College, Ka Yee Lee, University of Chicago</td>
</tr>
<tr>
<td>8:15</td>
<td>100-PLAT 8:15 AM</td>
<td>REPLICA EXCHANGE UMBRELLA SAMPLING SIMULATIONS PROVIDE INSIGHT INTO THE ROLE OF DOCOSAHEXAENOIC ACID IN MODULATING THE STABILITY OF TRANSMEMBRANE PROTEINS</td>
<td>Ryan Snyder, Bo Wang, Matthew Roark, Scott E. Feller</td>
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<tr>
<td>8:30</td>
<td>PROTON-COUPLED WATER AND HYDROGEN-BOND DYNAMICS IN CHANNELRHODOPSIN.</td>
<td>Christopher Mielack, Coral del Val, Maria Luiza Bondar, Ana Nicoleta Bondar</td>
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<tr>
<td>8:45</td>
<td>APPLICATION OF THE VIRTUAL SITE TECHNIQUE TO LIPIDS IN GROMACS, HYDROGENS DEGREES OF FREEDOM REMOVAL AND PERFORMANCE INCREASE.</td>
<td>Bastien Loubet, Wojciech Kopec, Himanshu Khandelia</td>
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<tr>
<td>8:45</td>
<td>MOLECULAR DETAILS OF α-SYNUCLEIN MEMBRANE ASSOCIATION REVEALED BY NEUTRON REFLECTOMETRY.</td>
<td>Jennifer C. Lee, Zhiping Jiang, Sara Hess, Ryan P. McGlinchey, Thai Leong Yap, Frank Heinrich</td>
<td></td>
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<tr>
<td>9:15</td>
<td>UNDERSTANDING PROTEIN-MEMBRANE INTERACTIONS VIA FREE ENERGY CALCULATIONS.</td>
<td>Joakim P. M. Jämbeck, Alexander P. Lyubarts ev</td>
<td></td>
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<tr>
<td>8:45</td>
<td>THE POINT OF NO RETURN; 3D STRUCTURE OF BAX-MEDIATED PORES IN MEMBRANE BILAYERS.</td>
<td>Dorit Hanein, Xiao-Ping Xu, Dayong Zhai, Eldar Kim, Mark Swift, John C. Reed, Niels Volkmann</td>
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<tr>
<td>10:00</td>
<td>VOLTAGE- AND CALCIUM-DEPENDENT TOXIN TRANSLLOCATION ACROSS A TETHERED LIPID BILAYER.</td>
<td>Joel Chopineau, Remi Veneziano, Claire Rossi, Jean-Marie Devoisselle, Alexandre Chenal, Daniel Ladant</td>
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<tr>
<td>10:00</td>
<td>PROBING DNA METHYLATION IN BREAST CANCER CELL LINES USING SOLID-STATE NANOPORES.</td>
<td>Azadeh Bahrami, Eric W. Lam, Tim Albrecht</td>
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<tr>
<td>8:45</td>
<td>LABEL-FREE DETECTION OF THE P53-DNA COMPLEX.</td>
<td>Philippa Nuttall, Eric Lam, Tim Albrecht</td>
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<tr>
<td>9:15</td>
<td>THERMODYNAMIC CHARACTERIZATION OF PROTEINS WITH ELECTRICALLY ACTUATED DNA NANOLEVERS.</td>
<td>Thomas Welte, Ralf Strasser, Frank Fischer, Wolfgang Kaiser, Ulrich Rant</td>
<td></td>
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<tr>
<td>9:30</td>
<td>NIR FLUORESCENT PROTEINS WITH SYNTHETIC CHROMOPHORES FOR DEEP TISSUE IMAGING.</td>
<td>Ming Zhang</td>
<td></td>
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<tr>
<td>9:45</td>
<td>GENETICALLY ENCODED GAS NANOSTRUCTURES AS BIOPHYSICALLY TUNABLE MOLECULAR REPORTERS FOR MRI AND ULTRASOUND.</td>
<td>Mikhail G. Shapiro</td>
<td></td>
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<tr>
<td>10:00</td>
<td>LABEL-FREE OPTICAL DETECTION AND SUPER-RESOLUTION MICROSCOPY OF SINGLE PROTEINS.</td>
<td>Vahid Sandoghdar, Marek Pilarik</td>
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<tr>
<td>8:15</td>
<td>Platform</td>
<td>Membrane Receptors and Signal Transduction I</td>
<td>Co-Chairs: Monica Mazzolini, SISSA, Italy, Geoffrey O’Donoghue, University of California, Berkeley</td>
</tr>
<tr>
<td>8:15</td>
<td>DIRECT SINGLE MOLECULE, CELL-BY-CELL OBSERVATION OF MOLECULAR KINETICS AND THERMODYNAMICS IN EARLY LYMPHOCYTE SIGNALING.</td>
<td>Geoffrey P. O’Donoghue, Ralf Piclak, Jenny L. Lin, Jay T. Groves</td>
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<tr>
<td>8:15</td>
<td>RESTRICTED SPOTS OF LIGHT REVEAL AN EFFICACY GRADIENT OF THE PHOTOTRANSDUCTION CASCADE ALONG THE ROD OUTER SEGMENT.</td>
<td>Monica Mazzolini, Laura Andolfi, Giuseppe Facchetti, Marco Lazzarino, Remo Proietti Zaccaria, Salvatore Tuccio, Johannes Treu, Claudio Altafini, Enzo Di Fabrizio, Gert Rapp, Vincent Torre</td>
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<tr>
<td>8:15</td>
<td>USING MAGNETIC PROBES TO STUDY RECEPTOR CLUSTERING IN LIVE CELLS.</td>
<td>Burcu Celikkol, Alessandra Cambi, Carl G. Figdor, Vinod Subramaniam, Johannes S. Kanger</td>
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<tr>
<td>8:15</td>
<td>TOWARD SINGLE-MOLECULE IMAGING OF ELECTROPORATED BACTERIAL FLAGELLAR MOTOR PROTEINS IN MOTILE E. COLI.</td>
<td>Diana Di Paolo</td>
<td></td>
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120-Plat 9:15 AM
SINGLE-MOLECULE TRACKING OF SMOOTHED IN THE PRIMARY CILIUM. Lucien E. Weiss, Lijilana Milenkovic, Steffen J. Sahl, Theodore L. Roth, Matthew P. Scott, W. E. Moerner

121-Plat 9:30 AM
DIFFERENTIAL CLUSTERING OF SRC FAMILY KINASE ON LIPID BILAYERS REGULATES A NET PHOSPHORYLATION ACTIVITY IN A RECEPTOR-KINASE-PHOSPHATASE NETWORK. Gabriela Furlan, Li Huang, Takashi Minowa, Nobutaka Hanagata, Chihok Katoaka, Yoshihisa Kaizuka

122-Plat 9:45 AM
OPTICAL PROBING OF METABOTROPIC GLUTAMATE RECEPTOR ASSEMBLY AND COOPERATIVITY. Josh Levitz, Shashank Bharill, Reza Vafabakhsh, Eshud Y. Isacoff

123-Plat 10:00 AM
THE STRUCTURE AND OLGOMERICITY OF THE TRANSMEMBRANE DOMAIN OF CYTOKINE RECEPTORS IS MODULATED BY THE PROTEIN/LIPID RATIO. Katrine Bugge, Kresten Lindorff-Larsen, Michael J. Waters, Vincent Goffin, Birthe B. Kragelund

8:15 AM–10:15 AM, ROOM 306
Platform
Protein-Nucleic Acid Interactions I

Co-Chairs
Marco Capitanio, University of Florence, Italy
Timothy Blosser, Delft University of Technology, The Netherlands

124-Plat 8:15 AM
PROTEIN DNA INTERACTION MEASURED WITH ULTRA FAST FORCE CLAMP OPTICAL TWEETERS. Carina Monica, Alessia Tempestini, Francesco Vanzi, Francesco Pavone, Marco Capitanio

125-Plat 8:30 AM
MECHANICAL CHARACTERIZATION OF A FAST DNA MOTOR: SPOIIIE. Ninning Liu, Gheorghe Chistol, Carlos Bustamante

126-Plat 8:45 AM
INTERNATIONAL TRAVEL AWARDEE STUDYING PROTEIN-DNA DYNAMICS AND PROTEIN UNFOLDING USING A FORCE-FREE SINGLE-MOLECULE TECHNIQUE. Guy Nir, Moshe Lindner, Yuval Garini

127-Plat 9:00 AM
MULTIPLE LAC-MEDIATED LOOPS REVEALED BY BAYESIAN STATISTICS AND TETHERED PARTICLE MOTION. Martin Lindén, Stephanie Johnson, Jan-Willem van de Meent, Rob Phillips, Chris Wiggins

128-Plat 9:15 AM
SUBSTRATE RECOGNITION AND SPECIFICITY OF DOUBLE-STRANDED RNA BINDING PROTEINS. Lela Vukovic, Hye Ran Koh, Sua Myong, Klaus Schulten

129-Plat 9:30 AM
MOLECULAR MECHANISM OF INHIBITION OF THE PKR-RNA INTERACTION BY THE INFLUENZA A VIRUS NS1 PROTEIN–A THREE COLOUR BASED FLIM-FRET APPROACH IN LIVING CELLS. Fabian Jolmes, Sieben Christian, Thorsten Wolff, Andreas Herrmann

130-Plat 9:45 AM
ELUCIDATING RESTRICTION ENDONUCLEASES REACTION MECHANISMS VIA DWELL-TIME DISTRIBUTION ANALYSIS. Candice M. Etson, Petar Todorov, David R. Walt

Biophysical Society 58th Annual Meeting, San Francisco, California
10:45 AM–12:45 PM, ROOM 134
Symposium
RNA Assemblies and DNA Origami

Co-Chairs
Christina Smolke, Stanford University
Andrew Turberfield, University of Oxford, United Kingdom

132-SYMP 10:45 AM
DESIGNING SYNTHETIC REGULATORY RNAs: NEW TOOLS FOR TEMPORAL AND SPATIAL CONTROL IN BIOLOGICAL SYSTEMS. Christina Smolke

133-SYMP 11:15 AM
MOLECULAR MACHINERY FROM DNA: SYNTHETIC BIOLOGY FROM THE BOTTOM UP. Andrew J. Turberfield

134-SYMP 11:45 AM
STRUCTURAL EVOLUTION OF RNA SELF-ASSEMBLY. Luc Jaeger

135-SYMP 12:15 PM
DYNAMIC DNA ORIGAMI-BASED NANOPARTICLE ASSEMBLIES. Tim Liedl

10:45 AM–12:45 PM, ROOM 135
Symposium
New and Notable

Chair
Robert Nakamoto, University of Virginia Health Science Center

NO ABSTRACT 10:45 AM
STRUCTURE OF THE CRISPR RNA-GUIDED SURVEILLANCE COMPLEX FROM THE ADAPTIVE IMMUNE SYSTEM IN ESCHERICHIA COLI. Blake Wiedenheft

NO ABSTRACT 11:02 AM
ELUCIDATION OF FILAMENTOUS STRUCTURES IN IMMUNE SIGNALING. Hao Wu

NO ABSTRACT 11:19 AM
HIGH THROUGHPUT 3D PALM IMAGING ELUCIDATES MECHANISMS OF BACTERIAL CELL DIVISION. Suliana Manley

NO ABSTRACT 11:36 PM
CHROMOSOME TERRITORIES SPATIALLY REORGANISE DURING DNA-DAMAGE RESPONSE IN MAMMALIAN NUCLEI. Basabchak Rao

NO ABSTRACT 11:53 PM
MYOSIN II FUNCTIONS AS A DIRECT MECHANOSENSOR FOR INTERCELLULAR INVASION DURING CELL-CELL FUSION. Elizabeth Chen

NO ABSTRACT 12:10 PM
STEROL BINDING CONTROLS PARTITIONING OF THE AMYLOID PRECURSOR C99 PROTEIN BETWEEN ORDERED AND DISORDERED MEMBRANES. Anne Kenworthy

NO ABSTRACT 12:27 PM
STRUCTURAL INSIGHTS INTO TRP CHANNEL ACTIVATION. Erhu Cao

10:45 AM–12:45 PM, ROOM 130/131
Platform
Optical Microscopy and Super Resolution Imaging I

Co-Chairs
Don Lamb, LMU Munich, Germany
Manfred Lindau, Cornell University

136-PLAT 10:45 AM
3D REAL-TIME ORBITAL TRACKING MICROSCOPY IN ZEBRA FISH EMBRYOS. Fabian Wénehkamp, Gabriela Gabriela, Christoph Bräuchle, Thomas Misgeld, Don C. Lamb

10:45 AM–12:45 PM, ROOM 132/133
Platform
Protein Gymnastics of Large-Scale Structural Rearrangements

Co-Chairs
Andy LiWang, University of California, Merced
Michael Nilges, Pasteur Institute, France

144-PLAT 10:45 AM
ROBUSTNESS OF ROTARY CATALYSIS MECHANISM OF F$_7$-ATPASE. Rikiya Watanabe, Hiroyuki Noji

145-PLAT 11:00 AM
ELECTROSTATIC BASIS OF THE UNIDIRECTIONAL WALKING MOTION IN MYOSIN MOLECULAR MOTORS. Shayantani Mukherjee, Arieh Warshel

146-PLAT 11:15 AM
DIFFERENT 3D DOMAIN-SWAPPED OLIGOMERIC CYANO VIRIN-N STRUCTURES SUGGEST TRAPPED FOLDING INTERMEDIATES. Leonardus Koharudin, Lin Liu, Angela M. Gronenborn
147-PLAT  11:30 AM  
STRUCTURAL BASIS OF CONFORMATIONAL TRANSITIONS INVOLVED IN PSEUDOPILUS ASSEMBLY AND STABILITY. 
Michael Nilges, Mangayarkarasi Nivaskumar, Guillaume Bouvier, Manuel Campos, Edward H. Egelman, Xiong Yu, Olivera Francetic

148-PLAT  11:45 AM  
A SINGLE INTER-DOMAIN SALT BRIDGE WITHIN THE HUMAN ARGONAUT E2 PROTEIN CRUCIALLY AFFECTS PROTEIN FOLDING AND CONSEQUENTLY ENZYMATIC ACTIVITY.  
Munishikha Kalia, Sarah Willkomm, Jens Christian Claussen, Alexandre M.J.J. Bonvin, Tobias Restle

149-PLAT  12:00 PM  
MECHANISMS OF SUBSTRATE DEGRADATION BY ENERGY-DEPENDENT PROTEASES.  
Andreas Martin, Mary Matyskiela, Kristofer Nyquist, Gabriel Lander, Robyn Beckwith, Eric Estrin, Evan Worden

150-PLAT  12:15 PM  
STRUCTURE, DYNAMICS, EVOLUTION AND FUNCTION OF A MAJOR SCAFFOLD COMPONENT IN THE NUCLEAR PORE COMPLEX.  
Seung Joong Kim, Parthasarathy Sampathkumar, Paula Upla, William Rice, Jeremy Phillips, Benjamin Timney, Javier Fernandez-Martinez, Andrej Sali, Michael Rout, Steven Almo

10:45 AM–12:45 PM, room 303  
Platform  
Bioenergetic Processes in Bacteria, Chloroplasts, and Mitochondria  
Co-Chairs  
Gabriela Schlau-Cohen, Stanford University  
Wang Wang, University of Washington

152-PLAT  10:45 AM  
SINGLE-MOLECULE LIVE-CELL IMAGING OF BACTERIAL RESPIRATORY COMPLEXES INDICATES OXPHOS DELOCALIZATION.  
Mark Leake

153-PLAT  11:00 AM  
CARDIOLIPINS AT THE INTERFACE OF SUPERCOMPLEXES IN THE RESPIRATORY CHAIN.  
Clement Arnarez, Siewert-Jan Marrink, Xavier Periole

154-PLAT  11:15 AM  
ELUCIDATION OF THE PHOTODYNAMICS OF SINGLE PHOTOSYNTHETIC LH2 COMPLEXES IN SOLUTION.  
Gabriela S. Schlau-Cohen, Quan Wang, June Southall, Richard J. Cogdell, W.E. Moerner

155-PLAT  11:30 AM  
MECHANISM OF WATER SPLITTING BY PHOTOSYSTEM II.  
Yulia Pushkar, Katherine Davis, Lifen Yan

156-PLAT  11:45 AM  
STRUCTURAL COUPLING OF THE EF HAND AND C-TERMINAL GTPASE DOMAINS IN THE MITOCHONDRIAL PROTEIN MIRO.  
Julian Klosowski, Pamela Focia, Srinivas Chakravarthy, Eric Landahl, Douglas Freymann, Sarah Rice

157-PLAT  12:00 PM  
INTERACTION OF THE BAK HOMODIMER WITH THE MEMBRANE.  
Sreevidya Aluvila, Tirtha Mandal, Kyoung Joon Oh

158-PLAT  12:15 PM  
FISSION PROMOTES RESPIRATION AND ROS PRODUCTION IN INDIVIDUAL MITOCHONDRIA.  
Huiliang Zhang, Shy-Shing Sheu, Wang Wang

159-PLAT  12:30 PM  
THE CORRELATION BETWEEN UCP EXPRESSION AND CELLULAR METABOLISM.  
Anne Rupprecht, Dana Sittner, Alina Smorodchenko, Karolina E. Hilse, Rudolf Moldzio, Andrea E. M. Seiler, Anja U. Bräuer, Elena E. Pohl

10:45 AM–12:45 PM, room 304  
Platform  
Ligand-gated Channels I  
Co-Chairs  
Andrew Plested, Leibniz-Institut für Molekulare Pharmakologie (FMP), Germany  
Ehud Isacoff, University of California, Berkeley

160-PLAT  10:45 AM  
ENERGETIC COUPLING OF THE LIGAND BINDING DOMAIN TO PORE OPENING IN NMDA RECEPTORS.  
Rashek Kazi, Jian Dai, Melissa Daniel, Huan-Xiang Zhou, Lonnie P. Wollmuth

161-PLAT  11:00 AM  
REGULATORY IONS BOUND AT THE IGLUR LIGAND BINDING DOMAIN DIMER INTERFACE - A SHARED PROPERTY OF GLUK2 AND AVGUR1?  
Maria Musgaard, Jack Barber, M. Khadeesh bin Imtiaz, Philip C. Biggin

162-PLAT  11:15 AM  
NMDA AND AMPA RECEPTOR LIGAND-BINDING DOMAINS EXHIBIT SUBTYPE-SPECIFIC CONFORMATIONAL PROPENSITIES.  
John Belcher, Yongneng Yao, Anthony Berger, Mark L. Mayer, Albert Y. Lau

163-PLAT  11:30 AM  
PROBING THE CHANNEL GATING OF A GLUTAMATE RECEPTOR WITH A PHOTOACTIVE UNNATURAL AMINO ACID.  
Viktoria Klippenstein, Andrew J. Plested

164-PLAT  11:45 AM  
ACITIVATION OF LIGAND BINDING DOMAINS OF AN AMPA-TYPE GLUTAMATE RECEPTOR.  
Jelena Baranovic, Miriam Chebli, Hector P. Salazar, Katja Faehber, Valentina Ghisi, Albert Y. Lau, Oliver Daumke, Andrew J. Plested

165-PLAT  12:00 PM  
PROBING THE GATING OF IONOTROPIC GLUTAMATE RECEPTORS WITH TETHERED PHOTOSWITCHABLE LIGANDS.  
Andreas Reiner, Ehud Y. Isacoff

166-PLAT  12:15 PM  
OCCUPANCY OF A SINGLE BINDING SITE IS SUFFICIENT FOR AMPAR ACTIVATION.  
Indrani Bhattacharyya, Rikard Blunck

167-PLAT  12:30 PM  
IMAGED BY CRYO-EM, ACTIVATED AND DESENSITIZED GLUA2 GLUTAMATE RECEPTORS SHOW EXTREME FLEXIBILITY.  
Hideki Shigematsu, Youshan Yang, Yangyang Yan, Katharina Duerr, Eric Gouaux, Fred J. Sigworth
**Exocytosis and Endocytosis**

**Platform**

10:45 AM–12:45 PM, Room 305

**Co-Chairs**
Jenny Hinshaw, NIDDK, NIH
Diego Krapf, Colorado State University

168-PLAT 10:45 AM WITHDRAWN

Molecular Dynamics Simulations of SNARE Complex Unzipping. Satyan Sharma, Manfred Lindau

170-PLAT 11:15 AM


171-PLAT 11:30 AM

Protein Mobility in Secretory Granules and Fusion Pore Expansion: Factors Affecting Protein Secretion. Anna Ngatchou-Weiss, Mary A. Bittner, Arun Anantharam, Daniel Axelrod, Ronald W. Holz

172-PLAT 11:45 AM

Nanostructure-Induced Membrane Curvature Recruits Endocytosis Machinery in Living Cells. Wenting Zhao, Lindsey Hanson, Ziliang Lin, Yi Cui, Bianxiao Cui

173-PLAT 12:00 PM

A Dynamic Mutant Defines a Super-Constricted Pre-Fission Step. Anna Sunborger, Jurgen A. Heyman, Shunning Fang, Joshua S. Chappie, Jenny E. Hinshaw

174-PLAT 12:15 PM

Clathrin Aggregation by Rotational Brownian Dynamics. Ioana M. Ilie, Wouter K. den Otter, Wim J. Brieals

175-PLAT 12:30 PM

Quantifying the Dynamic Interactions Between a Clathrin-Coated Pit and Cargo Molecules. Aubrey V. Weigel, Michael M. Tamkun, Diego Krapf

10:45 AM–12:45 PM, Room 306

**Cardiac Muscle I**

**Platform**

10:45 AM–12:45 PM, Room 306

**Co-Chairs**
Steven Schwartz, University of Arizona
Gerrie Farman, Boston University

176-PLAT 10:45 AM

A Revised Atomic Model of the Cardiac Thin Filament and Application to a Specific Disease Causing Mutation. Michael R. Williams, Jil Tardiff, Steven Schwartz

177-PLAT 11:00 AM

Molecular Mechanism for the Regulation of Cardiac Muscle Contraction by Troponin. Ivanka Sevrieva, Andrea Knowles, Yin-Biao Sun

178-PLAT 11:15 AM

Calcium-Sensitive Dynamic Effects of Troponin’s TNI Inhibitory Region. Julie Mouannes Kozaili, Devanand Kowlessur, Larry S. Tobacman

11:00 AM–12:00 PM, Room 122

**International Relations Committee Meeting**

11:00 AM–12:30 PM, Room 123

**Exhibitor Presentation**

**Molecular Devices, LLC**

Investigating Use-Dependent Inhibition of Ion Channels on Automated Electrophysiology Systems including the IonWorks Barracuda® Instrument and the IonFlux™ Benchtop Reader

Use-dependent inhibition of ion channels by potential drug candidates is an important aspect to investigate for many drug classes. Use-dependent drugs specifically target ion channels in cells that are more electrically active. For example, a drug targeting pain that is more potent to Na⁺ channels in neurons actively firing action potentials is a better drug candidate. Data will be presented to demonstrate the ability of automated electrophysiology systems to study the use-dependence block of Na⁺ channel targets. Tetracaine, lidocaine, and TTX exhibit very different behavior in terms of their use-dependent blockage. We will demonstrate the ability of the instrumentation to deliver complex voltage protocols and generate long assay windows which are required for these studies. Pulse trains delivered at 10Hz are used to measure the blockade of current. Data from a separate study will also be presented that demonstrate blockade and enhancement of NaV1.5 currents by various peptide toxins. Both sets of experiments demonstrate stable assay windows with uniform currents for experiments demonstrating stable assay windows with uniform currents for both sets of experiments. Both sets of experiments demonstrate stable assay windows with uniform currents for 30 minutes and longer during the delivery of periodic pulse trains.

**Presenter:**
James Costantin, Product Marketing Manager, Automated Electrophysiology, Molecular Devices, LLC
Alfred L. George, Jr., Vanderbilt University School of Medicine

Speakers:
you are welcome to participate on a space-available basis. 

required for lunch. If you are interested in attending and did not register, 

career advancement and opportunities for networking. Pre-registration was 

one-on-one interactions aimed to offer more individualized suggestions for 

about their own experiences, leading into an extended question-and-answer 

department chairs, society leaders and senior editors will each speak briefly 

institutions and in professional societies. Experienced panelists, including 

editorial boards or becoming more involved with decision-making at your 

vocates for the “next step,” which can be serving on grant review panels and 

for you to begin to add to your existing network advisors, mentors, and ad-

work and will include dos and don’ts of professional interactions. The goal is 

year’s discussion will center on the value of a supportive professional net-

your impact and to widen your scientific influence beyond the bench. This 

secured a job and after having established a lab? Learn how to increase 

Women, will accelerate and expand the professional impact of mid-career 

biophysicists. How can you continue to develop your career after having 

the pharmaceutical/biotechnology industries want to hear from potential 

attitudes than either the academic or government employer. Learn what 

The industrial employer is looking for a different set of skills and atti-

tudes than either the academic or government employer. Learn what 

the pharmaceutical/biotechnology industries want to hear from potential 

employees and why. Learn how to develop and best position your market-

message in order to improve the chances of a successful industrial job search.

12:00 PM–1:00 PM, ROOM 300
Career Center Workshop
Selling Yourself to the Life Sciences Industry

The industrial employer is looking for a different set of skills and attitudes than either the academic or government employer. Learn what the pharmaceutical/biotechnology industries want to hear from potential employees and why. Learn how to develop and best position your marketing message in order to improve the chances of a successful industrial job search.

12:00 PM–1:00 PM, ROOM 121
International Travel Awardee Luncheon

Recipients of the 2014 International Travel Awards will be recognized during this luncheon. This event is hosted by the International Relations Committee.

12:00 PM–2:00 PM, ROOM 302
Mid-Career Interactive Forum:
The Art and Perils of Networking

This event, sponsored by the Committee for Professional Opportunities for Women, will accelerate and expand the professional impact of mid-career biophysicists. How can you continue to develop your career after having secured a job and after having established a lab? Learn how to increase your impact and to widen your scientific influence beyond the bench. This year’s discussion will center on the value of a supportive professional network and will include do's and don'ts of professional interactions. The goal is for you to begin to add to your existing network advisors, mentors, and advocates for the “next step,” which can be serving on grant review panels and editorial boards or becoming more involved with decision-making at your institution and in professional societies. Experienced panelists, including department chairs, society leaders and senior editors will each speak briefly about their own experiences, leading into an extended question-and-answer exchange with the audience. The session will close with small-group and one-on-one interactions aimed to offer more individualized suggestions for career advancement and opportunities for networking. Pre-registration was required for lunch. If you are interested in attending and did not register, you are welcome to participate on a space-available basis.

Speakers:
Alfred L. George, Jr., Vanderbilt University School of Medicine
Ivet Bahar, University of Pittsburgh
Harel Weinstein, Weill Cornell Medical College

12:45 PM–2:15 PM, ROOM 122
Public Affairs Committee Meeting

1:00 PM–2:30 PM, ROOM 123
Exhibitor Presentation
KinTek

New Advances in Fitting Kinetic and Equilibrium Data by Simulation

Fitting kinetic data based upon numerical integration of rate equations offers many advantages over conventional fitting of data based upon equations derived from simple models. Fitting by simulation is the most rigorous, and eliminates the need to derive equations; however, it also requires an understanding of the kinetics and critical thought to avoid overly complex models.

In this presentation, Dr. Johnson will show how global fitting of kinetic data can be accomplished with ease using the fast, dynamic simulation in KinTek Explorer software, overcoming the all-too-common errors in conventional fitting. Moreover, data are fit to derive rate constants directly defining steps in a model. New advances in the software allow fitting kinetic data from single molecule experiments and families of curves can be fit simultaneously to define voltage-dependent rate constants or data from Temperature-jump or Pressure-jump experiments. In addition, equilibrium titration data can be fit using a unique endpoint simulation method, and time-resolved spectra can be fit using singular value decomposition (SVD). Moreover, all experiments can be fit simultaneously.

Presenters:
Kenneth A. Johnson, President, KinTek Corporation
Roger Williams, Professor of Biochemistry, University of Texas at Austin

1:00 PM–2:30 PM, ROOM 307
Moving on from Your Postdoc Position:
Negotiating the Transition

This popular session, hosted by the Early Careers Committee, will provide advice on how to find a permanent position after your postdoctoral training.

Speakers:
Seth Robia, Loyola University, Chicago
Stuart Campbell, Yale University
Ravi Balijepalli, University of Wisconsin School of Medicine and Public Health
Marcos Sotomayor, The Ohio State University

1:45 PM–3:00 PM, HALL D
Snack Break

1:45 PM–3:45 PM, HALL D
Poster Presentations and Late Posters

(For a complete listing of regular Sunday Poster Presentations, see page 26.)

The list of Sunday Late Posters is in the Program addendum.

Posters will be on display all day long. Authors with odd-numbered boards will present from 1:45 PM–2:45 PM, and those with even-numbered boards will present from 2:45 PM–3:45 PM. Additional hours (day or evening) may be posted by the authors as desired. Paper may also be left on the board so that visitors may request an appointment.

Posters should be mounted 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 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.

2:00 PM–3:30 PM, ROOM 310
Teaching Science Like We Do Science:
Integration of Research and Education Workshop

This workshop is designed to highlight undergraduate STEM education initiatives at the national level. The presentation and discussion will focus on both resources available for faculty to aid them in developing effective practices and funding opportunities for faculty interested in bringing curricular and instructional change to their courses.

Speakers:
Terry Woodin, NSF
Melissa McCartney, Science in the Classroom, AAAS

2:15 PM–3:30 PM, ROOM 309
Wiki-Edit 2014 Contest Kick-off: The Importance of Open License Media to Our Science

Interested in learning more about the need for open-license media, and perhaps entering the Society’s second annual wiki-edit contest to do your part for biophysics, on the medium we all use? Come to this demonstration and discussion for contest entrants and anyone curious about the do’s and don’ts of posting images and the broader impact of such
activities. The 2013 wiki-edit contest winners will also be introduced at
the session. Register your username, do an edit, and get a WikiProject
Biophysics button to wear!

Speakers:
Daniel Mietchen, WikiProject Open Access and Museum für Naturkunde, Berlin
(User: Daniel Mietchen)
Jane Richardson, Duke University, BPS Past President and addicted wiki
editor (User: Dcrjst)

2:30 PM–3:30 PM, ROOM 300
Career Center Workshop
Networking Now: How to Maximize Success
at BPS 2014

You have probably heard that you have to network, network, network to
find a job or jump start your career. Meetings and conferences such as BPS
2014 provide many opportunities to network, but capitalizing on these
opportunities can sometimes be a challenge. This highly interactive session
will provide networking tips, techniques, strategies and practice to meet
that challenge and ensure your success.

2:30 PM–4:00 PM, ROOM 301
Funding
If Not from Federal Agencies, from Where?

Come hear experts representing foundations, nonprofits, universities,
and business discuss non-federal sources of research funding,
how to pursue them, and whether they present a viable substitute for
decreased government funding sources. The panelists will also discuss
if and how their funding strategies have changed in response to federal
funding, how scientists can effectively forge relationships with industry
and foundations, and how universities are responding to the changing
funding landscape. This session is sponsored by the Public Affairs Committee.

Speakers:
Robert Conn, President, The Kavli Foundation
Bill Balke, University of California, San Francisco, and American
Heart Association
Mark Adams, Scientific Director, J. Craig Venter Institute

3:00 PM–4:30 PM, ROOM 123
Exhibitor Presentation
Nanosurf, Inc.

Development of Automation and Nano-fluidics to Extend Applications
of Atomic Force Microscopy

In an effort to extend the range of atomic force microscopes (AFM) applications,
we have developed automation routines for nanomechanical analysis of large un-
even samples and incorporated nano-fluidics for nanomanipulation experiments.

We will present details of a method that has been developed to compensate for
the Z-range limitation and to automate the data collection over large sample
areas. To compensate for large surface corrugations on biologically relevant sam-
ple, customized hardware and software algorithms for automated levelling have
been developed and implemented. This method consists of a patented vertical
alignment system, which is activated whenever the Z piezo reaches its limit (i.e.,
max. extension or max. retraction). This method allows for AFM investigation
to proceed uninterrupted and error-free over corrugated surfaces.

FluidFM combines the positional accuracy and force sensitivity of AFM with
the unique possibilities of nanofluidics to provide a whole new level of control
and possibilities in nanomanipulations and analysis. The FluidFM system
includes a fully integrated AFM, pressure controller and hollow microfabricated
cantilevers. The integrative nature of its touchscreen-based control software
brings together optical, force, pressure, and position control in one place. The
entire system is easy to use and allows objects and experimental settings to
be manipulated via on-screen interactions. Moving a sample or indicating
measurement positions has never been more intuitive. Details of several
different applications of FluidFM in cell biology will be presented including
pick and place of single cells, single cell force spectroscopy, cellular injection
and micropatterning under liquids.

Presenters:
Marko Loparic, Research Associate, Biozentrum and the Swiss
Nanoscience Institute, University of Basel
Saju Nettikadan, General Manager, Nanosurf, Inc.

3:30 PM–4:30 PM, ROOM 122
Early Careers Committee Meeting

4:00 PM–5:00 PM, ROOM 300
Career Center Workshop
Ten Tough Industrial Interview Questions
(and Ten Pretty Good Responses)

You’ve been invited to interview with that drug development company
that you’ve always wanted to work for. You’ve soaked up the details of
the position description. You are confident in your ability to do the job,
as well as answer any/all technical questions during the interview pro-
cess. The day is yours…until…that first question catches you by surprise
and your confidence begins to wilt. Be prepared for those non-technical
questions that you will almost certainly hear at some point, know why
they are asked, and learn what a good (if not great) response to each
question might be by attending this workshop.

4:00 PM–6:00 PM, ROOM 134
Symposium
Cellular Stress, Protein Folding, and Disease

Co-Chairs
Judy Kim, University of California, San Diego
Conner Sandefur, University of North Carolina at Chapel Hill

184-SYMP 4:00 PM
SPECTROSCOPIC STUDIES OF MEMBRANE PROTEIN
FOLDING: CHANGES IN HYDRATION. Judy Kim

185-SYMP 4:30 PM
PROTEIN INTERACTIONS AND TRANSITION TIMES
THAT INFLUENCE THE PATHOGENESIS OF PROTEIN
FOLDING DISEASES. Santiago Schnell

186-SYMP 5:00 PM
POST-TRANSLATIONAL MODIFICATIONS PROMOTE
FORMATION OF SOD1 OLIGOMERS WITH POTENTIAL
TOXICITY IN ALS. Nikolay V. Dokholyan, Rachel L. Redler,
Elizabeth A. Proctor, Feng V. Ding, Kyle Wilcox, Michael Caplow

187-SYMP 5:30 PM
CELL STRESS AND PROTEOSTASIS NETWORKS IN BIOLOGY,
AGING, AND DISEASE. Richard Morimoto

4:00 PM–6:00 PM, ROOM 135
Symposium
Celebrating 100 Years of Crystallography:
X-Rays Are Photons Too

Co-Chairs
Gregory Petsko, Brandeis University
Jane Richardson, Duke University

188-SYMP 4:00 PM
CRYSTALLOGRAPHY–ENERGETICALLY INNOVATIVE AT 100.
Jane S. Richardson
189-SYMP  4:20 PM
CRYSTAL STRUCTURES OF ACTIVATED G-PROTEIN COUPLED RECEPTORS.  William Weis

190-SYMP  4:40 PM
COMBINING CRYSTALLOGRAPHIC AND STRUCTURE-MODELING APPROACHES IN MACROMOLECULAR CRYSTALLOGRAPHY.  Thomas C. Terwilliger, Frank DiMaio, Randy J. Read, David Baker, Axel T. Brunger, Paul D. Adams, Pavel V. Afonine, Li-Wei Hung

191-SYMP  5:00 PM
STRUCTURES OF THE UNIVERSAL TRANSLATOR, THE RIBOSOME.  Jamie H. D. Cate

192-SYMP  5:20 PM
XFELS FOR IMAGING MOLECULAR DYNAMICS.  John Spence

193-SYMP  5:40 PM
THE NEXT 100 YEARS OF CRYSTALLOGraphY: HOW THE HECK SHOULD I KNOW?  Gregory A. Petsko

4:00 PM–6:00 PM, ROOM 130/131
Symposium
Liquid Protein Assemblies in Spatial Organization and Ultrasensitive Signaling in Cells
Co-Chairs
Julie Forman-Kay, Hospital for Sick Children, Canada
Tanja Mittag, St. Jude Children’s Research Hospital

194-SYMP  4:00 PM
PHASE SEPARATION OF DISORDERED PROTEIN IN THE FORMATION OF MEMBRANE-LESS ORGANELLES.  Timothy J. Nott, Patrick Farber, Evangelia Petsalakis, Dylan Jervis, Andrew J. Baldwin, Julie D. Forman-Kay

195-SYMP  4:30 PM
THE LIQUID STATE OF (ELASTOMERIC) PROTEINS.  Régis Pomès

196-SYMP  5:00 PM
DECODING MOLECULAR PLASTICITY UNDERLYING NUCLEOCYTOPLASMIC TRANSPORT: FROM SINGLE MOLECULES TO LARGE ASSEMBLIES.  Edward A. Lemke

197-SYMP  5:30 PM
PHASE SEPARATION OF MULTI-VALENT SIGNALING PROTEINS.  Michael K. Rosen

4:00 PM–6:00 PM, ROOM 132/133
Platform
Voltage-gated Na Channels
Co-Chairs
Bonnie Wallace, Birkbeck College, United Kingdom
Jonathan Silva, Washington University in St. Louis

198-PLAT  4:00 PM
STRUCTURE/FUNCTION INSIGHTS INTO EUKARYOTIC CHANNEL BLOCKER BINDING SITES IN A PROKARYOTIC SODIUM CHANNEL.  Claire Bagnéris, Claire E. Naylor, Paul G. DeCaen, David E. Clapham, David Pryde, B. A. Wallace

199-PLAT  4:15 PM
INTRACELLULAR CALCIUM ATTENUATES PERSISTENT CURRENT CONDUCTED BY MUTANT HUMAN CARDIAC SODIUM CHANNELS IN LONG-QT SYNDROME.  Franck Potet, Thomas M. Beckermann, Jennifer D. Kunic, Alfred L. George

200-PLAT  4:30 PM
SINGLE-PARTICLE TRACKING PALM OF NAV1.6 IN HIPPOCAMPAL NEURONS DEMONSTRATES UNIQUE SUBCELLULAR DIFFUSION LANDSCAPES.  Elizabeth J. Akin, Kristen Brown, Sanaz Sadegh, Aubrey V. Weigel, Jean-Baptiste Masson, Diego Krapf, Michael M. Tamkun

201-PLAT  4:45 PM
β4 MODULATES NA,1.2 TOXIN PHARMACOLOGY.  John M. Gilchrist, Samir Das, Filip Van Petegem, Frank Bosmans

202-PLAT  5:00 PM
DISTINCT VOLTAGE SENSOR GATING OF CARDIAC NA CHANNELS.  Zoltan Varga, Angela R. Schubert, Alexandra B. Asaro, Jianmin Cui, Mark A. Zaydman, Colin G. Nichols, Jonathan R. Silva

203-PLAT  5:15 PM
CRYSTAL STRUCTURE OF THE NAVβ4 EXTRACELLULAR DOMAIN.  Samir Das, John Gilchrist, Frank Bosmans, Filip Van Petegem

204-PLAT  5:30 PM
MOLECULAR DYNAMICS STUDIES OF ION CONDUCTION IN A PROKARYOTIC CHANNEL.  Karen M. Callahan, Benoit Roux

205-PLAT  5:45 PM
PHOSPHOPROTEOMIC IDENTIFICATION OF CAMKI- AND HEART FAILURE-DEPENDENT PHOSPHORYLATION SITES ON THE NATIVE CARDIAC NAV1.5 CHANNEL PROTEIN.  Fabien Coyer, Sophie Burel, Cheryl F. Lichti, Joan H. Brown, Flavien Charpentier, Jeanne M. Nerbonne, Reid R. Townsend, Lars M. Maier, Céline Marionneau

4:00 PM–6:00 PM, ROOM 303
Platform
Molecular Dynamics I
Co-Chairs
Cameron Mura, University of Virginia
Karissa Sanbonmatsu, Los Alamos National Laboratory

206-PLAT  4:00 PM
CONFORMATIONAL DYNAMICS DURING GPCR - G PROTEIN COUPLING.  Alexander S. Rose, Matthias Elgeti, Patrick Scheerer, Ulrich Zacchariae, Martin Heck, Franz J. Bartl, Helmut Grubmüller, Klaus P. Hofmann, Peter W. Hildebrand

207-PLAT  4:15 PM
MODELING AND INHIBITOR DESIGN OF CA(2+)-INDEPENDENT PHOSPHOLIPASE A2.  Denis Bucher, Varnavas D. Mouchlis, Edward A. Dennis, J Andrew McCammon

208-PLAT  4:30 PM
MEMBRANE DEPENDENCE OF THE MECHANOSENSITIVE CHANNEL OF LARGE CONDUCTANCE.  Helgi I. Ingólfsson, Clement Arnez, Neeraj Kumar, Martin Walko, Herman J. C. Berendsen, Armağan Koçer, Siewert J. Marrink

209-PLAT  4:45 PM

210-PLAT  5:00 PM
STRUCTURAL INSIGHTS ON THE STATHERIN N-TERMINAL BINDING DOMAIN IN THE ADSORBED STATE.  Michael Deighan, Tobias Weidner, Jim Pfendtner
211-PLAT  5:15 PM
UNDERSTANDING THE MOLECULAR MECHANISMS BY WHICH ALLOSTERIC LIGANDS INHIBIT THE RNA POLYMERASE FROM THE HEPATITS C VIRUS. Britny Davis, Ian Thorpe

212-PLAT  5:30 PM
MOLECULAR DYNAMICS SIMULATIONS OF RIBOSOMES: INTEGRATING THEORY AND EXPERIMENT. Serdal Kirmizialtin, Karissa Y. Sanbonmatsu

213-PLAT  5:45 PM
RESOLVING THE MECHANISMS OF BACTERIAL RESISTANCE TO MACROLIDE ANTIBIOTICS. Anna Pavlova, James C. Gumbart

4:00 PM–6:00 PM, ROOM 304
Platform
Assemblies and Aggregates

Co-Chairs
Liming Ying, Imperial College London, United Kingdom
Astrid Graslund, Stockholm University, Sweden

214-PLAT  4:00 PM
KINETICS OF METAL AMYLOID-BETA BINDING AND EFFICACY OF LIGANDS TARGETING METAL AMYLOID-BETA INTERACTIONS. Thomas Branch, Martin Evans, Mauricio Barahona, Liming Ying

215-PLAT  4:15 PM
AMYLOIDS, HOW TO STUDY THEM WITH TWO-DIMENSIONAL CORRELATION SPECTROSCOPY. José Luis R. Arrondo, Jon Ander Nieto, Igor De la Arada

216-PLAT  4:30 PM
SURFACE-CATALYZED NUCLEATION OF AMYLOIDOGENIC PEPTIDES BY PEPTIDE-SPECIFIC TEMPLATES. Marisa Rubio, Andrew D. Miranker

217-PLAT  4:45 PM
FORMATION OF DYNAMIC SOLUBLE SURFACANT-INDUCED AMYLOID BETA PEPTIDE AGGREGATION INTERMEDIATES. Axel Abelein, Jorn D. Kaspersen, Soren B. Nielsen, Grethe V. Jensen, Gunna Christiansen, Jan S. Pedersen, Jens Danielsson, Daniel E. Otzen, Astrid Graslund

218-PLAT  5:00 PM
AGGREGATION OF OXIDATION-MIMICKING MUTANTS OF GAMMA-D CRYSTALLIN SUPPORTS A DOMAIN SWAPPING MODEL. Eugene Serebryany, Jonathan A. King

219-PLAT  5:15 PM
APPLICATIONS OF TWO-DIMENSIONAL INFRARED SPECTROSCOPY TO STUDIES OF STRUCTURE AND MECHANISM IN LENS CRYSTALLIN PROTEIN AGGREGATES. Tianqi O. Zhang, Sean D. Moran, Martin T. Zanni

220-PLAT  5:30 PM
UNRAVELING THE MECHANISM OF CELL DEATH INDUCED BY CHEMICAL AND PROTEIN FIBRILS. Olivier Julien, Martin Kampmann, Michael C. Bassik, Vincent J. Venditto, Julie A. Zorn, Arnold L. Rheingold, Jonathan S. Weissman, James A. Wells

221-PLAT  5:45 PM
ATP-MG+2 MEDIATED ASSEMBLY OF RUBISCO ACTIVASE INVESTIGATED USING FLUORESCENCE CORRELATION SPECTROSCOPY. Manas Chakraborty, Agnieszka Kuriata, J Nathan Henderson, Michael E. Salucci, Rebekka Wachter, Marcia Levitus

4:00 PM–6:00 PM, ROOM 305
Platform
Membrane Physical Chemistry I

Co-Chairs
Beate Klösgen, University of Southern Denmark, Denmark
Christopher Rowley, Memorial University of Newfoundland, Canada

222-PLAT  4:00 PM
ELECTRIC FIELD INDUCED CO-LOCALIZATION OF MEMBRANE COMPONENTS IN SUPPORTED LIPID BILAYERS DETECTED BY SECONDARY ION MASS SPECTROMETRY. Monica M. Lozano, Jennifer Hovis, Frank R. Moss, Krishna Kumar, Steven G. Boxer

223-PLAT  4:15 PM
LIPID BILAYER STRUCTURE AND DYNAMICS STUDIED WITH MOLECULAR DYNAMICS SIMULATIONS AND NMR MEASUREMENTS. Tiago Ferreira, Daniel Topgaard, Samuli O H Ollila

224-PLAT  4:30 PM
UNDERSTANDING THE MEMBRANE PERMEABILITY OF HYDROGEN SULFIDE THROUGH MOLECULAR DYNAMICS SIMULATIONS USING A POLARIZABLE FORCE FIELD. Christopher N. Rowley, Saleh Riahi

225-PLAT  4:45 PM
THE INTERACTION OF RESVERATROL WITH DPPC BILAYERS - A BIOPHYSICAL CONTRIBUTION ON THE MEDITERRANEAN DIET. Alexis de Gelllinc, Chen Shen, Paul Stein, Giovanna Fragneto, Michele Sferrazza, Beate M. Klösgen

226-PLAT  5:00 PM
DMPC: A REMARKABLE EXCEPTION TO THE TOCOPHEROL’S MEMBRANE PRESENCE. Drew Marquardt, Justin A. Williams, Jacob J. Kinnun, Norbert Kucerka, Jeffrey Atkinson, Stephen R. Wassall, John Katsaras, Thad A. Harroun

227-PLAT  5:15 PM
LIPID MEDIATED HETEROGENEITY IN CISPLATIN RESISTANCE IN CANCER CELL LINES. Krishnan Raghunathan, Aarif Ahsan, Dipankar Ray, Mukesh Nyati, Sarah Veatch

228-PLAT  5:30 PM
CREATING FREE-STANDING LIPID BILAYERS ON FUSED SILICA SUBSTRATES WITH NANOGRAVITING STRUCTURE. Po-Yu Peng, Po-Chieu Chiang, Ling Chao

229-PLAT  5:45 PM
MICROFLUIDIC FABRICATION OF GIANT UNILAMELLAR LIPID VESICLES WITH CONTROLLED MICRODOMAIN FORMATION. Laura R. Arriaga, Sujit S. Darra, Shin-Hyun Kim, Esther Amstad, Thomas E. Kodger, Francisco Monroy, David A. Weitz

4:00 PM–6:00 PM, ROOM 306
Platform
Cell Mechanics and Motility I

Co-Chairs
Ariel Livne, Weizmann Institute of Science, Israel
Kellie Beicker, University of North Carolina at Chapel Hill

230-PLAT  4:00 PM
CELL REORIENTATION UNDER CYCLIC STRETCHING. Ariel Livne, Eran Bouchbinder, Benjamin Geiger
New blueDrive™ Photothermal Excitation for Superior AFM Tapping Mode Imaging

Asylum Research, an Oxford Instruments Company

New blueDrive Photothermal Excitation capabilities exclusively available on Cypher™, the highest resolution fast scanning AFM. blueDrive significantly enhances the performance of tapping mode imaging with more simple, stable and quantitative operation, and providing extremely clean tunes in both air and water. Typically, piezoelectric excitation has been used to drive the cantilever oscillation. Though piezo drive is more simple, stable and quantitative operation, and providing extremely clean tunes in both air and water, typically, a piezoelectric excitation has been used to drive the cantilever oscillation. Though piezo drive is more simple, stable and quantitative operation, and providing extremely clean tunes in both air and water.

Nuclear magnetic resonance (NMR) has the capability to study specific protein domains or fragments and their functional role in protein folding and dynamics and in ligand binding whereas X-ray crystallography (XRD) allows visualizing high-resolution but more static 3D structures of apo and liganded proteins, mainly in a monomeric or dimeric state after crystallization. To unravel more physiologically relevant situations however, it is essential to visualize multimeric complexes in their tertiary and quaternary state and their interaction with other complexes. By performing typical cryo-TEM applications like single particle analysis or tomography, this can be achieved. In this so-called translational methodology, cryo-TEM thus provides complementary information to NMR and XRD that can be crucial for drug discovery, e.g. in terms of a better understanding of the mechanism of action inferred from the EM structure of the physiologically relevant complex. This will eventually contribute to answer real biologically as well as medically relevant questions. Latest developments in the cryo-TEM workflow have brought the three major structural biology technologies closer together. Now, finally, a continuum has been reached on all important aspects with regards to resolution and macromolecular scales which allows for the full deployment of the combination of these technologies.

Here, we will illustrate the historical context of these technologies with respect to one another and show how latest developments have reached the critical requirements to fully unleash the power of structural biology in not just answering fundamental questions, but actually contribute to curing diseases and improving health. Also, we will discuss the future of structural biology based on the latest developments of the FEI workflow and its components.

Presenters:
Marc Storms, Marketing Manager, Life Sciences, FEI Company
Jeff Lengyel, Product Marketing Manager, FEI Company
Eric Hnath, Product Marketing Manager, Structural Biology, FEI Company
Thomas Wohlfarth, Director, Structural Biology Businesses, FEI Company
Workshop
Polarizable Force Fields from Biomolecular Simulations

Co-Chairs
Alexander MacKerell, University of Maryland
Benoit Roux, University of Chicago

238-WKSHP  7:30 PM
DEVELOPMENT OF A POLARIZABLE FORCE FIELD FOR MACROMOLECULES BASED ON THE CLASSICAL DRUDE OSCILLATOR.  Alexander MacKerell

239-WKSHP  8:00 PM
ION CHANNEL SIMULATION WITH EXPLICIT SOLVENT AND LIPOSOME BASED ON THE DRUDE POLARIZABLE FORCE FIELD.  Benoit Roux, Hui Li, Janamejaya Chowdhary, Edward Harder, Pedro E. M. Lopes, Lei Huang, Alexander D. MacKerell, Jr.

240-WKSHP  8:30 PM
FORCE BALANCE: A SYSTEMATIC, REPRODUCIBLE, STATISTICALLY DRIVEN APPROACH TO MORE ACCURATE MOLECULAR DYNAMICS MODELS.  Vijay Pande

241-WKSHP  9:00 PM
ATOMISTIC AND COARSE-GRAINED MODELS FOR BIOMOLECULAR SIMULATIONS.  Teresa Head-Gordon

Workshop
Single Molecule Dynamics Using FRET/LRET

Co-Chairs
Irina Gopich, NIDDK, NIH
Achillefs Kapanidis, University of Oxford, United Kingdom

242-WKSHP  7:30 PM
THEORY OF SINGLE-MOLECULE PHOTON SEQUENCES.  Irina V. Gopich

243-WKSHP  8:00 PM
TRANSITION-PATH TIMES IN PROTEIN FOLDING FROM SINGLE-MOLECULE FRET.  Hoi Sung Chung

244-WKSHP  8:30 PM
NEW FRET METHODS FOR STUDYING PROCESSING OF NUCLEIC ACIDS BY PROTEIN MACHINES.  Achillefs Kapanidis

245-WKSHP  9:00 PM
SINGLE MOLECULE FOUR COLOR FRET REVEALS THE MECHANISM OF AN ATP DRIVEN MULTICOMPONENT MOTOR.  Thorsten Hugel
**SUNDAY POSTER SESSIONS**

*The list of Sunday Late Posters is in the Program addendum. The abstracts are available through the online itinerary planner.*

Posters should be mounted 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 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 1:45 pm–2:45 pm**  
**Even-Numbered Boards 2:45 pm–3:45 pm**

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Protein Structures (Boards #B1–#B29)

246-Pos  Board #B1
STRUCTURE AND FUNCTION OF TWO PUTATIVE VIRULENCE FACTORS FROM FRANCISELLA TULARENSIS. Geoffrey K. Feld

247-Pos  Board #B2
CRYSTAL STRUCTURE OF AN INACTIVE VARIANT OF THE VIBRIO CHOLELAE QUORUM-SENSING MASTER REGULATOR HAPR. Justin Cruite. Patrick Succo, Anita Prasad, Ashish Raychaudhuri, Saumya Raychaudhuri, F. Jon Kull

248-Pos  Board #B3
X-RAY STRUCTURE DETERMINATION OF THE FIRST INSECT SKELETAL MUSCLE MYOSIN II. James T. Caldwell, Girish Melkani, Sanford I. Bernstein, Tom Huxford

249-Pos  Board #B4
THE CATALYTIC SUBUNIT OF THE SWR1 REMODELER HAS A HISTONE CHAPERONE ROLE FOR THE H2A.Z-H2B DIMER. Jingjun Hong

250-Pos  Board #B5
STRUCTURE AND FUNCTION OF THE GENOMICALLY-ENCODED FOSFOMYCIN RESISTANCE ENZYME, FOSB, FROM STAPHYLOCOCCUS AUREUS. Matthew K. Thompson, Michael Goodman, Mary Keithly, Neal Hammer, Paul Cook, Kevin Jagessar

251-Pos  Board #B6
STRUCTURAL INSIGHTS INTO MODULATION OF MICAL BY ITS CALPONIN HOMOLOGY (CH) DOMAIN. Saif S. Alqassim, Mario A. Bianchet, L. Mario Amzel

252-Pos  Board #B7
THE USE OF ENGINEERED ANTIBODY FRAGMENTS TO PROMOTE CRYSTALLIZATION OF MEMBRANE PROTEINS. Sibel Kalyoncu, Jennifer L. Johnson, David P. Heaner Jr, Ivan A. Morales, Jeongmn Hyun, Jennifer C. Pai, Kevin Etzminger, Jennifer A. Maynard, Raquel L. Lieberman

253-Pos  Board #B8
ESCHERICHIA COLI AS HOST FOR MEMBRANE PROTEIN STRUCTURE DETERMINATION: A GLOBAL ANALYSIS. Georges Harttab, Karine Moncoq, Dror Warschawski, Bruno Miroux

254-Pos  Board #B9
ELUCIDATION OF MECHANISTIC DETAILS FROM STRUCTURAL STUDIES OF DNA GYRASE. Katarzyna M. Soczek, Kathryn H. Gunn, Chandra J. Critchelow, Tim Grant, Peter Rosenthal, Alfonso Mondragon

255-Pos  Board #B10
DETERMINATION OF THE DYNAMIC STRUCTURES OF NACENT DISCOIDAL HIGH-DENSITY LIPOPROTEIN (HDL) BOUND TO LECITHIN CHOLESTEROL ACYLTRANSFERASE (LCAT) AND PARAOXONASE 1 (PON1). Matthew J. Rames, Lei Zhang, Xing Zhang, Gary Ren

256-Pos  Board #B11
STRUCTURAL STUDIES OF THE YEAST PRP8-SNU114 COMPLEX. Yangzi He, Shenping Wu, David Booth, David Agard, Yifan Cheng, Christine Guthrie

257-Pos  Board #B12
PROTEIN PLASTICITY AND PROTEIN-LIPID INTERACTIONS OF THE BETA-BARREL ASSEMBLY MACHINERY. Tessa Sinnige, Klaartje Houwen, Markus Weingarth, Lindsay Baker, Rolf Boelens, Marc Baldus

258-Pos  Board #B13
THE STRUCTURE OF HCV MEMBRANE PROTEIN P7 IN BILAYERS BY NMR SPECTROSCOPY. Gabriel A. Cook, Lindsay A. Dawson, Bibhuti B. Das, Stanley J. Opella

259-Pos  Board #B14
STRUCTURAL AND FUNCTIONAL STUDIES OF THE OUTER MEMBRANE PROTEIN AIL FROM YERINSA PESTIS. Yi Ding, Yong Yao, Lynn Miya Fujimoto, Francesca Marassi

260-Pos  Board #B15
STRUCTURE AND MECHANISM OF THE E3 LIGASE RBX1 IN COMPLEX WITH THE E2 ENZYME CDC34 CHARGED WITH UBQUITIN. Donald E. Spratt, Pascal Mercier, Zhen-Qiang Pan, Gary S. Shaw

261-Pos  Board #B16
NMR STRUCTURE REFINEMENT USING STAP AND FLAT-BOTTOM POTENTIAL WITHOUT NOE DATA. Ryu Hyo Jung, Kim Tae-Rae, Ji Sunyoung, Lee Jinhyuk

262-Pos  Board #B17
STRUCTURAL AND DYNAMIC ANALYSIS OF LIPOCALIN TYPE PROSTAGLANDIN D SYNTHASE IN ITSapo FORM AND SUBSTRATE ANALOG COMPLEX FORM. Shigeru Shimamoto, Tadayasu Oobuko, Kosuke Aritake, Yoshihiro Urate, Yuji Hidaka

263-Pos  Board #B18
INVESTIGATION INTO THE STRUCTURE OF A MUTATED FOX PROTEIN, Jessica E. Besaw, Valerie Booth, Christopher Rowley

264-Pos  Board #B19
CALCIUM-MEDIATED REVERSAL OF CAM ON THE NAV 1.2 IQ MOTIF: NESTED ANTI-PARALLEL SITES. Mark S. Miller, Andrew Fowler, Michael D. Feldkamp, Liping Yu, Madeline A. Shea

265-Pos  Board #B20
EXPRESSSION, PURIFICATION AND PRELIMINARY SOLID STATE NMR EXPERIMENTS OF MYCOBACTERIUM TUBERCULOSIS FTIX MEMBRANE PROTEIN. Cristian A. Escobar, Timothy A. Cross

266-Pos  Board #B21
STRUCTURAL INSIGHTS OF LSPA, FROM MYCOBACTERIUM TUBERCULOSIS, USING SOLID STATE NMR SPECTROSCOPY. E. Vindana Ekanayake, Hujuan Qin, Ivan Hung, Timothy A. Cross

267-Pos  Board #B22
STRUCTURAL STUDIES ON THE N2A-15 REGION OF TITIN. Kanchan Sonkar, Holly Tiffany, Matthew J. Gage

268-Pos  Board #B23
SINGLE MOLECULE FRET CHARACTERIZATION OF STRUCTURAL CHANGES IN ANTIBODIES INDUCED BY ENZYMIC DEGLYCOLSYLATION. Mark S. Piraino, Michael T. Kelliher, Ramiah D. Jacks, Madeline E. Gemoules, Jihad Aburas, Lily A. Arendt, James S. Coy-Dibley, Cathrine A. Southern

269-Pos  Board #B24

270-Pos  Board #B25
STRUCTURE REFINEMENT OF THE TRANSMEMBRANE DOMAIN (TMD) OF KCNE1 PROTEIN USING DEER SPECTROSCOPY. Indra D. Sahu, Brett M. Kroncke, Robert M. McCartrick, Megan M. Dunagan, Rongfu Zhang, Andrew Craig, Hubbell J. Smith, Charles R. Sanders, Gary A. Lorigan
271-Pos  Board #B26

272-Pos  Board #B27
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PROBING AND CHARACTERIZING DISTINCT CONFORMATIONAL STATES POPULATED BY INFLUENZA A M2 PROTEIN. Sangwoo S. Kim

273-Pos  Board #B28
PROBING STRUCTURAL PROPERTIES OF KCNE1 MEMBRANE PROTEIN; A SITE-DIRECTED SPIN LABELING EPR STUDY. Megan M. Dunagan, Indra D. Sahu, Rongfu Zhang, Andrew Craig, Robert M. McCarrick, Gary A. Lorigan

274-Pos  Board #B29
THE CONFORMATIONS OF THE DRK1 SH3 DOMAIN STUDIED BY SINGLE MOLECULE FLUORESCENCE SPECTROSCOPY. Zhenfu Zhang, Amir Mazouchi, Andrew Chong, Julie Forman-Kay, Claudiu Gradinaru

Protein Conformation
(Boards #B30–#B54)

275-Pos  Board #B30
MODELING PROTEINS AS RESIDUE Interaction NETWORKS TO UNDERSTAND STRUCTURE-FUNCTION RELATIONSHIP. Isha D. Mehta, Brian W. Beck

276-Pos  Board #B31
NIST/UMD BIOMOLECULAR LABELING LABORATORY (BL). Zvi Kelman

277-Pos  Board #B32
THE PROTEIN TRANSLOCASE ACTIVITY OF ANTHRAX TOXIN PROTECTIVE ANTIGEN IS STEREoseLECTIVE. Debasis Das

278-Pos  Board #B33
STRUCTURAL STUDIES ON THE A. THALIANA HETEROTRIMERIC G-PROTEIN; UNDERSTANDING THE MECHANISM OF α SUBUNIT. Hazal B. Kose

279-Pos  Board #B34
MOLECULAR DYNAMICS STUDY ON FLUCTUATION ANALYSIS OF MECHANO-GATING IN THE BACTERIAL MECHANOSENSITIVE CHANNEL MSCL. Yuya Nakagawa, Yasuyuki Sawada, Masahiro Sokabe

280-Pos  Board #B35
MOLECULAR DYNAMICS STUDIES ON STRUCTURAL CHANGES IN NK-lysin and SAPoIns A, C, AND D. Iwona Siuda, Svetlana Baukina, D. Peter Tieleman

281-Pos  Board #B36
UNRAVELING THE ENERGY TRANSDUCTION MECHANISM OF RESILIN ELASTICITY-A COMBINATION OF COMPUTATIONAL AND EXPERIMENTAL STUDY. Yang Yang, Xiao Hu

282-Pos  Board #B37
SIMPLE MODELS CHARACTERIZE THE ACTIVATION OF G PROTEIN-COUPLED RECEPTORS. Pooja Suresh, Nicholas Leioatts, Alan Grossfield

283-Pos  Board #B38
UNDERSTANDING SIDE-CHAIN MOTIONS USING STATISTICAL TORSION ANGLE POTENTIAL. GyuTae Lim, Tae-Rae Kim, Sunyoung Ji, Jinhyuk Lee

284-Pos  Board #B39
CONFORMATIONAL AND DYNAMIC PROPERTIES OF EXTRACELLULAR DOMAINS OF CELL ADHESION MOLECULES. Catherine M. Kelly, Nicole-Viorel Buchete

285-Pos  Board #B40
FINDING THE MISSING LINK - MODELING THE CONFORMATIONAL SPACE OF THE ACTIVE AND INACTIVE FORMS OF E. COLI RIBONUCLEOTIDE REDUCTASE. Ody Ullman, Christina M. Zimanyi, Catherine L. Drennan, Collin M. Stultz

286-Pos  Board #B41
THE SUBDOMAINS OF THE TATA-BINDING PROTEIN DISPLAY DISCORDANT STRATEGIES TO ADAPT TO TEMPERATURE. Nina Pastor, Ángel Santiago

287-Pos  Board #B42
TIME-RESOLVED TEMPERATURE-JUMP IR-MEASUREMENTS ON BETA-HAIRPIN PEPTIDES WITH ALTERNATE CROSS-STRAND INTERACTIONS. Alexander Popp, Ling Wu, Timothy A. Keiderling, Karin Hauser

288-Pos  Board #B43
THE INTERNAL FRICTION OF PROTEINS. Robert Deak, Imre Derenyi

289-Pos  Board #B44
CORRELATIONS BETWEEN BOND, BACKBONE, AND SIDE CHAIN DIHEDRAL ANGLES ENABLE CHANGES AMONG DIFFERENT DIPEPTIDE CONFIGURATIONS. Diego Caballero, Lynne Regan, Corey S. O’Hern

290-Pos  Board #B45
EFFECT OF INTRACELLULAR LOOP 3 ON INTRINSIC DYNAMICS OF HUMAN β2-ADRENERGIC RECEPTOR. Ozer Ozcan, Arzu Uyar, Pemra Doruker, Ebru Demet Akten

291-Pos  Board #B46
CONFORMATIONAL SAMPLING AND STRUCTURE PREDICTION OF MULTI-LOOPS IN PROTEINS USING DISTANCE-GUIDED SEQUENTIAL CHAIN-GROWTH MONTE CARLO METHOD. Ke Tang, Jinfeng Zhang, Jie Liang

292-Pos  Board #B47
STRUCTURAL PROPERTIES OF MEMBRANE INSERTED FUSION PEPTIDE FROM INFLUENZA VIRUS ANALYSED BY MOLECULAR SIMULATION. Diana Lousa, Bruno L. Victor, Carlos Fernandez, Cláudio M. Soares

293-Pos  Board #B48
MODELING THE STRUCTURAL PROPERTIES OF THE TRANSMEMBRANE PEPTIDE OF INFLUENZA HEMAGGLUTININ IN A MEMBRANE BILAYER. Bruno L. Victor, António M. Baptista, Cláudio M. Soares

294-Pos  Board #B49
THE AMYLOID PRECURSOR PROTEIN MAINTAINS AN IDEAL &ALPHA;HELICAL CONFORMATION IN THE LIPID BILAYER. Thomas Lemmin, Mirko Dimitrov, Patrick Fraering, Matteo Dal Peraro

295-Pos  Board #B50
CONFORMATION AND AGGREGATION OF PEPTIDES AT INTERFACES. Mehmet Sayar
Assemblies and Aggregates I (Boards #B55–#B80)

300-Pos Board #B55
A VIEW TO A KILL: T6SS-MEDIATED CELL KILLING VISUALIZED BY FLUORESCENCE MICROSCOPY. Jacqueline Corbit, Michele Leroux, Josep Mogous, Paul Wiggins

301-Pos Board #B56
A FRET-BASED METHOD FOR MEASUREMENT OF YEAST SEPTIN FILAMENT FORMATION IN VITRO. Elizabeth Booth, Eleanor Vane, Jeremy Thorner

302-Pos Board #B57
INVESTIGATING THE MECHANISM OF COLLAGEN SELF-ASSEMBLY WITH MICROREOLOGY. Marjan Shayegan, Tuba Altindal, Nancy R. Forde

303-Pos Board #B58
ATOMIC FORCE MICROSCOPY IMAGING REVEALS STRUCTURAL AND MECHANICAL PROPERTIES OF DISSOCIATED HEMOCYANINS BY TEMPERATURE. Camilo Navarrete, Javiera Villar, Yessenia Aguilar, Ricardo Cabrera, Nelson P. Barrera

304-Pos Board #B59
EDUCATION TRAVEL Awardee TRIPEPTIDES SCREENING REPORT: PROLINE IS IMPORTANT FOR Aβ FIBRILS DEPOLYMERIZATION. Katarina Siposova, Man Hoang Viet, Mai Suan Li, Zuzana Bednarikova, Andrea Antonova, Truc Trang Nguyen, Zuzana Gazova

305-Pos Board #B60
EFFLUX TIME COURSES OF CYTOSOLIC PROTEINS FROM RABBIT SKINNED MUSCLE FIBERS REFLECT DISSOCIATION OF ENZYME COMPLEXES. David Maughan, Brian Carlson, Jim Vigoreaux

306-Pos Board #B61
PHASE DIAGRAM TO ILLUSTRATE PROTEIN AGGREGATION PROFILE AND CONDITIONS. Bin Li, Siqi Li, Yang Cao, Shaohua Xu

307-Pos Board #B62
IN VITRO INTERACTIONS BETWEEN AMYLOID BETA AND ISLET AMYLOID POLYPEPTIDE. Leah Vandiver

308-Pos Board #B63
NADH IS AN ENDOGENOUS REPORTER FOR ALPHA-SYNUCLEIN AGGREGATION IN LIVE CELLS. Nicoletta Ploegheer, Chiara Stringari, Sohail Jahid, Enrico Gratton, Luigi Bubacco

309-Pos Board #B64
ASSESSING POLYGLUTAMINE CONFORMATION AND AGGREGATION WITH MOLECULAR DYNAMICS TECHNIQUES. Riley J. Workman, Jeffry D. Madura

310-Pos Board #B65
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311-Pos Board #B66
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312-Pos Board #B67
SINGLE-MOLECULE AFM FORCE SPECTROSCOPY REVEALS THE DIFFERENCE IN THE FOLDING PATTERNS BETWEEN AMYLOID β 40 AND 42 WITHIN DIMERS. Zhengjian Lv, Robin Roychaudhuri, Margaret M. Condron, David B. Teplow, Yuri L. Lyubchenko

313-Pos Board #B68
STRUCTURAL STUDIES OF SEPTIN PROTEIN ASSEMBLIES BY DIRECT STOCHASTIC OPTICAL RECONSTRUCTION MICROSCOPY. Adriano Vissa, Theodore Pham, William S. Trimble, Peter K. Kim, Christopher M. Yip

314-Pos Board #B69
MONOCLONAL ANTIBODY SELF-ASSOCIATION, CLUSTER FORMATION, AND RHEOLOGY AT HIGH CONCENTRATIONS. Thomas Scherer, Wayne Lilyestrom, Sandeep Yadav, Steven J. Shire

315-Pos Board #B70
STRUCTURAL FLUCTUATIONS AND AGGREGATIONS OF TAU PROTEINS FROM X-RAY SINGLE MOLECULE OBSERVATIONS. Yuji C. Sasaki, Masahiro Shimura, Yufuku Matsushita, Kouhei Ichiyanagi, Hiroshi Sekiguchi, Tomohiro Miyasaka, Yasuo Ihara

316-Pos Board #B71
SELF-ASSEMBLY OF AN AMPHIPHILIC DESIGNER-PEPTIDE INTO DOUBLE HELICAL SUPERSTRUCTURES. Karin Kornmueller, Ilse Letofsky-Papst, Fernando Cacho-Nerin, Gerd Leitinger, Heinz Ametsich, Ruth Prassl

317-Pos Board #B72
AGGREGATION IN AL AMYLOIDOSIS. Kathrin Andrich, Jan Bieschke

318-Pos Board #B73
AGGREGATION OF THERAPEUTIC ANTIBODIES: A MULTISCALE MOLECULAR DYNAMICS APPROACH. David Shorthouse, Jesus Zurdo, Mark Sansom

319-Pos Board #B74
INTERNATIONAL TRAVEL Awardee INHIBITION OF INSULIN FIBRILLATION BY A NON-TOXIC PEPTIDE NK9. Victor Banerjee, Rajiv Kar, Kalipada Das, Subhrangsu Chatterjee, Anirban Bhunia

320-Pos Board #B75
EDUCATION TRAVEL Awardee KINETIC ISING MODEL STUDY OF PROTEIN AGGREGATION. Min-Yeh Tsai, Jian-Min Yuan, Sheng-Hsien Lin
Virus Structure and Assembly
(Boards #B81–#B98)

326-Pos
Board #B81
Assembly of Transmembrane Domains of Human Papillomavirus Type 16 E5 Protein: A Molecular Dynamics Simulation Study. Dhani R. Mahato, Wolfgang B. Fischer

327-Pos
Board #B82
Protein Interactions Regulate Virus Assembly and Replication. Zhenning Tan, Nuruddin Unchwaniwa, Karolyn Pionek, Megan Maguire, Dan Loeb, Adam Zlotnick

328-Pos
Board #B83
A Disulfide in HBV Core Protein Dimer Allosterically Modifies Capsid Assembly and Stability. Lisa Selzer, Sarah Katen, Adam Zlotnick

329-Pos
Board #B84
Exceptional Heterogeneous Elasticity and One-Way Valve Mechanism of the PH29 Head-Tail Connector. Rajendra Kumar, Helmut Grubmüller

330-Pos
Board #B85
Probing Protein-Protein Interactions in a Single Virus: Application to HIV Integrate Oligomerization. Doorje Borrenberghs, Wannes Thys, Susana Rocha, Jonas Demeulemeester, Peter Deedecker, Johan Hofkens, Zeger Debyser, Jelle Hendrix

331-Pos
Board #B86
Role of M1 Self-Organization in Influenza Virus Assembly: A Combined RICS and AFM Study. Malte Hilsch, Nadine Jungnick, Christian Sieben, Björn Goldenbogen, Edda Klipp, Andreas Herrmann, Salvatore Chiantia

332-Pos
Board #B87
Evaluating the Influence of Environment on Virus Capsid Assembly Pathways Through Stochastic Simulation. Gregory R. Smith, Lu Xie, Youngkoo Lee, Russell Schwartz

333-Pos
Board #B88
Toward Understanding How Cleavage & Polyadenylation Factor 6 Interacts with the HIV-1 Capsid Hexamer. Akash Bhattacharya, Dmitri N. Ivanov

334-Pos
Board #B89
Breaking a Virus: Identifying Molecular Level Failure Modes of Viral Capsid Compression Through Multi-Scale Simulation Techniques. Venkatramanan Krishnamani, Christoph Globisch, Christine Peter, Markus Deserno

335-Pos
Board #B90
In Vitro Reconstitution of Membrane Budding by Influenza A Virus Matrix Protein 1. Michael D. Vahey, Daniel A. Fletcher

336-Pos
Board #B91
New Insights on the Versatile Role of the Cholesterol Binding Motif of the HIV-1 Glycoprotein GP41. Roland Schwarzner, Andreas Herrmann, Illya Levental, Andrea Gramatica

337-Pos
Board #B92
The Homopentameric Ring ATPase Motor of the Bacteriophage T4 Tolerates One Inactive Subunit. Vishal I. Kotradiel, Li Dai, Venigalla B. Rao, Yann R. Chemla

338-Pos
Board #B93
Proton Permeability of HIV Virus Like Particles and Viscular Stomatitis Virus. Pei-I Ku, Jefferey Hodges, Michael L. Landesman, Peter Williams, Xiaolin Tang, Saveez Saffarian

339-Pos
Board #B94
Alix Arrives Late During HIV-1 Assembly. Pei-I Ku, Michael L. Landesman, Saveez Saffarian

340-Pos
Board #B95
Mathematical Simulation of Early Transcription Events During VSV Infection. Xiaolin Tang, Saveez Saffarian

341-Pos
Board #B96
Mechanisms of Self-Assembly and Dissemination of Influenza A Virus Protein Scaffold. Oleg V. Batishchev, Liudmila A. Shilova, Vsevolod Yu. Tashkin, Valeriy S. Sokolov, Yuri A. Chizmadzhev

342-Pos
Board #B97
Characterization of HIV-1 Capsid with Fluorescence Spectroscopy and Microscopy. Qiaoqiao Ruan, Barbic K. Ganser-Pornillos, Joseph P. Skinner, Susan Gayda, Mark Yeager, Sergey Y. Tetin

343-Pos
Board #B98
NMR Studies of the Q5A, G6S Unmyristylated Feline Immunodeficiency Virus Matrix Protein. Vaughn R. Spurrier, Lola Brown, Michael Summers

DNA Structure and Dynamics I
(Boards #B99–#B128)

344-Pos
Board #B99
Mechanical Unfolding of Human Telomere G-Quadruplex DNA Probed by Integrated Fluorescence and Magnetic Tweezers Spectroscopy. Xi Long, Joseph W. Parks, Clive R. Bagshaw, Michael D. Stone
345-Pos  Board #B100  
G-QUADRUPLEX DNA FOLDING AND DYNAMICS WITHIN DUPLEX DNA. Alex Kreig, Jacob Calvert, Ramreddy Tippana, Su-a Myong

346-Pos  Board #B101  
VALIDATION AND PHYSICAL CHARACTERIZATION OF RIBOSOMAL G-QUADRUPLEXES WITH MD SIMULATIONS. Adam T. Green, Samuel Cho

347-Pos  Board #B102  
G-QUADRUPLEX FOLDING DEPENDS ON ITS LOOP SIZE AND SEQUENCE: EXTREME FAST FOLDING KINETICS OBSERVED IN HUMAN TELOMERE AND ITS ISOMER. Ramreddy Tippana, Weikun Xiao, Su-a Myong

348-Pos  Board #B103  
DNA I-MOTIF PROBED BY PHOTOACOUSTIC CALORIMETRY. David Butcher, Jaroslava Miksovska

349-Pos  Board #B104  
THERMODYNAMICS OF THE G-QUADRUPLEX FORMATION OF MODIFIED HUMAN TELOMERIC SEQUENCES. Yang Li, Robert B. Macgregor, Bita Zamiri

350-Pos  Board #B105  
MICROHETEROGENEITY OF TELOMERIC DNA GUANINE RESIDUES: PH DEPENDENT SPECTROSCOPIC STUDIES OF FLUORESCENTLY LABELED MODEL TRINUCLEOTIDES. Yasemin Kopkalli, Aleksander Smirnov, Jay R. Kruton, Lesley Davenport

351-Pos  Board #B106  
POLYELECTROLYTE EFFECTS IN G-QUADRUPLEXES. Byul Kim, Yuen L. Shek, Tigran V. Chalikian

352-Pos  Board #B107  
STRUCTURAL DYNAMICS AND POLYMORPHISM OF TELOMERIC G-QUADRUPLEX DNA STRUCTURES. Sofie L. Kragh, Seren Preus, Daniel Gudnason, Jean-Louis Mergny, Victoria Birkedal

353-Pos  Board #B108  
KINETICS OF TWO SLOW CONFORMATIONAL TRANSITIONS OF THE QUADRUPLEX STRUCTURE OF THE THROMBIN BINDING APARTMER AND THEIR POTASSIUM DEPENDENCE. Harikrishan Ranpura, Philip H. Bolton

354-Pos  Board #B109  
Z-DNA-FORMING TG REPEATS ARE DYNAMIC MECHANICAL SWITCHES SENSITIVE TO TENSION AND TORSION. Sook Ho Kim, Nam-Kyung Lee, Joon-Hwa Lee, Seok-Cheol Hong

355-Pos  Board #B110  
COARSE-GRAINED MODELLING OF EXTREME DNA BENDING. Ryan M. Harrison, A. A. Louis, Jonathan P.K. Doye

356-Pos  Board #B111  
TRANSIENT KINETICS MEASURED WITH FORCE STEPS DISCRIMINATE BETWEEN DOUBLE STRANDED DNA ELONGATION AND MELTING AND DEFINE THE REACTION ENERGETICS. Pasquale Bianco, Lorenzo Bongini, Luca Melli, Vincenzo Lombardi

357-Pos  Board #B112  
DIAMINOPURINE-SUBSTITUTION MODIFY DNA ELASTICITY AND FAVORS L-HELICES. Qing Shao, Monica Fernandez, Sharon Owino, Yoojin Lee, Laura Finzi, David Dunlap

358-Pos  Board #B113  
BIOCHEMICAL AND BIOPHYSICAL PROPERTIES OF POSITIVELY SUPERCOILED DNA. Andrea M. Berrido, Andrew Chen, Yuk-Ching Tse-Dinh, Fenfei Leng

359-Pos  Board #B114  
A COMBINED NMR AND MOLECULAR DYNAMICS INVESTIGATION OF SEQUENCE CONTEXT EFFECTS ON BACKBONE DYNAMICS OF DNA. Kiley Lawrence

360-Pos  Board #B115  
STUDIES OF DNA BREATHING AND HELICASE MECHANISMS BY SINGLE MOLECULE (SM) FRET BETWEEN 6-MI AND CY3 IN DNA REPLICATION FORK CONSTRUCTS. Wonbae Lee, John P. Gillies, Huizing Ji, Carey E. Phelps, Davis Jose, Peter H. von Hippel, Andrew H. Marcus

361-Pos  Board #B116  
DETERMINING THE QUANTITATIVE DYNAMICS OF NUCLEIC ACIDS IN LIVE CELLS THROUGH RICS AND IMSD APPROACHES. Stephen P. Mierusynsksi, Michelle A. Digman, Enrico Gratton, Mark Jones

362-Pos  Board #B117  
PHOTOPHYSICAL AND DYNAMICAL PROPERTIES OF DOUBLY LINKED CY3 - DNA CONSTRUCTS. Ning Ma, Elana Stennett, Marcia Levitus, Arjan van der Vaart

363-Pos  Board #B118  
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364-Pos  Board #B119  
COMPARING OPTICAL AND MAGNETIC TWEETERS FOR STUDYING THE RECQ HELICASE. Maria Marti-Prieto, Maria Manosan, Felix Riort

365-Pos  Board #B120  
SINGLE MOLECULE OBSERVATION OF CYCLIZATION OF SHORT DNA DUPLEX. Teckla Akinyi, I-Ren Lee, Taekjip Ha

366-Pos  Board #B121  
NANOIMAGING OF THE CELL NUCLEUS USING GOLD NANOPARTICLES. Andrea Anzalone, Chiara Stringari, Enrico Gratton

367-Pos  Board #B122  
PROMOTER REPRESSION BY STRONG DNA BENDING. Nicole A. Becker, Justin P. Peters, L. James Maher III

368-Pos  Board #B123  
TORSIONAL BEHAVIOR OF NUCLEOSOME ARRAYS. Gi-Moon Nam, Gaurav Arya

369-Pos  Board #B124  
INVESTIGATING THE CONFORMATIONAL DYNAMICS OF DNA WITH LESIONS THROUGH FLUORESCENCE-BASED TECHNIQUES AND COMPUTER SIMULATIONS. Elana M.S. Stennett, David L. Dotson, Elizabeth J. Denning, Oliver Beckstein, Marcia Levitus

370-Pos  Board #B125  
CHARACTERIZATION OF RIGHT-HANDED B-DNA IN STAGE 0 (IN SITU) HUMAN MELANOMA TISSUE. Claude E. Gagna, Peter Lambert, W. Clark Lambert

371-Pos  Board #B126  
DOUBLE-STRANDED B-DNA; PRESENCE IN HUMAN MELANOMA TISSUE (STAGE III). Claude E. Gagna, Muhammad Malik, Akshay Sharma, David Dursunian, Peter Lambert, W. Clark Lambert
INTACT RIGHT-HANDED B-DNA: OCCURRENCE IN HUMAN MELANOMA TISSUE (STAGE I). **Muhammad W. Malik.** Claude E. Gagna, Akshay Sharma, David L. Dursunian, Varun Verma, Joseph Migliorino, Peter Lambert, W. C. Lambert

UNALTERED B-DNA: DISTRIBUTION IN HUMAN MELANOMA TISSUE (STAGE II). **Akshay Sharma,** Claude E. Gagna, Muhammad Malik, David Dursunian, Peter Lambert, W. C. Lambert

**Protein-Nucleic Acid Interactions I (Boards #B129–#B150)**

THE MECHANISM OF NUCLEOSOME SPACING BY A DIMERIC CHROMATIN REMODELING ENZYME. **John D. Leonard.** Jean-Paul Armache, Nariman Naber, Shengping Wu, Edward Pate, Roger Cooke, Yifan Cheng, Geeta J. Narlikar

NUCLEOSOME POSITIONING ON LAMBDA DNA FOR SINGLE-MOLECULAR ANALYSIS OF CHROMATIN REMODELING - DEVELOPMENT OF A VERSATILE LAMBDA DNA CONSTRUCT CAPABLE OF RECEPTION OF ANY DNA SEQUENCES OF INTEREST. **Mate Gyimesi.** Jody L. Plank, Jason C. Bell, James E. Graham, Christopher C. Dombrowski, Stephen C. Kowalczykowski

MEASURING KINETICS OF DNA CLEAVAGE WITH SINGLE MOLECULE RESOLUTION. **Allen C. Price.** Briana Mousley, Stefano Gambino, Elsie Helou, D. Linda Song, Joseph Loparo

BENDING OF SHORT DSDNA UPON BINDING OF ANABAENA SENSORY RHODOPSIN TRANSDUCER. **Doseok Kim.** Sung Hyun Kim, So Young Kim, Takkyn Ahn, Kwang-Hwan Jung

DISSOCIATION FREE-ENERGY PROFILES OF SPECIFIC AND NON-SPECIFIC DNA-LAC REPRESSOR COMPLEXES: ADAPTIVE BIASING FORCE MOLECULAR DYNAMICS STUDY. **Yoshiteru Yonetani.** Hidetoshi Kono

UNDERSTANDING HOW PROTEINS SHAPE DNA USING ENERGY MINIMIZATION. **Nicolas Clauvelin.** Wilma K. Olson

CONFORMATIONAL CHANGES IN THE LAC REPRESSOR PROTEIN EFFECT DNA LOOP ENERGETICS AND TOPOLOGY. **Pamela J. Perez.** Nicolas Clauvelin, Grace Tam, Wilma K. Olson

DETERMINATION OF FREE ENERGY PROFILES FOR POLYNUCLEOTIDES TRANSLOCATION THROUGH MUTANT α-HEMOLYsin NANOPORES. **Annielle M. B. Silva.** Cláudio G. Rodrigues, Gustavo M. Seabra

DIRECT SINGLE-MOLECULAR FRET IMAGING OF THE EUKARYOTIC INITIATION FACTOR 4A REVEALS LARGE CONFORMATIONAL TRANSITIONS DURING RNA UNWINDING. **Yingjie Sun.** Amir Meller

ROLE OF DEAD BOX HELICASES IN HIV-1 REV FUNCTION: A SINGLE-MOLECULAR APPROACH. **Rajan Lamiichane.** David P. Millar

DEAD BOX HELICASES IN RNP GRANULE. **Younghoon Kim.** Christian Eckmann, Clifford P. Brangwynne, Suay Myong

RNA HELICASES ON THE MOVE. **Raj Saurabh, Debjani Bagchi, Francesca Fiorini, Hervé Le Hir, Kyle Tanner, Josette Banroques, Vincent Croquette**

RECB CDC FAILS TO BYPASS THE 5'-TO-3' SINGLE-STRANDED DNA GAP AFTER TRANSLOCATING ALONG INDIVIDUAL CHI-CONTAINING DUPLEX DNA. **Cinya Chung.** Hung-Wen Li

SINGLE-MOLECULAR IMAGING REVEALS THE TRANSLOCATION DYNAMICS OF HEPATITIS C VIRUS NS3 HELICASE. **Chang-Ting Lin.** Felix Tritschler, Kyung Suk Lee, Meigang Gu, Charles M. Rice, TaeKij Ha

PCRA HELICASE AND THE MECHANISM OF ASYMMETRIC ROLLING CIRCLE DNA REPLICATION. **Lesley Southerden.** Claudia Arbore, Martin Webb

ANALYSIS OF POLYMERASE-DNA INTERACTIONS AND POLYMERASE ACTIVITY WITH ELECTRICALLY ACTUATED DNA NANOBEARS ON A CHIP. **Andreas Langer.** Michael Schraeml, Dieter Heindl, Ulrich Rant

STUDIES OF DNA GYRASE AT THE SINGLE MOLECULE LEVEL. **Kathryn H. Gunn.** Katarzyna M. Soczek, John F. Marko, Alfonso Mondragon

REQUIREMENTS FOR SITE-SPECIFIC RECOMBINATION IN THE TYROSINE-FAMILY RECOMBINEASE ACTIVE SITE. **Hsiu-Fang Fan**

DISTRIBUTIVE AND PROCESSIVE EXONUCLEASES CHARACTERIZED BY SINGLE MOLECULE FRET. **Sangmi Jee, Jungmin Yoo, Suyeon Park.**

HUMAN REPLICATION PROTEIN A (RPA) CAN DIFFUSE ALONG SINGLE STRANDED DNA. **Binh Nguyen.** Joshua Sokoloski, Marc S. Wold, Roberto Gallermo, Elliot L. Elson, Timothy M. Lohman

HUMAN ORF1P - DNA INTERACTIONS CHARACTERIZED BY SINGLE MOLECULE DNA STRETCHING. **M. Nabuan Naufar.** Anthony V. Furano, Mark C. Williams

INTERACTIONS BETWEEN THE SMC-COMPLEX, SPO0J AND DNA. **James A. Taylor.** Emma Gwynn, Cesar Pastrana, Fernando Moreno Herrero, Mark S. Dillingham

**Chromatin and the Nucleoid (Boards #B151–#B180)**

THE REGULATION OF EZH2 ACTIVITY BY PHF1. **Lynne Dieckman.** Catherine Musselman
409-Pos  Board #B164  MECHANISM OF NUCLEOSOME REMODELING BY INO80 FROM S. CEREVISIAE.  Coral Y. Zhou, Geeta J. Narlikar

410-Pos  Board #B165  DYNAMIC REGULATION OF TRANSCRIPTION FACTORS BY NUCLEOSOME REMODELING.  Ming Li, Payel Sen, Lola Olufemi, Arjan Hada, Michael A. Hall, Benjamin Y. Smith, Scott Forth, Jeffrey N. McKnight, Ashok Patel, Gregory D. Bowman, Blaine Bartholomew, Michelle D. Wang

411-Pos  Board #B166  HIGHER-ORDER CHROMATIN ORGANISATION BY INSULATOR PROTEINS REVEALED USING SUPER-RESOLUTION MICROSCOPY.  Mariya Georgieva, Alessandro Valeri, Stephanie Déjardin, Jean-Bernard Fiche, Thibaut Mutin, Marcelo Nollmann

412-Pos  Board #B167  RECOVERING CHROMATIN CONFORMATIONS FROM CONTACT PROBABILITIES.  Dario Meczuzi, Gaurav Arya

413-Pos  Board #B168  NUCLEIC ACID SUPERSTRUCTURES: ASSEMBLY STORIES.  Christophe Lavelle

414-Pos  Board #B169  CHROMATIN AS A DYNAMIC PLATFORM FOR PROTEIN-PROTEIN INTERACTIONS.  Beat Fierz

415-Pos  Board #B170  TRANSPOSITION OF NATIVE CHROMATIN FOR FAST AND SENSITIVE MULTIMODAL ANALYSIS OF CHROMATIN ARCHITECTURE.  Jason D. Buenrostro, Paul G. Giresi, Lisa C. Zaba, Howard Y. Chang, William J. Greenleaf

416-Pos  Board #B171  LONG DISTANCE CHROMATIN INTERACTIONS.  Mohammad Ramezani, Anirvan Sengupta

417-Pos  Board #B172  THREE-DIMENSIONAL CHROMATIN MODEL OF α-GLOBIN GENE LOCUS IN DIFFERENTIALLY ACTIVATED STATES.  Gamze Gürsoy, Yun Xu, Amy Kenter, Jie Liang

418-Pos  Board #B173  POPULATION PROPERTIES AND COMPLEX FOLDING BEHAVIOR OF CHROMOSOME ARISE FROM SPATIAL CONFINEMENT OF SELF-AVOIDING CHROMATIN CHAINS.  Gamze Gürsoy, Yun Xu, Amy Kenter, Jie Liang

419-Pos  Board #B174  GENOME ORGANIZATION IN THE NUCLEUS EXPLORED BY DYNAMIC LIVE-IMAGING METHODS.  Yuval Garini


421-Pos  Board #B176  CHROMOSOME TERRITORIES REPOSITION DURING DNA DAMAGE-REPAIR RESPONSE.  Basuthkar J. Rao

422-Pos  Board #B177  STRUCTURE AND MECHANICAL PROPERTIES OF THE BACTERIAL CHROMOSOME IN E.COLI.  Nastaran Hadizadeh, Calin C. Guer, Reid C. Johnson, John F. Marko
423-Pos  Board #B178
NUCLEOID REORGANIZATION BY THE STRESS RESPONSE PROTEIN DPS. Elio A. Abbondanzieri, Natalia Vtyurina, Anne Meyer

424-Pos  Board #B179
BROWNIAN DYNAMICS SIMULATIONS OF A SELF-AVOIDING CHAIN MODEL OF A CHROMOSOME IN A SPHERICAL CONFINEMENT. Young-Gui Yoon, Changbong Hyeon

425-Pos  Board #B180
COARSE-GRAINED SIMULATIONS OF NUCLEOID STRUCTURE. Tyler M. Earnest, Zaida Lurhey-Schulten

Membrane Dynamics I (Boards #B181–#B207)

426-Pos  Board #B181
SHAPE PAIRING OF CHOLESTEROL WITH OXIDIZED PHOSPHOLIPID SPECIES IN LIPID BILAYERS. Bastien Loubet, Piotr Jurkiewicz, Agnieszka Olzynska, Martin Hof, Himanshu Khandelia

427-Pos  Board #B182
EXPERIMENTAL AND THEORETICAL COMPARISON OF PRESSURE EFFECTS ON LIPID BILAYER FLUCUATIONS. K. J. Mallikarjunaiah, Jun Feng, Blake Mertz, Michael F. Brown

428-Pos  Board #B183
SIMULATIONS OF THE RUPTURE OF LIPOSOMES NEAR SOLID SURFACES IN THE PRESENCE OF MEMBRANE-MEMBRANE ADHESION. Annamaría Takats-Nyeste, Imre Derenyi

429-Pos  Board #B184
TEMPERATURE DEPENDENCE OF BILAYER STRUCTURAL PROPERTIES STUDIED WITH MOLECULAR DYNAMICS SIMULATIONS. Xiaohong Zhuang, Judah Makover, Jeffery B. Klauda

430-Pos  Board #B185
LIQUID-ORERDED PHASE FORMATION IN CHOLESTEROL-POPC BILAYERS: ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS. Fernando Favela-Rosales, Mauricio D. Carbajal-Tinoco, Iván Ortega-Blake

431-Pos  Board #B186
EFFECTS OF LIPID COMPOSITION ON BIOLOGICAL MEMBRANE ELECTROSTATICS. Bogdan Lev, Ronald J. Clarke, Toby W. Allen

432-Pos  Board #B187
ELECTRIC FIELD-DRIVEN WATER DIPOLES: NANOSCALE ARCHITECTURE OF ELECTROPORTATION. Mayya Tokman, Jane H. Lee, Zachary A. Levine, Ming-Chak Ho, Michael E. Colvin, P Thomas Vernier

433-Pos  Board #B188
NON-EQUILIBRIUM COMPUTATION OF DIFFUSION CONSTANTS FOR WATER, LIPIDS AND PROTEINS. Michael Lerner, Hoang Tran

434-Pos  Board #B189
CHARACTERIZATION OF PURE LIPID BILAYERS USING MOLECULAR DYNAMICS SIMULATIONS. Eder M. Davila Contreras

435-Pos  Board #B190
EDUCATION TRAVEL AWARDEE MEASUREMENTS OF SOLUTE POLARIZABILITIES AFFECTING LIPID MEMBRANE INTERACTIONS. Ryan Z. Lybarger, Krzysztof Szymanski, Bruce D. Ray, Horia I. Petrace

436-Pos  Board #B191
EFFECT OF LIPID RECYCLING ON THE FINITE SIZE OF LIPID RAFTS IN SYMMETRIC AND ASYMMETRIC BILAYERS. Charissa Shiver, Eric Spangler, Mohamed Laradji

437-Pos  Board #B192
SURFACE PROPERTIES AND MEMBRANE PACKING IN HYBRID LIPOSOMES COMPOSED OF TETRAETHER AND DIESTER LIPIDS. Umme Ayesa, Parkinson Chong

438-Pos  Board #B193
EFFECTS OF DEHYDRATION-REHYDRATION ON THE STRUCTURAL AND FUNCTIONAL PROPERTIES OF PULMONARY SURFACTANT. Sonia Vazquez-Sanchez, Mercedes Echaide, Jesus Perez-Gil

439-Pos  Board #B194
TRANSIENT EFFECT OF CALCIUM INFUX ON PIP2 CLUSTERS AND CHOLESTEROL-STABILIZED NANO-DOMAINS IN THE INNER PLASMA MEMBRANE LEAFLET OF INTACT CELLS. Weixiang Jin, Heng Huang, Arnd Pralle

440-Pos  Board #B195
CHOLESTEROL TRANSBILAYER DISTRIBUTION IN MAMMALIAN CELLS: MECHANISMS AND FUNCTIONS. Kevin Courtney, Xiaohui Zha

441-Pos  Board #B196
PHOSPHATIDYLINOSITOL PATCHES IN A RECONSTITUTED LIPID MEMBRANE AND ITS DYNAMICS. Kei Takahashi, Nao Shimada, Taro Toyota, Satoshi Sawai

442-Pos  Board #B197
ASYMMETRY DETERMINES THE EFFECT OF CERAMIDES ON MODEL MEMBRANES. IN NATURAL MEMBRANES TOO! Dolores C. Carrer, Eva Kummer, Grzegorz Chwastek, Salvatore Chiantia, Petra Schwille

443-Pos  Board #B198
CURVED FLUID MEMBRANES BEHAVE LATERALLY AS AN EFFECTIVE VISCOELASTIC MEDIUM. Mohammad Rahimi, Marino Arroyo

444-Pos  Board #B199
PREDICTION OF BLOOD-BRAIN BARRIER PERMEABILITY FROM MOLECULAR DYNAMICS SIMULATIONS. Timothy S. Carpenter, Edmond Y. Lau, Daniel A. Kirshner, Felice C. Lightstone

445-Pos  Board #B200
ASYMMETRIC SUPPORTED LIPID BILAYER FORMED VIA METHYL-β-CYCLODEXTRIN MEDIATED LIPID EXCHANGE: A MEMBRANE MODEL SYSTEM TO STUDY PHASE SEPARATION AND TRANSBILAYER LIPID MOVEMENT. Ilaria Visco

446-Pos  Board #B201
NON-EQUILIBRIUM PHASE BEHAVIOUR IN GIANT LIPID VESICLES FOLLOWING VERY RAPID TEMPERATURE CHANGES. Lucia Parolini, Will R. Fletcher, Pietro Cicuta

447-Pos  Board #B202
PROBING SIMULTANEOUSLY MEMBRANE DYNAMICS AND PROTEIN ACTIVITY IN SUSPENDED BILAYERS IN A MICROFLUIDIC FORMAT. Verena C. Stimberg, Johann G. Bomer, Hans L. de Boer, Albert van den Berg, Séverine Le Gac

448-Pos  Board #B203
PORE FORMATION IN A MEMBRANE SUBMITTED TO HIGH VOLTAGES. INFLUENCE OF THE MEMBRANE VISCOSITY. Clair Poignard, Aude Silve, Lars Wegner
Membrane Structure I
(Boards #B236–#B265)

473-Pos Board #B228
MEMBRANE FUSION PEPTIDE-MEMBRANE INTERACTIONS: COMPARING SIMULATIONS TO EXPERIMENTAL DEPTH MEASUREMENTS. Per Larsson, Peter M. Kasson

474-Pos Board #B229
BENDING MODULUS DICTATES GUV RESPONSE TO STRESS. Kejia Chen, Steve Granick

475-Pos Board #B230
INVESTIGATION OF THE MECHANISM OF ANTIMICROBIAL LIPEPOIPEPTIDES USING COARSE-GRAINED MOLEULAR DYNAMICS SIMULATIONS. Dejun Lin, Alan Grossfield

476-Pos Board #B231

477-Pos Board #B232

478-Pos Board #B233
TETHERING DIMERS OF VOLTAGE SENSOR TOXINS CAN SELECTIVELY AMPLIFY THEIR AFFINITY FOR KV CHANNELS. Kenneth S. Eum, Sebastian Fletcher-Taylor, Daniel Austin, Bruce E. Cohen, Jon T. Sack

479-Pos Board #B234
AN ION CHANNEL PLATFORM FOR DETECTION OF SMALL MOLECULE ANALYTES. Young Hun Kim, Leibniz Hang, Michael Mayer, Jerry Yang

480-Pos Board #B235
CONFORMATIONAL ANALYSIS OF THE FROG SKIN PEPTIDE, PLASTICIN-L1 AND ITS EFFECTS ON THE PRODUCTION OF PROINFLAMMATORY CYTOKINES BY MACROPHAGES. Andrea C. Rinaldi, Giorgia Manzo, Roberta Sanna, Mariano Casu, Jelena M. Pantic, Miodrag L. Lukic, J. Michael Conlon, Mariano A. Scorciapino

481-Pos Board #B236
DETERGENT-FREE EXTRACTION OF MEMBRANE PROTEINS INTO NATIVE NANODISCS. APPLICATION TO THE REACTION CENTER OF RHODOBACTER SPHAEROIDES. Stefan Scheidelaar, Martijn Kooreengevel, David Swainsbury, Hans Meeldijk, Eefjan Breukink, Michael Jones, Rienk van Grondelle, Martijn Koorengevel, David Swainsbury, Stefan Scheidelaar

482-Pos Board #B237
PYRIDINIUM SALTS INFLUENCE ON LIPID BILAYERS. Sergio S. Funari, Claudio Di Vitta, Liliana Marzorati

483-Pos Board #B238
HIV-1 Tat MEMBRANE TRANSLLOCATION PROBED BY LOW- AND WIDE-ANGLE X-RAY SCATTERING, NEUTRON SCATTERING, CD SPECTROSCOPY AND MD SIMULATIONS. Kiyotaka Akabori, Bradley W. Treece, Michael S. Jablin, John F. Nagle, Brian Maranville, Kun Huang, Angel E. Garcia, Stephanie Tristram-Nagle

484-Pos Board #B239
A SYSTEMATIC STUDY OF PHASE CHANGES INDUCED BY TRANS-MEMBRANE PEPTIDE GRAMICIDIN-A IN MULTICOMPONENT LIPID MEMBRANES. Ebrahim Hassan-Zadeh, Juyang Huang

485-Pos Board #B240
PHYSICAL PROPERTIES OF MODEL MEMBRANES CONTAINING POPE AND PHYTOSTEROL. Ya-Wei Hsueh, Yen-Chun Chen

486-Pos Board #B241
MEASURING THE DIMERIZATION PROPENSITIES OF MUCIN1 TRANSMEMBRANE AND JUNCTAMEMBRANE DOMAINS. Edwin Li, Christopher Moll, Bernardette Eichman, Jessica King

487-Pos Board #B242
EDUCATION TRAVEL AWARDEE CHARACTERIZING THE CURVE: A MECHANISTIC STUDY OF CPLA2-MEDIATED MEMBRANE BENDING. Katherine E. Ward, James P. Ropa, Robert V. Stahelin

488-Pos Board #B243
CUBIC - INVERTED HEXAGONAL PHASE TRANSITION KINETICS IN MONOOLEIN-SUCROSE MIXTURES. Zachariah I. Strange, Caleb W. Reese, Christopher J. Ver Hoef, Paul E. Harper

489-Pos Board #B244
LIPID MEMBRANES CONTAINING PLANT STEROIDS SEPARATE INTO COEXISTING LIQUID PHASES OVER BROAD TEMPERATURE AND COMPOSITIONAL RANGES. Ranee C.L. James, Jonathan P. Litz, Sarah L. Keller

490-Pos Board #B245
MEMBRANES WITH THICK, LIQUID-DISORDERED AND THIN, LIQUID-ORDERED PHASES ARE RARE. Joan V. Bleecker, Phillip A. Cox, Rami N. Foster, David G. Castner, Sarah L. Keller

491-Pos Board #B246
GENERAL ANESTHETICS LOWER CRITICAL TEMPERATURES IN PLASMA MEMBRANE VESICLES. Ellyn J. Gray, Matthew B. Stone, Benjamin B. Machta, Sarah L. Veatch

492-Pos Board #B247
PROBING SUB-MICRON CRITICAL COMPOSITION FLUCTUATIONS USING SUPER-RESOLUTION TECHNIQUES IN GIANT PLASMA MEMBRANE VESICLES. Jason Karslake, Matt Stone, Sarah L. Veatch

493-Pos Board #B248
PROBING INTERBILAYER COUPLING IN PHASE SEPARATED BILAYERS UNDER HIGH SHEAR. Matthew C. Blosser, Aurelia R. Honerkamp-Smith, Sarah L. Keller

494-Pos Board #B249
INFLUENCE OF CIS AND TRANS UNSATURATED LIPIDS ON AN INTERDIGITATED MEMBRANE. Eric A. Smith, Connor Smith, Brian Tanksley, Phoebe K. Dea

495-Pos Board #B250
THE PERMEABILITY COEFFICIENT OF BILAYER LIPID MEMBRANE FOR CATIONIC PORPHYRINS. Anahit Torosyan, Valeri Arakelyan, Robert Ghazaryan

496-Pos Board #B251
COMPARING PHASE TRANSITION TEMPERATURES OF GIANT PLASMID MEMBRANE VESICLES WITH DIFFERENT PREPARATION METHODS. Eric M. Sink
497-Pos  Board #B252  RAFT BOUNDARY STRUCTURE IS RESPONSIBLE FOR MONOLAYER DOMAINS COUPLING AND LINE ACTIVITY OF NON-BILAYER COMPONENTS. Sergey A. Akimov, Timur R. Galimzyanov

498-Pos  Board #B253  PROBING CHOLESTEROL-LIPID INTERACTIONS AND CHEMICAL ACTIVITY OF CHOLESTEROL IN BILAYERS VIA CYCLODEXTRIN DEPLETION. Jonathan P. Litz, Thomas Portet, Sarah L. Keller

499-Pos  Board #B254  SOLID STATE 2H NMR STUDIES OF THE DISORDERING OF RAFT-LIKE DOMAINS BY N-3 PUFAs. Jacob J. Kinnun, Justin A. Williams, William Stillwell, Robert Bittman, Saarne Raza Shaikh, Stephen R. Wassall

500-Pos  Board #B255  COMPUTATIONAL STUDIES OF BLEBBING AND VESICULATION VIA WEAK ADHESION OF THE CYTOSKELETON IN AN ERYTHROCYTE MODEL. Mohamed Laradji, Eric J. Spangler, P.B. Sunil Kumar

501-Pos  Board #B256  CELL CYCLE PHASE DETERMINES CRITICAL TEMPERATURE IN PLASMA MEMBRANE VESICLES. Erin M. Gray, Matthew Stone, Sarah Veatch

502-Pos  Board #B257  MD SIMULATIONS ON ALPHA-TOCOPHEROL IN PUFa CONTAINING LIPID. Xiaoling Leng, Justin A. Williams, Drew Marquardt, Norbert Kucetka, John Katsaras, Jeffrey Atkinson, Thad A. Harroun, Scott Feller, Stephen R. Wassall

503-Pos  Board #B258  THE THERAPEUTIC ROLE OF RECOMBINANT HUMAN MG53 PROTEIN IN WOUND HEALING. Haichang Li, Pu Duann, Zhaobo Fan, Li Zhao, Pei-Hui Lin, Mingzhai Sun, Gejing De, Xinyu Zhou, Jianjun Guan, Jianjie Ma

504-Pos  Board #B259  THE UNIQUE ROLES OF HYBRID LIPIDS IN LIPID MEMBRANE DOMAIN SIZE AND ORDER. Eda Baykal-Caglar, Ebrahim Hassanzadeh, Mohammad Alwarawrah, Juyang Huang

505-Pos  Board #B260  CARDIOLIPIN LOCALISATION IN BUCKLED MEMBRANES. Federico Elias-Wolff

506-Pos  Board #B261  TOWARDS FAR-FIELD MICROSCOPIC IMAGING OF SUPPORTED LIPID BILAYER OPTICAL ANISOTROPY. Maria Adelaide Carvalho Miranda, Pieter A. A. De Beule

507-Pos  Board #B262  THE EFFECT OF MEMBRANE-TO-DOMAIN THICKNESS MISMATCH IN PHASE SEPARATION TERNARY LIPID SYSTEMS AS A FUNCTION OF VESELIC SIZE. Natalie Krzyzanowski, Lionel Porcar, Ursula Perez-Salas

508-Pos  Board #B263  NANO-BILAYER LIPID MEMBRANES HOSTED ON BIOGENIC NANOPOROUS SUBSTRATES. Shankar Ramakrishnan, Michael Goryll, Kai-Chun Lin, Sandwip K. Dey, B.L. Ramakrishna

509-Pos  Board #B264  LOGARITHMIC DOMAIN GROWTH IN TERNARY MIXTURE LIPID MULTILAYER SYSTEMS. Yicong Ma, Saaj K. Ghosh, David DiLena, Laura Connelly, Nirav Patel, Fernando Teran Arce, Ratnesh Lal, Sunil K. Sinha

510-Pos  Board #B265  FURLED MEMBRANE SHEETS LEAD TO SELF-ASSEMBLED NANO- AND MICROTUBES. Luisa Losensky, Björn Goldenbogen, Jürgen P. Rabe, Anca Petran, Jürgen Liebscher, Gudrun Holland, Michael Laue, Andreas Herrmann, Anna Arbuzova

511-Pos  Board #B266  THE STRUCTURAL ROLE OF LIPID DOMAIN MODIFICATIONS IN ANTIMICROBIAL RESISTANCE FOR SALMONELLA ENTERICA SEROVAR TYPHIMURIUM. Michael W. Martynowycz, Thatyane Morimoto Nobre, Hiroshi Nikaido, David Gidalevitz

512-Pos  Board #B267  CHARACTERIZING MODERATELY SHORT ANTIMICROBIAL TRYPTOPHAN/ARGININE-RICH PEPTIDES. Megan K. Wood, Roger E. Koeppe II, Denise V. Greathouse

513-Pos  Board #B268  INTERACTION OF THE ANTIMICROBIAL POLYMIXIN B1 WITH THE INNER AND OUTER MEMBRANES OF E.COLI: INSIGHTS INTO THE MECHANISMS OF MEMBRANE DISRUPTION. Nils A. Berglund, Thomas J. Piggot, Syma Khalid

514-Pos  Board #B269  MEMBRANE INTERACTIONS WITH ATRA PEPTIDES. Robin Samuel, Barney Bishop, Susan D. Gillmor

515-Pos  Board #B270  MEMBRANE INSERTION POTENTIAL OF SYNTHETIC CELL PENETRATING PEPTIDES. Nabil A. Alhakamy, Anubhav Kaviratna, Cory Berkland, Prajnaparamita Dhar

516-Pos  Board #B271  MEMBRANE REGULATION AND SIGNAL TRANSDUCTION BY ANNEXIN A5. Anne M. Rice, Samantha Jaworski, Michael E. Fealey, Anika Rannikko, Anne Hinderliter

517-Pos  Board #B272  ASSEMBLING OF A PORE-FORMING TOXIN ON A MODEL MEMBRANE. Neval Yilmaz, Taro Yamada, Peter Greimel, Takayuki Uchihashi, Toshio Ando, Toshihide Kobayashi

518-Pos  Board #B273  ROLE OF M2 INFLUENZA PROTEIN ON VIRAL BUDDING AND SCISSION. Eduardo Mendez-Villuendas, Peter Tieleman

519-Pos  Board #B274  COMPARATIVE ANALYSIS OF INORGANIC PHOSPHATE BINDING IN A SYNTHETIC AND A NATIVE P-LOOP PEPTIDE USING MOLECULAR DYNAMICS SIMULATIONS. Mathias E. Gruber, Elizabeth Wood, Andrea Bordoni, Henrik Bohr, Per Amstrup Pedersen, Claus Helix-Nielsen

520-Pos  Board #B275  COMPUTATIONAL STUDY OF TRANSMEMBRANE HELIX-HELIX INTERACTIONS IN MODEL PEPTIDES DERIVED FROM THE DESK MINIMAL SENSOR. Moussatova Anastassia, Wassenaar A. Tijerk, Cybulski E. Larisa, Ballering Joost, Killian J. Antoinette, Tieleman D. Peter

Protein-Lipid Interactions I (Boards #B266–#B287)

511-Pos  Board #B266  THE STRUCTURAL ROLE OF LIPID DOMAIN MODIFICATIONS IN ANTIMICROBIAL RESISTANCE FOR SALMONELLA ENTERICA SEROVAR TYPHIMURIUM. Michael W. Martynowycz, Thatyane Morimoto Nobre, Hiroshi Nikaido, David Gidalevitz

512-Pos  Board #B267  CHARACTERIZING MODERATELY SHORT ANTIMICROBIAL TRYPTOPHAN/ARGININE-RICH PEPTIDES. Megan K. Wood, Roger E. Koeppe II, Denise V. Greathouse

513-Pos  Board #B268  INTERACTION OF THE ANTIMICROBIAL POLYMIXIN B1 WITH THE INNER AND OUTER MEMBRANES OF E.COLI: INSIGHTS INTO THE MECHANISMS OF MEMBRANE DISRUPTION. Nils A. Berglund, Thomas J. Piggot, Syma Khalid

514-Pos  Board #B269  MEMBRANE INTERACTIONS WITH ATRA PEPTIDES. Robin Samuel, Barney Bishop, Susan D. Gillmor

515-Pos  Board #B270  MEMBRANE INSERTION POTENTIAL OF SYNTHETIC CELL PENETRATING PEPTIDES. Nabil A. Alhakamy, Anubhav Kaviratna, Cory Berkland, Prajnaparamita Dhar

516-Pos  Board #B271  MEMBRANE REGULATION AND SIGNAL TRANSDUCTION BY ANNEXIN A5. Anne M. Rice, Samantha Jaworski, Michael E. Fealey, Anika Rannikko, Anne Hinderliter

517-Pos  Board #B272  ASSEMBLING OF A PORE-FORMING TOXIN ON A MODEL MEMBRANE. Neval Yilmaz, Taro Yamada, Peter Greimel, Takayuki Uchihashi, Toshio Ando, Toshihide Kobayashi

518-Pos  Board #B273  ROLE OF M2 INFLUENZA PROTEIN ON VIRAL BUDDING AND SCISSION. Eduardo Mendez-Villuendas, Peter Tieleman

519-Pos  Board #B274  COMPARATIVE ANALYSIS OF INORGANIC PHOSPHATE BINDING IN A SYNTHETIC AND A NATIVE P-LOOP PEPTIDE USING MOLECULAR DYNAMICS SIMULATIONS. Mathias E. Gruber, Elizabeth Wood, Andrea Bordoni, Henrik Bohr, Per Amstrup Pedersen, Claus Helix-Nielsen

520-Pos  Board #B275  COMPUTATIONAL STUDY OF TRANSMEMBRANE HELIX-HELIX INTERACTIONS IN MODEL PEPTIDES DERIVED FROM THE DESK MINIMAL SENSOR. Moussatova Anastassia, Wassenaar A. Tijerk, Cybulski E. Larisa, Ballering Joost, Killian J. Antoinette, Tieleman D. Peter
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535-Pos  Board #B290  MODULATION OF EGFR DIMER STABILITY BY MANIPULATION OF PHOSPHORIBOSYLATION IN SITU.  Oana C. Coban, Daniel R. Matthews, Simon Amer-Beg, Daniel Rolfe, Gregory Weissman, Florian Kampmeier, Martyn Winn, Laura Zanetti-Domingues, Marisa L. Martin-Fernandez, Tony Ng

536-Pos  Board #B291  SINGLE-MOLECULE MICROSCOPY DECIPHERS THE RELATION BETWEEN TRAFFICKING AND SIGNALING OF THE NK1 RECEPTOR IN LIVING CELLS.  Luc Veya, Joachim Piguet, Horst Vogel

537-Pos  Board #B292  ACTIVATION OF THE M2 MUSCARINIC RECEPTOR AND COMPUTER-AIDED DESIGN OF RECEPTOR-SELECTIVE ALLOSTERIC DRUGS.  Yinglong Miao, J. Andrew McCammon

538-Pos  Board #B293  NATURE OF THE M2 MUSCARINIC RECEPTOR SIGNALING COMPLEX REVEALED BY DUAL-COLOR FCS AND FRET.  Yuchong Li, Rabindra V. Shinvaraine, Dennis D. Fernandes, Huiqiao Ji, Fei Huang, James W. Wells, Claudiu C. Gradinaru

539-Pos  Board #B294  G PROTEIN ACTIVATION: A DYNAMIC PROCESS.  Labe Black, Celestine Thomas, JB Alexander Ross, Stephen R. Sprang

540-Pos  Board #B295  SINGLE MOLECULE IMAGING REVEALS THAT ACTIVATING KINASE DOMAIN MUTATIONS REDUCE EGFR MOBILITY AND ENHANCE DIMERIZATION.  Christopher C. Valley, Shalini T. Low-nam, Mara P. Steinkamp, Bridget S. Wilson, Keith A. Lidke, Diane S. Lidke

541-Pos  Board #B296  TOTAL INTERNAL REFLECTION FLUORESCENCE (TIRF) MICROSCOPY GUIDED QUANTIFICATION OF GLUT4 TRANSLLOCATION FOR THE IDENTIFICATION OF INSULIN MIMETIC DRUGS.  Verena Stadlbauer, Peter Lanzstorfer, Daniela Borgmann, Jürgen Wüst, Klaus Schröder, Stephan Winkler, Otmara Höglinger, Julian Weghuber

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612-Pos  Board #B367  
TRANSMURAL GRADIENT OF IT0 AND INAK PROFOUNDLY INFLUENCE VENTRICULAR ACTION POTENTIAL DURATION.  
Yunliang Zang, Ling Xia, Ye Chen-Izu, Leighton Izu

613-Pos  Board #B368  
MECHANO-CHEMOTRANSDUCTION IN THE SINGLE CARDIAC MYOCYTE CONTRACTING IN 3D ELASTIC GEL.  
Rafael Shimkunas, Zhong Jian, Wenwu Xiao, Yuanpei Li, Yi-Je Chen, John Shaw, Nipavan Chiamvimonvat, Leighton T. Izu, Kit S. Lam, Ye Chen-Izu

614-Pos  Board #B369  
FUNCTIONAL INTERACTION WITH FILAMIN A ENHANCES ATRIAL-SPECIFIC SMALL CONDUCTANCE CA2 ACTIVATED K-CHANNEL (SK2) SURFACE MEMBRANE EXPRESSION.  

615-Pos  Board #B370  
A-ACTININ2 AND FILAMIN A CYTOSKELETAL INTERACTING PROTEINS FACILITATE SK2 CHANNELS RECYCLING FROM ENDOSOMES TO THE SURFACE MEMBRANE.  
Zheng Zhang, Sayan Rafizadeh, Hyo J. Kim, Ling Lu, Rachit Anand, Sarasa Kim, Ebenezer N. Yamoah, Nipavan Chiamvimonvat

616-Pos  Board #B371  
CRITICAL ROLES OF SK3 CALCIUM-ACTIVATED POTASSIUM CHANNELS IN THE REPOLARIZATION OF ATRIAL MYOCYTES.  
Xiao-Dong Zhang, Valerie Timofeyev, Ning Li, Daumin Zhang, Richard Myers, Anil Singapuri, Chris Bond, John Adelman, Deborah Lieu, Nipavan Chiamvimonvat

617-Pos  Board #B372  
TARGETED DELETION OF KCNE4 IMPAIRS VENTRICULAR REPOLARIZATION IN MICE.  
Shawn M. Crump, Zhaoyang Hu, Ritu Kant, Daniel I. Levy, Geoffrey W. Abbott

618-Pos  Board #B373  
ATRIAL AND VENTRICULAR MYOCYTES HAVE DIFFERENT ARRHYTHMOGENIC PROFILES IN RESPONSE TO OXIDATIVE STRESS AND HYPOKALEMIA.  
Thao P. Nguyen, James N. Weiss

619-Pos  Board #B374  
ACTIVATION OF SMALL CONDUCTANCE CALCIUM-ACTIVATED POTASSIUM CHANNELS BY SARCOPLASMIC RETICULUM CALCIUM RELEASE ATTENUATES DELAYED AFTERDEPOLARIZATIONS IN VENTRICULAR MYOCYTES.  
Dmitry Terentyev, Jennifer A. Rochira, Radmila Terentyeva, Karim Roder, Gideon Koren, Weiyan Li

620-Pos  Board #B375  
ACTION POTENTIAL CONDUCTION VELOCITY IS INCREASED BY RAISED INTRACELLULAR CAMP IN THE INTACT RAT HEART VIA A CAMKII MEDIATED PATHWAY.  
Annabel S. Campbell, Francis L. Burton, George S. Baillie, Godfrey L. Smith

621-Pos  Board #B376  
ACTION POTENTIAL SHAPE DIFFERENCES SET SPECIES-DEPENDENT β-ADRENERGIC-STIMULATION RESPONSE.  
Luca Sala, Bence Hegyi, Chiara Bartolucci, Claudia Altomare, Marcella Rocchetti, Gaspare Mostacciolo, Stefano Severi, Norbert Szentandrassy, Péter P. Nánási, Antonio Zaza

622-Pos  Board #B377  
DIFFERENTIAL REGULATION OF SLOW AND RAPID DELAYED RECTIFIER POTASSIUM CURRENTS BY CGMP DEPENDENT NITRIC OXIDE SINGALLING PATHWAYS IN ISOLATED ADULT GUINEA PIG VENTRICULAR MYOCYTES.  
Rachel E. Caves, Kieran Brack, André Ng, John Mitcheson

623-Pos  Board #B378  
A TREK-LIKE K+ CHANNEL CURRENT INHIBITED BY NOREPINEPHRINE IN RAT ATRIAL MYOCYTES.  
Richard C. Bond, Stephanie C. Choisy, Simon M. Bryant, Jules C. Hancock, Andrew F. James

624-Pos  Board #B379  
MODULATION OF K+, K+ LEAK CHANNEL SENSITIVITY TO CARVEDILOL BY ALTERNATIVE MRNA TRANSLATION INITIATION.  
Jana Kisselbach, Claudia Seyler, Patrick A. Schweizer, Hugo A. Katus, Dierk Thomas

625-Pos  Board #B380  
L-TYPE CALCIUM AND POTASSIUM CURRENTS ARE DIFFERENTLY REGULATED BY ANGIOTENSIN II IN ATRIAL AND VENTRICULAR MOUSE MYOCYTES.  
Anh-Tuan Ton, François Huynh, Mona Nemer, Celine Fiset

626-Pos  Board #B381  
NONLINEAR BEHAVIOR OF CONDUCTION IN CARDIAC TISSUE WITH HETEROGENEOUS EXPRESSION OF CONNEXIN 43.  
Yann Prudat, Jan P. Kucera

627-Pos  Board #B382  
IKR IMPACT ON REPOLARIZATION AND ITS VARIABILITY ASSESSED BY DYNAMIC-CLAMP.  
Claudia Altomare, Luca Sala, Chiara Bartolucci, Gaspare Mostacciolo, Stefano Severi, Antonio Zaza

628-Pos  Board #B383  
REDUCING OXIDATIVE STRESS AND CAMKII ACTIVITY AS AN ANTIARRHYTHMIC STRATEGY IN WOODCHUCKS IN WINTER.  
Hairou Wen, Lin Yan, Raymond K. Kudej, Nadezhda Fefelova, Richard Gordan, Dorothy Varner, Stephen Varner, Lai-Hua Xie

629-Pos  Board #B384  
A NOVEL CARDIAC NAV1.5 CHANNEL MUTATION, L812Q, LEADS TO BRUGADA SYNDROME.  
Luming Wang, Xiangyun Meng, Zhenghang Zhao, Dehui Xu, David Fedida, Zhuren Wang, Chen Huang

630-Pos  Board #B385  
MEMBRANE CAPACITANCE CHANGES DUE TO TEMPERATURE INCREASE IN RAT CARDIAC MYOCYTES.  
Matej Hotka, Ivan Zahradnik

631-Pos  Board #B386  
ELECTROPHYSIOLOGICAL AND STRUCTURAL LEFT VENTRICLE REMODELLING IN SPONTANEOUSLY HYPERTENSIVE RAT HEARTS: A MULTICELLULAR STUDY.  
Samha Alayoubi, Carolina Pinto Ricardo, Junaid Zaman, Priyanthi Dias, Patrizia Camelliti, Magdi H. Yacoub, Rachel E. Caves

632-Pos  Board #B387  
ALTERNANS IN RABBIT HEART DURING ACUTE REGIONAL ISCHEMIA: OPTICAL MAPPING AND MICROELECTRODE RECORDINGS.  
Irma Martišienė, Jonas Jurevičius, Rūta Vosyliūtė, Antanas Navalinskas, Rimantas Treinys, Regina Mačiūnienė, Rimantas Benetis, Arvydas Matiukas, Arkady M. Pertsov
Excitation-Contraction Coupling I
(Boards #B391–#B420)

633-Pos Board #B388
EVALUATION OF OPTICAL UPSTROKE MORPHOLOGY IN
THE RABBIT HEART: OPTICAL MAPPING AND TRANSMURAL
MICROELECTRODE RECORDINGS. Rita Vosyliute,
Regina Macianskiene, Irma Martiisen, Antanas Navalinskas,
Rimantas Treinys, Birute Vaidytele, Gintauta Rutkaskaite, Jonas Jurevicius

634-Pos Board #B389
MECHANISMS UNDERLYING NA+/K+-ATPASE INHIBITION-IN-
DUCE MITOCHONDRIAL DYSFUNCTION AND ABNORMAL
ACTION POTENTIALS. Qince Li, Lufang Zhou

635-Pos Board #B390
INHIBITION OF MITOCHONDRIAL NA+/CA2+ EXCHANGER
SUPPRESSES ISCHEMIA/REPERFUSION-INDUCED REENTRY
IN MONOLAYERS OF CARDIOMYOCYTES. Soroosh Solhjoo,
Brian O’Rourke

636-Pos Board #B391
RAPTOR ABLATION IN SKELETAL MUSCLE AFFECTS THE
STRUCTURE AND FUNCTION OF THE EXCITATION-
CONTRACTION COUPLING MACROMOLECULAR COMPLEX.
Ruben Lopez, Barbara Mosca, Leda Bergamelli, Markus A. Ruegg,
Florian C. Bentzinger, Michael N. Hall, Susan Treves, Francesco Zorzato

637-Pos Board #B392
MODIFICATION OF CARDIAC Ryanodine RECEPTOR
GATING BY A PEPTIDE FROM THE CENTRAL DOMAIN OF
THE RYR2. Andrea Faltinova, Alexandra Zahradnikova

638-Pos Board #B393
ULTRASTRUCTURAL QUANTIFICATION OF ELECTRON-DENSE
STRINGS IN THE SARCOPLASMIC RETICULARUM OF RAT HEART
CELLS. Lin-Lin Li, Xue-Xin Fan, Shi-Qiang Wang

639-Pos Board #B394
RESOLVING THE CALCIUM RELEASE MACHINERY OF
MAMMALIAN FAST- AND SLOW-TWITCH SKELETAL
MUSCLE. Isuru D. Jayasinghe, Michelle Munro, David Baddeley,
Bradley S. Launikonis, Christian Soeller

640-Pos Board #B395
LETHAL EXERTIONAL STROKES IN RYR1Y321S/WT AND CASQ1-
NULL MICE ARE PREVENTED BY DRUGS USED TO TREAT
MALIGNANT HYPERTHERMIA IN HUMANS. Antonio Michelucci,
Alessandro De Marco, Laura Pietrangelo, Cecilia Paolinti,
Susan L. Hamilton, Feliciano Protasi

641-Pos Board #B396
CLIC-2 DETERMINES FKBP12 AND FKBP12.6 ASSOCIATION
WITH RYANODINE RECEPTOR CALCIUM RELEASE CHANNELS.
Gregory A. Steele, Nicole A. Beard, Philip G. Board, Angela F. Dulhunty

642-Pos Board #B397
DYAD CONTENT IS REDUCED IN CARDIAC MYOCYTES OF
MICE WITH IMPAIRED CALMODULIN REGULATION OF
RYR2. Manuela Lavorato, Huang Taqin, Venkat Ramesh Iyer,
Gerhard Meissner, Clara Franzini-Armstrong

643-Pos Board #B398
SILENCING RYR3 ELIMINATES PARAJUNCTIONAL FEET AND
CA SPARKS IN ZEBRA FISH TAIL MYOTOMES. Stefano Perni,
Clara Franzini-Armstrong, Stephen Hollingworth, Stephen M. Baylor

644-Pos Board #B399
CHEMICAL UNCOUPLING THE DHPR-RYR1 COMPLEX BY
SUBSTITUTED HALOGENATED BIPHENYLS AND
DIPHENYLETHYLIUM. Yassaman Niknam, Wei Feng,
Gennady Cherednichenko, Yao Dong, Isaac Pessah

645-Pos Board #B400
ALTERED ION CHANNEL PROPERTIES OF RYANODINE
RECEPTOR FROM HEART MICE LACING CALSTABIN2.
Nathalie Saint, Albano C. Meli, Valerie Scheuermann, Alain Lacampagne

646-Pos Board #B401
MODULATION OF DHPR INACTIVATION BY RYR1 ACTIVITY
IN MOUSE SKELETAL MUSCLE FIBERS. Zoita Andronache,
Werner Melzer

647-Pos Board #B402
CA2+ INFLUX MEDIATED BY REVERSE MODE OF NA+/CA2+-
EXCHANGER IS ENHANCED IN MALIGNANT HYPERTHERMIA
SKELETAL MUSCLE. Francisco Altamirano, Jose M. Eltit, Isaac Pessah,
Paul D. Allen, Jose R. Lopez

648-Pos Board #B403
MYOFILAMENT CA2+ DESSENSITIZATION IS ASSOCIATED WITH
REDUCED L-TYPE CA2+ CHANNEL ACTIVITY
MEDIATED BY NEURONAL NITRIC OXIDE SYNTHASE IN LEFT
VENTRICULAR MYOCYTES FROM MURINE HEARTS. Yue Wang,
Chun Zi Jin, Sung Joon Kim, Yiu Hua Zhang

649-Pos Board #B404
RGK PROTEINS INHIBIT SLOW, DEPOLARIZATION-
DEPENDENT CA2+ ENTRY INTO CULTURED MYOTUBES.
Christin F. Romberg, Donald Beqollari, Ulises Meza, Roger A. Bannister

650-Pos Board #B405
EXPRESSION OF THE EMBRYONIC CAV1.1 SPICE VARIANT
IN ADULT MICE ALTERS EXCITATION-CONTRACTION
COUPLING BUT DOES NOT CAUSE DYSTROPHIC MYOTONIA.
Nasreen Sultana, Ariane Benedetti, Monika Szretety, Beatriz Dienes,
Peter Szentesi, Petronel Tuluc, Serena Quarta, Gerald J. Obermair,
Christoph Schwarzer, Michaela Kress, Laszlo Csernoch, Bernhard E. Fischer

651-Pos Board #B406
THE DHPR CALCIUM CURRENT IN MAMMALIAN SKELETAL
MUSCLE: PHYSIOLOGICAL NECESSITY OR TOLERATED
EVOLUTIONARY REMNANT? Anamika Dayal, Kai Schrötter,
Werner Melzer, Christoph Schwarzer, Manfred Grabner

652-Pos Board #B407
CA2+ UPTAKE BY THE TUBULAR (T-) SYSTEM MEMBRANE OF
RAT FAST-TWITCH FIBRES. Tanya R. Cully, Joshua N. Edwards,
Thomas R. Shannon, Bradley Launikonis

653-Pos Board #B408
POSSIBLE ROLE FOR THE PHOSPHORYLATED TAIL IN
RETAINING CSQ2 TO SPECIFIC SITES WITHIN THE
SECRETORY PATHWAY. Cristine Smoczer, Naama H. Sleiman,
Steven Cala

654-Pos Board #B409
MICROTUBULE INTEGRITY IS ESSENTIAL TO JUNCTIONAL
SR PROTEIN DELIVERY. Naama H. Sleiman, Cristine Smoczer,
Steven E. Cala

655-Pos Board #B410
PROTON FLUXES ACROSS THE TUBULAR (T-) SYSTEM
MEMBRANE OF RAT FAST-TWITCH FIBRES. Bradley S. Launikonis,
Tanya R. Cully, Laszlo Csernoch, D. George Stephenson
Voltage-gated Na Channels I
(Boards #B421-#B438)

666-Pos  Board #B421
NAVAB STRUCTURE AS A TEMPLATE TO RATIONALIZE EXPERIMENTAL DATA ON NAV1.4 BLOCK BY MU-COTOXINS. Vyacheslav S. Korkosh, Boris S. Zhorov, Denis B. Tikhonov

667-Pos  Board #B422
EFFECTS OF THE PROTONATION STATES OF THE EEEE MOTIF OF A BACTERIAL NA+-CHANNEL ON CONDUCTION AND PORE STRUCTURE. Carmen Domene, Simone Furini

668-Pos  Board #B423
STRUCTURE OF A PROKARYOTIC SODIUM CHANNEL PORE REVEALS ESSENTIAL GATING ELEMENTS AND AN OUTER ION BINDING SITE COMMON TO EUKARYOTIC CHANNELS. Cristina Arrigoni, David Shaya, Felix Findcsen, Faysal Abdermame-Alı, Gildas Loussouarn, Daniel L. Minor

669-Pos  Board #B424
UNCOVERING THE LINKS BETWEEN CONFORMATIONAL FLEXIBILITY AND FUNCTION FOR A BACTERIAL VOLTAGE-GATED SODIUM CHANNEL. Céline Boiteux, Igor Vorobyov, Toby W. Allen

670-Pos  Board #B425
STRUCTURAL MODELING OF TOXIN INTERACTIONS WITH THE HUMAN VOLTAGE-GATED SODIUM CHANNEL PORE. Phuong T. Nguyen, Jon T. Sack, Toby W. Allen, Vladimir Yarov-Yarovoy

671-Pos  Board #B426
FINDING THE ROUTE OF ENTRY AND BINDING SITE OF LOCAL ANAESTHETICS IN BACTERIAL VOLTAGE GATED SODIUM CHANNELS USING MOLECULAR DYNAMICS SIMULATION. Lewis Martin, Ben Corry

672-Pos  Board #B427
A NOVEL GATING MECHANISM OF THE NAVMS SELECTIVITY FILTER SUGGESTED BY MOLECULAR DYNAMICS SIMULATIONS. Song Ke, Anna Stary-Weinzinger

673-Pos  Board #B428
CONGRUENT PATTERN OF ACCESSIBILITY WITHIN THE PORE OF A VOLTAGE-GATED NA+-CHANNEL. Kevin Oelstrom, Baron Chanda

674-Pos  Board #B429
CATALYSIS AND SELECTIVITY OF NA+-PERMEATION IN BACTERIAL SODIUM CHANNEL NAVAB. Christopher Ing, Nilmadhab Chakrabarti, Jian Payandeh, Ning Zheng, William A. Catterall, Régis Pomès

675-Pos  Board #B430
THE ORIGINS OF ION SELECTIVITY IN A BACTERIAL SODIUM CHANNEL REVEALED BY μS-LONG SIMULATIONS. Céline Boiteux, Igor Vorobyov, Toby W. Allen

676-Pos  Board #B431
CHARACTERIZING NA+/K+ PERMEATION RATES THROUGH THE BACTERIAL NAVAB SODIUM CHANNEL. Leticia Stock, Vincenzo Carnevale, Werner Treptow, Michael L. Klein

677-Pos  Board #B432
NEGATIVE COUNTERCHARGES AND S4 INTERACTION IN DOMAIN IV OF NAV1.4. James R. Groome

678-Pos  Board #B433
MODULATION OF INACTIVATION KINETICS OF THE BACTERIAL SODIUM CHANNEL NACHBAC SUGGESTS A COMPLEX MODE OF INHIBITION BY ISOFLURANE. Rheanna Sand, Tamar Macharadze, Hugh Hemmings, Jr.
Voltage-gated Ca Channels I
(Boards #B439–#B456)

684-Pos  Board #B439
OBSERVATION OF “REMOTE KNOCK-ON”, A NEW PER-
MEATION-ENHANCEMENT MECHANISM IN ION CHANNELS. Dmitry G. Luchinsky, Rodrigue Tindjong, Igor Kaufman, Peter V. E. McClintock, Igor A. Khovanov, Bob S. Eisenberg

685-Pos  Board #B440
A MUTATIONAL AND COMPUTATIONAL STUDY OF WATER AND ION MOVEMENT THROUGH THE 66 BUNDLE-CROSSING OF CAV1.2 CHANNEL. Roman Shirokov

686-Pos  Board #B441
POISSON-FERMI MODEL OF A CALCIUM CHANNEL: CORRELATIONS AND DIELECTRIC COEFFICIENT ARE COMPUTED OUTPUTS. Bob Eisenberg, Jinn-Liang Liu

687-Pos  Board #B442
THE FUNCTIONAL HETEROGENEITY OF THE HUMAN CAV1.2 VOLTAGE SENSORS. Antonios Pantazis, Nicoletta Savalli, Daniel Sigg, Alan Neely, Riccardo Olcese

688-Pos  Board #B443
FUNCTIONAL INTERACTION BETWEEN THE N-TERMINI OF MURINE L-TYPE CALCIUM CHANNEL CAV1.2- AND β-SUBUNIT SPLICE VARIANTS. Ajay K. Singh, Elza Kuzmenkina, Jan Matthes, Stefan Herzig

689-Pos  Board #B444
GATING PROPERTIES OF CAV1.3 CALCIUM CHANNELS: INSIGHT FROM ALTERNATIVE SPLICING AND HUMAN MUTA-
TIONS. Andreas Lieb, Nadine Ortn, Alexandra Pinggera, Elena A. Azizan, Morris J. Brown, Petronel Tuluc, Jörg Striessnig

690-Pos  Board #B445
HILL ANALYSIS OF ION CHANNEL ACTIVATION: THEORY AND PRACTICE. Daniel Sigg, Ru-Chi Shieh, Antonios Pantazis, Nicoletta Savalli, Riccardo Olcese

691-Pos  Board #B446
DOMAIN-SPECIFIC GATING-MODIFIER TOXINS FOR VOLTAGE-GATED CALCIUM CHANNELS. Autoosa Salari, Vincent L. Baggett, Mirela Milescu

692-Pos  Board #B447
THE α,δ SUBUNIT FACILITATES CAV1.2 CHANNEL ACTIVATION BY REMODELING ITS FOUR VOLTAGE SENSOR DOMAINS. Nicoletta Savalli, Antonios Pantazis, Daniel Sigg, Alan Neely, Riccardo Olcese

693-Pos  Board #B448
A POPULATION DENSITY AND MOMENT-BASED APPROACH TO MODELING DOMAIN CALCIUM-MEDIATED INACTIVATION OF L-TYPE CALCIUM CHANNELS. Xiao Wang, Kiah Hardcastle, Seth H. Weinberg, Gregory D. Smith

694-Pos  Board #B449
MINIMIZED CELL USAGE FOR STEM CELL-DERIVED AND PRIMARY CELLS ON AN AUTOMATED PATCH CLAMP SYSTEM. Nadine Becker, Sonja Stoeckle-Feix, Sven Goepel, David Guinot, Patrick Mumm, Claudia Haarmann, Daniela Malan, Heribert Bohlen, Eugen Kossolov, Ralf Kettenhofen, Michael George, Niels Fertig, Andrea Bruggemann

695-Pos  Board #B450
TESTING FOR DIRECT INTERACTIONS BETWEEN THE DHPR AND THE RYR1 CYTOSPLASMIC FOOT. Hicham Bichraoui, Ong Moua, Alexander Polster, Tsutomu Tanabe, Simon Papadopoulos, Kurt G. Beam

696-Pos  Board #B451
MULTIPLE REGIONS INHIBIT EXPRESSION OF CAV1.1 CA²⁺ CHANNELS IN NON-MUSCLE CELLS. Alexander Polster, Tsutomu Tanabe, Ong Moua, Kurt G. Beam

697-Pos  Board #B452
RESIDUES CRITICAL FOR VOLTAGE-SENSOR TRANSITIONS DETERMINING GATING PROPERTIES OF CAV1.1. Petronel Tuluc, Vladimir Varov-Yarovoy, Bruno Benederti, Bernhard E. Flucher

698-Pos  Board #B453
DIFFERENTIAL STABILITY OF CAβ₃A AND CAβ₄ IN A CA₁,2 CALCIUM CHANNEL COMPLEX. Marta Campiglio, Felix Findeisen, Hynul Jo, William F. DeGrado, Daniel L. Minor, Jr., Bernhard E. Flucher

699-Pos  Board #B454
THE AMINO-TERMINI OF RGK PROTEINS DICTATE THE MODE OF L-TYPE CA²⁺ CHANNEL INHIBITION IN ADULT SKELETAL MUSCLE. Donald Beqollari, Christin F. Romberg, Ulises Meza, Symeon Papadopoulos, Roger A. Bannister

700-Pos  Board #B455
PEGLATED-CHOLESTEROL DECREASES THE AMPLITUDE AND AUGMENTS TIME- AND VOLTAGE-DEPENDENT INACTIVATION OF L-TYPE CA²⁺ CURRENT OF A7R5 CELLS FROM RAT AORTA. Rikuo Ochi, Sukrutha Chettimada, Sachin A. Gupte

701-Pos  Board #B456
AKAP79/150-ANCHORED CAN AND PKA REGULATE NEURONAL L-TYPE CALCIUM CHANNEL ACTIVITY AND NFAT TRANSCRIPTIONAL SIGNALING. Jonathan G. Murphy, Mark L. Dell’Acqua
Voltage-gated K Channels I
(Boards #B457–#B466)

702-Pos Board #B457
HIGH YIELD EXPRESSION OF THE HUMAN ETHER-À-GO-GO RELATED GENE (HERG) IN SACCHAROMYCES CEREVISIAE. Karen Molbæk, Peter Scharff-Poulsen, Dan A. Klaerke, Per Amstrup Pedersen

703-Pos Board #B458
EDUCATION TRAVEL AWARDEE EXPRESSION AND PURIFICATION OF A FUNCTIONAL HERG PORE DOMAIN FOR BIOPHYSICAL AND ELECTROPHYSIOLOGICAL STUDIES. Maïwenn Beaugrand, Sumit Kalsi, Andrée e Gravel, Christopher D. Johnson, Neville Wright, Jason C. Young, Maurits R. R. de Planque, Isabelle Marcotte, Philip T. F. Williamson

704-Pos Board #B459
EAG DOMAINS REGULATE LQT MUTANT HERG CHANNELS IN INDUCED PLURIPOTENT STEM CELL-DERIVED CARDIOMYOCYTES. Qiangni Liu, Matthew C. Trudeau

705-Pos Board #B460
THE ROLE OF THE CYCLIC NUCLEOTIDE BINDING HOMOLOGY DOMAIN IN VOLTAGE AND CALCIUM DEPENDENT GATING OF EAG POTASSIUM CHANNELS. Eva Loerinczi, Avril Newman, Sophie Draycott, Frederick W. Muskett, John S. Mitcheson

706-Pos Board #B461
INSIGHTS INTO MOLECULAR BASIS OF HERG INHIBITION BY STUDYING A LIBRARY OF DOFETILIDE DERIVATIVES. Priyanka Saxena, Tobias Linder, Anna Stary-Weinzinger, Adriaan P. Ijzerman, Eugen Timin, Gerhard Franz Ecker, Steffen Hering

707-Pos Board #B462
SENSITIVITY OF FLECAINIDE INHIBITION OF HERG CHANNELS TO CHANNEL INACTIVATION. Dario Melgari, Aziza El Harchi, Cristopher E. Dempsey, Jules C. Hancox

708-Pos Board #B463
HIGH AFFINITY BLOCK OF HERG1 CHANNELS IS WEAKLY DEPENDENT ON INACTIVATION. Wei Wu

709-Pos Board #B464
Cpow Travel Awardee INVESTIGATING STEREOSCELELITIVITY OF PHARMACOLOGICAL INHIBITION OF HERG CHANNELS. Yi H. Zhang, Aziza El Harchi, Christopher E. Dempsey, Jules C. Hancox

710-Pos Board #B465
REGULATION OF HERG C-TERMINEAL ISOFORM EXPRESSION BY MODIFIED U1 SMALL NUCLEAR RNA. Qiuming Gong, Matthew R. Stump, Zhengfeng Zhou

711-Pos Board #B466
HERG CHANNEL VOLTAGE SENSOR MOVEMENT PRECEDES PORE OPENING. Samuel J. Goodchild, David Fedida

712-Pos Board #B467
INTERACTIONS OF EXTRACELLULAR DIVALENT IONS AND HYDROGEN WITH THE OUTER PORE OF THE CARDIAC POTASSIUM CHANNEL HERG. Chris Yoon, Scott Loeb, Peter Nilsson, Alan Miller

713-Pos Board #B468
A SALT BRIDGE LINKS CNBH2 CONFORMATION TO THE GATING MACHINERY IN EAG POTASSIUM CHANNELS. Yaxian Zhao, Phu Tran, Joao Morais Cabral, Gail A. Robertson

714-Pos Board #B469
IN KCNQ1 CHANNELS, A LONG QT MUTATION INDUCES A REGULATION BY CHOLESTEROL INSTEAD OF PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE. Fabien C. Coyan, Mohamed-Yassine Amarouch, Faya Abdereman Ali, Julien Piron, Jérôme Mordel, Céline S. Nicolas, Marja Steenman, Jean Mérot, Céline Marionneau, Anneick Thomas, Robert Brassee, Isabelle Baró, Gildas Loussouarn

715-Pos Board #B470
A PAIR OF PHENYLALANINE RESIDUES ON THE S4 AND S5 SEGMENTS CREATE A PHYSICAL AND ENERGY BARRIER FOR THE VOLTAGE SENSOR IN KCNQ1/KCNE1 CHANNEL. Koichi Nakajo, Yoshihiro Kubo

716-Pos Board #B471
ENDOPLASMIC RETICULUM SAC1 4-PHOSPHATASE REDUCES PLASMA MEMBRANE KCNQ2/3 CURRENTS. Eamonn J. Dickson, Jill B. Jensen, Bertil Hille

717-Pos Board #B472
KCNQ1 EXPRESSION MODULATES HERG CURRENT BY REMOVING INACTIVATION. Carlos G. Vanoye, Richard C. Welch, Alfred L. George

718-Pos Board #B473
INTERACTION BETWEEN KCNQ1 GAIN-OF-FUNCTION RESIDUES. Carlos G. Vanoye, Richard C. Welch, Brett M. Kroncke, Alfred L. George, Charles R. Sanders

719-Pos Board #B474
MODULATION OF K,2.1 AND K,2.1/K,6.4 CHANNELS BY AUXILIARY KCNE SUBUNITS. Elke Boeksteins, James S. Trimmer, Dirk J. Snyders

720-Pos Board #B475
A NOVEL COMPOUND TARGETING KV7.2/3 CHANNELS RELIEVES INFLAMMATORY AND NEUROPATHIC PAIN. Asher S. Peretz, Eri Patrich, Polina Kornilov, Nataly Menaker, Bernard Attali

721-Pos Board #B476
I, activators shift their binding sites in the KCNQ1 channel after KCNE1 association - in silico predictions and experimental tests. Yu Xu, Yuhong Wang, Mei Zhang, Min Jiang, Gea-ny Tseng

722-Pos Board #B477
CALCIUM-INDEPENDENT POTENTIATION OF KV7.2 CURRENT DENSITY BY CALMODULIN. Carolina Gomis-Perez, Virginia Soldovieri, Araitz Alberdi, Paolo Ambrosino, Alessandro Alaimo, Gianeko Bernardo-Seisdedos, Pilar Areso, Maurizio Taglialatela, Alvaro Villarroel

723-Pos Board #B478
KV7.2/7.3 CHANNELS ARE ENHANCED DURING STRIATAL DEVELOPMENT AND PROMOTE NEURONAL FUNCTIONAL MATURATION OF IPS CELL-DERIVED NEURONS. Vsevolod Telezhkin, Belinda A. N. Thompson, Monica Pardo, Gerardo García-Díaz Barriga, David A. Brown, Josep M. Canals, Nicholas D. Allen, Paul J. Kemp

724-Pos Board #B479
TAMOXIFEN INHIBITION OF KV7.2/KV7.3 CHANNELS. Tania Ferrer, Iván Arael Arechiga Figueroa, Mark S. Shapiro, Martin Tristani-Firouzi, Josè A. Sánchez-Chapula
Anion Channels and Transporters (Boards #B487–#B515)

**725-Pos** Board #B480 MINORITY AFFAIRS TRAVEL AWARDEE
KCNE1 SEPARATES THE MAIN VOLTAGE SENSOR MOVEMENT AND CHANNEL OPENING IN KCNQ1/KCNE1 CHANNELS. **Kevin Sampson,** Robert S. Kass, H Peter Larsson

**726-Pos** Board #B481 SPECIFIC TARGETING OF KV7.1/KCNE1 CHANNEL COMPLEXES. **Kevin Sampson,** Robert S. Kass, H Peter Larsson

**727-Pos** Board #B482 AN ACTIVATOR BINDING SITE IN THE GATING CHARGE PATHWAY OF KCNQ2 CHANNEL. **Ping Li,** Zhuxi Chen, Huaiyu Yang, Zhaojing Gao, Huaiiang Jiang, Min Li

**728-Pos** Board #B483 UNUSUAL AMINO ACID MUTAGENESIS REVEALS THE CRITICAL ROLE OF HYDROGEN BONDING FOR BINDING OF RETIGABINE IN THE POLE OF KCNQ CHANNELS. **Stephan A. Pless,** Michael Yau, Jason D. Galpin, Christopher A. Ahern, Stephan A. Pless

**729-Pos** Board #B484 PHARMACOLOGICAL PROPERTIES OF HOMOMERIC KV7.4, KV7.5 AND HETEROERMIC KV7.4/7.5 CHANNELS: EFFECTS OF ICA069673 AND ML213. **Lyubov I. Brueggemann,** Jennifer M. Haick, Kenneth L. Byron

**730-Pos** Board #B485 A MODEL OF HUMAN POTASSIUM CHANNEL KCNQ1 MODULATION BY ACCESSORY PROTEIN KCNE3. **Brett M. Kroncke,** Wade Van Horn, Carlos Vanoye, David Nannemann, Jens Meiler, Charles Sanders

**731-Pos** Board #B486 KCNE1 MODULATES THE SENSITIVITY OF KV7.1 TO POLYUNSATURATED FATTY ACIDS. **Sara I. Liin,** Nicole Schmitt, Johan Larsson, Frida Starek Härln, Bo H. Bentzen, H. Peter Larsson, Fredrik Elinder

**732-Pos** Board #B487 CALCIUM-CALMODULIN DOES NOT ALTER THE ANION PERMEABILITY OF THE TMEM16A CALCIUM-ACTIVATED CHLORIDE CHANNEL. **Yawei Xu,** Ai-Seon Kuan, Tsung-Yu Chen

**733-Pos** Board #B488 SERINE 550 IS INVOLVED IN THE REGULATION OF MOUSE TMEM16A-CACCS BY CAMKII. **Normand Leblanc,** Ramon J. Ayon, Michael Wiwchar, Jaime Callilung, Cherie A. Singer, Iain A. Greenwood

**734-Pos** Board #B489 INHIBITORY ROLE OF PI2 ON CALCIUM-ACTIVATED CHLORIDE CHANNEL ACTIVITY. **Harry A.T. Pritchard,** Anthony P. Albert, Normand Leblanc, Iain A. Greenwood

**735-Pos** Board #B490 PROBING THE TRANSMEMBRANE TOPOLOGY OF TMEM16A/A/ANOCTAMIN-1 BY CYSTEINE SCANNING MUTAGENESIS. **Gunther Schmalzing,** Silvia Detro-Dassen, Fritz Markwardt

**736-Pos** Board #B491 ELECTROPHYSIOLOGICAL CHARACTERISATION OF TMEM16A CURRENTS IN ESOPHAGEAL SQUAMOUS CELL CARCINOMA CELLS. **Mariana Oana Popa,** Hedythyl Choudhury, Christopher Rothwell, Larry Alex Gaither, Martin Goslina, Pamela Tranter

**737-Pos** Board #B492 ELECTROPHYSIOLOGICAL PROPERTIES OF TMEM16A CALCIUM-ACTIVATED CHLORIDE CHANNELS. **Ai-Seon Kuan,** Yu-Li Ni, Tsung-Yu Chen

**738-Pos** Board #B493 MONITORING SUBSTRATE-DRIVEN STRUCTURAL CHANGES IN A CLC CHLORIDE-PROTON ANTIPORTER WITH DOUBLE ELECTRON-ELECTRON RESONANCE SPECTROSCOPY. **Ricky C. Cheng,** Philip Chang, Christina Fenollar-Ferrer, Richard A. Stein, Kristin Trone, Lucy R. Forrest, Hassane S. Mchaourab, Merritt C. Maduke

**739-Pos** Board #B494 TESTING THE LIMITS OF STOICHIOMETRIC EXCHANGE IN A CLC-TYPE TRANSPORTER. **Daniel Basilio,** Allison Vera, Alessio Accardi

**740-Pos** Board #B495 CONFORMATIONAL CHANGES REQUIRED FOR CHLORIDE ION PERMEATION IN THE CLC-EC1 EXCHANGER. **Yanyan Xu,** Chungwen Liang, Daniel Basilio, Alessio Accardi, Simon Bernèche

**741-Pos** Board #B496 TRANSPORT MECHANISM IN CLC H+/C- EXCHANGERS. **Chungwen Liang,** YanYan Xu, Simon Bernèche

**742-Pos** Board #B497 SELECTIVITY IN CLC-F FLUORIDE TRANSPORTERS: A SEARCH FOR THE KEY PLAYERS. **Ashley E. Brammer,** Randy B. Stockbridge, Christopher Miller

**743-Pos** Board #B498 A SINGLE POINT MUTATION REVEALS GATING OF THE HUMAN ENDOSONAL CL/H+ANTIPORTER CLC-5. **Giovanni Zifarelli,** Silvia De Stefano, Michael Pusch

**744-Pos** Board #B499 THE AMINO TERMINUS CONTROLS SORTING AND VOLTAGE DEPENDENCE OF CLC 3. **Raul E. Guzman Castro,** Erick Miranda Laferte, Gabriel Stöltting, Christoph Fahlke

**745-Pos** Board #B500 THE CLC-3 N-TERMENUS MODULATES MEMBRANE TRAFFICKING AND TRNSPORT ACTIVITY. **Jeffrey Rohrbough,** Hong-Ngan Nguyen, Fred S. Lamb

**746-Pos** Board #B501 ROLES OF CYTOPLASMIC IONS IN LYSOSONAL ACIDIFICATION. **Pascal Courville,** Joseph A. Mindell

**747-Pos** Board #B502 INVOLVEMENT OF BARTIN SUBUNIT IN PHARMACOLOGICAL POTENTIATION OF CLC-K CHANNELS EXPRESSED IN XENOPUS OOCYTES. **Antonella Gradogna,** Antonella Liantonio, Paola Imbrici, Diana Conte Camerino, Michael Pusch

**748-Pos** Board #B503 REDUCED CURRENT DENSITY AND SURFACE EXPRESSION OF A CLCN1 MUTATION CAUSING DOMINANT OR RECESSIVE MYOTONIA IN COSTA RICA. **Michele Fiore,** Raul Estvez, Héctor Gaitán-Peñas, Mauricio Espinoza, Melissa Vásquez, Rebeca Vindas, Michael Pusch, Fernando Morales
749-Pos  Board #B504
ROLE OF CANDIDATE COUNTERIONS IN CLATHRIN COATED VESICLE ACIDIFICATION. Mary Weston

750-Pos  Board #B505
CHARACTERIZING ATP PERMEATION THROUGH THE VOLTAGE-DEPENDENT ANION CHANNEL VDAC. Om P. Choudhary, Aviv Paz, Joshua Adelman, Jacques-Philippe Colleter, Jeff Abramson, Michael Grabe

751-Pos  Board #B506
GENOMICS-AIDED STRUCTURAL MODELING OF AN ANTIPARALLEL HOMODIMERIC FLUORIDE CHANNEL. Eugene J. Palovcak, Lucie Delemorte, Michael L. Klein, Vincenzo Carnevale

752-Pos  Board #B507
MOUSE CFTR EXHIBITS MULTIPLE CHARACTERISTIC DIFFERENCES FROM HUMAN CFTR. Guiying Cui, Christopher Kuang, Chengyu Z. Prince, Nael A. McCarty

753-Pos  Board #B508
PROBING STRUCTURE AND CONFORMATIONAL CHANGES IN THE EXTRACELLULAR LOOPS OF CFTR. Daniel T. Infield, Guiying Cui, Chris Kuang, Nael A. McCarty

754-Pos  Board #B509
INTERACTION OF THE ISOLATED NUCLEOTIDE BINDING DOMAINS OF CFTR CHANNELS. Mark O. Palmier, Silvia G. Bompardre

755-Pos  Board #B510
NON-EQUILIBRIUM GATING OF CFTR REVEALED BY NITRATE AS CHARGE CARRIERS. Jiunn-Tyng Yeh, Han-l Yeh, Tzyh-Chang Hwang

756-Pos  Board #B511
CHLORIDE TRANSPORT INHIBITION CAUSES CALCIUM-DEPENDENT ARRHYTHMIC ACTIVITY IN ISOPROTERENOL-TREATED RABBIT CARDIOMYOCYTES. Shane P. Antrobus, Blake Nichols, Don M. Bers, Julie Bossuyt, John A. Payne

757-Pos  Board #B512
ANION PERMEATION THROUGH EXCITATORY AMINO ACID TRANSPORTERS. Jan-Philipp Mach tens, Christine Lansche, Ariane Leinenweber, Petra Killian, Birgit Begemann, Ulrich Zachariae, David Ewers, Bert L. de Groot, Rodolfo Briones, Christoph Fahlke

758-Pos  Board #B513
INVESTIGATING THE STRUCTURE-FUNCTION RELATIONSHIP OF THE PHOSPHATE-SELECTIVE CHANNEL OPRP. Niraj Modi, Iván Bárcena-Uribarri, Manjeeet Bains, Roland Benz, Robert E. W. Hancock, Ulrich Klinekathöfer

759-Pos  Board #B514
DESCRIPTION OF THE STRUCTURAL DETERMINANTS OF THE HPEPT1-LIGAND INTERACTIONS. Claire Colas, Avner Schlessinger

760-Pos  Board #B515
DYNAMICS OF CA2+-DEPENDENT REGULATION OF THE CARDIAC NA'/CA2+ EXCHANGER. Lalul Chu, Liron Boyman, George S.B. Williams, Joseph L. Greenstein, Raimond L. Winslow, W. J. Lederer, Brian Hagen

761-Pos  Board #B516
A HUMAN MUTATION IN THE M4 HELIX OF GLUN2A ACCELERATES FORWARD GATING TRANSITIONS IN NMDA RECEPTORS. Kevin K. Ogden, Hongjie Yuan, Kasper B. Hansen, Jing Zhang, Aladair J. Gibb, Stephen F. Traynelis

762-Pos  Board #B517
FUNCTIONAL CONSEQUENCES OF CYSTEINE MUTATIONS AT THE KAINATE RECEPTOR DIMER INTERFACE. Bryan A. Daniels, Mark RP Aurousseau, Maria Musgaard, George B. Dawe, Philip C. Biggin, Derek Bowie

763-Pos  Board #B518
RECOVERY OF AMPA RECEPTOR GLUA1 IS MODULATED BY TARPS. Wei Zhang, James Howe

764-Pos  Board #B519
MECHANISM OF MODULATION OF AMPA RECEPTORS BY STARGAZIN. Anna L. Carbone, Andrew J. Plested

765-Pos  Board #B520
CHARACTERIZATION OF LIGHT-CONTROLABLE POLYAMINE TOXIN INHIBITORS OF IONOTROPIC GLUTAMATE RECEPTORS. Mette H. Poulsen, Niels G. Norager, Martin Sumser, Dirk Trauner, Kristian Strømgaard

766-Pos  Board #B521
CALCIUM FLUX THROUGH AVGUR1: A GLUTAMATE RECEPTOR WITH A POTASSIUM CHANNEL SELECTIVITY SEQUENCE. Mark Mayer, Suivendu Lomash

767-Pos  Board #B522
ROLE OF AMINO-TERMINAL DOMAIN IN THE ASSEMBLY MECHANISM OF KAINATE-SUBTYPE GLUTAMATE RECEPTOR ION CHANNELS. Sagar Chittori, Janesh Kumar, Suivendu Lomash, Huaying Zhao, Peter Schuck, Mark L. Mayer

768-Pos  Board #B523
INVESTIGATING HIGH AFFINITY PROTEIN SELF-ASSOCIATION BY FLUORESCENCE OPTICAL SEDIMENTATION VELOCITY ANALYTICAL ULTRACENTRIFUGATION. Suivendu Lomash, Huaying Zhao, Carla Glauser, Mark L. Mayer, Peter Schuck

769-Pos  Board #B524
FörSTER RESONANCE ENERGY TRANSFER (FRET) ANALYSIS OF DUAL CFP/YFP LABELED AMPA RECEPTORS REVEALS STRUCTURAL REARRANGEMENT WITHIN THE C-TERMINAL DOMAIN DURING RECEPTOR ACTIVATION. Linda Zachariassen, Mila Katchan, Andrew Ples ted, Darryl S. Pickering, Anders S. Kristensen

770-Pos  Board #B525
A COMPUTATIONAL STUDY OF LIGAND BINDING IN CHEMOSENSORY IONOTROPIC GLUTAMATE RECEPTORS. Benoite Bargeton, Matteo Dal Peraro, Richard Benton

771-Pos  Board #B526
CHARACTERIZING THE ENERGETIC STATES OF A GLUTAMATE RECEPTOR USING UMBRELLA SAMPLING AND MICROSECOND MOLECULAR DYNAMICS SIMULATIONS. Michael Yunonkunas, Maiti Buddhadev, Maria Kurnikova
Differential effects of synaptic and extrasynaptic NMDA receptors on Aβ-induced nitric oxide production in cerebrocortical neurons.

Elena Molokanova, Mohd Waseem Akhtar, Sara Sanz-Blasco, Tomohiro Nakamura, Shu-Ichi Okamoto, Shichun Tu, Juan C. Piña-Crespo, Scott R. McKercher, Stuart A. Lipton

Inter-subunit interactions of NMDA receptor amino-terminal domains associated with allosteric modulation.

Rita E. Sirrich, David M. MacLean, Vasanthi Jayaraman

Proton-mediated conformational changes in acid sensing ion channel 1A.

Swarna S. Ramaswamy, David M. MacLean, Alemayehu A. Gorfe, Vasanthi Jayaraman

Inter-subunit salt-bridge formation during gating of RASICA1.

Katrin Augustinowski, Stefan Gründer

Finger-thumb interdomain interactions influence ASIC1A proton activation.

Aram J. Krauson, Marcelo D. Carattino

Modulation of chicken ASIC1 by 2-guanidine-4-methylquinazoline (GMQ) in the absence and presence of psalmotoxin-1.

Rachel N. Johnson, Eric B. Gonzales

Signal transmission within the trimeric P2X2 receptor upon voltage- and [ATP]-dependent gating.

Batu Keceli, Yoshiihiro Kubo

Subtype-specific control of P2X receptor signaling by ATP and magnesium.

Mufeng Li, Emily Harnish, Shai D. Silberberg, Kenton J. Swartz

Function of the second transmembrane domain of the human P2X7 receptor.

Fritz Markwardt, Anja Pippel, Michaela Stolz, Tanemasa Rahn, Günther Schmalzing

The second transmembrane domain and adjacent amino acids determine apparent ligand affinity of a peptide-gated hydra sodium channel (HYNAC).

Marc C. Assmann, Stefan Dürrnagel, Anne Kuhn, Michael B. Schulz, Thomas W. Holstein, Stefan Gründer

Molecular mechanism of lung oedema clearance by AP301: dependence of enac pore forming subunits.

Waleed Shabbir, Prastoo Hazemz-Scherbaum, Rosa Lemmens-Gruber

Proton-dependent conformational dynamics in KCSA.

Dorothy M. Kim, Igor Dikiy, David Posson, David Eliezer, Crina M. Nimigean

Charged residues on the intracellular intersubunit assembly interface contribute to calcium-sensitivity of BK channels. Yingxin Li, Hao-Min Pan, Qin Li, Ha Rim Kwak, Jiusheng Yan

Functional implications of alternative splicing in the calcium-activated BK channel in the ampulla of Lorenzini of the skate. Benjamin King, Ling-Fang Shi, Peter Kao, William T. Clusin

Structural and thermodynamic characterization of the gating pathway in a K+ channel. Murali K. Bollepalli, Philip W. Fowler, Markus Rapedius, Lijun Shang, Mark S. P. Sansom, Stephen J. Tucker, Thomas Baukrowitz

Lipid modulation of a dual function TMEM16 channel/scramblase.

Mattia Malvezzi, Radmila Janjusevic, Anant Menon, Alessio Accardi

YidC alters conductivity and ion selectivity of the bacterial translocation channel SecYEG.

Lukas Winter, Denis Knyazev, Nicole Ollinger, Andreas Vogt, Christine Siligan, Hans Gerorg Koch, Peter Pohl

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The myosin start-of-power stroke state and how actin binding drives the power stroke.

Matthias Preller, Kenneth C. Holmes

The myosin inhibitor blebbistatin stabilizes the super-relaxed state in skeletal muscle.

Clyde Wilson, Nariman Naber, Edward Parc, Roger Cooke

Attached molecular motor in trapped single molecule assay as a bi-dimensional brownian multi-stable system.

Lorenzo Marcucci, Toshio Yanagida

Direct observation of phosphate inhibiting the force-generating capacity of a mini-ensemble of myosin molecules.

Sam Walcott, Matthew Turner, Mike Woodward, Edward P. Debold

Understanding the effects of cardiomyopathy causing mutations on human beta cardiac myosin biomechanical function.

Suman Nag, Ruth Sommese, Jongmin Sung, Elizabeth Choe, Masataka Kawana, Carol Cho, Rebecca Taylor, Chao Liu, Shirley Sutton, Kathleen Ruppel, James Spudich

POSITION OF PHENYLALANINE IN THE RELAY LOOP IS IMPORTANT FOR MYOSIN MOTOR ACTION. Jinghua Ge, Yaroslav V. Tkachev, Yuri E. Nesmelov

INTERNATIONAL TRAVEL AWARDSEEKERS: ROLE OF THE COIL-HELIX TRANSITION WITHIN LOOP2 IN CARDIAC MYOSIN KINETICS MODULATION. Yaroslav V. Tkachev, Yuri E. Nesmelov

A KINETIC MODEL THAT EXPLAINS THE TRANSIENT AND STEADY STATE RESPONSES TO MECHANICAL AND CHEMICAL STEPS APPLIED TO CA++ ACTIVATED SKINNED FIBERS FROM SKELETAL MUSCLE. Vincenzo Lombardi, Marco Linari, Marco Caremani, Mario Dolfi

KINETIC CHARACTERIZATION OF INTERACTIONS BETWEEN STABILIZED SMOOTH MUSCLE MYOSIN FILAMENTS AND ACTIN. Brian D. Haldeman, Richard Brizendine, Josh E. Baker, Christine R. Cremo

EVIDENCE FOR THE PRESENCE OF AM—ADP MYOSIN HEADS IN RIGOR MUSCLE FIBERS: ITS IMPLICATION OF THE STATE OF MYOSIN HEADS AFTER THE END OF POWERSTROKE. Haruo Sugi, Karina Hajar, Kazushige Kimura, Takakazu Kobayashi, Seiroya Sugiiura

NON-LINEAR CROSS-BRIDGE ELASTICITY, ATP-INDEPENDENT DETACHMENT AND ATP-VELOCITY RELATIONSHIPS FOR SKELETAL MUSCLE ACTOMYOSIN. Malin Persson, Elina Bengtsson, Lasse ten Siethoff, Alf Månsson

NONLINEAR ELASTICITY OF A CROSSBRIDGE IN SARCOMERE LATTICE. Boban Stojanovic, Marina Svicevic, Richard J. Gilbert, Srboljub M. Mijailovich

EFFECT OF NONLINEAR CROSSBRIDGE ELASTICITY ON KINETICS OF SARCOMERIC CONTRACTION. Srboljub M. Mijailovich, Djordje Nedic, Boban Stojanovic, Michael A. Geeves

FLEXIBILITY WITHIN THE HEADS OF MUSCLE MYOSIN-2 MOLECULES. Neil Billington, Derek J. Revill, Stan A. Burgess, Peter D. Chantler, Peter J. Knight

NEGATIVE STAIN EM OF MYOSIN-S1 BOUND TO ACTIN AND THIN FILAMENTS IN MGATP AFTER RAPID MIXING. Howard D. White, Matthew L. Walker, Betty Belknap, John A. Trinick

PHOSPHORYLATION-INDUCED STRUCTURAL CHANGE IN CMYBP-C AFFECTS ITS THIN FILAMENT BINDING AND MODULATION OF TROPOMYOSIN POSITION. Ji Young Mun, James Gulick, Jeffrey Robbins, Roger Craig

A METHOD FOR SIMULTANEOUS IMAGING OF ISOLATED THICK FILAMENTS AND ACTIN FILAMENTS. Albert Kalganov, Aleksander Labuda, Dilson Rassier

SCHISTOSOME MUSCLES CONTAIN STRIATED MUSCLE-LIKE MYOSIN FILAMENTS IN A SMOOTH MUSCLE-LIKE ARCHITECTURE. Guidenn Sulbarán, Lorenzo Alamo, Antonio Pinto, Gustavo Marquez, Franklin Méndez, Raúl Padrón, Roger Craig

ZEBAFISH CARDIAC MUSCLE THICK FILAMENT STRUCTURE: ISOLATION WITHOUT PROTEOLYTIC ENZYMES. Maryvi Gonzalez-Sola, Jaime Huertas-Toledo, Robert W. Kessler

THREE-DIMENSIONAL CONSIDERATIONS FOR X-RAY DIFFRACTION SIGNALS THAT OCCUR AHEAD OF STRETCH ACTIVATION IN INSECT FLIGHT MUSCLE. Hiroyuki Iwamoto, Naoto Yagi


SMALL HEAT SHOCK PROTEINS PREVENT TITIN AGGREGATION-INDUCED STIFFENING IN HUMAN MYOCYTES. Sebastian Köter, Andreas Unger, Nazha Hamdani, Luitgard Nagel-Steger, Wolfgang A. Linke

INDIVIDUAL GLOBULAR DOMAINS AND DOMAIN UNFOLDING VISUALIZED IN OVERSTRETCHED TITIN MOLECULES. Zsolt Mártonfalvi, Miklós S. Kellermayer

INTERACTIVE PROPERTIES OF A-BAND TITIN. Sarika Khasnis, Matt L. Walker, Gaetana Spedafieri, Ghulam N. Khan, Iain Manfield, John Trinick, Larissa Tskhovrebova

TITIN VISCO-ELASTICITY MODULATED BY LIMITING IG DOMAIN UNFOLDING AND REFOLDING. Jens Herzog, Timothy R. Leonard, Azim Jinha, Walter Herzog

AN ACTIVE ROLE FOR TITIN IN SKELETAL MUSCLE. Krysta Powers, Azim Jinha, Walter Herzog

TITIN-BASED MODULATION OF SARCOMERE STRUCTURE AS REVEALED BY EQUATORIAL X-RAY DIFFRACTION. Karen H. Hsu, Younss Ait-Mou, Pieter P. de Tombe, Thomas C. Irving

CARDIAC THIN FILAMENT STRUCTURAL MODULATION BY SARCOMERE LENGTH. Younss Ait-Mou, Karen H. Hsu, Mohit Kumar, Danuta Szczesna-Cordary, Marion L. Greaser, Tom C. Irving, Pieter P. de Tombe

ATOMIC-LEVEL VISUALIZATION OF SMOOTH MUSCLE ACTIVATION BY PHOSPHORYLATION OF THE MYOSIN REGULATORY LIGHT CHAIN. Brett A. Colson, Matthew A. Mauseth, David J. Kast, L. Michel Espinoza-Fonseca, Osha Roopnarine, David D. Thomas
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864-Pos  Board #B619  IN VITRO RECONSTITUTION OF REMODELING ACTIN ASTERS - STEPS TOWARDS A MINIMAL ACTIVE ACTOMYOSIN CORTEX. Darius V. Koester, Kabir Husain, Elda Iljazi, Scott Hansen, Dyche R. Mullins, Madan Rao, Satyajit Mayor

860-Pos  Board #B615  ROLE OF CARP AS A BIO-MECHANOSensor. Manuel Chiusa, Lin Zhong, Joe Chen, David Merryman, Chee Lim

866-Pos  Board #B621  RECONSTITUTED ACTIVE ACTIN NETWORKS IN CONFINEMENT. Carina Pelzl, Katharina Henneberg, Andreas R. Bausch

867-Pos  Board #B622  FORCE-DEPENDENT MECHANICAL PROPERTIES OF DENDRITIC ACTIN NETWORKS. Tai-De Li, Peter Bieling, Dyche Mullins, Daniel Fletcher

868-Pos  Board #B623  AETHERMAL FLUCTUATIONS OF PROBE PARTICLES IN ACTIVE CYTOSKELETAL NETWORK. Irwin Zaid, Hecu L. Ayade, Daisuke Mizuno

869-Pos  Board #B624  FIBROBLAST PHENOTYPE TRANSFORMATION BY COCUTURED CANCER EPITHELIAL CELLS. Rebecca S. Stussman, Yun Chen

870-Pos  Board #B625  ENDOTHELIAL SURFACE PROTRUSION BY A POINT LOAD. Yong Chen, Lan Lu, Yunfeng Feng, Gregory D. Longmore, Jin-Yu Shao

871-Pos  Board #B626  PROBING COLLECTIVE MIGRATION OF A COMPLEX MULTI-CELLULAR EMBRYONIC TISSUE THROUGH NOVEL 3D BIOETCHING. Melis Hazar, Yong Tae Kim, Philip R. LeDuc, Lance A. Davidson, William C. Messner

863-Pos  Board #B618  MAPPING INTERNAL STRESS OF IN VITRO CYTOSKELETAL NETWORKS WITH UV-LASER ABLATION. Martina Lindauer, Jona Kayser, Andreas R. Bausch

865-Pos  Board #B620  TIRF AND MODEL BLOOD VESSELS COMBINED TO ELUCIDATE THE ROLE OF THE CYTOSKELETON IN PLATELET ACTIVATION. Rachel N. Hanson, Sara J. Olson, Solaire Finkenstaedt-Quinn, Christy L. Haynes, Jolene L. Johnson

851-Pos  Board #B606  THE ROLE OF CDC42 AND GIC1 IN THE REGULATION OF SEPTIN FILAMENT FORMATION AND DISSOCIATION. Yashar Sadian, Christos Gatsogiannis, Csilla Patasi, Oliver Hofnagel, Roger S. Goody, Marian Farkasovsky, Stefan Raunser

850-Pos  Board #B605  SINGLE-MOLECULE INVESTIGATION OF INTRAFIAGELLAR TRANSPORT DYNAMICS AT THE FLAGELLAR TIP. Anthony P. Kovacs, Jonathan Kessler, Huawen Lin, Je-Luen Li, Susan Dutcher, Yan Mei Wang

849-Pos  Board #B604  MEASUREMENT OF THE FORCE THAT CENTERS THE MITOTIC SPINDLE IN THE EARLY C. ELEGANS EMBRYO USING MAGNETIC TWEEZERS. Carlos Garzon-Coral, Horatiu Fantana, Jonathon Howard

848-Pos  Board #B603  NOVEL KINESIN REGULATORS OF GAMMA-TURC. Zachary T. Olmsted, Timothy D. Richelman, Andrew Colliver, Adam M. Winnie, Janet L. Paluh

847-Pos  Board #B602  LIMITING CYTOPLASMIC COMPONENTS COUPLE SPINDLE SIZE TO CELL SIZE DURING EMBRYOGENESIS. Michael D. Vahey, Matthew C. Good, Rebecca Heald, Daniel A. Fletcher

846-Pos  Board #B601  BIOPHYSICAL MEASUREMENTS REVEAL FUSION OF SISTER KINETOCHORES DURING MEIOSIS I. Krishna Sarangapani, Eris Duro, Yi Deng, Kwaku Opoku, Flavia de Lima Alves, Juri Rappapltber, Qiaozhen Ye, Kevin Corbett, Sue Biggins, Adele Marston, Charles Asbury
872-Pos  Board #B627
CONTRACTILE STRESS AND MORPHOGEN DIFFUSION IN DEVELOPING CELL ASSEMBLIES. Kinjal Dasbiswas, Sam Safran

873-Pos  Board #B628
PROBING MECHANOSENSITIVITY OF 3T3 FIBROBLASTS ON BIOMEMBRANE-MIMICKING CELL SUBSTRATES. Yu-Hung Lin, Leandro Moretti, Daniel E. Minner, Lena Lautscham, Vera Auernheimer, Wolfgang Goldmann, Ben Fabry, Christoph A. Naumann

874-Pos  Board #B629
MODELING FOLLCLE CELL LENGTH OSCILLATIONS DURING TISSUE ELONGATION IN DROSOPHILA EGG CHAMBER. Sarita Koride, Li He, Ganhui Lan, Denise Montell, Sean Sun

875-Pos  Board #B630
COUPLING UP: HOW INTERACTIONS BETWEEN CELL STRESSES AND INTRACELLULAR BIOCHEMISTRY AFFECT CELL SPREADING. Magdalena Stolarska, Aravind Rammohan, Srikanth Raghavan

876-Pos  Board #B631
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877-Pos  Board #B632
COMBINATION OF CHEMOTAXIS AND DIFFERENTIAL ADHESION LEADS TO ROBUST CELL SORTING DURING TISSUE PATTERNING. Rui Zhen Tan, Keng-Hwee Chiam

878-Pos  Board #B633
CATCHING UP ON SLIP: FOCAL ADHESION COMPOSITION AND MECHANOSENSING. Elizaveta A. Novikova, Cornelis Storm

879-Pos  Board #B634
INFLUENCE OF SUBSTRATE STIFFNESS AND THICKNESS ON CELL TRACTION FORCES. Aravind R. Rammohan, Srikanth Raghavan

880-Pos  Board #B635
WATER POTENTIAL OF CELL MICROENVIRONMENTS MODULATES THEIR PROLIFERATION. Maria P. McGee, Michael Morykwas, Eleanor McCabe, Mary Kearns, Louis Argenta

881-Pos  Board #B636
RAPID DISORGANIZATION OF MAMMARY ACINI DRIVEN BY LONG-RANGE MECHANICAL INTERACTION. Quanming Shi, Rajarshi Ghosh

882-Pos  Board #B637
DORSAL ADHESION SLOWS GLOBILOBLASTOMA MIGRATION IN PERIVASCULAR MIMICS. Andrew Rape, Sanjay Kumar

883-Pos  Board #B638
LENGTH SCALE DEPENDENT MICRO-RHEOLOGY OF CELLULARIZED TYPE I COLLAGEN GELS. Christopher A. Jones, Bo Sun

884-Pos  Board #B639
INTERMEDIATE FILAMENT STRUCTURE, ASSEMBLY AND NANOMECHANICS. Harald Herrmann, Ueli Aebi

885-Pos  Board #B640
THE ROLE OF CENTRAL MICROTUBULES IN THE BEATING OF EUKARYOTIC FLAGELLA, REVEALED BY HIGH-SPEED HOLOGRAPHIC MICROSCOPY. Laurence George Wilson, Lucy M. Carter, Sarah E. Reece

886-Pos  Board #B641
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887-Pos  Board #B642
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888-Pos  Board #B643
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889-Pos  Board #B644
CYTOSKELETAL STIFFNESS CONTROLS THE THRESHOLD OF T CELL ACTIVATION. Marc A. Bruce, Manish J. Butte

890-Pos  Board #B645
COMBINED CLSM AND AFM INDENTATION REVEALS METASTATIC CANCER CELLS STIFFEN DURING RHO/ROCK CONTRACTILITY-DEPENDENT INVASION OF COLLAGEN I MATRICES. Jack R. Staunton, Bryant L. Doss, Robert Ros

891-Pos  Board #B646
CELLULAR ADHESION - A KEY MECHANISM FOR COMPARTMENTALIZATION AND TUMOR SPREADING? Steve Pawlizak, Anatol Fritsch, Tobias Thalheim, Dave Ahrens, Josef A. Kä

892-Pos  Board #B647
PHYSICAL LIMITS ON DIRECTIONAL MECHANOSENSING OF AMOEBOID CRAWLING CELLS. Roland Bouffanais, Xiaoying Zhu

893-Pos  Board #B648
MECHANICAL CHARACTERIZATION OF HUMAN MONOCYTE DERIVED ANTIGEN PRESENTING CELLS. Nathalie Bui, Armelle Bohineust, Stéphanie Dogniaux, Alain Richert, Michael Saitakis, Claire Hivroz, Atef Asnacios

894-Pos  Board #B649
DIRECTIONAL MECHANOSENSING OF AMOEBOID CELLS. Xiaoying Zhu, Roland Bouffanais, Dick Yue

895-Pos  Board #B650
MOLECULAR TATTOOING OF LIVE CELLS AND ANIMALS: SPATIAL AND TIME SPECIFIC EFFECTS OF AZIDOBLEBISTATIN BY TWO-PHOTON MICROSCOPY. Miklos Kepiro, Boglarka Varkuti, Gyorgy Hegyi, Miklos SZ Kellermayer, Malnasi-Czizmadia Andras

896-Pos  Board #B651
CELL SIZE AND SHAPE REGULATES EPITHELIAL-MYOFIBROBLAST TRANSITION. Joseph W. O’Connor, Esther W. Gomez

897-Pos  Board #B652
EXPERIMENTAL MEASUREMENT AND SIMULATIONS OF THE CYTOKINETIC RING TENSION IN FISSION YEAST. Harvey F. Chin, Matthew R. Szachowiak, Caroline Laplante, Erdem Karatekin, Thomas D. Pollard, Ben O’Shaughnessy

898-Pos  Board #B653
3D MODEL OF CYTOKINETIC RING ASSEMBLY IN FISSION YEAST. Tamara C. Bidone, Haosu Tang, Dimitrios Vavylonis
Unconventional Myosins (Boards #B654–#B669)

899-Pos  Board #B654
THE STRUCTURE OF VERTEBRATE MYOSIN-I REVEALS NEW INSIGHTS INTO MECHANOCHEMICAL TUNING OF MYOSINS. Michael J. Greenberg, Henry Shuman, Adam Zwolak, Charles Sindelar, Roberto Dominguez, E. Michael Ostap

900-Pos  Board #B655
MYOSIN-3B AND ITS LIGHT CHAINS. Sarah M. Heissler, Neil Billington, James R. Sellers

901-Pos  Board #B656
DYNAMICS OF THE LEVER-ARM SWING IN MYOSIN V. Darshan V. Trivedi, Jonathan P. Davis, Christopher M. Yengo

902-Pos  Board #B657
TWO MOLECULE OF TWO HEADED MYOSIN 5C ON A DNA SCAFFOLD STEPS PROCESSIVELY ALONG ACTIN FILAMENTS. Laura Gunther, Kenya Furuta, Jianjun Bao, Yuwen Mei, Howard White, Takeshi Sakamoto

903-Pos  Board #B658
EDUCATION TRAVEL AWARDEE A ROLE FOR MYOSIN VII IN RETINAL PIGMENT EPITHELIUM PHAGOCYTOSIS. Rebekah Daniel, Bianca Nagata, David Altman

904-Pos  Board #B659
SINGLE MOLECULE CHARACTERIZATION OF HUMAN MYOSIN VIIA. Osamu Sato, Tsuyoshi Sakai, Ryosuke Tanaka, Takeomi Mizutani, Tomonobu M. Watanabe, Reiko Ikebe, Mitsuo Ikebe

905-Pos  Board #B660
MYOSIN-10 PRODUCES ITS POWER-STROKE IN TWO PHASES AND MOVES PROCESSIVELY ALONG A SINGLE ACTIN FILAMENT UNDER LOW-LOAD. Yasuharu Takagi, Rachel E. Farrow, Neil Billington, Artila Nagy, Christopher Batters, Yi Yang, James R. Sellers, Justin E. Molloy

906-Pos  Board #B661
MYOSIN X IS RECRUITED TO FOCAL ADHESION AND INDUCES FILOPODIA INITIATION. Kangmin He, Tsuyoshi Sakai, Tomonobu Watanabe, Reiko Ikebe, Mitsuo Ikebe

907-Pos  Board #B662
DYNAMICS OF MYOSIN XI: THE FAMILY SPEED DEMON. Deborah Y. Shroder, Yujie Sun, Osamu Sato, Mitsuo Ikebe, Yale E. Goldman

908-Pos  Board #B663

909-Pos  Board #B664
HUMAN MYOSIN-18B – A VERSATILE ACTIN BINDING PROTEIN. Manuel H. Taft, Michael B. Radke, Michal Stanczak, Claudia Thiel, Dietmar J. Manstein

910-Pos  Board #B665
CALMODULIN AND LIPID BINDING REGULATE DIMERISATION AND MOTILITY OF MYOSIN-XXI IN LEISHMANIA. Christopher Batters, Heike Ellrich, Constanze Helbig, Katy Woodall, Christian Hundschell, Dario Brack, Claudia Veigel

911-Pos  Board #B666
CLASS III MYOSIN MOTOR ACTIVITY CORRELATES WITH LOCALIZATION IN ACTIN PROTRUSIONS. Manmeet Raval, Anja Swenson, William Unrath. Christopher M. Yengo

912-Pos  Board #B667
STRUCTURAL BASIS OF MYOSIN 1C CA+ REGULATION. Stefan Munnich, Manuel H. Taft, Salma Pathan-Chharbar, Dietmar J. Manstein

913-Pos  Board #B668
REMOTE CONTROL OF DIVERSE CYTOSKELETAL MOTORS USING LIGHT-ACTIVATED GEARSHIFTING. Muneaki Nakamura, Lu Chen, Zev Bryant

914-Pos  Board #B669
MYOSIN LEVER ARM DIRECTS THE COLLECTIVE MOVEMENT PATTERNS OF MOTOR PROTEINS. Rizal F. Hariadi, Mario Cale, Sivaraj Sivaramakrishnan

Light Energy Harvesting, Trapping, and Transfer (Boards #B670–#B682)

915-Pos  Board #B670
DYNAMIC MECHANICAL RESPONSES OF ARABIDOPSIS THYLAKOID MEMBRANES DURING PSII-SPECIFIC ILLUMINATION. Tai-De Li, Casper Clausen, Matthew Brooks, Patricia Grob, Gigi Kemalyan, Eva Nogales, Krishna Nyogi, Daniel Fletcher

916-Pos  Board #B671
LIGHT-HARVESTING LIPID VESICLES INCORPORATED WITH PROTEORHODOPSINS AND PHOTOSYSTEM II; GENERATION OF PHOTO-INDUCED PROTON GRADIENTS AND EXTENDED ABSORBING LIGHT SPECTRUM. Keel Yong Lee, Heeyeon Kim, Se-Hwan Kim, Kwang-Hwan Jung, Tae Kyu Ahn, Kwanwoo Shin

917-Pos  Board #B672
SIMULATION OF PHOTOSYSTEM II DYNAMICS IN THE THYLAKOID MEMBRANE. Floris J. van Eerden, Djuurre H. de Jong, Xavier Periole, Siewert-Jan Marrink

918-Pos  Board #B673
THE DEPENDENCE OF THE PHOTOCURRENT ON THE CONCENTRATION OF ELECTRON MEDIATOR (PARA-BENZOQUINONE) IN THYLAKOIDS. Yue Yu, Fulin Zuo, Chen-Zhong Li

919-Pos  Board #B674
ENVIRONMENTAL EFFECTS IN THE FMO AND PS545 PHOTOSYNTHETIC COMPLEXES. Mortaza Aghtar, Johan Strümpfer, Carsten Olbrich, Klaus Schulten, Ulrich Kleinekathöfer

920-Pos  Board #B675

921-Pos  Board #B676
STRUCTURAL BASIS FOR THE NON-PHOTOCHEMICAL QUENCHING SWITCH OF THE GREEN ALGA CHLAMYDOMONAS REINHARDTII. Nicoletta Liguori, Laura M. Roy, Milena Opacic, Roberta Croce
Mitochondria in Cell Life and Death I

928-Pos Board #B683
CELL-WIDE COORDINATION OF ROS-INDUCED ROS RELEASE BY HYDROGEN PEROXIDE IN MITOCHONDRIAL NETWORKS. Brent Millare, Brian O’Rourke, Natalia Trayanova

929-Pos Board #B684
THE EFFECT OF HYPOXIC PRECONDITIONING ON INTRACELLULAR REACTIVE OXYGEN SPECIES FORMATION IN HYPOXIC SKELETAL MUSCLE. Li Zuo, William J. Roberts

930-Pos Board #B685
REDOX CYCLING AND SUPEROXIDE GENERATION MEDIATED BY MITOCHONDRIA AND NADH: IMPLICATIONS FOR PARKINSON’S DISEASE. Nihar J. Mehta, David Njus

931-Pos Board #B686
REDUCTIVE STRESS INCREASES REACTIVE OXYGEN SPECIES PRODUCTION IN CARDIAC MITOCHONDRIA: A KEY ROLE OF THIOREDOKIN REDUCTASE. Paavo Korge, James N. Weiss

932-Pos Board #B687
ALTERED MITOCHONDRIAL SUPEROXIDE PRODUCTION IN SKELETAL MUSCLE OF AN ALS MOUSE MODEL DURING THE DISEASE PROGRESSION. Chehade Karam, Jianxun Yi, Jiajie Xu, Carlo Manno, Kaitao Li, Noah Weisleder, Jianjie Ma, Heping Cheng, Han-Xiang Deng, Jingsong Zhou

933-Pos Board #B688
EXTERNALIZATION OF CARDIOLIPIN AS AN “EAT-ME” MITOPHAGIAL SIGNAL IS FACILITATED BY NDPK-D. Zhentai Huang, Yulia Y. Tyrurina, Jianfei Jiang, Malgorzata Tokarska-Schlattner, Mathieu Boissan, Marie-Lise Lacombe, Raquel Epand, Uwe Schlattner, Richard M. Epand, Valerian E. Kagan

934-Pos Board #B689
NITRIC OXIDE FROM NEURONAL NO-SYNTASE INCREASES AFTER BETA-ADRENERGIC STIMULATION BUT DOES NOT CONTROL MITOCHONDRIAL RESPIRATION IN CARDIAC MYOCYTES. Michael Kohlihas, Stefanie Bergem, Alexander Nickel, Maxie Meiser, Barbara Casadei, Ulrich Laufs, Christoph Maack

935-Pos Board #B690
TWO-PHOTON FLUORESCENCE LIFETIME IMAGING OF NATURAL COENZYMES IN LIVING CELLS AS A FUNCTION OF OXIDATIVE STRESS. John Alvey, Randi Timerman, Jillian Bartusek, Dhanusha Wickramasinghe, Holly Israelison, Ahmed Heikal

936-Pos Board #B691
TWO-PHOTON FLUORESCENCE LIFETIME IMAGING FOR METABOLIC PROFILING OF COCHLEAR DYSFUNCTION. Lyandysha V. Zholudeva, Kristina G. Ward, Michael G. Nichols, Heather Jensen Smith

937-Pos Board #B692
ENDOGENOUS DIFFERENCES IN COCHLEAR SENSORY AND SUPPORTING CELL MITOCHONDRIAL METABOLISM BIASE FREE RADICAL PRODUCTION DURING OTOTOXIN EXPOSURE. Heather Jensen Smith, Danielle Desa, Christina Miller, Michael G. Nichols

938-Pos Board #B693
ELECTRON TRANSPORT ACTIVITY IN EMBRYONIC HEARTS REQUIRES THE FORMATION OF SUPERCOMPLEXES. Gisela Beutner, George A. Porter

939-Pos Board #B694
UNDERSTANDING THE CONTRIBUTION OF MTHSP70 TOWARDS MITOCHONDRIAL DYSFUNCTION IN PARKINSON’S DISEASE: A YEAST MODEL. Madhuja Samaddr, Arvind Vittal Goswami, Devajan Sinha, Jaya Purushotham, Patrick D’Silva

940-Pos Board #B695
AMPHIPATHIC TAIL-ANCHORING PEPTIDE IS A PROMISING THERAPEUTIC AGENT FOR CANCER TREATMENT. Gejing De, Jae-Kyun Ko, Peihui Lin, Pravin Kaumaya, Haichang Li, Jianjie Ma

941-Pos Board #B696
BLEBBISTATIN DELAYS MITOCHONDRIAL DEPOLARIZATION AND ASYSTOLE DURING MYOCARDIAL ISCHEMIA, AND PREVENTS CELL DEATH UPON REPERFUSION. Paul W. Venable, Katie J. Sciuto, Tyson G. Taylor, Vivek Garg, Junko Shibayama, Kenneth W. Spitzer, Alexey V. Zaitsev

942-Pos Board #B697
ROLE OF MITOCHONDRIA-CYTOSKELETON INTERACTIONS IN RESPIRATION REGULATION IN POST-INFARCT HEART FAILURE. Rafaela Bagur Quetglas

943-Pos Board #B698
CRITICAL EVENTS IN MYOCARDIAL ISCHEMIA/REPERFUSION: MITOCHONDRIAL DEPOLARIZATION VERSUS SARCOLEMMAL PERMEABILITY. Katie J. Sciuto, Paul W. Venable, Chris Hunter, Tyson G. Taylor, Vivek Garg, Junko Shibayama, Kenneth W. Spitzer, Alonso P. Moreno, Alexey V. Zaitsev

944-Pos Board #B699
BETA-HYDROXYBUTYRATE IMPROVES CARDIAC EXCITATION-CONTRACTION COUPLING (ECC) AND MITOCHONDRIAL FUNCTION IN TYPE-2 DIABETIC HEARTS. Isaac Philip, Stefanie Walther, Lothar A. Blatter, Elena N. Dedkova
945-Pos Board #B700 INTERNATIONAL TRAVEL AWARD
METABOLIC INFLEXIBILITY OF MALONYL COA DECARBOXYLASE (MCD) KNOCKOUT MICE LEADS TO CARDIAC REMODELLING AND HIGH MORTALITY DURING PERI-WEANING PERIOD. Dunja Aksentijevic, Debra J. Medway, Liam Sebag-Montefiore, Sevasti Zervou, Gillian Douglas, Gary D. Lopaschuk, Stefan Neubauer, Craig A. Lygate

946-Pos Board #B701 ANTI- AND PRO-APOPTOTIC BCL2 PROTEINS DISTRIBUTION AND METABOLIC PROFILE IN HUMAN AORTA ENDOTHELIAL CELLS BEFORE AND AFTER HYP-PDT. Katarina Stroffekova, Maria Maslaňáková, Lucia Balogová, Pavol Miškovský, Štěpánka Tkačová

Synthetic Biology (Boards #B702–#B711)

947-Pos Board #B702 RECONSTITUTION OF PROTEIN OSCILLATIONS IN MICRO COMPARTMENTS. Karja Zieske, Petra Schwille

948-Pos Board #B703 SYMMETRY BREAKING AND PLASTICITY OF MIN PROTEIN OSCILLATORS IN LIVING BACTERIA SCULPTURED INTO DEFINED GEOMETRIES. Fabai Wu, Bas van Schie, Erwin van Rijn, Juan E. Keymer, Cees Dekker

949-Pos Board #B704 COMPUTATIONAL AND BIOMOLECULAR NMR GUIDED DESIGN OF PEPTIDE THERAPEUTICS FOR INFLUENZA A. Patrick Nosker, Douglas Pike, James M. Aramini, Li-Chung Ma, Emily Grasso, Gaetano T. Montelione

950-Pos Board #B705 UTILIZING A RECONFIGURED HDL PARTICLE TO TARGET AND DELIVER siRNA TO MANTLE CELL LYMPHOMA CELLS. Jens B. Simonsen, Betty Su, Mistumi Ghosh, Jeniffer Beckstead, Trudy M. Forte, Robert O. Ryan

951-Pos Board #B706 GENETIC ENGINEERING OF MEMBRANE LIPID COMPOSITION IN E. COLI. Itay Budin

952-Pos Board #B707 CHLORIDE TRANSPORT ACROSS PLANAR LIPID BILAYERS AND CELL MEMBRANES BY STEREO-BASED SYNTHETIC ANION TRANSPORTERS. Hongyu Li, Germinal Magro, Luke W. Judd, Peter R. Brotherhood, David N. Sheppard, Anthony P. Davis

953-Pos Board #B708 DESIGNING OF SELF-ASSEMBLED BIOMOLECULAR SYSTEM AND THE DETECTION AT THE SINGLE MOLECULE RESOLUTION. Mitsuhiro Iwaki, Keigo Ikezaki, Toshio Yanagida, William Shih

954-Pos Board #B709 EXPERIMENTAL QUANTIFICATION OF FITNESS ASSIGNED TO CELL LINEAGE PHENOTYPES. Takashi Nozoe, Yuichi Wakamoto

955-Pos Board #B710 INTERNATIONAL TRAVEL AWARD
IDENTIFICATION OF HEAVY METALS IN WILD PLANTS GROWN ON BATTERY WASTE. Sarah O. Oni

956-Pos Board #B711 MINING RIBOZYME-BASED INSULATORs FOR INCORPORATION INTO GENETIC NOT GATES. Jonghyeon Shin

Synaptic Transmission (Boards #B712–#B720)

957-Pos Board #B712 DYNAMIC ORGANIZATION OF PRESYNAPTIC CALCIUM CHANNELS. Romy Schneider, Ulrich Thomas, Andreas Voigt, Martin Heine

958-Pos Board #B713 A CALCIUM-INDEPENDENT Oligomerization of FULL-LENGTH SYNAPTOTAGMIN 1 IS MEDIATED BY ITS JUXTA-MEMBRANE LINKER. Bin Lu, Volker Kiessling, Lukas Tamm, David Caffo

959-Pos Board #B714 MEASURING THE IMPACT OF LIPID INTERACTIONS ON THE MOBILITY AND LOCALIZATION OF SYNAPTIC PROTEINS IN LIVE SYNAPSES. Jeremy Dittman, Rachel Wragg, David Sneed, Yongming Dong, Jihong Bai, David Eliezer

960-Pos Board #B715 GUIDED GROWTH OF NEURONS ON MICRO-STRUCTURED SURFACES. Julia Trahe, Jana Huye, Philipp Selenschik, Nataliya Glysuk, Anne Gauthier-Kemper, Jacob Pfeiler, Jürgen Klingauf

961-Pos Board #B716 CEREBELLAR INTERNEURONS USE DENDRITIC VOLTAGE AND CALCIUM SIGNALS TO DIFFERENTIALLY EXTRACT INFORMATION FROM SYNAPTIC ACTIVITY. Alexandra Tran-Van-Minh, Therese Abrahamsson, Laurence Cathala, David DiGregorio

962-Pos Board #B717 DEFECTS IN SYNAPSE STRUCTURE AND FUNCTION IN A FLY MODEL OF FUS-RELATED ALS. Mohammad Shahidullah, Hong Fei, Sylvain Lemotrand, Matthew Dalva, Piera Pasinelli, Irwin B. Levitan

963-Pos Board #B718 UPREGULATION OF GLUTAMATERGIC RECEPTOR-CHANNELS IS ASSOCIATED WITH CROSS-MODAL REFLEXES ENCODED IN BARREL CORTEX AND PIRIFORM CORTEX. Jin-Hui Wang, Na Chen, Zilong Gao, Bo Wen, Chanfeng Chen, Yahui Liu

964-Pos Board #B719 2-PHOTON IMAGING OF EXCITATORY POTENTIALS IN DENDRITIC SPIKES USING VOLTAGE-SENSITIVE DYES. Erika A. Hoyos-Ramirez, Corey Acker, Ping Yan, Leslie Loew

965-Pos Board #B720 A MULTIFUNCTIONAL PIPETTE FOR LOCALIZED DRUG ADMINISTRATION TO BRAIN SLICES. Aikeremu Ahemaiti, Alar Ainla, Gavin D.M Jeffries, holger Wigström, Aldo Jesorka, Kent Jardemark

Magnetic Resonance Spectroscopy and Imaging (Boards #B721–#B730)

966-Pos Board #B721 OPTICAL MAGNETIC IMAGING WITH NITROGEN-VACANCY CENTERS IN DIAMOND. Keigo Arai, Chinmay Belthangady, Huiliang Zhang, Stephen J. DeVience, David Le Sage, David R. Glenn, Linh M. Pham, Lilah Rahn-Lee, Mikhail D. Lukin, Amir Yacoby, Arash Komeili, Ronald L. Walsworth
Advances in Single-Molecule Spectroscopy I
(Boards #B731–#B757)

967-Pos  Board #B722
PROBING THE STRUCTURAL TOPOLOGY OF A MEMBRANE PEPTIDE IN MECHANICALLY ALIGNED LIPID BILAYERS USING BIFUNCTIONAL SPIN LABELING EPR SPECTROSCOPY.
Lauren M. Bottorf, Lishan Liu, Indra D. Sahu, Robert McCarrick, Gary A. Lorigan

968-Pos  Board #B723
PROBING THE SECONDARY STRUCTURE OF MEMBRANE PROTEINS WITH THE PULSED EPR ESEM TECHNIQUE.
Lishan Liu, Gary Lorigan

969-Pos  Board #B724
SITE-DIRECTED SPIN LABELLING OF SULFITE OXIDASE USING NON NATURAL AMINO ACIDS. Aaron Hahn, Christopher Engelhard, Christian Teutloff, Thomas Risse

970-Pos  Board #B725
HIGH-RESOLUTION MEASUREMENT OF DISTANCE AND ORIENTATION IN MYOSIN: EPR OF A BIFUNCTIONAL SPIN LABEL. Benjamin Binder, Andrew Thompson, Ryan Mello, Rebecca Moen, David D. Thomas

971-Pos  Board #B726
DYNAMIC AND CONTRASTING INFORMATION BY ORIENTED-SAMPLE SOLID-STATE NMR SPECTROSCOPY OF MEMBRANE PROTEINS. Alexander Nezvgorov, Deanna M. Tesch

972-Pos  Board #B727
STRUCTURE AND FUNCTION OF BACTERIAL BIOFILMS BY SOLID-STATE NMR. Courtney Reichardt, Ji Youn Lim, Dave Rice, Jiunn Nick Fong, Lynnette Cegelski

973-Pos  Board #B728
NMR STRUCTURAL STUDIES OF ANTIMICROBIAL PEPTIDES AS IN-PLANE HELIX OF MEMBRANE PROTEINS. Yongae Kim, Ji-Ho Jeong, Ji-Sun Kim

974-Pos  Board #B729
NMR ANALYSES OF THE STRUCTURE AND DYNAMICS OF KLEBSIELLA PNEUMONIAE OMPC DOMAINS AND FULL LENGTH PROTEIN. Guillaume Nars, Jordan Jordanov, Marie Renault, Olivier Saurel, Pascal Demange, Alain Milon

975-Pos  Board #B730
HIGH-RESOLUTION NMR SPECTROSCOPY REVEALS STRUCTURE OF LIPOPROTEIN FLPP3. James D. Zook, Nicholas Sisco, Gina Mo, Debra Hansen, Felicia Criciunescu, Brian Cherry, Kathryn Sykes, Wade Van Horn, Petra Fromme

976-Pos  Board #B731
A SEQUENTIAL MONTE CARLO METHOD FOR IDENTIFYING MOTION PARAMETERS FROM PARTICLE TRACKING TRAJECTORIES. Trevor T. Ashley, Sean B. Andersson

977-Pos  Board #B732
A HIGHLY SPECIFIC GOLD NANOPROBE FOR LIVE-CELL SINGLE-MOLECULE IMAGING IN CONFINED ENVIRONMENTS: INTRACELLULAR TRACKING AND LONG-TERM SINGLE INTEGRIN TRACKING IN ADHESION SITES. Laurent Cognet

978-Pos  Board #B733
LABEL-FREE, ALL-OPTICAL DETECTION, IMAGING AND NANOMETRIC TRACKING OF SINGLE PROTEINS. Jaime Ortega Arroyo, Joanna Andrecka, Yasuharu Takagi, James R. Sellers, Philipp Kukura

979-Pos  Board #B734
SIMULTANEOUS CONFOCAL BASED 3D TRACKING AND FLUORESCENCE IMAGING. Matthew S. DeVore, Aaron M. Keller, Cedric Cleyrat, Mary E. Phipps, Bridget S. Wilson, James H. Werner

980-Pos  Board #B735
PHOTOSTABLE FLUOROPHORES FOR SINGLE-MOLECULE IMAGING. Qinsi Zheng, Zhou Zhou, Steffen Jockusch, Roger Altman, Scott C. Blanchard

981-Pos  Board #B736
THE ACTIVATION DYNAMICS OF CLASS C GPCRS REVEALED BY SINGLE MOLECULE FRET. Reza Vafabakhsh, Joshua Levitz, Ehud Y. Isacoff

982-Pos  Board #B737
SINGLE-MOLECULE IMAGING OF VON WILLEBRAND FACTOR ACTIVATION BY FLOW. Yan Jiang, Hongxia Fu, Darren Yang, Timothy A. Springer, Wesley P. Wong

983-Pos  Board #B738
RECONSTRUCTING GLOBAL CONFORMATIONAL DYNAMICS OF A MULTI-DOMAIN PROTEIN. Xun Sun, Wei-Jen Tang, Haw Yang

984-Pos  Board #B739
EDUCATION TRAVEL Awardee
A COMBINED SINGLE MOLECULE FRET / MAGNETIC TWEEZERS INSTRUMENT TO CALIBRATE MOLECULAR TENSION - BASED FLUORESCENCE PROBES. Yue Ding, Carol Jurchenko, David Dunlap, Laura Finzi, Khalid Salaita

985-Pos  Board #B740
FARFRET: EXTENDING THE FRET RANGE IN SINGLE-MOLECULE MEASUREMENTS WITH MULTIPLE ACCEPTORS. Georg Kainer, Andreas Hartmann, Philip Gröger, Sandro Keller, Michael Schlierf

986-Pos  Board #B741
DETERMINING ACCEPTOR DYE QUANTUM YIELD FROM PULSED INTERLEAVED SINGLE-PAIR FRET MEASUREMENTS. Gi-Ho Kim, Tanya Baldwin, John M. Robinson

987-Pos  Board #B742
INFERRING QUANTITATIVE MODELS FROM NOISY BIOPHYSICAL DATA. Steve Presse

988-Pos  Board #B743
DUAL FUNCTIONING GENETIC TAGS FOR SIMULTANEOUS ISOLATION AND OBSERVATION OF FLUORESCENT COMPLEXES FROM WHOLE CELL EXTRACT. Margaret Rodgers, Joshua Paulson, Aaron Hoskins

989-Pos  Board #B744
DUAL FOCUS FLUORESCENCE CROSS-CORRELATION SPECTROSCOPY FOR THE INVESTIGATION OF BIOMOLECULE FOLDING AND BINDING IN FLOWING LIQUIDS. Alan K. Van Orden, Farshad Abdollah-Nia, Martin P. Gelfand, Kevin J. Whitcomb

990-Pos  Board #B745
A SINGLE-MOLECULE STUDY OF TOLL-LIKE RECEPTOR 4 STRUCTURE AND SIGNALING. Sarah L. Latty, Kristina A. Ganzinger, Lee J. Hopkins, Clare Bryant, David Klenerman

991-Pos  Board #B746
MAXIMIZING THE FLUORESCENCE SIGNAL AND PHOTOSTABILITY OF FLUOROPHORES BY QUENCHING DARK-STATES. Denis Doerr, Deborah Sandrin, Stanislav Kalinin, Ralf Kuehlemuth, Sebastian Overmann, Daniela Pfiffi, Klaus Schaper, Claus A. M. Seidel, Thomas J. Mueller, Andriy Chmyrov, Jerker Widengren, Brigitte A. Bier
Optical Microscopy and Super Resolution Imaging (Boards #B758–#B787)

1003-Pos Board #B758
WHAT EXACTLY DOES A RANDOM WALK SIMULATION SIMULATE? Michael J. Saxton

1004-Pos Board #B759
TWO-PHOTON IMAGING OF THE INTERACTION OF MTORC1 COMPONENTS USING FLUORESCENCE ENERGY TRANSFER BETWEEN GFP-EXPRESSING PROTEINS IN A SPHEROID TUMOR CELL MODEL. Christopher D. Stubbs, Kathrin M. Scherer, Anthony W. Parker, Eleanor C. Weston, Stanley W. Borchway

1005-Pos Board #B760
CORRELATIONS IN CHROMATIN MOVEMENT IN DIPLOID YEAST REVEALED BY TWO-COLOR THREE-DIMENSIONAL SINGLE-PARTICLE TRACKING USING THE DOUBLE-HELIX POINT SPREAD FUNCTION (DH-PSF) MICROSCOPE. Mikael Backlund, Ryan Joyner, Karsten Weis, W. E. Moerner

1006-Pos Board #B761
SUPERRESOLUTION IMAGING OF ENDOCYTIC STRUCTURES IN S. CEREVISIAE. Markus Mund, Ulf Marti, Jonas Ries

1007-Pos Board #B762
UTILISING SUPER-RESOLUTION PALM IMAGING IN FISSION YEAST. Helen Armes, Thomas Etheridge, Alex Herbert, David Lando, Steven F. Lee, David Klenerman, Anthony Carr

1008-Pos Board #B763
ARCHITECTURE AND DYNAMICS OF THE PARTITION SYSTEM OF THE F-PLASMID IN E. COLI. Antoine Le Gall

1009-Pos Board #B764
SUPER-RESOLUTION IMAGING IN PLANT CELLS. Bin Dong, Xiaocheng Yang, Shaobin Zhu, Diane Bassham, Ning Fang

1010-Pos Board #B765
DETERMINATION OF ARTICULAR CARTILAGE DEFORMATION USING 2-PHOTON MICROSCOPY. Ziad Abusara, Markus Kossel, Walter Herzog

1011-Pos Board #B766
3D SUPER-RESOLUTION IMAGING WITH BLINKING QUANTUM DOTS. Yong Wang, Gilbert Fruhwirth, En Cai, Tony Ng, Paul R. Selvin

1012-Pos Board #B767
ENTIRE 3-DIMENSIONAL IMAGE OF RED BLOOD CELLS USING DEFOCUSING MICROSCOPY. Paula M. S. Roma, Livia Siman, Ubirajara Agero, Oscar N. Mesquita

1013-Pos Board #B768
SUBCELLULAR LEVEL OPTICAL METABOLIC IMAGING OF INDUCED FLUOROPOTENT STEM CELLS USING ENDOCYTOGENOUS FLUOROPHORE. Rupsa Datta, Yosuke Kurokawa, Michelle Digman, Steven C. George, Enrico Gratton

1014-Pos Board #B769
PULSED INTERLEAVED EXCITATION FLUCTUATION IMAGING: METHOD AND APPLICATION TO HIV-1 ASSEMBLY. Jelle Hendrix, Waldemar Schrimpf, Matthias Höller, Don C. Lamb

1015-Pos Board #B770
LIVE-CELL SUPER-RESOLUTION IMAGING OF ENDOCYTOGENOUS LIGAND-ACTIVATED PROTEIN DIMERS BY COMBINING UPSCAPE AND SINGLE MOLECULE FRET. Laurent Cognet

1016-Pos Board #B771
CPW TRAVEL AWARDSEE DEVELOPMENT OF PUMP-PROBE NANOSCOPY ARCHITECTURE. Kseniya Korobchevskaya, Paolo Bianchini, Silvia Galiani, Marco Scozzo d’Abusco, Colin Sheppard, Alberto Diaspro

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1017-Pos  Board #B772
SUPER-RESOLUTION IMAGING AND SINGLE MOLECULE TRACKING OF THE NUCLEAR PROTEIN EMERIN.
Anthony M. Fernandez, Fabien F. Pinaud

1018-Pos  Board #B773
VMD AS A SOFTWARE FOR VISUALIZATION AND QUANTITATIVE ANALYSIS OF SUPER RESOLUTION IMAGING AND SINGLE PARTICLE TRACKING. Yaxin Liu, John E. Stone, En Cai, Jingyi Fei, Sang Hak Lee, Seongjin Park, Taeckjip Ha, Paul R. Selvin, Klaus Schulten

1019-Pos  Board #B774
SUPER RESOLUTION MAPPING OF ADHESION MOLECULES IN CONFINED CELLULAR ENVIRONMENTS USING MONOMERIC STREPTAVIDIN LIGANDS. Ingrid Chamma, Olivier Rossier, Kok Hong Lim, Isabel Gauthereau, Gregory Giannone, Sheldon Park, Daniel Choquet, Matthieu Sainlos, Olivier R. Thoumine

1020-Pos  Board #B775
DIFFUSION MAPPING IN LIVING CELLS USING CAMERA-BASED CORRELATION SPECTROSCOPY AND PHASOR ANALYSIS. Per Niklas Hedde, Enrico Gratton

1021-Pos  Board #B776
MAPPING DIFFUSION IN A LIVING CELL USING THE PHASOR APPROACH. Suman Ranjit, Luca Lanzano, Enrico Gratton

1022-Pos  Board #B777
FOCAL ADHESION AXIAL TOPOGRAPHY BY THE Z-PHASOR APPROACH IN CONFOCAL MICROSCOPY. Enrico Gratton, Chili Chiu

1023-Pos  Board #B778
QUANTITATIVE REGISTRATION AND DISTRIBUTION ANALYSIS OF MULTICOLOR 3D SUPER-RESOLUTION IMAGES OF PROTEINS REVEALS NANOSCALE SPATIAL ORGANIZATION. Alexander R. S. von Diezmann, Andreas Gahlmann, Jerod L. Pracin, Lucy Shapiro, W. E. Moerner

1024-Pos  Board #B779
DIRECT THREE-DIMENSIONAL IMAGING WITH MULTIPLE POINT OF VIEW MICROSCOPY. Pierre Mangeol, Erwin JG Peterman

1025-Pos  Board #B780
MITOCHONDRIAL DNA NUCLEOID DISTRIBUTION AT SIMULATED PATHOLOGIES AS VISUALIZED BY 3D SUPER-RESOLUTION BIPLANE PALM / DSTORM MICROSCOPY. Lukas Alan, Andrea Dlaskova, Tomas Spacek, Jaroslav Zelenka, Tomas Olejar, Petr Jezek

1026-Pos  Board #B781
OPTOFLUIDIC SINGLE-CELL ROTATION. Sahradha Albert, Thorsten Kolb, Michael Haug, Graeme Whyte

1027-Pos  Board #B782
POLARIZED RESOLVED SINGLE-MOLECULE LOCALIZATION-BASED SUPER-RESOLUTION FLUORESCENCE MICROSCOPY REVEALS ORIENTATION ORDER IN BIO-MOLECULAR ASSEMBLIES. Haitham Ahmed Shaban, Cesar A. Valades-Cruz, Julien Savatier, Serge Monneret, Herve Rigneault, Nicolas Bertaux, Sophie Brasselat

1028-Pos  Board #B783
MAXIMUM LIKELIHOOD ESTIMATION OF FRET EFFICIENCY. Peter Nagy, Agnes Szabo, Timea Varadi, Tamas Kovacs, Gyula Batta, Timea Sztamari, Janos Szollosi

1029-Pos  Board #B784
STED-RICS - A VERSATILE METHOD FOR STUDYING BIOMOLECULAR DYNAMICS IN LIVE CELLS. Per Niklas Hedde, René M. Dörlich, Rosmarie Blomley, Dietmar Gradl, Emmanuel Oppong, Andrew C. B. Cato Cato, G. Ulrich Nienhaus

1030-Pos  Board #B785
SOLVENT RELAXATION IN GOLGI MEMBRANE BY PHASOR-FLIM APPROACH. Aireza Lajevardipour, Amitabh Chattopadhyay, Andrew Clayton

1031-Pos  Board #B786
POLARIZATION-RESOLVED SHG TOWARDS COLLAGEN IMAGING. Chiara Peres, Francesca D’Autilia, Luca Lanzanò, Paolo Bianchini, Alberto Diaspro

1032-Pos  Board #B787
MINORITY AFFAIRS TRAVEL Awardee
UNDERSTANDING THE PATHOGENICITY OF VIBRIO CHOLERAE VIA TWO-COLOR LIVE-CELL SUPER-RESOLUTION MICROSCOPY. Chanrith Siv, Beth L. Haas, Andrew I. Perault, Victor J. DiRita, Julie S. Bitten

Advances in UV-VIS-IR Spectroscopy (Boards #B788–#B796)

1033-Pos  Board #B788
CHEMICAL ANALYSIS BELOW THE DIFFRACTION LIMIT USING INFRARED-COUPLED ATOMIC FORCE MICROSCOPY (AFM-IR). Sara Heedy, Michael Lo, Eoghan Dillon, Qichi Hu, Craig Prater, Roshan Sherty, Kevin Kjoller, Curtis Marcott, Alexandre Dazzi, Christopher Yip

1034-Pos  Board #B789
NONLINEAR SPECTRAL IMAGING OF FUNGAL METABOLISM. Helene Knaus, Gerhard A. Blab, Hans C. Gerritsen, Han A.B. Wösten

1035-Pos  Board #B790
A MICRO-PERFUSION SYSTEM FOR THE FLUORESCENCE-BASED MONITORING OF PHYSIOLOGICAL RESPONSES TO HIGH HYDROSTATIC PRESSURES. Jeff Malats, Zac Long, Alison Huff, Paul Urayama

1036-Pos  Board #B791
FINE-GRAINED SPATIAL AND TEMPORAL RESOLUTION OF WATER AND PROTEIN CONTRIBUTIONS TO ULTRA-FAST AND SLOWER FLUORESCENCE SHIFTS FROM MD + QM SIMULATIONS. Pedro L. Muño, J Nathan Scott, Patrik R. Callis

1037-Pos  Board #B792
HIGH THROUGHPUT TIME RESOLVED FLUORESCENCE IN A MICROPLATE READER. Karl J. Petersen, Joseph M. Muretta, Sutton E. Higgins, Kurt C. Peterson, Gregory D. Gillispie, David D. Thomas

1038-Pos  Board #B793
ELECTRONIC TRANSITION MOMENTS OF 1,3,2-BENZODIAZABOROLINE (‘EXTERNAL BN INDOLE’) AND ‘FUSED’ BN INDOLE, CONTAINING THE 1,2-DIHYDRO-1,2- AZABORINE CORE. Mari Saif, Julia R. Widom, Senmiao Xu, Shih-Yuan Liu, Andrew J. Perault

1039-Pos  Board #B794
SENSITIVE TIME-CORRELATED SINGLE PHOTON COUNTING ENABLES EFFICIENT SINGLET OXYGEN DETECTION. Manoel Veiga, Steffen Ruettiger, Sebastian Tannert, Felix Koberling, Christian Litwinski, Matthias Patting, Marcus Sackrow, Michael Wahl, Rainer Erdmann
1040-Pos  Board #B795  INTERNATIONAL TRAVEL Awardee  MONITORING THE CONFORMATION AND CONCENTRATION OF DNA IN LIVE CELLS USING FOURIER TRANSFORM INFRARED SPECTROSCOPY. Donna R. Whelan, Keith R. Bambery, Don McNaughton, Ljljana Puskar, Bayden R. Wood

1041-Pos  Board #B796  IONIZING RADIATION INDUCED BIOLOGICAL EFFECT ON HUMAN CELL HCT116(P53+/+, P53−/−) OBSERVED THROUGH SYNCHROTRON-FITR MICROSPECTROSCOPY AND IMAGING. Jingwen Yan, Qing Huang

1042-Pos  Board #B797  FUNCTIONAL BASED ANALYSIS AND VISUALIZATION OF GENE EXPRESSION DATA FROM HEPATOCYTES GROWN ON DIFFERENT SUBSTRATES. Shripad Joshi, Ahmad Al-Zoubi, Aravind Rammohan, Ronald Faris

1043-Pos  Board #B798  REHOSTATS AND TOGGLE SWITCHES FOR MODIFYING PROTEIN FUNCTION. Sarah Meinhardt, Michael W. Manley, Jr, Daniel J. Parente, Liskin Swint-Kruse

1044-Pos  Board #B799  ENHANCING B-CELL EPITOPE PREDICTIONS BY INTEGRATING PROTEIN SEQUENCE AND STRUCTURAL BIOINFORMATICS. Steven J. Darnell, Martin Riese, Erik G. Edlund, Frederick R. Blattner

1045-Pos  Board #B800  A SEARCH FOR THE COMMON WORDS WITHIN THE VOLUMINOUS PHAGE VOCABULARY. Gita Mahmoudabadi

1046-Pos  Board #B801  HOMCOS: A SERVER TO SEARCH AND MODEL 3D STRUCTURES OF PROTEIN-PROTEIN AND COMPOUND-PROTEIN COMPLEXES. Takeshi Kaewabata, Haruki Nakamura, Akira Kinjo

1047-Pos  Board #B802  SELECTIVE REFINEMENT AND MDR SELECTION OF NEAR-NATIVE PROTEIN STRUCTURES. Jiong Zhang, Jingfen Zhang, Dong Xu, Yi Shang, Joan Koszin

1048-Pos  Board #B803  STRUCTURAL ANALYSIS OF CRIP1A BY IN SILICO APPROACHES. Pratishtha Rai, Allyn Howlett, Sudha M. Cowsik

1049-Pos  Board #B804  PROTEIN MODEL QUALITY ASSESSMENT PREDICTION BY USING A RESIDUE SPECIFIC STATISTICAL POTENTIAL. Marcin Pawlowski, Andrzej Kloczkowski

1050-Pos  Board #B805  MOLECULAR SIMULATION OF THE ADSORPTION OF AMINO ACID SIDECHAIN ANALOGS TO THE TiO2 (100) SURFACE. Erik G. Brandt, Alexander Lyubartsev

1051-Pos  Board #B806  NMR STUDY OF THE INTERACTION BETWEEN Ti BINDING PEPTIDE AND TiO2 NANOPARTICLES. Yu Suzuki, Tetsuo Asakura

1052-Pos  Board #B807  FTIR-SPECTROSCOPIC ANALYSIS OF PROTEINS IN LIQUID SAMPLES. Andreas Nebers, Julian Ollesch, Klaus Gerwert

1053-Pos  Board #B808  PROTEIN IMMOBILIZATION ON CHEMICALLY FUNCTIONALIZED GERMANIUM INVESTIGATED BY ATR-FTIR. Jonas Schartner, Jörn Güldenhaupt, Klaus Gerwert, Carsten Köntig

1054-Pos  Board #B809  MONITORING THE KINETICS OF ENZYME IMMOBILIZATION INTO MESOPOROUS SILICA BY REAL TIME FLUORESCENCE. Pegah Sadat Nabavi Zadeh, Nils Carlsson, Kassam Abdel Mallak, Björn Åkerman

1055-Pos  Board #B810  LAB ON A BIOMEMBRANE. Alar Ainla, Irep Gözen, Bodil Hakonen, Aldo Jesorka

1056-Pos  Board #B811  INTERNATIONAL TRAVEL Awardee  LIPID NANODOMAINS ON MODIFIED GOLD SURFACES - A BIOMIMETIC PLATFORM TO STUDY ELECTROACTIVE BIOMOLECULE-MEMBRANE INTERACTIONS. Joaquim M. Trigo Marqués, Ana S. Viana, Rodrigo F. M. de Almeida

1057-Pos  Board #B812  DIRECT MEASUREMENT OF PROTEIN TRANSLLOCATION ACROSS DROPLET INTERFACE BILAYERS. Matthew A. Holden

1058-Pos  Board #B813  COBALTABISDICARBOLILDE MACROANION IS ABLE TO DIFFUSE ACROSS THE LIPID MEMBRANE; STUDY OF KINETICS AND TRANSPORT. Carmina Verdiá Báguena, Antonio Alcaraz, Clara Viñas, Francesc Teixidor, Vicente M. Aguilella

1059-Pos  Board #B814  EXPERIMENTAL OBSERVATION OF SURFACE CHARGE INVERSION IN A BIOLOGICAL NANOPORE IN PRESENCE OF MONOVALENT AND MULTIVALENT CATIONS. María L. López-Peris, María Queralt-Martín, Vicente M. Aguilella, Antonio Alcaraz

1060-Pos  Board #B815  INFLUENCES ON CELLULAR ADHESION OF NANOPARTICLES UNDER BLOOD FLOW-LIKE CONDITIONS. Ellen Broda, Ulrich Lächelt, Frauke Mickler, Ernst Wagner, Christoph Bräuchle

1061-Pos  Board #B816  SURFACE INTERACTIONS IN SUSPENSIONS OF SWIMMING CELLS. Vasily Kantsler, Jorn Dunkel, Raymond E. Goldstein

1062-Pos  Board #B817  SELECTIVE GROWTH OF NEURAL NETWORKS ON MICRO-PATTERNED GRAPHENE. Sandeep Keshavan, Matteo Lorenzoni, Fernando Brandi, Andrea Giugni, Francesca Cella Zanacchi, Bruno Torre, Silvia Dante

1063-Pos  Board #B818  CELL-PERMISSIVE PROTEIN-RESISTANT SUBSTRATES FOR INTERROGATING NEURONAL GUIDANCE CUES. Joshua A. Maurer, Natalie A. LaFranzo, John T. Walker, Matthew J. Hynes

1064-Pos  Board #B819  CONDUCTIVE MILIEU ON CELLULAR ELECTROMECHANICS. Soon Gweon Hong, Albert Kim, Philip Lee, Luke P. Lee
1065-Pos  Board #B820
CONTRACTILITY OF NEONATAL CARDIOMYOCYTES IS ALTERED WITH DIFFERENT DENSITIES OF LAMININ COVALENTLY ATTACHED TO MICROPOROS. Alexandre J. S. Ribeiro, Kathia Zaleta-Rivera, Euan A. Ashley, Beth L. Pruitt

Micro- and Nanotechnology I (Boards #B821–#B850)

1066-Pos  Board #B821
FLOW INJECTION OF DNA IN NANOPORES: DIRECT OPTICAL VISUALIZATION OF A PRESSURE THRESHOLD. Thomas Auger, Jerome Mathé, Virgile Viasnoff, Jean-Marc di Meglio, Loïc Auvray, Fabien Montel

1067-Pos  Board #B822
DESIGNING HYDROPHOBIC GATES INTO BIOMIMETIC NANOPORES. Jemma L. Trick, E. Jayne Wallace, Hagan Bayley, Mark S P Sansom

1068-Pos  Board #B823
DEVELOPING A BROADBAND AMPLIFIER FOR ANALYSIS OF DNA STRUCTURAL AND MOLECULAR CHARACTERISTICS. Jared S. Becker, Michael Goryll, Berran Bakkaloglu, Josh Sloan, Josh Lambert

1069-Pos  Board #B824
DIFFUSION AND TRAPPING OF SINGLE PARTICLES IN PORES. Matthew Schiel, Zuzanna S. Siwy

1070-Pos  Board #B825
CONTROLLING MOTION OF DNA IN A NANOCHANNEL WITH TRANSVERSE ALTERNATING-ELECTRIC-VOLTAGES. Binquan Luan, Chao Wang, Ajay Royyuru, Gustavo Stolovitzky

1071-Pos  Board #B826
DISENTANGLING STERIC AND ELECTROSTATIC FACTORS IN NANOSCALE TRANSPORT THROUGH CONFINED SPACE. Steven F. Buchsbaum, Nick Mitchell, Hugh Martin, Matt Wiggan, Andre Marziali, Peter V. Covenev, Zuzanna Siwy, Stefan Howorka

1072-Pos  Board #B827
A SIMPLE, SINGLE-CARBON-NANOTUBE NANOFLUIDIC PLATFORM FOR FUNDAMENTAL TRANSPORT STUDIES. Shirui Guo, Matthew Davenport, Eric Meschet, Steven Buchsbaum, Zuzanna Siwy, Francesco Fornasiero

1073-Pos  Board #B828
DOUBLE OCCUPANCY OF A PROTEIN PORE AS AN INTERMEDIATE STATE OF COMPETITION AT THE SINGLE MOLECULE LEVEL. Gerhard Baaten, Anne-Katrin Schulter, Marcel Hoffmann, Jan C. Behrends

1074-Pos  Board #B829
QUANTIFYING SHORT-LIVED EVENTS IN MULTI-STATE IONIC CHANNEL MEASUREMENTS. Arvind Balijepalli, Canute Vaz, Jessica Estegdgui, Andrew T. Cornio, Joseph W. F. Robertson, Kim P. Cheung, Richard W. Pastor, John J. Kasianowicz

1075-Pos  Board #B830
FAST, LABEL-FREE FORCE SPECTROSCOPY OF HISTONE-DNA INTERACTIONS IN INDIVIDUAL NUCLEOSOMES USING NANOPORES. Andrey Ivankin, Spencer Carson, Shannon RM Kinney, Meni Wanunu

1076-Pos  Board #B831
CONTROLLING THE MECHANISM OF DNA TRANSPORT THROUGH SYNTHETIC nanopores. Meni Wanunu

1077-Pos  Board #B832
HYDROPHOBIC INTERACTIONS RETARD PROTEINS UPON TRANSLLOCATION THROUGH SILICON NITRIDE NANOPORES. Ruoshan Wei, Ulrich Rant

1078-Pos  Board #B833
DIRECT AND SIMULTANEOUS FORCE AND CURRENT MEASUREMENTS OF SINGLE-STRANDED DNA IN SYNTHETIC Nanopores. Edward M. Nelson, Hui Li, Gregory Timp

1079-Pos  Board #B834
OSMOTICALLY-DRIVEN TRANSPORT THROUGH CARBON NANOTUBE PORES. Kyunghoon Kim, Jia Geng, Ramya Tunuguntla, Caroline Ajo-Franklin, Costas P. Grigoropoulos, Aleksandr Noy

1080-Pos  Board #B835
CHARACTERIZING SHAPE, DIPOLE MOMENT, AND ROTATION OF SINGLE PROTEINS IN NANOPORES. Brandon R. Bruhn, Erik C. Yusko, Olivia Eggenberger, Ryan C. Rollings, Nathan C. Walsh, Mariya Pindrus, David Seft, Jiali Li, Devendra S. Kalonia, Michael Mayer

1081-Pos  Board #B836
HIGHLY VISCOS COATINGS FROM ARCHEA-INSPIRED LIPIDS IMPROVE SINGLE PROTEIN CHARACTERIZATION WITH NANOPORES. Olivia M. Eggenberger, Brandon R. Bruhn, Haiyan Liu, Geoffray Leriche, Jerry Yang, Michael Mayer

1082-Pos  Board #B837

1083-Pos  Board #B838
DISTINGUISHING PROTEIN DOMAINS AND FOLDED STATES WITH UNFOLDASE-MEDIATED NANOPORE ANALYSIS. Jeff Nivala, Mark Akeson

1084-Pos  Board #B839
SOLID-STATE NANOPORNE MODIFICATIONS FOR IMPROVED RESOLUTION OF DNA TRANSLocations. Allison H. Squires, Amit Meller

1085-Pos  Board #B840
SINGLE MOLECULE INVESTIGATIONS OF THE INTERACTION OF AG+ WITH SINGLE CYTOSINE, METHYLcytosine AND HYDROXYMETHYLcytosine-CYTOsine MISMATCHES IN A nanopore. Yong Wang, BinQuan Luan, XinYue Zhang, Brandon Ritzo, Liqun Gu

1086-Pos  Board #B841
TRANSLLOCATION KINETICS OF DNA THROUGH nanopores interfaced WITH AGAROSE GEL. Matthew J. Waugh, Vincent Tabard-Cossa

1087-Pos  Board #B842
BINDING OF ALKALI METALS TO PORE WALLS IN nanopores MODULATES TRANSMEMBRANE ION CURRENT AND IONIC RECTIFICATION. Trevor P. Gamble, Jan F. Pietschmann, Karl Decker, Aleksei Aksimentiev, Zuzanna Siwy

1088-Pos  Board #B843
ELECTROOSMOSIS INDUCED PRESSURE GRADIENTS IN pores WITH UNDULATING PORE DIAMETER. Laura M. Innes, Chin-Hsuan Chen, Matthew Pevarnik, Luke Theogarajan, Zuzanna Siwy
1089-Pos  Board #B844
ELECTROPHORESIS AND ELECTROOSMOSIS INFLUENCE LOCAL IONIC CONCENTRATIONS AND SHAPE OF ION CURRENT PULSES IN RESISTIVE-PULSE BASED DETECTION.
Justin Menestrina, Crystal Yang, Ivan V. Vlassiouk, Zuzanna Siwy

1090-Pos  Board #B845

1091-Pos  Board #B846
CYLINDRICAL SILICON ON INSULATOR SOLID STATE NANOPORES FOR CHARGE SELECTIVE NANOPARTICLE FILTERING. Xiaofeng Wang, Michael Goryll

1092-Pos  Board #B847
TRACKING THE ENGRAFTMENT AND REGENERATIVE CAPABILITIES OF TRANSPLANTED LUNG STEM CELLS USING FLUORESCENT NANODIAMONDS. Yan-Kai Tzeng, Huan-Cheng Chang

1093-Pos  Board #B848
3 DIMENSIONAL TRACKING OF BLINKING SUPPRESSED QUANTUM DOTS IN LIVE CELLS. Aaron M. Keller, Yagnaseni Ghosh, Mary E. Phipps, Michael H. Stewart, Diane S. Lidke, Bridget S. Wilson, Jennifer A. Hollingsworth, James H. Werner

1094-Pos  Board #B849
GOLD NANOPARTICLE MODIFICATION FOR NUCLEAR TARGETING. Celina J. Yang, Devika B. Chithrani, Mehrnoosh Neshatian

1095-Pos  Board #B850
DNA-STABILIZED SILVER NANOCLUSTERS WITH HIGH YIELD OF DARK STATE PROBED BY FLUORESCENCE SATURATION SPECTROSCOPY. Ivan L. Volkov, Pavel Yu. Serdobintsev, Alexei I. Kononov

Biophysics Education
(Boards #B851–#B865)

1096-Pos  Board #B851
"A PHYSICAL LENS ON THE CELL": BEGINNINGS OF A FREE ONLINE BOOK ON SUB-CELLULAR BIOPHYSICAL PROCESSES FOR STUDENTS FROM HETEROGENEOUS BACKGROUND. Daniel Zuckerman

1097-Pos  Board #B852
INTRODUCTORY-LEVEL COURSE ON RANDOMNESS AND ORDER IN SOFT AND BIOLOGICAL MATERIAL. Elon Langbein, Shelly Livne, Nava Schulman, Ruth Chabay, Sam Safran, Edir Yerushalmi

1098-Pos  Board #B853
TEACHING PHYSICS AT SAN QUENTIN STATE PRISON: YEAR 2. Troy A. Lionberger, Diane M. Wiener, Samuel M. Leachman, Frank Chuang, Sam Tia, Cory Antonakos, Carlos J. Bustamante

1099-Pos  Board #B854
BIOPHYSICS IN THE UNDERGRADUATE CURRICULUM. Peter H. Nelson

1100-Pos  Board #B855
DEVELOPING CREATIVE LABORATORY SKILLS THROUGH STUDENT SELF-DEVELOPED ACTIVITIES. Qing Shao, Joseph D. Ametepe

1101-Pos  Board #B856
EXCITING MINDS TO MAKE THEM SHINE: AN UNDERGRADUATE HANDS-ON TRAINING PROGRAM IN BIOPHYSICS. Richard D. Ludescher, Maria Corradini, Yan Wang, Andrew Draganksi

1102-Pos  Board #B857
BIOPHYSICS IN ORDER: AN INTERDISCIPLINARY APPROACH TO UNDERGRADUATE STUDENT ENGAGEMENT IN RESEARCH. Diane M. Wiener, Fernando Esquivel-Suarez, Bentley Gibson, Laura A. G. Gray, Victoria L. Temple, Leslie Taylor, David G. Lynn

1103-Pos  Board #B858
AN INTEGRATED, INSTRUMENT INTENSIVE PROJECT-BASED BIOCHEMISTRY LABORATORY FOR ENHANCED STUDENT LEARNING AND RESEARCH. Todd P. Silverstein, Sarah R. Kirk

1104-Pos  Board #B859
SUSTAINED CRYSTALLOGRAPHY SKILLS THROUGH MULTIMEDIA-SUPPORTED ACTIVE LEARNING. Gundula Bosch, Lauren E. Boucher, Jurgen Bosch

1105-Pos  Board #B860
AN OPEN-SOURCE LIPID BILAYER SETUP FOR HANDS-ON LEARNING OF BIOPHYSICS. Vadim Shlyonsky, Freddy Dupuis, David Gall

1106-Pos  Board #B861
UTILITY OF SYNECHOCYSTIS SP. PCC 6803 GLUTAREDOXIN A AS A PLATFORM TO STUDY HIGH-RESOLUTION MUTAGENESIS OF PROTEINS. Roger B. Sutton

1107-Pos  Board #B862
TETHERED PARTICLE MOTION FOR UNDERGRADUATES. Allen C. Price, Briana Mousley, Stefano Gambino, Elsie Helou, D. Linda Song, Joseph Loparo

1108-Pos  Board #B863
UNDERGRADUATE LABORATORY ON DNA FOLDING USING AFM. Clay Contee, Matthew Kurek, Raya Cabrejo, Ashley R. Carter

1109-Pos  Board #B864
OPEN PLANS OF A MULTI-FUNCTIONAL, LOW COST FLUORESCENCE MICROSCOPE FOR TEACHING AND RESEARCH. Victoria H. Nguyen, Jacqelyn Zehner, Walter Cook, Babak Sanii

1110-Pos  Board #B865
BIOMEDICAL IMAGING IN THE UNDERGRADUATE SCIENCE CURRICULUM. Berthe A. Scalettar, James R. Abney
### Monday, February 17, 2014

#### Daily Program Summary

All rooms are located in the MOSCONE CONVENTION CENTER unless noted otherwise.

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<th>Time</th>
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<td>Graduate Student Breakfast</td>
<td>Room 302</td>
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<tr>
<td>7:30 AM–5:00 PM</td>
<td>Registration/Exhibitor Registration</td>
<td>North Lobby</td>
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<td>7:30 AM–10:00 PM</td>
<td>Family Room</td>
<td>Room 112</td>
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<tr>
<td>8:00 AM–8:45 AM</td>
<td>Exhibitor Presentation: FEI Company. Making Correlative Experiments Easier</td>
<td>Room 123</td>
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<td>8:00 AM–5:30 PM</td>
<td>Career Center</td>
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<td>8:00 AM–6:00 PM</td>
<td>Child Care</td>
<td>Marriott Marquis, Pacific H, I, J</td>
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<td>8:00 AM–6:00 PM</td>
<td>Undergraduate Student Lounge</td>
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<td>8:00 AM–10:00 PM</td>
<td>Poster Viewing</td>
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<tr>
<td>8:15 AM–10:15 AM</td>
<td>Symposium: Molecular Basis for Regulation of Ca(^{2+}) Channels.</td>
<td>Room 134</td>
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<td>Co-Chairs: Amy Lee, University of Iowa, and Stephen Long, Memorial Sloan-Kettering Cancer Center</td>
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<td>ORIGIN AND MECHANISM OF MITOCHONDRIAL FLASHES. Heping Cheng</td>
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<td>CAV1.3 L-TYPE CALCIUM CHANNEL DYSFUNCTION IN HUMAN DISEASE. Jörg Striessnig</td>
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<td>REGULATION OF VOLTAGE-GATED CALCIUM CHANNEL TRAFFICKING AND FUNCTION BY AUXILIARY SUBUNITS. Annette C. Dolphin</td>
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<td>3D STRUCTURES OF THE CALCIUM RELEASE-ACTIVATED CALCIUM CHANNEL ORAL. Stephen B. Long</td>
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<td>Co-Chairs: Mathias Gautel, King's College London, United Kingdom, and Gabriella Piazzesi, University of Florence, Italy</td>
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<td>THE ELASTICITY OF THE MYOSIN MOTOR AND MYOFILAMENTS IN THE MUSCLE SARCOPHORE. Gabriella Piazzesi</td>
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<td>EXPERIMENTAL AND COMPUTATIONAL APPROACHES TO STUDY MYOFILAMENT STRUCTURE-FUNCTION IN NORMAL AND DISEASED MUSCLE. Michael Regnier</td>
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<td>EFFECTS OF TRANSMURAL REGION AND HEART FAILURE ON THE CONTRACTILE PROPERTIES OF HUMAN MYOCARDIUM. Kenneth S. Campbell</td>
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<td>MECHANOSIGNALING BY CYTOSKELETAL PROTEIN KINASES AND THEIR DISEASE IMPLICATIONS. Mathias Gautel</td>
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<td>8:15 AM–10:15 AM</td>
<td>Platform: Membrane Physical Chemistry II</td>
<td>Room 130/131</td>
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<td>8:15 AM–10:15 AM</td>
<td>Platform: Micro- and Nanotechnology I</td>
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<td>8:15 AM–10:15 AM</td>
<td>Platform: Protein Structure, Conformation, and Solvent Interactions</td>
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<td>8:15 AM–10:15 AM</td>
<td>Platform: Membrane Pumps, Transporters, and Exchangers I</td>
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<tr>
<td>8:15 AM–10:15 AM</td>
<td>Platform: DNA Replication, Recombination, and Repair</td>
<td>Room 306</td>
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<td>8:30 AM–10:00 AM</td>
<td>Minority Affairs Committee Meeting</td>
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<td>9:00 AM–10:50 AM</td>
<td>Exhibitor Presentation: Park Systems, Inc.</td>
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<tr>
<td>9:00 AM–10:50 AM</td>
<td>New Door to Live Single Cell Research</td>
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<td>10:00 AM–11:00 AM</td>
<td>Career Center Workshop: Career Open Forum/Career Q&amp;A Session</td>
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<td>10:00 AM–5:00 PM</td>
<td>Biomolecular Discovery Dome</td>
<td>Hall D</td>
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<td>10:00 AM–5:00 PM</td>
<td>Exhibits</td>
<td>Hall D</td>
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<tr>
<td>10:15 AM–11:00 AM</td>
<td>Coffee Break</td>
<td>Hall D</td>
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<tr>
<td>10:15 AM–11:15 AM</td>
<td>New Member Welcome Coffee</td>
<td>Room 302</td>
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<tr>
<td>10:45 AM–12:45 PM</td>
<td>Symposium: Biophysics of Personalized Medicine.</td>
<td>Room 134</td>
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<td>Co-Chairs: Donald Engelman, Yale University, and Kathleen Giacomini, University of California, San Francisco</td>
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<td>IMAGING AND TREATING TUMORS BY TARGETING THEIR ACIDITY WITH PHILIP, A PH-SENSITIVE INSERTION PEPTIDE. Donald M. Engelman</td>
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<td>TARGETING INFUX TRANSPORTERS IN THE HUMAN BLOOD BRAIN BARRIER. Kathleen Giacomini</td>
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<td>NONINVASIVE PERSONALIZED GENOMICS. Charles Cantor</td>
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<td>TRANSLATING A TRILLION POINTS OF DATA INTO THERAPIES, DIAGNOSTICS, AND NEW INSIGHTS INTO DISEASE. Atul J. Butte</td>
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<td>10:45 AM–12:45 PM</td>
<td>Symposium: Stochasticity in Cellular Processes</td>
<td>Room 135</td>
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<td>Co-Chairs: Rachel Kuske, University of British Columbia, Canada, and Nathalie Questembert-Balaban, Hebrew University of Jerusalem, Israel</td>
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<td>ON THE STATISTICAL NATURE OF BEHAVIORAL DIVERSITY. Stanislas Leibler</td>
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<td>STOCHASTIC BISTABILITY AND SWITCHING IN VIRUS/IMMUNE CELL NETWORKS. Elizabeth Read</td>
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<td>RELIABILITY OF NOISE-INDUCED SPIKES FOR TWO TYPES OF THRESHOLD DYNAMICS. Rachel Kuske</td>
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<td>DETERMINISTIC VERSUS STOCHASTIC VARIABILITY IN THE MAMMALIAN CELL CYCLE. Nathalie Q. Balaban</td>
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<td>10:45 AM–12:45 PM</td>
<td>Symposium: Regulation of Cytoskeletal Motors</td>
<td>Room 130/131</td>
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<td>Co-Chairs: Marileen Dogterom, AMOLF, The Netherlands, and Kazuhiro Oiwa, National Institute of Information and Communications Technology, Japan</td>
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<td>MECHANISTIC INSIGHTS OF DYNEIN MOTOR ACTION FROM ELECTRON MICROSCOPY STUDIES. Stanley A. Burgess</td>
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<td>RECONSTITUTION OF DYNAMIC AXONEMAL COMPLEXITY WITH USING A BOTTOM UP STRATEGY. Kazuhiro Oiwa</td>
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<td>DYNEIN-MEDIATED POSITIONING OF MICROTUBULE ASTERS IN 3D CONFINEMENT. Marileen Dogterom</td>
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<td>NEW METHODS FOR MOLECULAR MOTOR AND CELL MOTILITY RESEARCH. Yale E. Goldman</td>
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<td>10:45 AM–12:45 PM</td>
<td>Platform: Mechanisms of Voltage Sensing and Gating</td>
<td>Room 132/133</td>
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<td>10:45 AM–12:45 PM</td>
<td>Platform: Member Organized Session - Mechanics at the Cell Surface</td>
<td>Room 303</td>
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<td>10:45 AM–12:45 PM</td>
<td>Platform: New Methods for Studying Dynamics in Macromolecules</td>
<td>Room 304</td>
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<td>10:45 AM–12:45 PM</td>
<td>Platform: Membrane Receptors and Signal Transduction II</td>
<td>Room 305</td>
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<td>10:45 AM–12:45 PM</td>
<td>Platform: Structure and Dynamics of RNA in Biology</td>
<td>Room 306</td>
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<td>10:45 AM–12:45 PM</td>
<td>Exhibitor Presentation: Nanion Technologies</td>
<td>Room 123</td>
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<td>Workshop on Automated Patch Clamp: From Single Channels, Primary Cells, Action Potentials to 384 Giga-Seal Recordings in a Parallel HTS Format</td>
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<td>11:00 AM–12:30 PM</td>
<td>Career Center Workshop: Beyond the Bench: Preparing for Your Career Transition in the Life Sciences</td>
<td>Room 300</td>
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<td>11:30 AM–1:00 PM</td>
<td>Undergraduate Student Pizza “Breakfast”</td>
<td>Room 308</td>
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<td>1:00 PM–2:30 PM</td>
<td>Exhibitor Presentation: World Precision Instruments, Inc.</td>
<td>Room 123</td>
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<td>Applications in Biophysics Utilizing World Precision Instrument’s (WPI) New Fluorimeter</td>
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<td>1:00 PM–3:00 PM</td>
<td>Graduate and Postdoc Institution Fair</td>
<td>Hall D</td>
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<td>1:00 PM–3:00 PM</td>
<td>Grant Writing Workshop: How (Not) to Write Your NIH Grant Proposal</td>
<td>Room 307</td>
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<tr>
<td>1:30 PM–3:00 PM</td>
<td>Biophysics 101: X-Ray Crystallography</td>
<td>Room 309</td>
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<td>1:45 PM–3:00 PM</td>
<td>Snack Break</td>
<td>Hall D</td>
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<tr>
<td>1:45 PM–3:45 PM</td>
<td>Poster Presentations and Late Posters</td>
<td>Hall D</td>
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<tr>
<td>2:15 PM–3:45 PM</td>
<td>How to Get Your Scientific Paper Published</td>
<td>Room 306</td>
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<td>2:30 PM–3:30 PM</td>
<td>Career Center Workshop: Career Catalyst: Understand Who You Are to Get What You Want</td>
<td>Room 300</td>
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<tr>
<td>2:30 PM–4:00 PM</td>
<td>Preparing for Promotions: Everything You Wanted to Know but Were Afraid to Ask</td>
<td>Room 310</td>
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<td>2:30 PM–4:00 PM</td>
<td>Biophysics at the National Large Facilities: Current and Future Science Possibilities</td>
<td>Room 301</td>
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<td>3:00 PM–4:30 PM</td>
<td>Exhibitor Presentation: Bruker Nano Surfaces</td>
<td>Room 123</td>
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<td>Atomic Force Microscopy for Biological Research</td>
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<td>4:00 PM–5:00 PM</td>
<td>Membership Committee Meeting</td>
<td>Room 122</td>
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<tr>
<td>4:00 PM–5:00 PM</td>
<td>Career Center Workshop: Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)</td>
<td>Room 300</td>
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<tr>
<td>4:00 PM–6:00 PM</td>
<td>Symposium: Future of Biophysics Burroughs Wellcome Fund Symposium</td>
<td>Room 134</td>
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<td>Chair: Robert Nakamoto, University of Virginia Health Science Center</td>
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<td>“OFF-LABEL” USES OF SEQUENCING TECHNOLOGY TO EXPLORE THE PHYSICAL GENOME. William J. Greenleaf</td>
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<td>SPHINGOLIPID AND CHOLESTEROL DISTRIBUTION IN THE PLASMA MEMBRANE BY HIGH-RESOLUTION SIMS. Mary L. Kraft</td>
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<td>THE INFLUENCE OF EXTRINSIC FLUCTUATIONS ON THE DECISION OF CELLS. Elijah Roberts</td>
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<td>HOW CAN LABILE BONDS LEAD TO TOUGHER NETWORKS? THE UNEXPECTED ROLE OF CROSSLINKER KINETICS IN DETERMINING CYTOSKELETAL MECHANICS. Megan T. Valentine</td>
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<td>4:00 PM–6:00 PM</td>
<td>Symposium: Molecular Basis of Voltage Dependence</td>
<td>Room 135</td>
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<td>Co-Chairs: Sudha Chakrapani, Case Western Reserve University, and Eduardo Perozo, University of Chicago</td>
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<td>THERMODYNAMIC ANALYSIS OF VOLTAGE-SENSING MECHANISMS. Baron Chanda</td>
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<td>STRUCTURAL INVESTIGATION OF A BACTERIAL VOLTAGE-GATED SODIUM CHANNEL NA,RH. Nieng Yan</td>
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<td>VOLTAGE-SENSOR DOMAIN PROTEINS: PHOSPHOINOSITIDE SIGNAL, PROTON PERMEATION AND MOLECULAR TOOLS. Yasushi Okamura</td>
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<td>STRUCTURAL BASIS OF VOLTAGE-DEPENDENT GATING IN CI-VSP. Eduardo Perozo</td>
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<td>4:00 PM–6:00 PM</td>
<td>Platform: Calcium Signaling</td>
<td>Room 130/131</td>
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<td>4:00 PM–6:00 PM</td>
<td>Platform: Cell Mechanics and Motility II</td>
<td>Room 132/133</td>
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<td>4:00 PM–6:00 PM</td>
<td>Platform: Bioengineering</td>
<td>Room 303</td>
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<td>4:00 PM–6:00 PM</td>
<td>Platform: Protein Folding and Chaperones</td>
<td>Room 304</td>
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<td>4:00 PM–6:00 PM</td>
<td>Platform: Protein-Lipid Interactions II</td>
<td>Room 305</td>
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<td>4:00 PM–6:00 PM</td>
<td>Platform: Computational Methods</td>
<td>Room 306</td>
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<td>5:00 PM–6:30 PM</td>
<td>Exhibitor Presentation: HEKA Elektronik</td>
<td>Room 123</td>
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<td>HEKA Electrophysiology Update</td>
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<td>7:30 PM–12:00 AM</td>
<td>Child Care</td>
<td>Marriott Marquis, Pacific H, I, J</td>
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<tr>
<td>8:00 PM–9:30 PM</td>
<td>Awards and National Lecture</td>
<td>Room 134/135</td>
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<tr>
<td>9:30 PM–12:00 AM</td>
<td>Annual Meeting Reception and Dance</td>
<td>Marriott Marquis, Yerba Buena Ballroom (Lower B2 Level)</td>
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<tr>
<td>9:30 PM–12:00 AM</td>
<td>Annual Meeting Reception and Quiet Room</td>
<td>Marriott Marquis, Golden Gate Ballroom (B2 Level)</td>
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Monday, February 17

7:30 AM–8:30 AM, Room 302
Graduate Student Breakfast
This breakfast presents an opportunity for graduate student members of the Society to meet and discuss the issues they face in their current career stage. Members of the Early Careers Committee will be there to talk about grant activities specific to graduate students. They will also be available to answer questions about how the Committee serves graduate students in the biophysical community, and to recruit new Committee members. Limited to the first 100 attendees.

7:30 AM–5:00 PM, North Lobby
Registration/Exhibitor Registration

7:30 AM–10:00 PM, Room 112
Family Room

8:00 AM–8:45 AM, Room 123
Exhibitor Presentation
FEI Company

Making Correlative Experiments Easier
Fluorescence microscopy excels at labeling components of the cellular machinery with unmatched specificity and sensitivity; however, it lacks any contextual information. Providing full morphological information at the ultra-structural level is the strength of electron microscopy. If the very same sample is imaged by fluorescence and electron microscopy it is possible to merge dynamics, label specificity and nanometer resolution. Although a powerful approach, it is challenging and low-throughput.

FEI has recently introduced new solutions to overcome these experimental hurdles: CorrSight, a dedicated light microscopy system offering CLEM—specific functionality and automation of important workflow steps; MAPS, a software tool bridging the modalities to increase ease of use; and iCorr, a light microscope module integrated into the Tecnai family of transmission electron microscopes. These tools address different correlative workflows helping to optimize efficiency and data quality across the full range of CLEM experiments.

CorrSight is an innovative light microscope providing unprecedented solutions to optimal sample support for different workflows in correlative light and electron microscopy. One of its strengths is the possibility to perform live cell imaging, event-triggered fixation and subsequent processing of the sample for electron microscopy. On top of it a dedicated cryo stage allows contamination-free imaging of vitrified samples with the highest resolution.

MAPS also allows for correlation of light microscopy data captured on any light microscope with EM data acquisition on the full range of FEI SEMs / SDBs. To allow utmost flexibility in the choice of the light microscope, there is absolutely no dependence on any special hardware – correlation is carried out only on image data. Thus, existing or specialized light microscopy setups can be easily used for CLEM experiments and correlation can be carried out on any feature visible in both modalities. When coupled with CorrSight the correlation is possible without manual intervention. In order to perform correlative experiments between LM and TEM imaging FEI has developed an integrated light and electron microscope: iCorr. This tool provides fast and effortless navigation for correlative experiments.

Presenters:
Alex de Marco, Product Marketing Manager, FEI Munich GmbH
Gregor Heiss, Product Marketing Engineer, FEI Munich GmbH
Liesbeth Hekking, Applications Development Engineer, FEI Company
Matthias Langhorst, Segment Director Cell Biology Solutions, FEI Company

8:00 AM–5:30 PM, Room 300
Career Center

8:00 AM–6:00 PM, Marriott Marquis, Pacific H, I, J
Child Care

8:00 AM–6:00 PM, Rotunda, 300 Level
Undergraduate Student Lounge
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. Members of the Education Committee, which sponsors this lounge, will stop by to answer questions student attendees may have about career paths and opportunities.

8:00 AM–10:00 PM, Hall D
Poster Viewing

8:15 AM–10:15 AM, Room 134
Symposium
Molecular Basis for Regulation of Ca2+ Channels

Co-Chairs
Amy Lee, University of Iowa
Stephen Long, Memorial Sloan-Kettering Cancer Center

1111-Symp 8:15 AM
ORIGIN AND MECHANISM OF MITOCHONDRIAL FLASHES.
Heping Cheng, Xianhua Wang, Qi Ma, Wang Wang

1112-Symp 8:45 AM
CAV1.3 L-TYPE CALCIUM CHANNEL DYSFUNCTION IN HUMAN DISEASE. Jörg Striessnig

1113-Symp 9:15 AM
REGULATION OF VOLTAGE-GATED CALCIUM CHANNEL TRAFFICKING AND FUNCTION BY AUXILIARY SUBUNITS.
Annette C. Dolphin

1114-Symp 9:45 AM
3D STRUCTURES OF THE CALCIUM RELEASE-ACTIVATED CALCIUM CHANNEL ORAL. Stephen B. Long

8:15 AM–10:15 AM, Room 135
Symposium
Force Sensing in Muscle

Co-Chairs
Mathias Gautel, King’s College London, United Kingdom
Gabriella Piazzesi, University of Florence, Italy

1115-Symp 8:15 AM
THE ELASTICITY OF THE MYOSIN MOTOR AND MYOFILEMENTS IN THE MUSCLE SARCOMERE.
Gabriella Piazzesi, Luca Fusi, Marco Caremani, Elisabetta Brunello, Massimo Rendotti, Luca Melli, Marco Linari, Malcolm Irving, Vincenzo Lombardi

1116-Symp 8:45 AM
EXPERIMENTAL AND COMPUTATIONAL APPROACHES TO STUDY MYOFILEMENT STRUCTURE-FUNCTION IN NORMAL AND DISEASED MUSCLE. Michael Regnier, Yuanhua Cheng, Pete Kekenes-Huskey, Steffen Lindert, Andrew McCulloch

Biophysical Society 58th Annual Meeting, San Francisco, California
1117-Sym  9:15 AM  
EFFECTS OF TRANSMURAL REGION AND HEART FAILURE ON THE CONTRACTILE PROPERTIES OF HUMAN MYOCARDIUM.  Kenneth S. Campbell

1118-Sym  9:45 AM  
MECHANOSIGNALLING BY CYTOSKELETAL PROTEIN KINASES AND THEIR DISEASE IMPLICATIONS.  Mathias Gautel, Ay Lin Kho, Alexander Alexandrovich, Diana Pippig, Hermann Gaub

8:15 AM–10:15 AM, ROOM 130/131  
Platform

Membrane Physical Chemistry II

Co-Chairs  
Alex Smirnov, North Carolina State University  
Michael Grabe, University of Pittsburgh

1119-Plat  8:15 AM  
CURVED LIPID BILAYERS: STRUCTURE, DYNAMICS, PHASE PROPERTIES AND SURFACE ELECTROSTATICS.  Antonin Marek, Amir Koolivand, David Song, Maxim A. Voinov, Alex I. Smirnov

1120-Plat  8:30 AM  
MOLECULAR ORIGINS OF THE RIPPLE PHASE.  Shachi Katira, Padmini Rangamani, George Oster, Berend Smit

1121-Plat  8:45 AM  
MINORITY AFFAIRS TRAVEL Awardee

INFLUENCE OF DETERGENT PROPERTIES ON THE SOLUBILIZATION AND FUNCTION OF MEMBRANE PROTEINS.  Ashton T. Brock, Linda Columbus

1122-Plat  9:00 AM  
QUANTITATIVE IMAGING OF THE ELECTROSTATIC FIELD OF A TRANSMEMBRANE PROTEIN AT SUBNANOMETER RESOLUTION BY THE USE OF ATOMIC FORCE MICROSCOPY.  Moritz Pfreundschuh

1123-Plat  9:15 AM  
CONTINUOUS FLOW AFM IMAGING REVEALS FLUIDITY AND TIME DEPENDENT INTERACTIONS OF ANTIMICROBIAL DENDRIMER WITH MODEL LIPID MEMBRANES.  Tania K. Lind, Paulina Zielinska, Hanna P. Wacklin, Zofia Urbaczcyk-Lipkowska, Marité Cárdenas

1124-Plat  9:30 AM  
EXPLORING CONTINUUM MODELS OF ION AND PEPTIDE INTERACTIONS WITH THE MEMBRANE.  Naomi R. Latorraca, Keith M. Callenberg, Jon P. Boyle, Michael Grabe

1125-Plat  9:45 AM  
HISTONES AND DNA COMPETE FOR BINDING PHOSPHOINOSITIDES IN BILAYERS.  Marta G. Lete, Jesus Sot, Hasna Ahayauch, Noelia Fernandez-Rivero, Adelina Prado, Felix M. Goni, Alicia Alonso

1126-Plat  10:00 AM  
MULTI-DIMENSIONAL ANALYSIS OF FLUORESCENCE FLUCTUATION SPECTROSCOPY OF LIPID ANCHORED PROTEINS IN LIVE CELLS REVEAL COMPLEX ORGANIZATION IN THE PLASMA MEMBRANE.  Hector H. Huang, Chris R. Rhodes, Katherine N. Alfieri, John T. Groves

8:15 AM–10:15 AM, ROOM 132/133  
Platform

Advances in Single-Molecule Spectroscopy

Co-Chairs  
Lori Goldner, University of Massachusetts Amherst  
Matthew Ferguson, National Cancer Institute

1127-Plat  8:15 AM  
SINGLE MOLECULE IMAGING IN VIVO DETERMINES POST-TRANSCRIPTIONAL RNA PROCESSING DYNAMICS.  Matthew L. Ferguson, Antoine Coulon, Valeria de Turris, Murali Palangar, Carson C. Chow, Daniel R. Larson

1128-Plat  8:30 AM  
COMBINED SINGLE MOLECULE RECOGNITION IMAGING AND FORCE SPECTROSCOPY TO STUDY THE INTERACTIONS BETWEEN UNCOUPLING PROTEINS AND PURINE NUCLEOTIDES.  Melanie Köhler, Gabriel Pürstinger, Rong Zhu, Anne Rupprecht, Hermann J. Gruber, Elena E. Pohl, Peter Hinterdorfer

1129-Plat  8:45 AM  
SINGLE MOLECULES IN ATTOLITER DROPLETS: A COMPARISON OF FRET FROM FREE AND CONFINED RNA.  Pekár Milas, Sheema Rahmanseresht, Ben D. Gamari, Lori S. Goldner

1130-Plat  9:00 AM  
COMBINING ACCURATE FRET AND TRACKING OF SINGLE PROTEIN AND DNA MOLECULES IN LIVE BACTERIA.  Anne Plochowietz, Robert Crawford, Louise Aigrain, Marko Sustarsic, Achilles N. Kapanidis

1131-Plat  9:15 AM  
SINGLE MOLECULE DIAGNOSTIC METHOD TO REVEAL CANCER-RELATED EGFR SIGNALING.  Hong-Won Lee, Min Kwon Cha, Kihyuk Shin, Seung-Hyo Lee, Tae-Young Yoon

1132-Plat  9:30 AM  
IMPROVED SINGLE-MOLECULE FORCE SPECTROSCOPY USING MICRO-MACHINED CANTILEVERS.  Matthew S. Bull, Hongbin Li, Thomas T. Perkins

1133-Plat  9:45 AM  
FAST SPATIOTEMPORAL CORRELATION SPECTROSCOPY TO DETERMINE PROTEIN LATERAL DIFFUSION LAWS IN LIVE CELL MEMBRANES.  Carmine Di Rienzo, Enrico Gratton, Fabio Beltram, Francesco Cardarelli

1134-Plat  10:00 AM  
DNA Y STRUCTURE: A MULTIDIMENSIONAL SINGLE MOLECULE ASSAY.  James Inman, Ben Smith, Michael Hall, Robert A. Forties, Michelle D. Wang

8:15 AM–10:15 AM, ROOM 303  
Platform

Micro- and Nanotechnology I

Co-Chairs  
Young-Wook Jun, University of California, San Francisco  
Bianxiao Cui, Stanford University

1135-Plat  8:15 AM  
REGULATING SPATIOTEMPORAL DYNAMICS OF NOTCH SIGNALING IN LIVE CELLS VIA MAGNETOPLASMONIC NANOPROBES.  Daeha Seo, Jiwook Kim, Justin Farlow, Hyunjung Lee, Paul Alivisatos, Jinwoo Cheon, Zev Gartner, Young-wook Jun
1136-PLAT 8:30 AM  
NANOCHANNEL TRAP ARRAYS FOR MONITORING SINGLE MITOCHONDRION BEHAVIOR. Katayoun Zand, Ted Pham, Antonio Davila Jr, Douglas C. Wallace, Peter J. Burke

1137-PLAT 8:45 AM  
NANOPLASMONIC OPTOPORATION FOR LARGE-SCALE PRECISION GENE REGULATION IN STEM CELLS. Chi-cheng Fu, Sahba Talebi Fard, Kyuwan Lee, SoonGwen Hong, Luke P. Lee

1138-PLAT 9:00 AM  
SINGLE CELL ELECTROPORTATION AND DNA DYNAMICS: FROM BULK TO MICRO/NANOFUIDICS. Pouyan E. Boukany

1139-PLAT 9:15 AM  
AT THE NANO-BIO INTERFACE: PROBING LIVE CELLS WITH NANO SENSORS. Ziliang Lin, Wenting Zhao, Lindsey Hanson, Chong Xie, Yi Cui, Bianxia Cui

1140-PLAT 9:30 AM  
SINGLE CELL RESPONSE TO PERIODIC ENVIRONMENTAL STIMULI USING A MICROFLUIDIC BIOREACTOR. Eric M. Johnson Chavarria, Utsav Agrawal, Melikhan Tanyeri, Thomas E. Kuhlman, Charles M. Schroeder

1141-PLAT 9:45 AM  
MOTOR-DRIVEN ASSEMBLY OF DYNAMIC, SELF-HEALING LIPID NANOTUBE NETWORKS. George D. Bachand, Nathan F. Boussein, Amanda Carroll-Portillo, Marlene Bachand, Darryl Y. Sasaki

1142-PLAT 10:00 AM  
FUNCTION AND MOVEMENT OF A DNA ACTUATOR INVESTIGATED BY SINGLE MOLECULE FRET MICROSCOPY. Lasse L. Hildebrandt, Zhao Zhang, Søren Preus, Kurt V. Gothelf, Victoria Birkedal

8:15 AM–10:15 AM, ROOM 304  
**Platform**  
Protein Structure, Conformation, and Solvent Interactions

Co-Chairs  
Pavan Ghatty, Florida State University  
Jae Yen Shin, University of California, Berkeley

1143-PLAT 8:15 AM  
STRUCTURAL AND FUNCTIONAL STUDIES OF A NOVEL RNA-BINDING SM-LIKE ARCHAEAEL PROTEIN. Peter S. Randolph, Kanishk Jain, Cameron Mura

1144-PLAT 8:30 AM  
TRANSMEMBRANE ARCHITECTURE OF A FULL-LENGTH MONOSPANNING CYTOCHROME P450. Thomas Tomasiak

1145-PLAT 8:45 AM  
IN VIVO ASSEMBLY AND ARRANGEMENT OF THE DNA TRANSLOCASE SPO0HIE DURING CHROMOSOME SEGREGATION AND MEMBRANE FISSION IN B. SUBTILIS. Jae Yen Shin, Cesar Diaz, Javier Lopez, Joerg Schnitzbauer, Kit Pogliano, Carlos Bustamante

1146-PLAT 9:00 AM  
ALTERNATIVE CONFORMATIONS OF YEAST ISO-1-CYTOCHROME C: EFFECTS OF A GATEKEEPING RESIDUE ON HEME CREVICE DYNAMICS. Levi J. McClelland, Tung-Chung Mou, Margaret E. Jeakins-Cooley, Melisa M. Cherney, Stephen R. Sprang, Bruce E. Bowler

1147-PLAT 9:15 AM  
THE ROLE OF WATER IN DYNAMICS OF BIOMACROMOLECULES: A MUTUAL INTERPLAY! Sheila Khodadadi, Hailiang Zhang, Alexei P. Sokolov, Joseph E. Curtis

1148-PLAT 9:30 AM  
TRANSIENT ACCESS TO THE PROTEIN INTERIOR: SIMULATION VERSUS NMR. Filip Persson, Bertil Halle

1149-PLAT 9:45 AM  
PHYSIOLOGICALLY RELEVANT STRUCTURE OF ALZHEIMER’S RELATED AMYLOID PROTEIN AND THE ROLE OF EMBEDDED WATER IN ITS AMPHIPHILIC PORE. Pavan K. Ghatty

1150-PLAT 10:00 AM  
STRUCTURAL CHARACTERIZATION OF CADDISFLY SILK WITH SOLID-STATE NMR AND X-RAY DIFFRACTION. J. Bennett Addison, Warner S. Weber, Qiushi Mou, Gregory P. Holland, Jeffery L. Yarger

8:15 AM–10:15 AM, ROOM 305  
**Platform**  
Membrane Pumps, Transporters, and Exchangers I

Co-Chairs  
Heather Pinkett, Northwestern University  
Gary Rudnick, Yale University

1151-PLAT 8:15 AM  
ABC TRANSPORTERS IN H. INFLUENZAE. Heather W. Pinkett

1152-PLAT 8:30 AM  
MOVEMENT OF THE NUCLEOTIDE BINDING DOMAINS IN THE RECONSTITUTED ABC TRANSPORTER MSBA DURING THE ATP-HYDROLYSIS CYCLE. Maria E. Zoghbi, Guillermo A. Altenberg

1153-PLAT 8:45 AM  
ASYMMETRY AND CONFORMATIONAL CHANGES OF THE E. COLI RIBOSE ABC TRANSPORTER. Satchal K. Erramilli

1154-PLAT 9:00 AM  
STRUCTURAL MODEL OF THE HUMAN SODIUM-PHOSPHATE COTRANSPORTER NAPI-II. Maria Cristina Fenollar-Ferrer, Monica Patti, Thomas Knoepfel, Andreas Werner, Ian C. Forster, Lucy R. Forrest

1155-PLAT 9:15 AM  
CORRELATING CHARGE MOVEMENTS WITH LOCAL CONFORMATIONAL CHANGES OF A NA-COUPLED COTRANSPORTER. Monica Patti, Ian C. Forster

1156-PLAT 9:30 AM  
THE ROLE OF SODIUM SITES IN LEUT CONFORMATIONAL CHANGES. Gary Rudnick, Sotiria Tavoulari, Yuan-Wei Zhang, David DeWitt, Anu Nagarajan, Edwin Rosado, Silvia Raveria, Anna-Elisabeth Kreuder, Lucy R. Forrest, Elizabeth Rhodeas

1157-PLAT 9:45 AM  
INVESTIGATING THE BACTERIAL GLUTAMATE TRANSPORTER HOMOLOG GLTPH WITH UNNATURAL AMINO ACIDS. Paul J. Focke, Alvin W. Annen, Francis I. Valiyaveetil

1158-PLAT 10:00 AM  
SINGLE LIPOSOMES USED TO STUDY THE ACTIVITY OF INDIVIDUAL TRANSPORTERS. Christina Lohr, Andreas Lauge Christensen, Salome Veshaguri, Marjolijn Turkus, Lars Iversen, Gerdi Kemmer, Dana Yaffe, Tina Zollmann, Patricia Carran, Shimon Schuldiner, Robert Tampé, Thomas Pomorski, Joseph Mindell, Dimitrios Stamou
structures below the optical limit, as well as the monitoring of the dynamics in biological systems and processes under physiological conditions; however, certain limitations for AFM still exist in the field of bio-applications. In recent times, the development of another kind of scanning probe microscopy (SPM) technique, scanning ion conductance microscopy (SICM), has overcome these limitations and enabled noninvasive, nanoscale investigation of live cells. SICM applications include imaging of cell topography, monitoring of live cell dynamics, mechanical stimulation of live cells, surface patterning, and so forth.

We at Park Systems have developed AFM for advanced nanoscale metrology, which separates the z-scanner from the x-y scanner. An independent z-scanner also provides an excellent platform for developing other SPM techniques such as SICM. In addition, the platform which separates the z-scanner from x-y scanner, enables us to easily switch between an AFM and an SICM z-scanner to apply both techniques without moving samples. The common glass micropipette is used in SICM as the sensitive probe, instead of a silicon-based stylus, and can glide over live cells while maintaining an absolute non-contact imaging mode. Its electrochemical current feedback system further enhances biological sample imaging. Combining confocal fluorescence data to the SICM 3D data, using an image overlay feature, provides even more data about structure of cells as related to their membranes. These advances of convergence in instrumentation will be utilized in various kinds of biomedical research and become a new driving force for biophysics and nanobioscience.

**Presenter:**
Songjoon Cho, Sr. Director of R&D, Park Systems, Inc.

### Sessions

#### 10:00 AM–11:00 AM, Room 300

**Career Center Workshop**

**Career Open Forum/Career Q&A Session**

Bring your coffee and start your day with this industry-focused forum, intended to answer any/all of your questions related to your job search. Space is limited! This is your opportunity to explore the myths and realities associated with an effective job search. Come with any and all job search-related questions and we’ll do our best to provide answers and guidance.

#### 10:00 AM–5:00 PM, Hall D

**Biomolecular Discovery Dome**

#### 10:15 AM–11:15 AM, Room 302

**New Member Welcome Coffee**

All new Biophysical Society members are invited to participate in an informal gathering to meet members of the Society’s council and committees, find out about the Society’s activities, get acquainted with other new members, and enjoy refreshments. Current members are encouraged to come meet the new members.

#### 10:45 AM–12:45 PM, Room 134

**Symposium**

**Biophysics of Personalized Medicine**

**Co-Chairs**
Donald Engelman, Yale University
Kathleen Giacomini, University of California, San Francisco

**1166-symposium**

**10:45 AM**

**Imaging and treating tumors by targeting their acidity with pH-sensitive insertion peptide.**

Donald M. Engelman, Ming An, Oleg A. Andreev, Francisco N. Barrera, Raman Balah, Marcus W. Bosenberg, Christopher Cheng, Peter M. Glazer, Alexander Karabazhak, Yana K. Reshetnyak, W. Mark Saltzman, Frank J. Slack, Alexander A. Svoronos, Damien Thevenin
TARGETING INFLUX TRANSPORTERS IN THE HUMAN BLOOD BRAIN BARRIER. Kathleen Giacomini

NONINVASIVE PERSONALIZED GENOMICS. Charles Cantor

TRANSLATING A TRILLION POINTS OF DATA INTO THERAPIES, DIAGNOSTICS, AND NEW INSIGHTS INTO DISEASE. Aulin J. Butte

10:45 AM–12:45 PM, ROOM 135

Symposium
Stochasticity in Cellular Processes

Co-Chairs
Rachel Kuske, University of British Columbia, Canada
Nathalie Questembert-Balaban, Hebrew University of Jerusalem, Israel

No Abstract
10:45 AM
ON THE STATISTICAL NATURE OF BEHAVIORAL DIVERSITY. Stanislas Leibler

11:15 AM
STOCHASTIC BISTABILITY AND SWITCHING IN VIRUS/ IMMUNE CELL NETWORKS. Elizabeth Read

11:45 AM
RELIABILITY OF NOISE-INDUCED SPIKES FOR TWO TYPES OF THRESHOLD DYNAMICS. Rachel Kuske, Na Yu, Yue Xian Li

12:15 PM
DETERMINISTIC VERSUS STOCHASTIC VARIABILITY IN THE MAMMALIAN CELL CYCLE. Sivan Pearl, Oded Sandler, Oded Agam, Itamar Simon, Nathalie Q. Balaban

10:45 AM–12:45 PM, ROOM 130/131

Symposium
Regulation of Cytoskeletal Motors

Co-Chairs
Marileen Dogterom, AMOLF, The Netherlands
Kazuhiro Oiwa, National Institute of Information and Communications Technology, Japan

10:45 AM
MECHANISTIC INSIGHTS OF DYNEIN MOTOR ACTION FROM ELECTRON MICROSCOPY STUDIES. Stanley A. Burgess, Takahide Kon, Peter J. Knight, Kazuo Sutoh

11:15 AM
RECONSTITUTION OF DYNAMIC AXONEMAL COMPLEXITY WITH USING A BOTTOM UP STRATEGY. Kazuhiro Oiwa

11:45 AM
DYNEIN-MEDIATED POSITIONING OF MICROTUBULE ASTERS IN 3D CONFINEMENT. Sophie Roth, Marileen Dogterom

12:15 PM

10:45 AM–12:45 PM, ROOM 132/133

Platform
Mechanisms of Voltage Sensing and Gating

Co-Chairs
Simon Berneche, University of Basel, Switzerland
Brad Rothberg, Temple University School of Medicine

10:45 AM
GATING CURRENTS OF MONOMERIC HV CHANNEL REVEALS A PERMEATION PATHWAY COUPLED TO THE VOLTAGE ACTIVATION. David Bacz-Nieto, Ester Otarola, Gustavo Contreras, Peter Larsson, Ramon Latorre, Carlos Gonzalez

11:00 AM
THE SPECIALIZED ROLE OF THE S1 TRANSMEMBRANE SEGMENT IN THE GATING OF THE HV1 PROTON CHANNEL. Laetitia Mony, Thomas K. Berger, Ehud Y. Isacoff

11:15 AM
OPTICALLY MAPPING THE MOVEMENT OF DISCRETE GATING CHARGES IN SHAKER. Michael F. Priest, Francisco Bezanilla

11:30 AM
MULTI-DIMENSIONAL FREE ENERGY LANDSCAPE OF VOLTAGE SENSOR DOMAIN ACTIVATION. Lucie Delemotte, Marina Kasimova, Vincenzo Carnevale, Michael L. Klein, Mounir Tarek

11:45 AM
PROTEIN BACKBONE MUTAGENESIS REVEALS A NOVEL LINK BETWEEN ION OCCUPANCY AND C-TYPE INACTIVATION IN K+ CHANNELS. Kimberly Matulef, Alexander G. Komarov, Francis I. Valiyaveetil

12:00 PM
REGULATION OF ION PERMEATION IN THE SELECTIVITY FILTER OF POTASSIUM CHANNELS. Simon Berneche, Wojciech Wojtas-Niziański, Florian Heer

12:15 PM
INITIAL STEPS OF INACTIVATION AT THE K+ CHANNEL SELECTIVITY FILTER. Andrew S. Thomson, Florian T. Heer, Frank J. Smith, Simon Berneche, Brad S. Rothberg

12:30 PM
MAPPING CONFORMATIONAL STATES IN VDAC1 CHANNEL: COMPLEXITY OF GATING LANDSCAPE. Sergei Noskov, Oscar Teijido Hermida, Tatiana Rostovtseva, Bezzukov Sergei

10:45 AM–12:45 PM, ROOM 303

Platform: Member-Organized Session
Mechanics at the Cell Surface

Co-chairs
Jesse Guyette, Oxford University, United Kingdom
Jun Allard, University of California, Irvine

10:45 AM
ANTIGEN-SPECIFIC TCR-PMHC CATCH TRIGGERS T-CELL SIGNALING BY RAPIDLY ACCUMULATING SUCCESSIVE BOND LIFETIMES PROLONGED BY OPTIMAL FORCE. Baoyu Liu, Wei Chen, Brian D. Evavold, Cheng Zhu

11:00 AM
HOW CELLULAR GEOMETRY REGULATES TRACTION STRESSES IN ADHERENT CELLS. Patrick W. Oakes, Shiladiya Banerjee, M. Cristina Marchetti, Margaret L. Gardel
### Biophysical Society 58th Annual Meeting, San Francisco, California

#### Monday

**1188-PLAT 11:15 AM**
TO ADHERE OR NOT TO ADHERE: REGULATION OF SELF-CONTACT ELIMINATION BY MEMBRANE FUSION.
Soichiro Yamada, Grant Sumida

**1189-PLAT 11:30 AM**
MAPPING MECHANICAL PROPERTIES OF THE EXTRA CELLULAR MATRIX SURROUNDING CELLS CULTURED IN 3D.
Elliott Botvinick, Martha Alvarez, Abhishek Kurup, Mark Keating

**1190-PLAT 11:45 AM**
MECHANICAL EXTRACTION OF ANTIGEN FROM B CELL IMMUNE SYNAPSES: A UNIQUE WAY TO SENSE LIGAND AFFINITY.
Pavel Tolar

**10:45 AM – 12:45 PM, ROOM 304**

**Platform**

**New Methods for Studying Dynamics in Macromolecules**

**Co-Chairs**
Giuseppe Melacini, McMaster University, Canada  
Lisa Jones, Indiana University-Purdue University Indianapolis

**1194-PLAT 10:45 AM**
EVOLUTION OF A HYDROPHOBIC CORE LEADS TO FLUORESCENCE IN CANONICAL BACTERIOPHYTOCHROMES.
Shyamosee Bhattacharya, Michele E. Auldridge, Katrina T. Forest

**1195-PLAT 11:00 AM**
INVESTIGATION OF PHONON-LIKE EXCITATIONS IN HYDRATED PROTEIN POWDERS BY NEUTRON SCATTERING.
Xiang-qiang Chu, Utsab Shrestha, Hugh Michael O’Neill, Qiu Zhang, Alexander I. Kolesnikov, Eugene Mamontov

**1196-PLAT 11:15 AM**
ANALYSIS OF HIGH-AFFINITY PROTEIN INTERACTIONS BY FLUORESCENCE OPTICAL ANALYTICAL ULTRACENTRIFUGATION.
Huaying Zhao, Mark L. Mayer, Peter Schuck

**1197-PLAT 11:30 AM**
IN VIVO PROTEIN FOOTPRINTING FOR THE STRUCTURAL ANALYSIS OF PROTEINS IN THEIR NATIVE ENVIRONMENT.
Lisa M. Jones

**1198-PLAT 11:45 AM**
FINDING ORDER IN DISORDER: PROBING TRANSIENT FUNCTIONAL STATES IN THE AMYLOIDODIC ALZHEIMER’S Aβ PEPTIDE USING THE NMR CHEMICAL SHIFT COVAARIANCE ANALYSIS (CHESCA).
Moustafa Algamal, Julijana Milojcic, Nacimeh Jafari, Shiuyuan Zhang, Rajcevan Selvaratnam, Giuseppe Melacini

**1199-PLAT 12:00 PM**
A TRANSFORMATION FOR THE MECHANICAL FINGERPRINTS OF COMPLEX BIOMOLECULAR INTERACTIONS.
Yaojun Zhang, Olga K. Dudko

**1200-PLAT 12:15 PM**
LONG-RANGE CORRELATED MOTION CHANGES WITH PROTEIN-LIGAND BINDING.
Katherine A. Niessen, Mengyang Xu, Edward Snell, Andrea Markelz

**1201-PLAT 12:30 PM**
PROTEOME-WIDE CHARACTERIZATION OF PROTEIN LOCALIZATION DYNAMICS IN ESCHERICHIA COLI.
Nathan J. Kuwada, Paul A. Wiggins

**10:45 AM – 12:45 PM, ROOM 305**

**Platform**

**Membrane Receptors and Signal Transduction II**

**Co-Chairs**
Donna Arndt-Jovin, Max Planck Institute for Biophysical Chemistry, Germany  
Thomas Huber, Rockefeller University

**1202-PLAT 10:45 AM**
FLIM-FRET, A STRUCTURAL TOOL FOR ERBB RECEPTOR STUDIES IN THE LIVING CELL.
Donna J. Arndt-Jovin, Diane S. Lidke, Alexey I. Chizhik, Narain V.R. Karedla, Thomas M. Jovin

**1203-PLAT 11:00 AM**
CLUSTERING OF H-RAS ON THE PLASMAMEMBRANE OF LIVING CELLS.
Rolf Harkes, Thomas Schmidt

**1204-PLAT 11:15 AM**
SUPER-RESOLUTION LOCALIZATION MICROSCOPY IDENTIFIES DISTINCT STAGES OF ANTIGEN-INDUCED IGE RECEPTOR CROSS-LINKING AND IMMUNIZATION IN RBL-2H3 MAST CELLS.
Sarah A. Shelby, David A. Holowka, Barbara A. Baird, Sarah L. Veatch

**1205-PLAT 11:30 AM**
THE ACTIN CYTOSKELETON CONTROLS THE ACTIVATION OF INVARIANT NATURAL KILLER T CELLS BY FINE-TUNING CD1D NANOSCALE AGGREGATION ON ANTIGEN PRESENTING CELLS.
Juan Andres Torrenno-Pina

**1206-PLAT 11:45 AM**
MULTI-COLOR, SINGLE-MOLECULE FLUORESCENCE IMAGING OF GPCR SIGNALOSOMES.
Thomas Huber, Alexandre Fürstenberg, He Tian, Hubert F. Gaertner, Oliver Hartley, Thomas P. Sakmar

**1207-PLAT 12:00 PM**
DENGU VIRUS INFECTION MEDIATED BY DC-SIGN.
Ping Liu, Marc R. Ridilla, Aravinda M. de Silva, Nancy L. Thompson, Ken Jacobson

**1208-PLAT 12:15 PM**
HOW TALIN HEAD DOMAIN AND SOLUBLE LIGAND CONTRIBUTE TO INTEGRIN αIβ3 ACTIVATION.
Mehrdad Mehrbod, Stephen Trisno, Mohammad RK Mofrad

**1209-PLAT 12:30 PM**
SINGLE MOLECULE IMAGING OF HUMAN EPIDERMAL GROWTH FACTOR RECEPTORS.
Bettina van Lengerich, Bo Huang, Natalia Jura
10:45 AM–12:45 PM, ROOM 306
Platform
Structure and Dynamics of RNA in Biology

Co-Chairs
Peter Cornish, University of Missouri
Edward O’Brien, Cambridge University, United Kingdom

1210-PLAT 10:45 AM
DECIPHERING RIBOSOMAL FRAMESHIFTING DYNAMICS. Shannon Yan, Jin-Der Wen, Laura Lancaster, Harry Noller, Carlos Bustamante, Ignacio Tinoco, Jr.

1211-PLAT 11:00 AM
UNRAVELING THE MYSTERY OF RIBOSOME INDUCED RNA UNFOLDING. Peter Cornish, Peiwu Qin, Dongmei Yu

1212-PLAT 11:15 AM
SINGLE-MOLECULE PROFILING OF RIBOSOME TRANSLATIONAL PHENOMENA. Jin Chen, Alexey Petrov, Magnus Johansson, Albert Tsai, Sean E. O’Leary, Joseph D. Puglisi

1213-PLAT 11:30 AM
THE RIBOSOME USES COOPERATIVE CONFORMATIONAL CHANGES TO MAXIMIZE THE EFFICIENCY OF PROTEIN SYNTHESIS. Wei Ning, Jingyi Fei, Ruben L. Gonzalez, Jr.

1214-PLAT 11:45 AM
ROTATIONAL MOTIONS OF DOMAINS IN ELONGATION FACTOR G DETECTED BY SINGLE-MOLECULE POLARIZED FLUORESCENCE MICROSCOPY. Chunlai Chen, Xiaonian Cui, John F. Beausang, Barry S. Cooperman, Yale E. Goldman

1215-PLAT 12:00 PM
REFINING CRYSTAL STRUCTURES AGAINST CRYO-EM DATA USING MOLECULAR DYNAMICS SIMULATIONS TO OBTAIN A COMPLETE ATOMIC PATHWAY OF TRANSFER RNA TRANSLATION. Andrea C. Vaiana, Carsten Kurzner, Lars V. Bock, Christian Blau, Helmut Grubmuller

1216-PLAT 12:15 PM
THE EFFECT OF CODON TRANSLATION RATES ON COTRANSLATIONAL PROTEIN FOLDING MECHANISMS OF ARBITRARY COMPLEXITY. Edward P’16

1217-PLAT 12:30 PM
PROTEIN SYNTHESIS BY RIBOSOMES: MAPPING IN VITRO ONTO IN VIVO RATES. Sophia Rudorf, Michael Thommen, Marina V. Rodchina, Reinhard Lipowsky

11:00 AM–12:30 PM, ROOM 123
Exhibitor Presentation
Nanion Technologies

Workshop on Automated Patch Clamp: From Single Channels, Primary Cells, Action Potentials to 384 Giga-Ohm Recordings in a Parallel HTS Format

The Port-a-Patch recently turned 10 years old, and is going stronger than ever. It’s still the smallest patch clamp rig in the world, and makes patch clamp recordings accessible to anyone spending a couple of hours with it. Giga-Ohm recordings and the excellent voltage-clamp of the cellular membrane ensure high quality data, and the Port-a-Patch add-ons allow unprecedented experimental freedom, including temperature control, internal perfusion, automated action potential recordings, and recordings from primary and stem cell-derived cells. Recently, the Port-a-Patch technology was scaled up to eight simultaneous recordings (Patchliner), maintaining the same data quality and experimental possibilities, and now we did it again: 384 Port-a-Patches have been shrunk to fit inside a shoebox – called the Patch Engine (PE). Two Patch Engines can be integrated per SyncroPatch 384PE platform, allowing for patch clamp-based ion channel HTS from up to 768 cells in parallel, and we will tell you more about it during this workshop.

Another topic for the workshop is the bilayer-reconstitution of ion channels and nanopores, efficiently investigated using the Orbit 16, a parallel device for formation of and recordings for up to 16 artificial bilayers at once. Using Micro Electrode Cavity Array (MECA, Ionera), a 4 x 4 array of circular micro-cavities in a highly inert polymer, the bilayer is automatically formed by remotely actuated painting (Ionera-SPREAD).

Welcome to our workshop and learn from live, hands-on experiments on the Port-a-Patch and Orbit 16, and let us show you how to scale up your ion channel screening project to HTS-standards!

Presenters:
Niels Fertig, CEO, Nanion Technologies
Andrea Brüggemann, CSO, Nanion Technologies
Gerhard Baaken, Ionera

11:30 AM–12:30 PM, ROOM 300
Career Center Workshop
Beyond the Bench: Preparing for Your Career Transition in the Life Sciences

There are numerous alternative career options for the seasoned bench scientist who may have decided to take his/her talents and apply them in a new direction. This transition can be accomplished without having to matriculate in another graduate program, and this session explores the how’s and why’s of making such a transition. Be prepared to talk about the role you are thinking about moving into, why you may have chosen this alternative path, and what successes you may have had thus far.

11:30 AM–1:00 PM, ROOM 308
Undergraduate Student Pizza “Breakfast”

The Education Committee is hosting this “breakfast” for undergraduate students. This session provides a valuable networking and social opportunity for undergraduate student attendees to meet other students and Committee members, to discuss academic goals and questions, and to develop a biophysics career path. The Emily Gray Awardee will also give a talk at this event. Limited to the first 100 attendees.

Speaker:
Alberto Diaspro, Italian Institute of Technology

1:00 PM–2:30 PM, ROOM 123
Exhibitor Presentation
World Precision Instruments, Inc.

Applications in Biophysics Utilizing World Precision Instruments’ (WPI) New Biofluorometer

Introduction to WPI’s New Biofluorometer with high-power LED modules. Potential applications and experimental design will be discussed in the field of Biophysics, including integration with Muscle Physiology experiments and microscopy systems for general fluorescence applications.

Presenter:
Mathias Belz, Director of Optics, World Precision Instruments, Inc.

1:00 PM–3:00 PM, HALL D
Graduate and Postdoc Institution Fair

This fair introduces students and postdoctoral candidates to colleges and universities with leading programs in biophysics. Open to all attendees.
How (Not) to Write Your NIH Grant Proposal

Through mock study sections and discussions, veteran NIH officials will demonstrate what review panels look for when they read and assess proposals. They will also answer questions about peer review, avoiding application pitfalls and responding to review concerns. This session is sponsored by the Public Affairs Committee and is appropriate for both experienced principal investigators and those applying for their first grant.

Speakers:
John Bowers, Center for Scientific Review, NIH
Jean Chin, National Institute of General Medical Sciences, NIH
Catherine Lewis, National Institute of General Medical Sciences, NIH
Peter Preusch, National Institute of General Medical Sciences, NIH
Don Schneider, Center for Scientific Review, NIH

Biophysics 101: X-Ray Crystallography

2014 is the International Year of Crystallography, and the biophysical end of this 100-year-old field is indeed burgeoning with revolutionary results and new methodologies. Solving macromolecular structures has also now become quite feasible for a non-structural-biology lab. This year's "Biophysics 101" session includes two lectures on this topic, outlining the practice of x-ray crystallography for not-yet-experts and describing some of its uses and rewards. The session is part of a continuing series of symposia initiated by the Education Committee to educate the Society membership about fundamentals of various biophysical techniques with which they may not be familiar but might want to use.

Speakers:
Jim Pfugrath, Rigaku
Charles Pemble, Duke University

Poster Presentations and Late Posters

(For a complete listing of regular Monday Poster Presentations, see page 78.)

The list of Monday Late Posters is in the Program addendum.

Posters will be on display all day long. Authors with odd-numbered boards will present from 1:45 pm–2:45 pm, and those with even-numbered boards will present from 2:45 pm–3:45 pm. Additional hours (day or evening) may be posted by the authors as desired. Paper may also be left on the board so that visitors may request an appointment.

Posters should be mounted 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 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.

How to Get Your Scientific Paper Published

This panel discussion, sponsored by the Publications Committee, focuses on the practical issues involved in publishing a scientific paper. The panelists have extensive experience in writing, reviewing, and editing papers, and will provide information on the ‘do’s and don’ts of submitting research manuscripts. Discussions will focus on strategies to avoid common pitfalls, how to prevent and fix problems before submission, and how to respond to critiques and even rejection of a paper. Attendees are encouraged to ask questions during the session.

Moderator: Olaf Andersen, Weill Cornell Medical College

Panelists:
Katharina Gaus, University of New South Wales, Australia
Les Loew, University of Connecticut Health Center
Lukas Tam, University of Virginia
Alicia Wallace, Dartmouth Journal Services

Preparing for Promotions: Everything You Wanted to Know but Were Afraid to Ask

This discussion panel, hosted by the Committee for Professional Opportunities for Women, will offer advice for those seeking advancement in their careers, whether in academia, industry, or other endeavors. Topics to be discussed include the value of mentoring and networking, how you present yourself via your CV, and why these are important to pay attention to as you seek a promotion. The panelists, who include scientists with experience in academic and non-academic institutions, will share their thoughts and advice about this important topic.

Biophysics at the National Large Facilities: Current and Future Science Possibilities

This session will survey a range of techniques available at the national user facilities around the country to elucidate structural information for biomolecules. The standard tools, such as macromolecular crystallography, will be included, as well as up-and-coming techniques such as LCLS-based structure determination. Attendees will also learn how researchers can access and take advantage of these facilities.

Moderators: Corie Ralston, Lawrence Berkeley National Lab, Ana Gonzalez, Stanford Linear Accelerator Center

Speakers:
Jen Bohon, National Synchrotron Light Source, Case Center for Synchrotron Biosciences
Britt Hedman, Stanford Linear Accelerator Center
Caralyn Larabell, University of California, San Francisco
John Spence, Arizona State University
Peter Zwart, Lawrence Berkeley National Laboratory

Exhibitor Presentation

Bruker Nano Surfaces

Atomic Force Microscopy for Biological Research

Physical properties, including structures such as shape/size and mechanics such as strength/stiffness/interaction forces, play crucial roles in biological processes. Quantification of this at various length scales is necessary because of the heterogeneous/complex nature of biologics. Atomic force microscopy (AFM) is a unique research tool because of its abilities to perform measurements with both high spatial and force resolution in
fluid under physiological conditions. In this tutorial, Bruker will present theories behind AFM, bio-applications in high-speed AFM, and practical guides to quantitative mechanical measurements and analysis of biological samples ranging from a single membrane protein to a single cell.

While the key experiments presented will encompass research in microbiology/pain mediation/cancer, the methodology has also been employed in other disciplines including pathogenesis/stem cell differentiation/cell signaling and more.

Presenter:
Senli Guo, Application Scientist, Bruker Nano Surfaces

4:00 pm–5:00 pm, Room 122
Membership Committee Meeting

Career Center Workshop
Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)
You’ve been invited to interview with that drug development company that you’ve always wanted to work for. You’ve soaked up the details of the position description. You are confident in your ability to do the job, as well as answer any/all technical questions during the interview process. The day is yours…until…that first question catches you by surprise and your confidence begins to wilt. Be prepared for those non-technical questions that you will almost certainly hear at some point, know why they are asked, and learn what a good (if not great) response to each question might be by attending this workshop.

4:00 pm–6:00 pm, Room 134
Symposium
Future of Biophysics Burroughs Wellcome Fund Symposium
Chair
Robert Nakamoto, University of Virginia Health Science Center

No Abstract 4:00 pm
“OFF-LABEL” USES OF SEQUENCING TECHNOLOGY TO EXPLORE THE PHYSICAL GENOME. William J. Greenleaf

No Abstract 4:30 pm
SPHINGOLIPID AND CHOLESTEROL DISTRIBUTION IN THE PLASMA MEMBRANE BY HIGH-RESOLUTION SIMS. Mary L. Kraft

No Abstract 5:00 pm
THE INFLUENCE OF EXTRINSIC FLUCTUATIONS ON THE DECISION OF CELLS. Elijah Roberts

No Abstract 5:30 pm
HOW CAN LABILE BONDS LEAD TO TOUGHER NETWORKS? THE UNEXPECTED ROLE OF CROSSLINKER KINETICS IN DETERMINING CYTOSKELETAL MECHANICS. Megan T. Valentine

4:00 pm–6:00 pm, Room 135
Symposium
Molecular Basis of Voltage Dependence
Co-Chairs
Sudha Chakrapani, Case Western Reserve University
Eduardo Perozo, University of Chicago

1218-Symp 4:00 pm
THERMODYNAMIC ANALYSIS OF VOLTAGE-SENSING MECHANISMS. Baron Chanda

1219-Symp 4:30 pm
STRUCTURAL INVESTIGATION OF A BACTERIAL VOLTAGE-GATED SODIUM CHANNEL. Na RH. Nieng Yan, Xu Zhang

1220-Symp 5:00 pm
VOLTAGE-SENSOR DOMAIN PROTEINS: PHOSPHOINOSITIDE SIGNAL, PROTON PERMEATION AND MOLECULAR TOOLS. Yasushi Okamura

1221-Symp 5:30 pm
STRUCTURAL BASIS OF VOLTAGE-DEPENDENT GATING IN CI-VSP. Eduardo Perozo, Qufei Li, Sherry Wanderlin

4:00 pm–6:00 pm, Room 130/131
Platform
Calcium Signaling
Co-Chairs
Martin Falcke, Max Delbrück Center, Germany
Israel Sekler, Ben Gurion University, Israel

1222-Plat 4:00 pm
RELIABLE ENCODING OF STIMULUS INTENSITIES BY RANDOM SEQUENCES OF CA²⁺ SPIKES. Martin Falcke

1223-Plat 4:15 pm
COUPLING OF CHEMICAL AND MECHANICAL SENSING IN FIBROBLAST CELLS. Josephine Lembong, Bo Sun, Matthew Rogers, Howard A. Stone

1224-Plat 4:30 pm
NA⁺ CHANNELS CONTROL METABOLISM AND GLOBAL CA²⁺ SIGNALING BY INDUCING NA⁺ AND CA²⁺ RESPONSES THAT ARE PROPAGATING INTO THE MITOCHONDRIA OF BETA CELLS. Israel Sekler

1225-Plat 4:45 pm
THE POTENTIAL FOR ANOTHER CALCIUM UPTAKE MODE IN CARDIAC MITOCHONDRIA. Christoph A. Blomeyer, Jason N. Bazil, David F. Stowe, Ranjan K. Dash, Amadou K. Camara

1226-Plat 5:00 pm
ULTRAFAST GENETICALLY ENCODED CALCIUM INDICATORS FOR VISUALIZING CALCIUM FLUX AND ACTION POTENTIALS. Nordine Helassa, Eric Esposito, Tom Carter, Jonathan Bradley, David Ogden, Katalin Török

1227-Plat 5:15 pm
A NEW CA²⁺ PROBE, CALSTABI-CAM, TARGETED TO RYANODINE RECEPTORS OF CARDIOMYOCYTES. Sara Pahlavan, Yuming Yang, Caitlin Robertson, Naohiro Yamaguchi, Lars Cleemann, Martin Morad

1228-Plat 5:30 pm
CAMKII-MEDIATED AMPLIFICATION IS ESSENTIAL TO NAADP SIGNALLING IN CARDIAC MYOCYTES. Rebecca A. Bayliss, Wee Lin, Emma Bolton, Duncan Bloom-Young, Grant C. Churchill, Antony Galione, Derek A. Terrar

1229-Plat 5:45 pm
CALCIUM SIGNALING INSIDE CILIA UPON MECHANICAL BENDING. Steven Su, Siew Cheng Phua, Robert DeRose, Takanari Inoue
**Cell Mechanics and Motility II**

**4:00 PM–6:00 PM, ROOM 132/133**

**Platform**

**Cell Mechanics and Motility II**

**Co-Chairs**

Jin-Sung Park, Korea Advanced Institute of Science and Technology, Korea
Pietro Cicuta, University of Cambridge, United Kingdom

1230-Plat 4:00 PM

**Mechanisms of Three-Dimensional Tumor Cell Motility in Dense Extracellular Matrices.**

Badriprasad Anantharayanan, Joanna MacKay, Gurshamnjot Singh, Ching-Wei Chang, Sanjay Kumar

1231-Plat 4:15 PM

**Transduction Channels' Gating Controls Friction on Vibrating Hair-Cell Bundles in the Ear.**

Volker Bormuth, Jérémie Barral, Jean Francois Joanny, Frank Jülicher, Pascal Martin

1232-Plat 4:30 PM

**Emergence of Collective Dynamics in Systems of Motile Cilia.**


1233-Plat 4:45 PM

**Characterization of Different Dynamic Modes of a Crawling Caenorhabditis elegans by Direct Measurement of Traction Force.**

Jin-Sung Park, Song Ih Ahn, Jennifer H. Shin

1234-Plat 5:00 PM

**Optimality of Force Transmission in a Motor-Clutch Cellular Adhesion Model.**

Benjamin Bangasser, Steven Rosenfeld, David Odde

1235-Plat 5:15 PM

**Force Spectrum Microscopy Reveals Active Diffusive-Like Fluctuations in Living Cells.**

Ming Guo, Allen Ehrlicher, Mikkel Jensen, Jeffrey Moore, Jennifer Lippincott-Schwartz, Frederik Mackintosh, David Weitz

1236-Plat 5:30 PM

**Myosin Light Chain Kinase Activity Regulates the Number of Leading Edges in Zebrafish Embryonic Keratocytes.**

Sunny S. Lou, Julie A. Theriot

1237-Plat 5:45 PM

**Quantitative Subcellular Control of CDC42, RAC1 and RHO GTPases using the CRy2/CIBN Optogenetic Dimerizer.**

Leo Valon, Amanda Remorino, Fred Etoc, Simon De Beco, Maxime Dahan, Mathieu Coppey

**Protein Folding and Chaperones**

**4:00 PM–6:00 PM, ROOM 304**

**Platform**

**Protein Folding and Chaperones**

**Co-Chairs**

Tania Baker, Massachusetts Institute of Technology
Susan Marqusee, University of California, Berkeley

1246-Plat 4:00 PM

**Experimental and Computational Studies on the Dynamics and Flexibility of Protein Disulfide-Isomerase (PDI).**

Robert B. Freedman, John Blood, David Clarke, Jack Heal, Emilio Jimenez-Roldan, Rudolf Roemer, Narinder Sanghera

1247-Plat 4:15 PM

**Observing and Characterizing Early Folding Intermediates of E. coli RNAse H Using Kinetic and Equilibrium Approaches.**

Laura E. Rosen, Sagar Kathuria, Katelyn Connell, Osman Bilisel, C. Robert Matthews, Susan Marqusee

1248-Plat 4:30 PM

**Mechanical Protein Unfolding and Translocation by AAA+ Proteases.**

Adrian O. Olivares, Juan Carlos Cordova, Stephane Calmat, Matthew J. Lang, Robert T. Sauer, Tania A. Baker

1249-Plat 4:45 PM

**The CLPXP Protease employs a Novel Mechanism of Translocation Using a Constant Frequency of Pulling but Different Gears.**

Maya Sen, Rodrigo A. Maillard, Kristofer Nyquist, Pierre Rodriguez-Alia, Steve Pressé, Andreas Martin, Carlos Bustamante
**Biophysical Society 58th Annual Meeting, San Francisco, California**

**1250-PLAT 5:00 PM**
ATP ACTS AS SWITCH FOR TOGGING CALRETICULIN BETWEEN ITS LECTIN AND CHAPERONE FUNCTION.
**Karunesh Arora,** Charles L. Brooks III

**1251-PLAT 5:15 PM**
ALLOSTERIC OPENING OF THE POLYPEPTIDE-BINDING SITE WHEN AN HSP70 BINDS ATP. **Qinglian Liu,** Ruifeng Qi, Evans Sarbeng, Qun Liu, Katherine Le, Xinpeng Xu, Hongya Xu, Jiao Yang, Jennifer Wong, Christina Vorvirs, Wayne Hendrickson, Lei Zhou

**1252-PLAT 5:30 PM**
STABILITY AND DYNAMICS OF ALPHA CRYSSTALLIN OLIGOMERS PROBED BY FRET AND FCS REVEAL PERSISTENT OLIGOMERIZATION UNDER DILUTE CONDITIONS. **Alexander H. Pearlman,** Satyajeeet Salvi, Patricia B. O’Hara. **James A. Hebda**

**1253-PLAT 5:45 PM**
ENHANCED CHAPERONE CLUSTERING FACILITATES PROTEIN FOLDING IN THE ENDOPLASMIC RETICULUM OF YEAST. **Marc Griesemer,** Carissa Young, Anne S. Robinson, Linda Petzold

**4:00 PM–6:00 PM, ROOM 305**
**Platform**
**Protein-Lipid Interactions II**

**Co-Chairs**
**Jefferson Knight,** University of Colorado, Denver
**Shelli Frey,** Gettysburg College

**1254-PLAT 4:00 PM**
MOLECULAR MECHANISMS OF HIGH-AFFINITY PHOSPHINOISISITIDE BINDING BY THE TANDEM C2 DOMAINS OF GRANULPHILIN/SLP-4. Tatyana A. Lyakhova, **Jefferson Knight**

**1255-PLAT 4:15 PM**
NMR OF CONDITIONAL PERIPHERAL MEMBRANE PROTEINS. **Krystal A. Morales,** Mikaela D. Stewart, Tatyana I. Igumenova

**1256-PLAT 4:30 PM**
THE ROLE OF PROTEIN AND MEMBRANE CONTEXT IN THE INTERACTION OF POLYGLUTAMINE PEPTIDES WITH LIPID MEMBRANES. **Warren A. Campbell,** David Van Doren, Kathleen A. Burke, Justin Legleiter, Shelli L. Frey

**1257-PLAT 4:45 PM**
ASSOCIATION OF α-SYNUCLEIN WITH LIPID VESICLES. STOPPED-FLOW KINETICS OF CONCERTED BINDING AND CONFORMATIONAL CHANGE. **Thomas M. Jovin,** Volodymyr V. Shvadchak, Remco Siero, Lisandro J. Falomir-Lockhart, Vinod Subramaniam

**1258-PLAT 5:00 PM**
FLUORINATED AROMATIC AMINO ACIDS DISTINGUISH CATION-π INTERACTIONS FROM MEMBRANE INSERTION. **Tao He,** Anne Gershenson, Jianmin Gao, Mary F. Roberts

**1259-PLAT 5:15 PM**
IN VITRO RECONSTITUTION OF TRANSCELLULAR TUNNELS CLOSURE. **Coline Prévoix,** John Manzi, Hongsia Zhao, Peldka Lappalainen, Emmanuel Lemichez, Andrew Callan-Jones, Patricia Bassereau

**1260-PLAT 5:30 PM**
THE ASSEMBLY, STRUCTURE AND ACTIVATION OF INFLUENZA A M2 TRANSMEMBRANE DOMAIN DEPENDS ON LIPID MEMBRANE THICKNESS AND COMPOSITION. **Elka R. Georgieva,** Haley D. Norman, Peter P. Borbat, Jack H. Freed

**1261-PLAT 5:45 PM**
HSP70 ASSOCIATES WITH PHOSPHATIDYLSEERINE MEMBRANES VIA THE PEPTIDE BINDING DOMAIN. **Antonio De Maio,** Gabrielle Armijo, Victor Lopez, Derek Gonzales, Jonathan Okerblom, Nelson Arispe, David M. Cauvi

**4:00 PM–6:00 PM, ROOM 306**
**Platform**
**Computational Methods**

**Co-Chairs**
**David M Mobley,** University of California, Irvine
**Peter Mulligan,** Stanford University

**1262-PLAT 4:00 PM**
BAYESIAN STRUCTURE DETERMINATION FROM SPARSE SINGLE MOLECULE X-RAY DIFFRACTION IMAGES. **Michal Walczak,** Helmut Grubmuller

**1263-PLAT 4:15 PM**
XMDFF: MOLECULAR DYNAMICS FLEXIBLE FITTING OF LOW-RESOLUTION X-RAY STRUCTURES. **Abhishek Singharoy,** Ryan McGreevy, Qifei Li, Jingen Zhang, Eduardo Perozo, Klaus Schulten

**1264-PLAT 4:30 PM**
I-ATTRACT: A NEW FLEXIBLE DOCKING APPROACH FOR INVESTIGATING PROTEIN PROTEIN INTERACTIONS. **Christina Schindler,** Martin Zacharias

**1265-PLAT 4:45 PM**
PREDICTING CHARGED-LIGAND BINDING FROM MOLECULAR SIMULATIONS. **David L. Mobley,** Gabriel J. Rocklin

**1266-PLAT 5:00 PM**
RIBOSOMAL KINETICS AND CONCERTED MOTIONS FROM NANOSECONDS TO SECONDS. **Christian Blau,** Lars V. Bock, Gunnar F. Schrütter, Iakov Davydov, Niels Fischer, Holger Stark, Marina V. Rodnina, Andrea C. Vaiena, Helmut Grubmuller

**1267-PLAT 5:15 PM**
ACCELERATE SAMPLING IN ATOMIC ENERGY LANDSCAPES USING TOPOLOGY-BASED COARSE-GRAINED MODELS. **Weihng Zhang,** Jianhan Chen

**1268-PLAT 5:30 PM**
ANALYSIS OF SIZE AND COMPOSITIONAL DISTRIBUTIONS OF PLEOMORPHIC ENSEMBLES ARISING FROM CLUSTERING OF MULTIVALENT BIOLOGICAL MOLECULES. **Cibele V. Falkenberg,** Michael L. Blinov, Leslie M. Loew

**1269-PLAT 5:45 PM**
DYNAMIC RE-DISCRETIZATION ALLOWS SIMULATION OF BIOPOLYMERS ACROSS LENGTH-SCALES. **Peter Mulligan,** Elena F. Koslover, Andrew J. Spakowitz

**5:00 PM–6:30 PM, ROOM 123**
**Exhibitor Presentation**
**HEKA Elektronik**

**HEKA Electrophysiology Update**
For over 40 years, HEKA Elektronik has provided innovative products, expert tech support and unmatched service to their customers. HEKA’s commitment to technological innovation is reflected by consistent updating of both hardware and software. While yesterday’s gold standards try to keep pace with the latest research techniques, HEKA takes the lead.

By popular demand, HEKA is hosting a series of user meetings with tutorial presentations. On one hand, some of the new products will be showcased...
to the experienced user and, on the other hand, step-by-step guidance is provided to the researcher who is new to the field.

Registration is available online through the HEKA Events Page (http://server.hekahome.de/scripts/events.php), or by email to events@heka.com. The number of available spaces, food and drink are limited, and registrations are accepted on a first-come-first-served basis.

Who should attend?
• Scientists with experience in patch clamp electrophysiology and related scientific techniques
• Researchers who want to become more efficient in the use of electrophysiology acquisition and analysis software
• PostDocs and graduate students who want to learn more about electrophysiology techniques

Presenters:
Hubert Affolter, Senior Software Architect, HEKA Elektronik Germany
Jan Dolzer, Vice President Sales & Marketing, HEKA Elektronik Global
Telly Galiatsatos, General Manager, HEKA Instruments USA

7:30 pm–12:00 am, Marriott Marquis, Pacific H, I, J
Child Care

8:00 pm–9:30 pm, Room 134/135
Awards and National Lecture

Chair
Francisco Bezanilla, University of Chicago, Society President

8:00 pm  Presentation of Awards
8:15 pm  National Lecture

1270-NatL
A JOURNEY THROUGH CELLULAR PROCESSES:
ONE MOLECULE AT A TIME. Carlos Bustamante

9:30 pm–12:00 am, Marriott Marquis,
Yerba Buena Ballroom (Lower B2 Level)
Annual Meeting Reception and Dance

Registrants are invited to attend the reception following the National Lecture. Live music will accompany a dessert buffet. The cost is included in the registration fee. Badges will be required for admittance. Guest badges for this event are available for purchase during registration.

9:30 pm–12:00 am, Marriott Marquis,
Golden Gate (B2 Level)
Annual Meeting Reception and Quiet Room

Registrants are invited to attend the reception following the National Lecture. Light music will accompany a dessert buffet. The cost is included in the registration fee. Badges will be required for admittance. Guest badges for this event are available for purchase during registration.
MONDAY POSTER SESSIONS

The list of Monday Late Posters is in the Program addendum. The abstracts are available through the online itinerary planner.

Posters should be mounted 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 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 1:45 pm–2:45 pm**
**Even-Numbered Boards 2:45 pm–3:45 pm**

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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 Gymnastics (Boards #B1–#B26)

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CONFORMATIONAL FLEXIBILITY AND STRUCTURE IN HIGH-PRESSURE EXCITED STATES OF APOMYOGLOBIN REVEALED BY SDSL-EPR. Michael Lerch, Carlos Lopez, Wayne L. Hubbell

SINGLE PROTEIN COMPLEXES ISOMERIZATION AND CONFORMATIONAL DYNAMICS USING TRAPPED ION MOBILITY SPECTROMETRY: FROM MS TO SECONDS. Francisco Fernandez-Lima

MINIMA AND BARRIERS ON THE PRESSURE-TEMPERATURE FREE ENERGY LANDSCAPE OF PHOSPHOGLYCERATE KINASE. Maxim B. Prigzhin, Shobhna Kapoor, Roland Winter, Martin Gruebele

ACCELERATED MONTE-CARLO SIMULATIONS FOR ALL-ATOM PROTEIN FOLDING. Moritz Wolf, Timo Strunk, Wolfgang Wenzel
Intrinsically Disordered Proteins I (Boards #B88–#B111)

1342-Pos  Board #B72
POLAR INTERACTIONS TRUMP HYDROPHOBICITY IN STABILIZING A MEMBRANE-INTERACTING PROTEIN. Sebastian Fiedler, Jana Broecker, Sandro Keller

1343-Pos  Board #B73
BUILDING AN ARTIFICIAL MEMBRANE PROTEIN: DESIGN, EXPRESSION AND CHARACTERIZATION IN MICELLES AND LIPID VESICLES. Geetha N. Goparaju, Bryan A. Fry, P. Leslie Dutton, Bohdana M. Discher

1344-Pos  Board #B74
FOLDING DYNAMICS AND MOLECULAR INTERACTIONS OF OUTER MEMBRANE PROTEIN A. Guipeun Kang, Judy E. Kim

1345-Pos  Board #B75
FOLDING AND LIPID MEMBRANE INTERACTIONS OF BAMD, AN ESSENTIAL COMPONENT OF THE β-BARREL ASSEMBLY MACHINE FROM ESCHERICHIA COLI. Meenakshi Sharma, Geetika J. Patel, Jörg H. Kleinschmidt

1346-Pos  Board #B76
INFLUENCES OF THE HYDROPHOBIC ENVIRONMENT ON THE STRUCTURE AND FUNCTION OF MEMBRANE PROTEINS AND DEVELOPMENT OF INNOVATIVE SURFACTANTS CALLED AMPHIPOLS. Manuela A. Zoonens

1347-Pos  Board #B77

1348-Pos  Board #B78
DETERMINING THE STRUCTURAL TOPOLOGY OF KCNE1 IN A LIPID BILAYER USING ELECTRON PARAMAGNETIC RESONANCE (EPR) SPECTROSCOPY. Andrew F. Craig, Indra D. Sahu, Rongfu Zhang, Megan M. Dunagan, Andrew G. Meiberg, Corrine N. Harmon, Robert M. McCarrick, Gary A. Lorigan

1349-Pos  Board #B79
STRUCTURE OF A THREE HELIX MEMBRANE PROTEIN FROM ORIENTED SAMPLE AND MAGIC ANGLE SPINNING NMR DATA. Dylan T. Murray, Ivan Hung, Timothy A. Cross

1350-Pos  Board #B80
STRUCTURAL STUDIES OF HETEROMERIC CONNEXIN26/30 HEMICHANNELS VIA ATOMIC FORCE MICROSCOPY IMAGING. Pamela A. Naulin, Y Liu, A. L. Harris, Jorge E. Contreras, Nelson P. Barrera

1351-Pos  Board #B81
COMPARATIVE ANALYSIS OF FULL-LENGTH CYTOCHROMES P450 IN COMPLEXES WITH CYTOCHROME B5 IN MEMBRANE. Irina Pogozheva, Rui Huang, Ayyalasamy Ramamoorthy, Andrei L. Lomize

1352-Pos  Board #B82
THEORETICAL INVESTIGATION OF TRHBN ASSOCIATION TO BIOLOGICAL MEMBRANES. Rheault Jean-François, Auger Michèle, Guertin Michel, Lague Patrick

1353-Pos  Board #B83
STRUCTURE, DYNAMICS, AND RECEPTOR BINDING OF OPA PROTEINS. Ryan H. Lo, Daniel A. Fox, Linda Columbus

1354-Pos  Board #B84
STRUCTURE AND FUNCTION OF THE BETA-BARREL ASSEMBLY MACHINE AND ITS ASSOCIATED CHAPERONES. Marcelo Sousa

1355-Pos  Board #B85
MECHANISMS OF MEMBRANE-PROTEIN INSERTION AT THE INNER AND OUTER MEMBRANES. James C. Gumbart

1356-Pos  Board #B86
HIGH PRECISION FRET ANALYSIS OF THE G-PROTEIN COUPLED RECEPTOR TGR5 IN LIVE CELLS. Annemarie Koch, Manuel Frohnapfel, Christoph Gertzenn, Holger Gohlke, Verena Keitel, Claus A.M. Seidel

1357-Pos  Board #B87
SINGLE-MOLECULE STUDY OF TRANSMEMBRANE PROTEIN TRANSPORT. Krishna C. Mudumbi, Weidong Yang

Biophysical Society 58th Annual Meeting, San Francisco, California
**DNA Replication and Dynamics**

(Boards #B112–#B127)

**1367-Pos** Board #B97
LONG-RANGE DISTANCE CONSTRAINTS FOR THE FIBRIL FOLD OF PARKINSON’S PROTEIN ALPHA-SYNUCLEIN.
Maryam Hashemi Shabestari, Pravin Kumar, Ine M.J. Segers-Nolten, Mireille M.A.E. Claessens, Bart D. van Rooijen, Vinod Subramaniam,
Martina Huber

**1368-Pos** Board #B98
STRUCTURE OF THE TRANSIENT, MEMBRANE-ACTIVE AMYLOID BETA OLIGOMERS IN PHYSIOLOGICAL SOLUTIONS PROBED BY A COMBINATION OF FLUORESCENCE AND SOLID STATE NMR. Bappadiyaya Chandra, Bidyut Sarkar, Venus Singh, Arghya Mandal, Muralidharan Chandrakasan, Perunthiruthy K. Madhu, Sudipta Maiti

**1369-Pos** Board #B99
SYSTEMATIC CHARACTERIZATION OF WILD TYPE AND FAMILIAL ALZHEIMER’S DISEASE MUTANT Aβ MONOMERS THROUGH THE CONVERGENCE OF ENSEMBLES SIMULATED WITH DIFFERENT FORCE FIELDS. David J. Rosenman, Nicolina Clemente, Chunyu Wang, Angel E. García

**1370-Pos** Board #B100
STRUCTURAL AND MECHANISTIC ANALYSES OF THE EFFECTS OF SMALL COMPOUNDS ON AMYLOID BETA SELF-ASSEMBLY. Johnny Habchi, Priyanka Joshi, Alessandro Spilotros, Dmitri Svergun, Michele Vendruscolo

**1371-Pos** Board #B101
INTERNATIONAL TRAVEL AWARDEE. Decoupling Conformation, Aggregation and Function of Amyloid-β Monomers and Oligomers: An FCS, SERS and AFM Study. Debanjan Bhomnik, Christina MacLaughlin, Gilbert C. Walker, Sudipta Maiti

**1372-Pos** Board #B102
TRANSTHYRETIN INTERACTS WITH AMYLOID-BETA OLIGOMERS TO DELAY AMYLOID AGGREGATION. Kanchan Garai, Xinyi Li, Evan M. Powers, Joel Buxbaum, Rohit Pappu

**1373-Pos** Board #B103
AMYLIN INTERACTS WITH Aβ AND MAY ACCELERATE THE DEVELOPMENT OF DEMENTIA. Kaleena Jackson, Simon Xie, Florin Despa

**1374-Pos** Board #B104
MAPPING THE STRUCTURE OF TAU USING SINGLE MOLECULE FRET. Xiaohan Li, Elizabeth Rhoades

**1375-Pos** Board #B105
EXPLORING A TWO-STEP ADSORPTION OF AN INTRINSICALLY DISORDERED PEPTIDE AT MODEL TEMPLATES. Prajnaparamita Dhar, Jordan Hildenbrand

**1376-Pos** Board #B106
INCREASED AFFINITY FOR TUBULIN IMPAIRS TAU FUNCTION. Elizabeth Rhoades. Shana Elbaum-Garfinkle, Garrett Cobb, Jocelyn T. Compton, Xiaohan Li

**1377-Pos** Board #B107
EDUCATION TRAVEL AWARDEE. STATHMIN EXISTS AS AN OLIGOMER IN SOLUTION, AS EVIDENCED BY STATIC LIGHT-SCATTERING, NATIVE GEL ELECTROPHORESIS, AND EPR SPECTROSCOPY. Ashley J. Chui, Katherine C. Chua, Michael D. Bridges

**1378-Pos** Board #B108
GLI3/SPop MULTIVALENT INTERACTIONS ARE CONCENTRATION-DEPENDENT. Melissa R. Marzahn, Tanja Mittag

**1379-Pos** Board #B109
SOLVENT EFFECTS ON THE STRUCTURE AND INTERNAL DYNAMICS OF CALCITONIN GENE-RELATED PEPTIDE. Sara M. Sizemore, Stephanie M. Cope, Anindya Roy, Giovanna Ghirlanda, Sara M. Vaiana

**1380-Pos** Board #B110
MOLECULAR CROWDING STABILIZES BOTH THE INTRINSICALLY DISORDERED CALCIUM-FREE STATE AND THE FOLDED CALCIUM-BOUND STATE OF AN RTX PROTEIN: IMPLICATION FOR TOXIN SECRETION. Ana Cristina Sotomayor Pérez, Orso Subrini, Audrey Hessel, Daniel Ladant, Alexandre Chenal

**1381-Pos** Board #B111
STRUCTURAL ENSEMBLES OF INTRINSICALLY DISORDERED PROTEINS DEPEND STRONGLY ON FORCE FIELD. Sarah Rauscher, Vytraus Gapsys, Andreas Volkhardt, Christian Blau, Bert L. de Groot, Helmut Grubmüller
DNA Structure and Dynamics II (Boards #B128-#B158)

1390-Pos Board #B120
SIMULTANEOUS IMAGING OF LEADING- AND LAGGING-STRAND SYNTHESIS REVEALS DISTINCT OPERATIONAL MODES OF SINGLE REPLICATION MACHINES. Karl E. Duderstadt, Christiana M. Punter, Arkadiusz W. Kulczyk, Charles C. Richardson, Antoine M. van Oijen

1391-Pos Board #B121
DOMAIN ARCHITECTURE OF RECQ HELICASE DEFINES MECHANOCHEmICAL LINKAGE VIA MULTIPARTITE INTERACTIONS WITH DNA SUBSTRATE DURING UNWINDING ACTIVITY. Gabor Harami, Yeonee Seol, Junghoon In, Kata Sarlos, Yuze Sun, Mate Martina, Keir C. Neuman, Mihaly Kovacs

1392-Pos Board #B122
VISUALIZING REPLICATION RESTART PROCESS IN VIVO WITH SINGLE-MOLECULE SENSITIVITY. Sarah M. Mangiameli, Paul A. Wiggins, Houra Merrikh, Chris Merrikh

1393-Pos Board #B123
COMPLEX TEMPERATURE DEPENDENT EQUILIBRIA DICTATE DNA POLYMERASE EXCHANGE PROCESSES DURING SYNTHESIS. Michael A. Trakselis, Robert J. Bauer, Hsiang-Kai Lin, Michael A. Trakselis

1394-Pos Board #B124
MECHANISTIC STUDIES OF DNA-PROTEIN INTERACTIONS IN BACTERIOPHAGE T4 DNA REPLICATION COMPLEXES AT SINGLE-BASE RESOLUTION. Davis Jose, Steven E. Weiner, Walter A. Baase, Peter H. von Hippel

1395-Pos Board #B125
A NOVEL FRET-BASED STRUCTURE OF DNA POLYMERASE COMPLEXED WITH KINKED GAPPED-DNA. Timothy D. Craggs, Marko Sustarsic, Johannes Hohlbein, Andrew Cuthbert, Nicholas Taylor, Geraint Evans, Achilles N. Kapanidis

1396-Pos Board #B126
TIME-RESOLVED PLASMID COUNTING BY WAY OF TRANSCRIPTION FACTOR SEQUESTRATION. Robert Brewster, Franz Weinert, Rob Phillips

1397-Pos Board #B127
CONCENTRATION-DEPENDENT EXCHANGE OF REPLICATION PROTEIN A ON SINGLE-STRANDED DNA REVEALED BY SINGLE-MOLECULE IMAGING. Bryan Gibb, Ling F. Ye, Stephanie C. Gergoudis, YoungHo Kwon, Hengyao Niu, Patrick Sung, Eric C. Greene

1398-Pos Board #B128
THE EFFECTS OF BASE STACKING ON DNA FLEXIBILITY. Lauren S. Mogil, Justin P. Peters, Jim Maher

1399-Pos Board #B129
CONFORMATIONAL TRANSITION OF NANOSLIT CONFINED DNA AT LOW IONIC STRENGTHS. JinYong Lee, Kyubong Jo

1400-Pos Board #B130
PROBING SEQUENCE AND TOPOLOGICAL SPECIFICITY IN THE BINDING OF TETRA(METHYLPYRIDYL)PORPHINES TO DNAs. Stephen A. Winkle, Jennifer Barretta, Diane Edgar, Raul Castroillo, Olga Roman, Roxana Roque, Jessica Millar, Maria Ballester

1401-Pos Board #B131

1402-Pos Board #B132

1403-Pos Board #B133
SIMULATIONS OF CROSSLINKING EFFICIENCY AND SEQUENCE SPECIFICITY OF NITROGEN MUSTARD ANTICANCER DRUGS. Moon Joon Park, Michael E. Colvin

1404-Pos Board #B134
CHARACTERIZATION OF DNA-CTAB AGGREGATES. Kathleen Westervelt, Pamela M. St. John

1405-Pos Board #B135
SINGLE MOLECULE STUDIES OF SEQUENCE DEPENDENCE ELASTICITY IN DNA. Julia T. Bourg, Krishnan Raghunathan, Alan Kandinov, Joshua N. Milstein, Jens-Christian Meiners

1406-Pos Board #B136
MECHANICAL PROPERTIES OF DNA-LIKE POLYMERS. Justin P. Peters, L. James Maher III

1407-Pos Board #B137
INVESTIGATING THE DNA FOLDING MECHANICS OF PROTAMINE. Ji Hoon Lee, Robert D. Schwab, Ashley R. Carter

1408-Pos Board #B138
MEASURING ENERGETICS OF SHARP DNA BENDING FROM BREAKAGE KINETICS OF SMALL DNA LOOPS. Tung T. Le, Harold D. Kim

1409-Pos Board #B139
POLYETHYLENEIMINE-DNA INTERACTIONS. T J Thomas, Srirupriya Venkiteswaran

1410-Pos Board #B140
ON THE CONTINUITY OF STATES BETWEEN DNA-ORDERING TRANSITIONS IN MONO- AND MULTI-VALENT SALT SOLUTIONS. Selcuk Yasar, Rudolf Podgornik, Adrian Parsegian

1411-Pos Board #B141
ON THE ORIGIN OF OVERSTRETCHING TRANSITIONS IN SINGLE- AND DOUBLE-STRANDED NUCLEIC ACIDS. Zackary N. Scholl, Mahir Rabbi, David Lee, Laura Manson, Hanna S-Gracz, Piotr E. Marszalek

1412-Pos Board #B142
STABILITY OF DNA IN HYDRATED IONIC LIQUIDS: EFFECT OF SOLVENT NANOSTRUCTURING. Debostuti Choshdastidar, Anesha Chandran, Sanjib Senapati

1413-Pos Board #B143
SUPERCYLINDER DYNAMICS ALONG STRETCHED DNA BY BROWNIAN DYNAMICS. Todd D. Lillian, David Bell, Justin Polk

1414-Pos Board #B144
MODELING THE RELAXATION OF DNA SUPERCOILS. Ikenna D. Ivenso, Todd Lillian

1415-Pos Board #B145
PERSISTENCE LENGTH OF SINGLE STRANDED DNA: EFFECT OF LENGTH, SEQUENCE AND SURFACE. Ho Shin Kim, Yaroslava G. Yingling
RNA Structure and Dynamics I
(Boards #B159-#B188)

1429-Pos   Board #B159
SUGAR ALCOHOL OSMOLITES DEMONSTRATE THE VISCOITY DEPENDENT FOLDING KINETICS OF RNA TERTIARY STRUCTURAL MOTIFS. Nicholas Dupuis, David Nesbitt

1430-Pos   Board #B160
DE NOVO FOLDING OF RNA HAIRPINS BY TEMPERATURE REPLICA EXCHANGE. Jacob C. Miner, Alan A. Chen, Angel E. Garcia

1431-Pos   Board #B161
EXPLORING THE ENERGY LANDSCAPE OF RNA: A DIRECT EVALUATION OF THE COUNTERION MEDIATED FREE ENERGY. Paul S. Henke, Chi H. Mak

1432-Pos   Board #B162
L-PROLINE DESTABILIZATION OF RNA DUPLEXES IS TEMPERATURE DEPENDENT. Jeffrey J. Schwinefsus, Ryan Menssen, Lucas Haase

1433-Pos   Board #B163
TARGETING THE HEPATITIS C VIRUS WITH PNAs. Damian S. McAninch, Arunava Manna, Danith Ly, Mihaela-Rita Mihailescu

1434-Pos   Board #B164
TIME-RESOLVED AND DYNAMIC STUDIES OF RIBOSWITCHES. Andrew Longhini

1435-Pos   Board #B165
RNA STRUCTURAL REARRANGEMENTS DURING Reverse TRANSCRIPTION INITIATION IN HIV. Aaron Coey, Margreth Mpossi, Elisabetta Viani-Pugilisi, Joseph Pugilisi

1436-Pos   Board #B166
EXPLORING THE GENOTYPE/PHENOTYPE LANDSCAPE OF SELF-ASSEMBLING MODULES IN RNA. Paul Zakrevsky, Erin R. Calkins, Luc Jaeger

1437-Pos   Board #B167
THE INFLUENCE OF THE FORM OF TRNA ON COMPLEX FORMATION WITH Porphyrins. Ishkhan Vardanyan, Yeva Dalyan

1438-Pos   Board #B168
MINORITY AFFAIRS TRAVEL Awardee
STUDYING DYNAMICS AND CONFORMATIONAL CHANGES IN THE GLYCINE RIBOSWITCH USING ELECTRON PARAMAGNETIC RESONANCE SPECTROSCOPY. Jacqueline M. Esquiaqui, Gail E. Fanucci, Jingdong Ye

1439-Pos   Board #B169
THEORETICAL AND EXPERIMENTAL STUDY OF THE CONFORMATIONAL STRUCTURE OF HIV RNA. Xiao Fan, Yanan Li, Yingya Liu, Po Wang, Haitao Li

1440-Pos   Board #B170
EXPLOITING CO-TRANSCRIPTIONAL FOLDING AND PROCESSING OF NASCENT MESSENGER RNA FOR MODULATING SPECIFIC EXON SPlicing. Jing Lin, Keng Boon Wee, Zacharias Aloysius Dwi Pramono, Uttam Surana

1441-Pos   Board #B171
STRUCTURAL POLYMORPHISM OF (CAG)n REPEAT RNA ELUCIDATED USING SINGLE MOLECULE NANOMANIPULATION. William T. Stephenson, Sean Keller, Scott A. Tenenbaum, Michael Zucker, Pan T.X. Li
1442-Pos  Board #B172
PREDICTING THE 3D SECONDARY STRUCTURE OF RNA MOLECULES. Mario Villada-Balbuena, Oscar Taxilaga-Zetina, Mauricio D. Carbajal-Tinoco

1443-Pos  Board #B173

1444-Pos  Board #B174
NMR SPECTROSCOPY OF RIBOSWITCHES USING IN VIVO LABELED RNAs. Rachel E. Brown, My T. Le, Andrew P. Longhini, Theodore K. Dayie

1445-Pos  Board #B175
MOLECULAR DETERMINANTS OF LIGAND RECOGNITION IN THE PREQ1 RIBOSWITCH: QUANTITATING THE EFFECT OF 7-AMINOMETHYL MODIFICATIONS IN A SERIES OF PREQ1 ANALOGS. Jenna M. Davison, Neilson K. Neilson, Mallory N. Pahl, Ian T. Suydam

1446-Pos  Board #B176
THE SNAKELIKE CHAIN CHARACTER OF UNSTRUCTURED RNA. David R. Jacobson, Dustin B. McIntosh, Omar A. Saleh

1447-Pos  Board #B177
COMPARING RNA KISSING INTERACTIONS AT SINGLE-MOLECULE AND ENSEMBLE LEVELS. William Stephenson, Papa Nii Asare-Okai, Scott Tenenbaum, Daniele Fabris, Pan TX Li

1448-Pos  Board #B178
COMPUTATIONAL ANALYSIS OF CO-TRANSCRIPTIONAL RIBOSWITCH FOLDING. Benjamin Lutz, Michael Faber, Abhinav Verma, Stefan Klumpp, Alexander Schug

1449-Pos  Board #B179
LINKING RNA SECONDARY STRUCTURE TO THE FREE ENERGY OF TERTIARY STRUCTURE FOLDING THROUGH COARSE-GRAINED MODELS. Anthony M. Mustoe, Hashim M. Al-Hashimi, Charles L. Brooks, III

1450-Pos  Board #B180
COARSE-GRAIN RNA FOLDING: TOWARDS MORE COMPLEX STRUCTURES. Tristan Cagnololini, Yoann Laurin, Philippe Derreumaux, Samuela Pasquali

1451-Pos  Board #B181
OBSERVATION OF GLOBAL CHANGES IN CONFORMATION OF AN RNA KISSING COMPLEX USING SINGLE-MOLECULAR-PAIR FRET. Sheema Rahmanseresht, Peker Milas, Ben D. Gamari, Louis Parrot, Lori S. Goldner

1452-Pos  Board #B182
FOLDING IN HUMAN TELOMERASE RNA PSEUDOKNOTS: KINETIC AND THERMODYNAMIC STUDIES VIA SINGLE-MOLECULE FRET. Erik Holmstrom, David Nesbitt

1453-Pos  Board #B183
ROLE OF MAGNESIUM IONS AND LIGAND STACKING IN THE ADENINE RIBOSWITCH FOLDING. Francesco Di Palma, Francesco Colizzi, Giovanni Bussi

1454-Pos  Board #B184
MODELING UNPAIRING COSTS FOR FAST COMPUTATION OF THE NET BINDING FREE ENERGY OF AN OLIGO TO AN MRNA TARGET. Julian M. Hess, William K. Jannen, Daniel P. Aalberts

1455-Pos  Board #B185

1456-Pos  Board #B186
WHEN FREELY-ROTATING ISN'T ENOUGH: A STUDY OF CYANINE DYES ON RNA. Peker Milas, Ben D. Gamari, Sheema Rahmanseresht, Brent Krueger, Lori S. Goldner

1457-Pos  Board #B187
SOLVENT KINETIC ISOTOPE EFFECTS ON 2'-HYDROXY ACYLATION OF RNA. Michael B. Jarstfer, Mahmood Shobair, Yishu Wang

1458-Pos  Board #B188
CONFORMATIONAL ENTROPY OF THE RNA PHOSPHATE-SUGAR BACKBONE. Tyler Matossian, Chi Mak

Membrane Physical Chemistry I (Boards #B189–#B218)

1459-Pos  Board #B189
EFFECTS OF OXIDIZED LIPID SPECIES ON PERMEABILITY OF GIANT UNILAMELLAR VESICLE MEMBRANES. Kristina A. Runas, Su Li, Noah Malmsrtdt

1460-Pos  Board #B190
THE INFLUENCE OF HYDROXYL POSITION ON OXysterOL/PHOSPHOLIPID MONOLAYER PHASE BEHAVIOR: EXPERIMENTAL RESULTS AND MODEL. Joan C. Kunz, Eleni Beyene, Luis HB Hernandez, Ravi Tavaledy, Benjamin L. Stottrup

1461-Pos  Board #B191

1462-Pos  Board #B192
TRACKING THE MODULATION OF MEMBRANE STRUCTURE IN SUVs BY DSC - A COMMENT ON LIPID PHASE TRANSITION. Chen Shen, Beate M. Klüggen

1463-Pos  Board #B193
ROLE OF CONFINED WATER ON THE COMPRESSIBILITY MODULUS OF LIPID MONOLAYERS. Maria Frias, Cecilia Salcedo, Andrea Cuto, Anibal Disalvo

1464-Pos  Board #B194
ADHESION-INDUCED DOMAIN FORMATION IN MULTICOMPONENT MEMBRANES. Jan Steinkühler, Reinhard Lipowsky, Peter Hildebrandt, Rumiana Dimova

1465-Pos  Board #B195
INTERMEMBRANE FORCES AND MEMBRANE DEFORMATION OBSERVED VIA DEHYDRATION AND OSMOTIC PRESSURE. Jacob J. Kinnun, K. J. Mallikarjunaiah, Luis A. Palacio, Michael F. Brown, Horia I. Petrache

1466-Pos  Board #B196
PHENOMENOLOGICAL ELASTICITY THEORY APPROACH TO BOLALIPID MEMBRANES. Timur R. Galimzyanov, Petr I. Kuzmin, Sergey A. Akimov

1467-Pos  Board #B197
INTERACTION OF PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE WITH POTENTIAL CLUSTERING AGENTS CA2+, MG2+, AND CHOLESTEROL. Zachary T. Graber, Arne Gericke, Edgar E. Kooyman
LIPIDS AS REGULATORS OF EFFECTIVE MEMBRANE RIGIDITY.
Ksenia Chekashkina, Peter Kazmin, Pavel Bashkirov, Vadim Frolov

ENHANCEMENT IN LIPID BILAYER PARTITIONING OF LYSOLIPIDS AND FATTY ACIDS INDUCED BY THEIR COMPOSITION. Radha Ranganathan, Jasmeet Singh

A COMPREHENSIVE STUDY OF PREFERENTIAL INTERACTION OF CHOLESTEROL AND ITS FLUORESCENT ANALOGS WITH DIFFERENT CLASSES OF PHOSPHOLIPIDS.
Shishir Jaikishan, Thomas K. M. Nyholm

VESICLES AND PHASE DYNAMICS: CROSS-LINKING EFFECTS.
Michael S. Kessler, Susan Gillmor

DOMAIN SIZE DISTRIBUTION IN PHASE SEPARATED CHOLESTEROL/PHOSPHOLIPID LANGMUIR MONOLAYERS: LINE TENSION AND TRANSITION KINETICS. Emil Eldo, Andris Bibelnieks, Promise Okeke, Joan C. Kunz, Benjamin L. Stottrup

BILAYER THICKNESS MISMATCH CONTROLS DOMAIN SIZE IN MODEL MEMBRANES. Frederick A. Heberle, Robin S. Petruzielo, Jianjun Pan, Paul Drazba, Norbert Kucerka, Robert F. Standaert, Gerald W. Feigenson, John Katsaras

LIPID BILAYERS CONTAINING SPHINGOMYELINIS AND CERAMIDES OF VARYING N-ACYL LENGTHS: A GLIMPSE INTO SPHINGOLIPID COMPLEXITY. Noemi Jimenez-Rojo, Aritz B. Garcia-Arribas, Jesus Sot, Alicia Alonso, Felix M Goni

MINORITY AFFAIRS TRAVEL AWARDEE ION EXCLUSION FROM MULTILAMELLAR LIPID VESICLES.
Johnnie W. Wright, Merrell A. Johnson, Horia I. Petrace

SOLUTION POLARIZABILITY DEPENDENCE OF LIPID BILAYER INTERACTIONS. Merrell A. Johnson, Heather D. Stout, Ryan Z. Lybarger, Horia I. Petrace

THERMODYNAMIC CHARACTERIZATION OF THE ASSOCIATION OF CHOLESTEROL WITH PHOSPHOLIPIDS WITH VARYING DEGREES OF UNSATURATION.
Marshall J. Colville, Drake C. Mitchell

PHASE COEXISTENCE IN TERNARY LIPID MIXTURES CONTAINING POPC AND PHYTOSTEROLS, ERGOSTEROL OR 7-DEHYDROCHOLESTEROL. Mehran Shagahghi, Ming-Yen Kuo, Ya-Wei Hsueh, Martin Zuckermann, Jennifer Thewalt

PHYSICAL PROPERTIES OF INVERSE-PHOSPHOHOLINE LIPIDS. Jennifer Berman, Vincenzo Carnevale, Lucie Delemotte

BRAIN-SM/SDPC/CHOLESTEROL PHASE DIAGRAM.
Tatyana M. Konyakhina, Gerald W. Feigenson

ELECTROPORATION DYNAMICS OF GIANT VESICLES WITH ENCAPSULATED GEL AND IN THE PRESENCE OF SALT OR DETERGENTS. Rafael B. Lira, Rumiana Dimova, Karin A. Riske

THE EFFECT OF CHOLESTEROL ON THE MORPHOLOGY OF MIXED PHOSPHATIDYLSERIN/PHOSPHOINOSITIDE/PHOSPHATIDYLETHANOLAMINE MODEL MEMBRANES.
Katrice E. King, Arne Gericke

LIPID MEMBRANES AS SOLVENT FOR CARBON NANOPARTICLES. Jonathan Barnoud, Giulia Rossi, Luca Monticelli

LATTICE-BASED MONTE CARLO SIMULATIONS OF LIPID MEMBRANES: CORRESPONDENCE BETWEEN TRIANGULAR AND SQUARE LATTICES. Anastasia B. Artemieva, Petra Schwille, Eugene P. Petrov

MOLECULAR MODELING AND SIMULATIONS OF REVERSE MICELLES. Gozde Eskici, Paul Axelshen

CURVATURE AND LIPID CLUSTERING WITHIN ASYMMETRIC BIOLOGICALLY RELEVANT CLUSTERING MEMBRANE MODELS. Heidi Koldso, Mark S. P. Sansom

MULTISCALE MODELING OF FOUR COMPONENT LIPID MIXTURES: COARSE GRAINED AND UNITED ATOM SIMULATIONS REVEAL TRENDS IN PHASE SEPARATION.
David G. Ackerman, Gerald W. Feigenson

MOLECULAR INSIGHTS INTO ELECTROPORATION AND ELECTROTRANSFER THROUGH MODEL CELL MEMBRANES. Marina Kasimova, Lucie Delemotte, Andraz Polak, Damijan Miklavcic, Maura Casciola, Francesca Apollonio, Marie Breton, Luis Mir, Alexey Shaytan, Konstantin Shaitan, Mounir Tarek
1493-Pos  Board #B223
HOW SPOVM INTERACTS WITH LIPID BILAYERS AND BACTERIAL CELL MEMBRANES.  
Yen Sun, Huey W. Huang

1494-Pos  Board #B224
TRANSLOCATION OF CATIONIC AMPHIPATHIC PEPTIDES ACROSS THE MEMBRANES OF PURE PHOSPHOLIPID GIANT VESICLES.  
Paulo F. Almeida, Sterling Wheaten, Francis Abplanalp, B. Logan Spaller, Julie Trieu

1495-Pos  Board #B225
DIMMER IS A MINIMAL FUNCTIONAL UNIT OF INFLUENZA A VIRUS M2 CHANNEL ON LIVING CELLS.  
Kenichi Kawano, Yoshiaki Yano, Katsumi Matsuoka

1496-Pos  Board #B226
PROCESS OF INDUCING PORES IN MEMBRANES BY MELITININ.  
Ming-Tao Lee, Tzu-Lin Sun, Wei-Chin Hung, Huey W. Huang

1497-Pos  Board #B227
1+1=3? CONCERTED ACTION OF MEMBRANE PERMEABILIZERS.  
Hiren Patel, Quang Huynh, Dominik Bärlehner, Heiko Heerklotz

1498-Pos  Board #B228
ANTIMICROBIAL PEPTIDES PISCIDIN 1 AND PISCIDIN 3 KINK AT A CENTRAL GLYCINE TO MAXIMIZE THEIR HYDROPHOBIC MOMENTS.  
B. Scott Perrin, Jr., Riqiang Fu, Richard M. Venable, Ella Mihaiescu, Chris V. Grant, Ye Tian, Stanley Opella, Richard W. Pastor, Myriam Cotten

1499-Pos  Board #B229
REDISTRIBUTION OF CHOLESTEROL IN MODEL LIPID MEMBRANES IN RESPONSE TO ALAMETHICIN.  
Shuo Qian, William T. Heller

1500-Pos  Board #B230
SCREENING THE INSERTION OF FAMILIES OF BIOACTIVE MICROBIAL METABOLITES INTO TETHERED BILAYER LIPID MEMBRANES (TBLMs).  
Charles G. Cranfield, Sonia Carne, Heba Alkhamic, Paul Duckworth, Ernest Lacey, Boris Martinac, Bruce Cornell

1501-Pos  Board #B231
NMR CHARACTERIZATION OF SPIDER VENOM NEUROTOXIN STRUCTURE AND INTERACTIONS WITH LIPID BILAYERS.  
Xianguan Shi

1502-Pos  Board #B232
STRUCTURE ACTIVITY RELATIONSHIP FOR A SYNERGISTIC PAIR OF ANTIMICROBIAL PEPTIDES FROM THE MAGAININ FAMILY.  
Jonathan Zerweck, Erik Strandberg, Parvesh Wadhwani, Anne S. Ulrich

1503-Pos  Board #B233
UNVEILING THE MEMBRANE-BINDING PROPERTIES OF N-TERMINAL AND C-TERMINAL REGIONS OF G PROTEIN-COUPLED RECEPTOR KINASE 5 BY COMBINED OPTICAL SPECTROSCOPIES.  
Bei Ding, Alisa Glukhova, John J.G. Tesmer, Zhan Chen

1504-Pos  Board #B234
BAYESIAN ANALYSIS OF IMAGING FCS INVESTIGATES THE INTERACTION OF MONOMERIC HIAPP WITH LIVE CELL MEMBRANE.  
Nirmalya Bag, Syuan-Ming Guo, Aseem Mishra, Mark Barthe, Thorsten Woehland

1505-Pos  Board #B235
STRUCTURE, DYNAMICS, AND ELECTROSTATIC EFFECTS ON MEMBRANE BINDING OF NOD PEPTIDES.  
Mary Chel Quinones, Vyta B. Bankaitis, Tatiana I. Smirnova

1506-Pos  Board #B236
THE CONFORMATIONAL FLEXIBILITY OF AN INTERNAL FUSION PEPTIDE FROM SARS-COV SPIKE GLYCOPEPTIDE IS MODULATED BY LIPID MEMBRANE COMPOSITION.  
Luis G. M. Basso, Tácio V.A. Fernandes, José F. Lima, Edson Crusca Jr., Eduardo F. Vicente, Eduardo M. Cilli, Pedro G. Pascutti, Antonio J. Costa-Filho

1507-Pos  Board #B237
CALCIUM CHANNEL BLOCKERS USED AS ANTI-HYPERTENSION AGENTS AFFECT THE TOXICITY OF AB PEPTIDES ON NEURONS.  
Nelson Arispe, Michael R. Williams, Isabel Rivera, Ho-pi Lin, David M. Cauvi, Antonio De Maio

1508-Pos  Board #B238
THE EFFECT OF THE HYDROPHOBIC SURFACANT PROTEINS ON H+ CURVATURE DEPENDS ON THE CYLINDRICAL RADIUS.  
Mariya Chavarha, Ryan W. Loney, Shankar B. Rananavare, Stephen B. Hall

1509-Pos  Board #B239
DENGUE VIRUS CAPSID PROTEIN DELIVERS NUCLEIC ACIDS INTRACELLULARLY.  
Miguel A. Castanho, João Freire, A. Salome Veiga, Thais Conceição, Wioleta Kowalczyk, Ronaldo Borges, David Andreu, Nuno Santos, Andrea Da Potian

1510-Pos  Board #B240
TOWARDS PHILIP INSERTION IN THE PLASMAMEMBRANE OF CANCER CELLS AT PHYSIOLOGICAL TUMOR ACIDITY.  
Ming An, Joab Onyango, Michael S. Chung, Raemer J. Lapid, Emma A. Gordon, Rachel Langenbacher, Syris Winge-Barnes, Rebecca A. Chandler, Donald M. Engelman, Lan Yao

1511-Pos  Board #B241
STRUCTURAL INSIGHTS INTO HUMAN HEMOKININ1-NK1RECEPTOR INTERACTIONS.  
Anjali M. Ganjiwale, Priyanka Mishra, Deepak Bhatnagar, Sudha M. Cowsik

1512-Pos  Board #B242
PEPTIDE LIPIDATION BY ACYL TRANSFER FROM MEMBRANE LIPIDS AND LYSO-LIPIDS.  
Vian Ismail, Burkhard Bechinger, Jackie A. Mosely, John M. Sanderson

1513-Pos  Board #B243
MODIFIED LIPID CONTENT AFFECTS DAPTOMYCIN-MEMBRANE INTERACTIONS.  
Evan Mintzer, Nasim Tishbi, Rachel Leah Victor, Jennifer Herskowitz, Adi Cohen

1514-Pos  Board #B244
MEMBRANE-DEPENDENT ACTIVITY OF THE DERMCIDIN CHANNEL.  
Chen Song, Bert L. de Groot, Mark S. P. Sansom

1515-Pos  Board #B245
MODELLING THE INTERACTIONS OF EQUINATOXIN II WITH MICELLES.  
Daniel Weber, Shenggen Yao, Gregor Anderluh, Terry Lybrand, Matthew Downton, John Wagner, Frances Separovic

1516-Pos  Board #B246
PARTITIONING CHARGED SIDE CHAINS INTO LIPID BILAYER MEMBRANES.  
Martin Ullschneider, Nina Schiller, B A. Wallace, Gunnar von Heijne, Stephen H. White

1517-Pos  Board #B247
MEMBRANE TRANSLLOCATION OF HIGHLY CHARGED ANTIMICROBIAL PEPTIDES VIA MULTI-MICROSECOND ALL-ATOM MD SIMULATIONS.  
Jakob P. Ullschneider, Yukun Wang

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Biophysical Society 58th Annual Meeting, San Francisco, California
1518-Pos  Board #B248
ION TRANSPORT AND ELECTROCHEMICAL GRADIENTS UNDER DC AND AC SIGNALS. Alexander S. Walls, Merrell A. Johnson, Horia I. Petrache

1519-Pos  Board #B249
CPow TRAVEl AWARDee REGULATION OF ION CHANNEL FUNCTION BY THE HOST LIPID BILAYER EXAMINED BY A STOPPED-FLOW SPECTROFLUOROMETRIC ASSAY. Radda Rusinova, Dorothy M. Kim, Crina M. Nimigean, Olaf S. Andersen

1520-Pos  Board #B250
A NEW SUPPORTED MEMBRANE SYSTEM FOR STUDYING THE LIPID EFFECTS ON A KV CHANNEL. Hai Zheng, Sungoo Lee, Marc Llaguno, Michael Zhu, Donald Hilgemann, Qui-Xing Jiang

1521-Pos  Board #B251
INTERNATIONAL TRAVEL AWARDee THE ROLE OF TRP IN ARG-RICH PADDLE DOMAIN-LIPID INTERACTION. Weihua Ye, Sofia Unnerson, Lena Måler

1522-Pos  Board #B252
SOLUBILIZATION, PURIFICATION AND CHARACTERIZATION OF THE POTASSIUM CHANNEL KCNA IN ITS NATIVE LIPID ENVIRONMENT: THE POWER OF NATIVE NANODISCS. Jonas M. Doerr, Martin C. Koorengevel, Martijn C. Koorengevel, Dominik Balac, Anna Moroni, Christoph A. Haselwandter

1523-Pos  Board #B253
GUV BASED MIMICRY OF DENDRITIC SPINE MORPHOLOGY PERMITS TO TEST HYPOTHESES ON LTP AND LEARNING. Willem Pomp, Thomas Schmidt

1524-Pos  Board #B254
MINIMAL VIRAL POTASSIUM CHANNELS FOR STUDYING PROTEIN/LIPID INTERACTION. Christian J. Braun, Indra Schroeder, Leonhard M. Henkes, Cristina Arrigoni, Stefan M. Kast, Anna Moroni, Gerhard Thiel

1525-Pos  Board #B255
OLIGOMERIC STATES AND COOPERATIVE GATING IN CLUSTERS OF MECHANOSENSITIVE MEMBRANE PROTEINS. Osman Kahrman, William S. Klug, Christoph A. Haselwandter

1526-Pos  Board #B256
MECHANISMS UNDERLYING THE UNCOUPLING OF BINDING AND GATING IN THE NICOTINIC RECEPTOR AND ITS PROKARYOTIC HOMOLOGS. John E. Baenziger, Peter F. Juranka, Julian A. Surujballi

1527-Pos  Board #B257
P-GLYCOPROTEIN: PURIFICATION, INCORPORATION AND ACTIVITY IN NANODISCS. Harmen B. Steele, Meg Tirahey, William M. Atkins, Erica L. Woodahl, J. B. Alexander Ross

1528-Pos  Board #B258
THE EFFECT OF DETERGENT ON THE OLIGOMERIZATION OF A 7-TRANSMEMBRANE PROTEIN. Maia Kinnbrew, Sunnya Hussain, Nicole Schonenbach, Dr. Songi Han

1529-Pos  Board #B259
CONTROLLED RECONSTITUTION OF INTEGRAL MEMBRANE PROTEINS BY DETERGENT EXTRACTION THROUGH CYCLODEXTRIN COMPLEXATION. Carolyn Vargas, Martin Textor, Natalia Markova, Sandro Keller

1530-Pos  Board #B260

1531-Pos  Board #B261
HIV-1 NEUTRALIZING ANTIBODIES AND VACCINE ANTIGEN SELECTIVELY INTERACT WITH PHASE-SEPARATED MODEL MEMBRANES. Gregory Hardy, Stefan Zauscher

1532-Pos  Board #B262
SPECTROSCOPIC STUDIES OF MEMBRANE STRUCTURE AND INTERACTIONS OF α-SYNUCLEIN 71-82. Laurie Bédard, Émilie Morin-Michaud, Thierry Lefrère, Normand Voyer, Michèle Auger

1533-Pos  Board #B263

1534-Pos  Board #B264
HOW DO LIPIDS LOCALIZE IN LEWY BODIES? Himanshu Chaudhary, Vinod Subramaniam, Mireille Claessens

1535-Pos  Board #B265
INTERPLAY BETWEEN AMYLOID BETA-PEPTIDE AND CHOLESTEROL IN BILAYER. Durgesh Rai, Divina Anunciado, Hugh O’Neill, Volker Urban, William Heller, Shuo Qian

1536-Pos  Board #B266
MIMICKING LYSOSOMAL DEGRADATION OF α-SYNUCLEIN. Jennifer C. Lee, Ryan P. McGlinchey, Mercedes Vargas

1537-Pos  Board #B267
SMALL ANGLE SCATTERING OF FIBRINOGEN POLYMERIZATION KINETICS AND OF ALPHAI ANTITRYPsin INTERACTIONS WITH LIPID MEMBRANES. Luis A. Palacio, Christopher B. Stanley, Soenke Seifert, Horia I. Petrache

1538-Pos  Board #B268
NOVEL PROPERTIES OF THE SMURF1 C2 DOMAIN IN CELLULAR LIPID BINDING. Jordan L. Scott, Robert V. Stahelin

1539-Pos  Board #B269
MEMBRANES IN FLUX: PROTEINS EFFECT ON MEMBRANE PERMEABILITY. Katie Dunleavy, Anika Rannikko, Anne Rice, Samantha Jaworski, Michael Fealey, Ryan Mahling, Anne Hinderliter

1540-Pos  Board #B270
COMBINATORIAL POLARIZED TIRF-AFM STUDY OF MEMBRANE REORGANIZATION BY ALPHA-SYNUCLEIN AND HUMAN PRION PROTEIN. Martin Kurylowicz, Gillian Vanderlee, Daniel Ysselstein, Patrick Walsh, Jason Yau, Simon Sharpe, Jean-Christophe Rochet, Christopher M. Yip

1541-Pos  Board #B271
SUPERRESOLUTION PLASMALEMAL LIPID MAPPING. Brian L. Ross, Jin Zhang

1542-Pos  Board #B272
SPATIAL ORGANIZATION OF ONCOGENIC RAS ON SUPPORTED MEMBRANES. Hiu Yue Monatrice Lam, Jean K. Chung, Wan-Chen Lin, Jay T. Groves
**1543-Pos**  
**Board #B273**  

**1544-Pos**  
**Board #B274**  

**1545-Pos**  
**Board #B275**  
**EDUCATION TRAVEL AWARD**  
**STUDYING LIPID INTERACTIONS OF PERILIPIN 3/TIP 47 USING PHOSPHOLIPID MONOLAYERS.** Mona Mirheydari, Sewwandi S. Rathnayake, Simon Cocklin, Elizabeth K. Mann, Edgar E. Kooijman

**1546-Pos**  
**Board #B276**  
**TOWARD UNDERSTANDING THE ROLE OF AMOT80 LIPID BINDING IN CELLULAR PROLIFERATION AND MIGRATION.** Emily L. Donovan, Ann C. Kimble-Hill, Thomas D. Hurley, Clark D. Wells

**1547-Pos**  
**Board #B277**  
**CATION-DEPENDENT BEHAVIOR OF CARDIOLIPIN-CONTAINING MEMBRANES AND IMPLICATIONS FOR RESPIRATORY COMPLEX II ASSEMBLY AND ACTIVITY.** Christine Schwall, Nathan Alder

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**Membrane Receptors and Signal Transduction II (Boards #B278–#B303)**

**1548-Pos**  
**Board #B278**  
**LKB1 IS A CRITICAL REGULATOR OF EARLY ATRIAL GROWTH AND ELECTROPHYSIOLOGICAL FUNCTION.** Grace E. Kim, Jenna L. Ross, Chaoqin Xie, Xiaohong Wu, Monica Palmeri, Vlad G. Zaha, Mohammed Ashraf, Joe G. Akar, Kerry S. Russell, Fadi G. Akar, Lawrence H. Young

**1549-Pos**  
**Board #B279**  
**PATHOPHYSIOLOGICALLY-RELEVANT LEVELS OF ENDOGENOUS CARDIOTONIC STEROIDS INHIBIT THE CARDIAC NA/K ATPASE AND ACTIVATE ERK1/2 HYPERTROPHIC SIGNALING IN VIVO AND IN VITRO.** Davor Pavlovic, Sasa Siddiqui, Gurnoor Nagi, Lucy Newbury, William Fuller, Anne-Marie L. Seymour, Claire Sharpe, Michael J. Shaturov, Dunja Aksentijevic

**1550-Pos**  
**Board #B280**  
**β-ADRENERGIC REGULATION OF CYCLIC AMP AND CA CURRENT AT THE T-TUBULES AND SURFACE MEMBRANE IN RAT CARDIOMYOCYTES.** Rodolphe Fischmeister, Cristina E. Molina, Youn Kyoung Son

**1551-Pos**  
**Board #B281**  
**WNT SIGNALING PROMOTES PACEMAKER MYOCYTE SPECIFICATION OF DIFFERENTIATING CARDIAC PROGENITOR CELLS.** Wenbin Liang, Elizabeth H. Kim, Jordan Mak, Eduardo Marbán, Hee Cheol Cho

**1552-Pos**  
**Board #B282**  
**MODULATION OF ADRENERGIC SIGNALLING BY FLAVONOIDS IN CARDIOPROTECTION.** Aleksey Zholobenko, Eva Gabrilová, Jiří Nečas, Martin Modrianský

**1553-Pos**  
**Board #B283**  
**INHIBITION OF CAMP-DEPENDENT PKA ACTIVATES β2-ADRENERGIC RECEPTOR STIMULATION OF CYTOSOLIC PHOSPHOLIPASE A2 VIA RAF-1/MEK/ERK AND IP3-DEPENDENT CA2+ SIGNALING IN ATRIAL MYOCYTES.** Mallikarjuna R. Pabbi, Gregory A. Mignery, Joshua T. Maxwell, Alan M. Samier, Pieter de Tombe, Stephen L. Lipsius

**1554-Pos**  
**Board #B284**  
**CELL PROLIFERATION AND MIGRATION INDUCED BY ANGIOTENSIN-II IS MEDIATED BY ACE.** Érika C. Alvarenga, Clarissa C. Carvalho, Jessica S. Malta, Rodrigo M. Florentino, Carolina Batista, Paola B. Guimaraes, Adriana K. Carmona, Miriam G. Jasiulionis, João B. Pesquero, Maria F. Leite

**1555-Pos**  
**Board #B285**  
**CAPSAICIN CAUSES VASORELAXATION OF RAT AORTA BY ACTIVATION OF CB1 RECEPTORS BUT NOT BY TRPV1 OR CB2 RECEPTORS.** Enrique Sanchez-Pastor, Cinthia Rangel-Sandoval, Maria F. Andrade, Alejandro Elizalde, Evelyn Lopez-Dyck

**1556-Pos**  
**Board #B286**  
**SUPRAMOLECULAR ORGANIZATION OF ROD OUTER SEGMENT MEMBRANE: NEW RHODOPSIN DIMER INTERFACE AND INSIGHTS FROM THE β2AR-GS COMPLEX.** Xavier Perirole, Thomas P. Sakmar, Siewert Jan Marrink, Thomas Huber

**1557-Pos**  
**Board #B287**  
**CARDIOPROTECTION BY CARDIAC GLYCOSIDES IS MEDIATED BY SIGNALOSOMES ACTING ON MITOCHONDRIAL P38-MAP KINASE TO OPEN MITOKATE?** Keith D. Garlid, Anders O. Garlid

**1558-Pos**  
**Board #B288**  
**MONTE CARLO STUDY OF THE ASSOCIATION RATE BETWEEN TRANSUDUCIN AND PHOTOACTIVATED RHODOPSIN AT DISC MEMBRANES.** Samuel A. Ramirez, Chad Leidy

**1559-Pos**  
**Board #B289**  
**EDUCATION TRAVEL AWARD**  
**MUTAGENESIS STUDY OF RETINAL ENTRY PATHWAY OF RHODOPSIN.** He Tian, Kathryn M. Gunnison, Manija Kazmi, Thomas P. Sakmar, Thomas Huber

**1560-Pos**  
**Board #B290**  
**QUANTUM LOGIC GATE MODEL FOR G PROTEIN COUPLED RECEPTORS.** Jackson Chief Elk

**1561-Pos**  
**Board #B291**  
**PREFERRED HOMO- AND HETERO-DIMERIC CONFIGURATIONS OF ALL MAJOR OPIOID RECEPTOR SUBTYPES AS PREDICTED BY SIMULATED SELF-ASSOCIATION IN EXPLICIT LIPID-WATER ENVIRONMENT.** Mustafa Burak Boz, Jennifer M. Johnston, Marta Filizola

**1562-Pos**  
**Board #B292**  
**ALL-ATOM SIMULATIONS REVEAL ENSEMBLE DYNAMICS OF RHODOPSIN.** Nicholas Leioatts, Tod D. Romo, Alan Grossfield

**1563-Pos**  
**Board #B293**  
**IDENTIFICATION OF AN ENDOGENOUS ALLOSTERIC MODULATOR’S BINDING SITE AT THE HUMAN CANNABINOID-1 RECEPTOR, USING THE FORCED-BASED METROPOLIS MONTE CARLO SIMULATED ANNEALING METHOD (MMC).** Derek M. Shore, Dow P. Hurst, Patricia H. Reggio
Exocytosis and Endocytosis I (Boards #B304–#B320)

1574-Pos Board #B304
MODELING NANOPARTICLE INTERNALIZATION VIA RECEPTOR-MEDIATED ENDOCYTOSIS. Anand Banerjee, Alexander Berezhkovskii, Ralph Nossal

1575-Pos Board #B305
SELF-ASSOCIATION AND DYNAMIN BINDING OF ARC/ARG3.1. Nicholas G. James, Christopher E. Byers, Barbara Barylko, Joseph P. Albanesi, David M. Jameson

1576-Pos Board #B306
ELUCIDATING THE MECHANICS OF CLATHRIN-MEDIATED ENDOCYTOSIS. Ashutosh Agrawal, Nikhil Walani, Jennifer Torres

1577-Pos Board #B307
DYNAMICS OF INTRACELLULAR CLATHRIN CARRIERS. Comert Kural, Steeve Boullant, Tomas Kirchhausen

1578-Pos Board #B308
REAL-TIME ENDOCYTOSIS IMAGING AS A RAPID ASSAY OF LIGAND-GPCR BINDING IN SINGLE CELLS. Lianghong Zheng, Quanfeng Zhang, Ruixin Jiao, Rong Huang, Subha Sun, Zuyin Chai, Mingli Li, Xi Wu, Wei Liu, Qihui Wu, Sasa Ten, Changhe Wang, Liecheng Wang, Wei Xiong, Zhan Zhou

1579-Pos Board #B309
ROLE OF INTERNALIZATION OF CELL SURFACE RECEPTORS IN REGULATION OF CELL POLARITY. Wei Tian, Youfang Cao, Amber Ismael, David Stone, Jie Liang

1580-Pos Board #B310
MOLECULAR MECHANISMS OF ENDOCYTOSIS AND EXOCYTOSIS IN YEAST STUDIED BY HIGH-RESOLUTION MEMBRANE CAPACITANCE MEASUREMENTS. Lucia Carrillo, Gerhard Thiel, Adam Bertil

1581-Pos Board #B311
CELLULAR SCALE BIOPHYSICAL MODELS OF MEMBRANE SCULPTING BY THE PROTEINS DURING ENDOCYTOSIS AND EXOCYTOSIS. Natesan Ramakrishnan, Ryan P. Bradley, Richard Tourdot, Ravi Radhakrishnan

1582-Pos Board #B312
REAL-TIME MEASUREMENTS OF EXOCYTOSIS AND ENDOCYTOSIS IN C. ELEGANS NEURONS. Yongming Dong, Jihong Bai

1583-Pos Board #B313
INTERACTION OF MUNC18C WITH SYNTAXIN4 AND THE ROLE OF MUNC18C IN EXOCYTOSIS. Czucee Morey, Dirk Fasshauer

1584-Pos Board #B314
IN VITRO PALMITOYLATION AND OXIDATION OF THE SNARE PROTEIN SNAP-25. Alex M. DaBell, Ryan Reynolds, David A. Gabrielsen, James R. Cardinal, Dixon J. Woodbury

1585-Pos Board #B315
EDUCATION TRAVEL AWARDEE THE C2B DOMAIN OF SYNAPTOTAGMIN-1 AND COMPLEXIN REDUCE THE ASYNCHRONOUS RELEASE ACTIVATION. Eduardo A. Quiroz-Manriquez, Ramón A. Jorquera

1586-Pos Board #B316
ISOFORM-SPECIFIC ROLES OF SYNAPTOTAGMINS IN EXOCYTOSIS. Tejeshwar Rao, Daniel R. Passmore, Edwin R. Chapman, Arun Anantharam

1587-Pos Board #B317
FRICTIONAL ADDITIVITY OF LATERAL DIFFUSION ON SUPPORTED BILAYERS: INFLUENCE OF LINKER LENGTH IN SYNAPTOTAGMIN 7 C2A-C2B TANDEM DOMAINS. Joseph K. Vasquez, Kan Chanranuvatana, Jefferson Knight

1588-Pos Board #B318
A NOVEL TARGET OF PROTEASOMAL DEGRADATION INDUCES HOMEOSTATIC PLASTICITY. Johnny J. Saldate, Victor A. Cazares, Arasakumar Subramani, Edward L. Stuenkel
Nucleo-Cytoplasm Transport
(Boards #B321–#B326B)

1590-Pos Board #B320
THE ROLE OF DOC2B IN DEPOLARIZATION-EVOKED AND G PROTEIN-COUPLED RECEPTOR MODULATED EXOCYTOSIS IN MOUSE CHROMAFFIN CELLS. Claudia S. Bauer, Alexander J. Groffen, Elizabeth P. Seward

1590-Pos Board #B319
A NOVEL INHIBITORY PATHWAY MODULATES THE FRACTION OF RELEASE-COMPETENT SYNAPTIC VESICLES. Victor A. Cazares, Arasakumar Subramani, Widmann Hoerauf, Johnny James Saldate, Edward L. Stuenkel

Calcium Release Activated Calcium Channels (Boards #B327–#B347)

1596-2-Pos Board #B326B
LAMIN-A IS MECHANOSENSITIVE TO MATRIX STIFFNESS AND COUPLES TO THE RETINOIC ACID PATHWAY IN DETERMINATION. Irena L. Ivanovska, Joe Swift, Dennis E. Discher

1596-1-Pos Board #B326A
CELLULAR METABOLISM FLUIDIZES THE GLASSY BACTERIAL CYTOPLASM. Bradley Parry, Ivan Surovtsev, Matthew Cabeen, Corey O’Herrn, Eric Dufresne, Christine Jacobs-Wagner

1597-Pos Board #B327
STRUCTURAL MODELING OF HEXAMERIC AND TETRAMERIC ION CONDUCTION PATHWAYS OF ORAI1 CHANNEL. Alla Fomina, Vladimir Yarov-Yarovoy

1598-Pos Board #B328
COMPLEX FUNCTION OF STIM1 IN THE ACTIVATION OF STORE-INDEPENDENT ORAI CHANNELS. Xuexin Zhang, Wei Zhang, José González-Cobos, Mohamed Trebak

1599-Pos Board #B329
DISTINCT ORAI-COUPLING DOMAINS IN STIM1 AND STIM2 DEFINE THE ORAI-ACTIVATING SITE. Xizhuo Wang, Youjun Wang, Yandong Zhou, Eunan Hendron, Salvatore Mancarella, Mark D. Andrade, Brad S. Rooberg, Jonathan Soboloff, Donald L. Gill

1600-Pos Board #B330
STIM1 CYTOSOLIC COILED-COIL INTERACTIONS IN THE RESTING AND ACTIVATED STATE. Marc Fahrner, Martin Muik, Rainer Schindl, Carmen Hoeglinger, Christoph Romanin

1601-Pos Board #B331
STIM1 BINDS TO PAIRS OF ORAI1 SUBUNITS TO OPEN THE CRAC CHANNEL. Michelle Yen, Ludmila A. Lokeva, Richard S. Lewis

1602-Pos Board #B332
MECHANISM OF ACTIVATION OF CALCIUM CHANNEL ORA1 BY ITS REGULATORY PARTNER STIM1. Aparna Gudlur, Ariel Quintana, Yubin Zhou, Anjana Rao, Patrick G. Hogan

1603-Pos Board #B333
MECHANISM OF ACTIVATION OF STORE-OPERATED CALCIUM ENTRY BY 2-AMINOETHYLDIPHENYL BORATE. Youjun Wang, Xizhuo Wang, Lucas Occhiena, Daniel Y. Chong, Aomin Sun, Donald L. Gill

1604-Pos Board #B334
EXPLORING THE ROLE OF PORE WATERS AND COUNTERIONS IN THE CALCIUM RELEASE-ACTIVATED CALCIUM CHANNEL CONDUCTANCE WITH COMPUTATION. Hao Dong, Giacomo Fiorin, Michael L. Klein

1605-Pos Board #B335
PH DEPENDENCE OF ORA1 AND ORAI3 STORE-OPERATED CURRENT. Andriy V. Veromin, Olga Safrina, Michael D. Cahalan

1606-Pos Board #B336
DISSECTING THE MOLECULAR MECHANISM OF 2-APB-INDUCED INHIBITION OF STIM1-ORIA1 COUPLING. Youjun Wang, Xizhuo Wang, Yandong Zhou, Eunan Hendron, Lucas Occhiena, Ming Wei, Donald L. Gill

1607-Pos Board #B337
ORA13 TM3 POINT MUTATION G158C ALTERS KINETICS OF 2-APB-INDUCED GATING BY DISULFIDE BRIDGE FORMATION WITH TM2 C101. Anna Amcheslavsky

1608-Pos Board #B338
INTERPLAY OF ORAI1-LOOP3 WITH EXTRACELLULAR CA2+ BINDING SITES IN LOOP1 CONTROLS CRAC CHANNEL ACTIVITY. Irene Frischauf, Rainer Schindl, Vasilina Zayats, Michael Deix, Anna Hochreiter, Barbora Svobodova, Rüdiger Ertrich, Christoph Romanin

1609-Pos Board #B339
NOVEL TRANS-MEMBRANE MUTATION SWITCHES ORA1 TO A CONSTITUTIVELY ACTIVE AND CA2+ SELECTIVE CHANNEL. Rainer Schindl, Irene Frischauf, Vasilina Zayats, Barbora Svobodova, Michael Deix, Martin Muik, Anna Hochreiter, Rüdiger Ertrich, Christoph Romanin

1610-Pos Board #B340
ATOMISTIC MOLECULAR DYNAMICS SIMULATIONS OF DROSOPHILA ORAI IN A HYDRATED LIPID BILAYER. Mona L. Wood, Anna Amcheslavsky, Eric Wong, J. Alfredo Freites, Michael D. Cahalan, Douglas J. Tobias

Biophysical Society 58th Annual Meeting, San Francisco, California
Calcium Fluxes, Sparks, and Waves I (Boards #B348–#B378)

1618-Pos Board #B348

EMERGENCE AND SYNCHRONIZATION OF THE “CALCIUM CLOCK” IN A 3-DIMENSIONAL MODEL OF A SINO-ATRIAL NODE CELL WITH EXPLICIT CHANNEL GATING. Michael Stern, Larissa A. Mal'tseva, Magdalena Juhaszova, Steven J. Sollott, Edward G. Lakatta, Victor A. Mal'tsev

1619-Pos Board #B349

SUPER-RESOLUTION MODELING OF CALCIUM RELEASE IN HEART. Mark A. Walker, George SB Williams, Tobias Kohl, Saleet Jafari, Stephan E. Lehmann, Joseph L. Greenstein, W J. Lederer, Raimond L. Winslow

1620-Pos Board #B350

ANTI-ARRHYTHMIC BLOCK OF RYR2 BY FLECAINIDE VERSUS PRO-ARRHYTHMIC BLOCK BY TETRACAINE IN A 3D MODEL OF A CARDIAC CELL. Derek R. Laver, Mark B. Cannell, Mohammad S. Imitiaz

1621-Pos Board #B351

ROLE OF THE INTER-RYR COUPLING IN CARDIAC INTRACELLULAR CALCIUM “CLOCK”. Alexander M. Ryvkin, Alexander S. Moskvin, Olga Solovyova, Vladimir S. Markhasin

1622-Pos Board #B352

FORMATION OF SUBCELLULAR CALCIUM WAVES IN CARDIAC MYOCYTES: CHARACTERIZING TIMESCALES VIA MATHEMATICAL MODELING. Michael Nivala, Christopher Ko, James Weiss, Zhilin Qu

1623-Pos Board #B353

SPATIAL IMPERFECTION ENCODES FUNCTIONAL PERFECTION: SUCCESS AND FAILURE OF CALCIUM RELEASE TO PROPAGATE REGULATE PACEMAKER CELL FUNCTION. Victor A. Maltsev, Anna V. Maltsev, Edward G. Lakatta, Michael D. Stern

1624-Pos Board #B354

CALCIUM SIGNALING IN MUSCLE CELLS FROM A PATIENT COHORT WITH INHERITABLE MUSCLE DISEASES. Lourdes Figueroa, Carlo Manno, Joshua N. Edwards, Jianxun Yi, Jingsong Zhou, Natalia Kraeva, Sheila Riazi, Eduardo Rios

1625-Pos Board #B355

CA²⁺ NANOSPARKS: JUNCTIONAL CA²⁺ DYNAMICS PROBED WITH A NEW TARGETED BIOSENSOR. Wei Shang, Fujian Lu, Tao Sun, Jiejia Xu, Lin-Lin Li, Yanru Wang, Liangyi Chen, Xianhua Wang, Mark B. Cannell, Shi-qiang Wang, Heping Cheng

1626-Pos Board #B356

ORIGIN OF ARRHYTHMOGENIC CA²⁺ WAVE IN ATRIAL MYOCYTES UNDER FLUID PRESSURE: ROLE OF DENSE, DISORIENTED RYR CLUSTERS COUPLED WITH MEMBRANE INVAGINATION. Joon-Chul Kim, Min-Jeong Son, Sun-Hee Woo

1627-Pos Board #B357

NATURAL ALKALOID MURRAYAFOLINE-A SENSITIZES CA²⁺ RELEASE SITES VIA ADENYLATE CYCLASE AND PROTEIN KINESE C PATHWAY IN RAT VENTRICULAR MYOCYTES. Joon-Chul Kim, Min-Jeong Son, Sun-Hee Woo

1628-Pos Board #B358

EXPLORING SR CALCIUM AND CYTOSOLIC CALCIUM WAVE DYNAMICS USING A 3D STOCHASTIC MYOCYTE MODEL. Tuan M. Hoang-Trong, William J. Lederer, Moshin S. Jafari

1629-Pos Board #B359

ANKYRIN-B REDUCTION ENHANCES CALCIUM SPARKS VIA CAMKII. Samuel Galice, Sanda Despa

1630-Pos Board #B360

DYNAMICS OF CALCIUM SPARKS AND SR CALCIUM LEAK DURING EXCITATION-CONTRACTION COUPLING IN MOUSE HEART CELLS. George S. B. Williams, Andrew P. Wescott, W. J. Lederer, M. Saleet Jafari

1631-Pos Board #B361

INVESTIGATION OF ARRHYTHMOGENIC CALCIUM EVENTS BY INITIATING LOCAL CALCIUM RELEASE IN CARDIOMYOCYTES. Brian M. Hagen, Joseph P.Y. Kao, W. Jonathan Lederer

1632-Pos Board #B362

THE ROLE OF JUNCTIONAL- AND NON-JUNCTIONAL CA RELEASE SITES IN THE GENERATION OF ABERRANT DIASTOLIC CA RELEASE IN MYOCYTES FROM POST-MYOCARDIAL INFARCTION HEARTS. Andriy E. Belevych, Cynthia A. Carnes, George E. Billman, Sandor Gyorke

1633-Pos Board #B363

ABLATION OF MAJOR PKA AND/OR CAMKII PHOSPHORYLATION SITES IN THE RYR2 CHANNEL DIFFERENTIALLY AFFECTS THE SUSCEPTIBILITY OF MICE TO VAGOTONIC ATRIAL FIBRILLATION. Roberto Ramos Mondragón, Emmanuel Camors, Patricia P. Powers, Héctor H. Valdivia


Altered CAMKII and ROS microdomains favor sparks in ORPHANED RYR after myocardial infarction. Eef Dries, Ilse Lenaerts, Niall Macquaide, Demetrio Santiago, Pier Claus, Karin R Sipido.

CAMKII exacerbates calcium waves during reperfusion of ischemic heart. Carlos A. Valverde, Alicia Mattiazi, Ariel L. Escobar.

The coupled-pacemaker clock system of sinoatrial nodal cells regulates both the action potential rate and rhythm. Yael Yaniv, Alexey E. Lyashkov, Syevda Sirenko, Yoouke Okamoto, Toni-Rose Guiriba, Edward G. Lakatta.

Increased risk of atrial fibrillation with attenuated activity of P21-activated kinase. Jaime DeSantiago, Dan J. Bare, Yunbo Ke, R. John Solaro, Booz Avitall, Rishi Arora, Kathrin Banach.

Pro-arrhythmic calcium waves induced by phosphodiesterase type 4 inhibition upon beta-adrenergic stimulation involve both PKA and CAMKII. Pierre Bobin, Audrey Varin, Rodolphe Fischmeister, Grégoire Vandecasteele, Jérôme Leroy.

SERCA stimulation increases intrasr calcium threshold for calcium waves in cardiomyocytes. Miguel Fernandez-Tenorio, Ernst Niggli.

Calcium handling is altered in the actc E99K transgenic mouse model of hypertrophic cardiomyopathy. Christina T. Rowlands, Steve B. Marston, Kenneth T. MacLeod.

Multispot multiphoton calcium imaging in acute myocardial slices of CPTV heart's. Giulia Borile, Andrea Urbani, Claudio De Mauro, Domenico Aliferi, Jon W. Lederer, Francesco Pavone, Marco Mongillo.

Effects of flecainide and ranolazine on intracellular calcium handling and sarcolemmal sodium current. Anita Alvarez-Laviada, Markus Sikkel, Becker Al-khayatt, Ken T. MacLeod.

Atrial excitation-contraction coupling and CA wave propagation in normal and failing hearts. Felix Hohendanner, Lothar A. Blatter.


IP3 receptor mediated calcium release in atrial cells from normal and failing hearts. Felix Hohendanner, Lothar A. Blatter.

Voltage-gated Na Channels II
(Boards #B379–#B397)

Frequency-dependent inhibition of sodium channels by the general anesthetic isoflurane. Kerry Purcell, Karl E. Herold, Wei Ouyang, Kevin J. Gingrich, Hugh C. Hemmings Jr.

Pharmacology of heterologously expressed human Na1.9 channels. Carlos G. Vanoye, George R. Ehring, Alfred L. George.

Block of NACHBAC by CADMUll and lanthanum ions. Sun Huang, Kevin Jia, Robert J. French.


Fluoxetine blocks Na1.5 channels via a mechanism similar to that of class 1 antiarrhythmics. Hugo Poulin, Olivier Theriault, Martin J. Beaulieu, Mohamed Chahine.


Block of Na+ currents and suppression of action potentials in cultured hippocampal neurons by GS-458967. Ryoko Hirakawa, Luiz Belardinelli, Sridharan Rajamani.

Cardiac sodium channel display coupled gating. Jerome Clatot, Haiyan Liu, Eckhard Ficker, Isabelle Deschenes.

Biophysical Society 58th Annual Meeting, San Francisco, California
TRP Channels I (Boards #B418–#B438)

1682-Pos Board #B412
RATIONAL DESIGN OF PEPTIDE MODULATORS
BI-DIRECTIONALLY TUNING CAV1.3 CHANNELS. Min Liu,
Nan Liu, Yaxiong Yang, Bo Yang, Xiaodong Liu

1683-Pos Board #B413
SUPER-RESOLUTION IMAGING OF CAV1.2 CHANNEL CLUSTERS.
Rose E. Dixon, Claudia M. Moreno, Can Yuan, Luis F. Santana

1684-Pos Board #B414
IS THERE A CONTRIBUTION OF BOTH CAV1.4 AND CAV1.3
L-TYPE CALCIUM CHANNELS TO RETINAL SYNAPTIC
TRANSMISSION? Verena Burtscher, Dagmar Knoflach,
Christof Kugler, Anja Scharinger, Martin Glösmann, Georgios Blatsios,
Andreas Janecke, Jörg Striessnig, Klaus W. Schicker, Alexander Koschak

1685-Pos Board #B415
KNOCKOUT OF THE α, δ-6-1. CALCIUM CHANNEL SUBUNIT
ALTERS CALCIUM HOMEOSTASIS AND ELECTRICAL ACTIVITY
IN PANCREATIC ISLET CELLS. Vincenzo Mastrollia, Petronel Tuluc,
Bernhard E. Flucher

1686-Pos Board #B416
GENOTYPE-PHENOTYPE CORRELATION IN INDUCED
PLURIPOTENT STEM CELL (iPSC)-DERIVED CARDIOMYOCYTES
CARRYING CALMODULIN MUTATIONS. Marcella Rochetti,
Luca Sala, Carlotta Ronchi, Claudia Altomare, Manuela Mura,
Francesca Gullo, Alessandra Moretti, Massimiliano Gnechi, Lia Crotti,
Peter J. Schwartz, Antonio Zaza

1687-Pos Board #B417
AGING INCREASES CARDIAC L-TYPE CALCIUM CHANNEL
CURRENT OF VENTRICULAR MYOCYTES FROM MALE
HEARTS VIA A PKA-DEPENDENT MECHANISM. Sylvain Brunet

1688-Pos Board #B418
STEROIDAL MOLECULES AS POSSIBLE REGULATORS OF
TRPV1 CHANNELS. Sara L. Morales-Lázaro, Inzel Llorente,
Félix Sierra-Ramírez, Carlos M. Díaz-Garcia, Barbara Serrano-Flores,
Marcia Hiriart, Sidney A. Simon, Tamara Rosenbaum

1689-Pos Board #B419
FUNCTIONAL AND MODELLING STUDIES OF THE
TRANSMEMBRANE REGION OF TRPM8 CHANNEL.
Shozeb M. Haider, Gabriel Bidaux, Miriam Sgobba, Loic Lemmonier,
Anne-Sophie Borowiec, Mark S P Sansom, Alex V. Zholos

1690-Pos Board #B420
CELLULAR REGULATION OF TRANSIENT RECEPTOR
POTENTIAL MELASTATIN 3 (TRPM3) CHANNEL ACTIVITY.
Balázs I. Toth, Joris Vriens, Debapriya Ghosh, Thomas Voets

1691-Pos Board #B421
NOVEL TRPM3AGONIST - SINGLE COMPOUND OPENS
MULTIPLE ION PERMEATION PATHWAYS. Katharina Held,
Annelles Jansens, Patrick Chaitin, Thomas Voets, Joris Vriens

1692-Pos Board #B422
REGULATION OF THE ION CHANNEL TRPM3 BY
PHOSPHOINOSITIDES. Doreen Badheka, Tibor Rolhacs

1693-Pos Board #B423
INHIBITION BY REDUCTION OF PI(4,5)P2 ACCELERATES
INACTIVATION OF RECEPTOR-OPERATED TRPC6/7
CURRENTS. Mori Masayuki, Kyohei Itsuki, Yuko Imai, Hideharu Hase,
Yasushi Okamura, Ryuji Inoue

1694-Pos Board #B424
REGULATION OF TRPM8 CHANNEL ACTIVITY IN PROSTATE
CANCER BY ANDROGENS. Swapna Asruthkar, Lusine Demirkhanyan,
Xiaohui Sun, Pia Elustondo, Kieran Velpula, Evgeny Pavlov,
Eleonora Zakharian

1695-Pos Board #B425
PROPERTIES OF THE STEROID BINDING SITE OF TRPM3
CHANNELS. Florian Mohr, Christian Goecke, Anna Drews,
Oleksandr Rizun, Douglas F. Covey, Marc Behrendt, Johannes Oberwinkler

1696-Pos Board #B426
SINGLE-CELL NA+ FLUX ASSAY FOR MEASUREMENT OF
TRPM7 CHANNEL ACTIVITY. Siham Hourani, Pavan Besisetty,
Masayuki Matsushita, J. Ashor Kozak

1697-Pos Board #B427
PROPERTIES OF THE C-TERMINUS OF THE YVC1P TRP
CHANNEL. Kirsten Knecht, Michael Legregni, Lauren N. Miterko,
Julia Yanoski, Lise Thomas

1698-Pos Board #B428
PI(4,5)P2 POSITIVELY REGULATES TRANSIENT RECEPTOR
POTENTIAL VANILLOID 1 CHANNEL ACTIVATION IN PLANAR
LIPID BILAYERS. Xiaohui Sun, Eleonora Zakharian

1699-Pos Board #B429
THE CATION CHANNEL TRPV4 REGULATES EPITHELIAL
BARRIER RESPONSES TO LIPOPOLYSACCHARIDES.
Yeraddy A. Alpizar

1700-Pos Board #B430
LIPID-MEDIATED INTERACTION OF DOUBLE-KNOT TOXIN
WITH TRPV1 CHANNELS. Feng Zhang, Dmitriy Krepkiy,
Chanyung Bae, Vera Moiseenkov-Bell, Sonya Hanson,
Inna Gorslikova, Larry Pearce, Peter M. Blumberg, Jae Il Kim,
Kenton J. Swartz

1701-Pos Board #B431
ALLOSTERIC COUPLING BETWEEN GATE AND SELECTIVITY
FILTER IN TRPC3. Michaela Lichtenegger, Thomas Stockner,
Michael Poteser, Klaus Groschner

1702-Pos Board #B432
PORE MUTATIONS JUSTIFY TETRAMERIC ASSEMBLY OF
CONCATAMERIC TRPM2 CHANNEL CONSTRUCTS.
Csaba Mihalyi, László Csanády

1703-Pos Board #B433
YEAST BASED FUNCTIONAL ASSAYS FOR IDENTIFICATION
OF ACTIVATORS/INHIBITORS OF TRPV1 AND STRUCTURAL
ELEMENTS INVOLVED IN THERMOSENSING. Lucia Carrillo,
Daniel Degreif, Adam Bertl

1704-Pos Board #B434
TWO DISTINCT MODES OF ACTION OF TRPM8AGONISTS.
Thomas Voets, Annelles Jansens

1705-Pos Board #B435
EVIDENCE FOR THE ROLE OF CAMKINASE II AND SYNAPSIN
I IN THE RESTORATION OF NEUROTHERMIZATION IN
BOTULINUM NEUROTOXIN A INTOXICATED NERVE
TERMINALS. Padmanabalin Baskaran, Baskaran Thyagarajan

1706-Pos Board #B436
SPECIES-DEPENDENT EFFECTS OF MUSTARD OIL
ON TRPM8. Annelles Jansens, Maarten Gees, Balazs Istvan Toth,
Joris Vriens, Karel Talavera, Thomas Voets

Biophysical Society 58th Annual Meeting, San Francisco, California
**Ligand-gated Channels II (Boards #B439-#B466)**

- **1707-Pos** Board #B437
  Activation and Sensitization of the Capsaicin Receptor TRPV1 by Allyl Isothiocyanate. Yerandy A. Alpizar, Maarten Gees, Brett Boonen, Alicia Sanchez, Bernd Nilius, Thomas Voets, Karel Talavera

- **1708-Pos** Board #B438
  Molecular Adaptations to Extreme Thermogenesis in Mammalian Hibernators. Willem J. Laursen, Owen Funk, Jena Goodman, Dana K. Merriman, Nicholas T. Ingolia, Sviatoslav N. Bagriantsev, Elena O. Gracheva

- **1709-Pos** Board #B439
  Transport of Antibiotics Through the Substrate Specific OprD Channel of Pseudomonas Aeruginosa. Susruta Samanta, Matteo Ceccarelli

- **1710-Pos** Board #B440
  Expression, Purification and Stabilization of the Mouse 5HT3 Receptor. Gherici Hassain, Cedric Deluz, Alexandra Graff, Christophe Moreau, Romain Wyss, Luigiino Grasso, Aline Desmyter, Takashi Tomizaki, Xiao-Dan Li, Henning Stahlberg, Horst Vogel, Hugues Nury

- **1711-Pos** Board #B441
  Subunit-Dependent Inhibition of Neuronal Nicotinic Acetylcholine Receptors by Philanthotoxins. Hamid S. Kachel, Henrik Franzyk, Kristian Strømgard, Denis B. Tikhonov, Ian R. Mellor

- **1712-Pos** Board #B442
  Studies on Fast NACH Receptor Kinetics Utilizing a New Approach to Ultra-Fast Compound Applications in Automated Patch Clamp. Timm Danker, Elke Guenther

- **1713-Pos** Board #B443
  Asymmetric Agonist Selectivity of Agonist Sites in (αβ2)2α4 Nicotinic Acetylcholine Receptors: A Key Determinant of Agonist Efficacy. Simone Mazzaferro, Federica Gasparri, Karina New, Constanza Alcaino, Isabel Bermúdez

- **1714-Pos** Board #B444
  Linear Free Energy Relationships for Neurotransmitter Binding to a Nicotinic Acetylcholine Receptor. Prasad Purohit, Shweta Gupta, Iva Bruhova, Anthony Auerbach

- **1715-Pos** Board #B445
  Energy Maps of Acetylcholine Receptor Gating. Prasad Purohit, Shweta Gupta, Snehal Jaday, Anthony Auerbach

- **1716-Pos** Board #B446
  Gating Phi Values in the Muscle Acetylcholine Receptor αM2-αM3 Linker with vs. Without Agonists. Shweta Gupta, Anthony Auerbach

- **1717-Pos** Board #B447
  Functional Asymmetry of Agonist Binding in Fetal and Adult Muscle Acetylcholine Receptors. Tapan K. Nayak, Shweta Gupta, Anthony Auerbach

- **1718-Pos** Board #B448
  Acidic Side-Chain Rotamers and Their Impact on Ion Conduction Through the Nicotinic Acetylcholine Receptor. Tyler J. Harpole, Claudio Grossman

- **1719-Pos** Board #B449
  Neuronal Nicotinic Acetylcholine Receptors: The Development of Methods for Producing Affinity-Purified and Lipid-Reconstituted Receptors That Retain Functionality. Akash Pandhare, Steven Riela, Michaela Jansen, Michael P. Blanton

- **1720-Pos** Board #B450
  Stoichiometry for Activation of Neuronal Alpha7 Nicotinic Receptors. Natalia Andersen, Jeremias Corradi, Steven Sine, Cecilia B. Bouzat

- **1721-Pos** Board #B451
  Progressive Analysis of NACHR Stability in the Lipidic Cubic Phase. NACHR Detergent Solubilization and Fractional Mobility. Luis F. Padilla-Morales, Joel E. González Nieves, Claudia Lanauze, Carlos A. Báez-Págan, Orestes Quesada-González, Jose A. Lasalde-Dominicci

- **1722-Pos** Board #B452
  Calculation of Cholesterol Binding Affinity for Pentameric Ligand-Gated Ion Channels. Reza Salari, Jerome Henin, Grace Brannigan

- **1723-Pos** Board #B453
  Agonist Response Induced by Nicotinic Alpha-7 Agonist is Inhibited by Antipsychotic Drugs. Kristen Frederiksen, Maja Jessen, Jonatan Fullerton, Maja Jessen, John Paul Redrobe, Christoffer Bundgaard, Jørgen Cali Eskildsen, Jesper Frank Bastlund

- **1724-Pos** Board #B454
  The Role of the Fifth Subunit on Sensitivity of α4β2-Containing Nicotinic Acetylcholine Receptors to Allosteric Modulators. Constanza Alcaino

- **1725-Pos** Board #B455
  An Integrative Model of the Pleiotropic Effects of Genistein and Cyclosporine A in Functional Upregulation of Alpha 7 NACHRs. Joseph Farley, Mohammad Faridul Islam, Patrick Beard Schwartz, Kristi DeBoeuf, Jed Rose

- **1726-Pos** Board #B456
  Structure Function Studies at Two Different Nicotinic Acetylcholine Receptor Subtypes. Michael R. Post, Henry A. Lester, Dennis A. Dougherty

- **1727-Pos** Board #B457
  Identifying Motifs Essential for Selective Activation of Nicotinic Acetylcholine Receptors. Christopher Marotta, Henry A. Lester, Dennis A. Dougherty

- **1728-Pos** Board #B458
  Insights into the Distinctly Different Sensitivities of α7 and α7β2 NACHRs to the Volatile Anesthetic Isoflurane. David D. Mowrey, Qiang Liu, Vasyl Bondarenko, Qiang Chen, Edom Seyoum, Yan Xu, Jie Wu, Pei Tang

- **1729-Pos** Board #B459
  Functional Chimeras of the Human α7 Acetylcholine Receptor Provide Insights into Allosteric Modulation. Edom Seyoum, Tommy S. Tillman, Yan Xu, Pei Tang
Cardiac Muscle I (Boards #B467–#B498)

1730-Pos Board #B460 DIRECT INTERACTION OF RIC-3 WITH THE INTRACELLULAR DOMAIN OF EUKARYOTIC CATIONIC PENTAMERIC LIGAND-GATED ION CHANNELS. Sita Nirupama Nishtala, Nelli Mnatsakanyan, Michaela Jansen


1732-Pos Board #B462 PROBING PENTAMERIC LIGAND-GATED ION CHANNELS WITH BROMOFORM REVEALS MANY INTERCONNECTED ANESTHETIC BINDING SITES. Benoist Laurent, Samuel Murail, Ludovic Sauguet, Marc Delarue, Marc Baaden

1733-Pos Board #B463 MOLECULAR INSIGHTS INTO THE GATING MECHANISM OF GLIC, A PROKARYOTIC LIGAND-GATED ION CHANNEL. Mehrnoosh Arrar, Iman Pouya, James Andrew McCammon, Erik Lindahl

1734-Pos Board #B464 LIGAND-GATED ION CHANNEL GATING KINETICS AND THE OPENING/CLOSING MECHANISM ARE SENSITIVE TO MUTATIONS ALTERING THE HYDROPHOBICITY OF THE ION CONDUCTION PORE. Goran Klement, Iman Pouya, Özge Yoluk, Rebecca Howard, Erik Lindahl

1735-Pos Board #B465 ALTERING THE OPEN VS. CLOSED STATE BALANCE OF THE GLIC LIGAND-GATED ION CHANNEL THROUGH MUTAGENESIS ENABLES MOLECULAR SIMULATION OF THE REVERSIBLE GATING PROCESS. Iman Pouya, Goran Klement, Samuel Murail, Peter Kasson, Özge Yoluk, Erik Lindahl

1736-Pos Board #B466 STRUCTURAL BASIS FOR ALLOSTERIC TRANSITIONS IN THE GLIC PENTAMERIC PROTON-GATED ION CHANNEL. Ludovic Sauguet, Azadeh Shahsavar, Frederic Poitevin, Christele Huon, Anais Menny, Akos Nemeck, Ahmed Haouz, Jean-Pierre Changeux, Pierre-Jean Corringer, Marc Delarue

1740-Pos Board #B470 AGE-RELATED CARDIAC DYSFUNCTION IN TRANSGENIC MICE CARRYING ACTIN E99K MUTATION. Li Wang, Weihua Song, Andrew Messer, Steven Marston, Masataka Kawai

1741-Pos Board #B471 DETAILED HEMODYNAMIC CHARACTERIZATION OF ATHLETE’S HEART USING LEFT VENTRICULAR PRESSURE-VOLUME ANALYSIS IN A RAT MODEL. Dalma Kellermayer, Atrila Oláh, Árpád Lux, Balázs Tamás Németh, László Hidi, Ede Bíraltan, Mihály Ruppert, Csaba Mátyás, Béla Merkely, Tamás Radovits

1742-Pos Board #B472 INCORPORATION OF TROPONIN C WITH MODIFIED CA++ BINDING INTO THE HEART THROUGH THE USE OF ADENOVIRUS-ASSOCIATED VIRUS LEADS TO ALTERED HEART FUNCTION. Vikram Shettigar, Sean C. Little, Jianchao Zhang, Steve R. Roof, Mark T. Ziolo, Brandon J. Biesiadecki, Jonathan P. Davis

1743-Pos Board #B473 CROSSING MICE CARRYING TNN DISEASE MUTATIONS WITH OPPOSITE EFFECTS ON THE MYOFILAMENT CALCIUM SENSITIVITY PARTIALLY NORMALIZES MYOFILAMENT FUNCTION AND AMELIORATES CARDIOMYOPATHY PHENOTYPES. Rajdeep S. Turna, Rebecca S. Weller, Hyun-Seek Hwang, David Dweck, Ferhana Ahmad, Sabine Huke, Björn C. Knollmann, Jose Renato Pinto

1744-Pos Board #B474 IMPACT OF E163R CTNT MUTATION ON CARDIAC MECHANICS AND ENERGETICS IN A MURINE MODEL. Benedetta Tosi, Cecilia Ferrantini, José Manuel Pioner, Claudia Ferrara, Beatrice Scellini, Nicoletta Pirrodi, Salwa Abdullah, Coppini Raffaele, Sara Bardi, Jill Tardiff, Chiara Tesi, Corrado Poggesi

1745-Pos Board #B475 AAV6-MEDIATED OVEREXPRESSSION OF RIBONUCLEOTIDE REDUCTASE (R1R2) ENHANCES 2-DEOXY-ATP CONCENTRATION IN VIVO AND IMPROVES CARDIAC FUNCTION. Elizabeth Gay, Sarah G. Nowakowski, Stephen C. Kolwicz, Guy L. Odom, Galina V. Flint, Rudy Stuppard, Haiwei Gu, Jeffrey S. Chamberlain, Daniel Raftery, Rong Tian, David J. Marcinek, Michael Regnier

1746-Pos Board #B476 TITIN-BASED PASSIVE TENSION IS INCREASED IN A TITIN AIKO MOUSE. Rebecca Slater, Kirk Hutchinson, Mei Methawasin, Henk L. Granzier

1747-Pos Board #B477 MYOCARDIAL TITIN: AN IMPORTANT MODIFIER OF CARDIAC STIFFNESS. Nazha Hamdani, Wolfgang A. Linke

1748-Pos Board #B478 A GAIN-OF-FUNCTION MUTATION IN CARDIAC MYOSIN BINDING PROTEIN-C INCREASES VISCOELASTIC LOAD AND SLOWS SHORTENING VELOCITY IN MYOCYTES FROM TRANSGENIC MICE. Kristina L. Bezdol, Jaskiran K. Khosa, Kristina L. Bezold, Aref Najafi, Kirk Hutchinson, Mei Methawasin, Henk L. Granzier

1749-Pos Board #B479 EXERCISE-INDUCED ENHANCEMENT OF CARDIAC AND SARCOMERE PERFORMANCE IS LARGER IN MALE THAN IN FEMALE MYBP3 MUTATION HETEROZYGOUS KNOCK-IN MICE. Aref Najafi, Saskia Schlossarek, Elza van Deel, Nikki van den Heuvel, Ahmet Güclü, Max Goebel, Nicky Boontje, Diederik Kuster, Lucie Carrier, Jolanda Van der Velden
1750-Pos  Board #B480
GENDER DIFFERENCES IN PASSIVE TENSION IN HYPERTROPHIC CARDIOMYOPATHY PATIENTS.
Louise L.A.M. Nijenkamp, Jessica A. Regan, Michelle Michels, Chris dos Remedios, Carolyn H. Ho, Jolanda van der Velden

1751-Pos  Board #B481
SEX-RELATED DIFFERENCES IN MYOSIN HEAVY CHAIN ISOFORMS OF HUMAN FAILING AND NON-FAILING ATRIA.
Peter J. Reiser, Christine S. Moreave

1752-Pos  Board #B482
MYOCARDIAL INFARCTION-INDUCED N-TERMİNAL FRAGMENT OF CMYBP-C IMPAIRS MYOFİLEMENT FUNCTION IN HUMAN LEFT VENTRICULAR MYOFİBRLS.
Namthip Witayavanitkul, Jason Sarkey, Younss Aitmou, Diedierik W.D. Kuster, Ramzi J. Khairallah, Suresh Govindan, Xin Chen, Ying Ge, Sudarsan Rajan, David F. Wieczorek, Thomas Irving, Pieter P. de Tombe, Sakthivel Sadayappan

1753-Pos  Board #B483
BETA-ADRENERGIC RESPONSE IN HUMAN HCM MYOCARDIUM: EFFECTS OF RANOLAZİNE. Cecilia Ferrantini, Raffaele Coppini, Benedetta Tosi, José Manuel Pioner, Laura Sartiani, Iacopo Olivotto, Chiara Tesi, Luiz Belardinelli, Elisabetta Cerbai, Alessandro Mugelli, Corrado Poggesi

1754-Pos  Board #B484
DEPRESSED CONTRACTILITY AT LOW-LOAD SPONTANEOUS OSCILLATORY CONTRACTIONS IN HUMAN HYPERTROPHIC CARDIOMYOPATHY WITH MYBP3 MUTATIONS. Amy Li, J. Martijn Bos, Michael J. Ackerman, Filip Braet, Murat Kekic, Shin’ichi Ishiwata, Cristobal G. dos Remedios

1755-Pos  Board #B485
THE ROLE OF CARDIAC MYOSIN LIGHT CHAIN 2V PHOSPHORYLATION IN THE HEALTHY AND FAILING MYOCARDIUM. Ramzi J. Khairallah, Namthip Witayavanitkul, Mohit Kumar, Mengjie Zhang, Pieter de Tombe

1756-Pos  Board #B486

1757-Pos  Board #B487
INCREASED CAMKII ACTIVITY IMPAIRS CONTRACTILE FUNCTION IN HUMAN HCM MYOCARDIUM. Raffaele Coppini, Cecilia Ferrantini, Manuel J. Pioner, Lina Yao, Peidong Fan, Benedetta Tosi, Elisabetta Cerbai, Luiz Belardinelli, Chiara Tesi, Corrado Poggesi

1758-Pos  Board #B488
THE CARDIAC TROPONIN T R92L HCM MUTATION ALTERS CARDIAC TROPONIN I DYNAMICS AND PKA PHOSPHORYLATION POTENTIAL. Jayant James Jayasundar, Kenneth Brooks, Sarah Lehman, Michael R. Williams, Jill C. Tardiff

1759-Pos  Board #B489
CONFORMATIONAL AND FUNCTIONAL EFFECTS OF PATHOGENIC MUTATIONS AT THE I-T INTERFACE OF CARDIAC TROPONIN I. Shirin Akhter, J.-P Jin

1760-Pos  Board #B490
COMPUTATIONAL PREDICTION AND EXPERIMENTAL VERIFICATION OF DIFFERENTIAL CALCIUM AFFINITY IN THİN FILAMENT MUTANTS KNOWN TO CAUSE HYPERTROPHIC CARDIOMYOPATHY. Edward P. Manning, Sarah J. Lehman, Steven D. Schwartz, Jill C. Tardiff

1761-Pos  Board #B491
CA²⁺-INDUCED STRUCTURAL CHANGES IN TN: A MULTI-SITE FRET STUDY COMBINING TCSPC WITH SINGLE FILAMENT IMAGING. Maria E. Moutsogou, Gi-Ho Kim, Christopher Solis-Ocampo, Steven C. Wu, John M. Robinson

1762-Pos  Board #B492
PARTIAL ACTIVATION OF THE CARDIAC MYOFILAMENT BY CA²⁺. Mathivanan Chinnaraj

1763-Pos  Board #B493
MODULATION OF THE INTERACTION BETWEEN TROPONIN I N-TERMINAL PEPTİDE AND TROPONİN C BY PHOSPHORYLATION STUDIED BY MOLECULAR DYNAMICS. Ian Gould, Andrew E. Messer, Maria Papadaki, Steven B. Marston

1764-Pos  Board #B494
CARDIAC TROPONİN I A164H AND PH-DEPENDENT INOTROPY. Anthony D. Vetter, Brian Thompson, Joseph M. Murerta, David D. Thomas, Joseph M. Metzger

1765-Pos  Board #B495
MOLECULAR MECHANISM OF CARDIOMYOPATHY-CAUSİNG MUTATİONS İN ALPHA-TROPOMYOSİN. Tejas M. Gupte, Farah Haque, Binnu Gangadharan, Margaret Sunitha, Suman Nag, Sowdhamini R, Vijay-Raghavan K, James A. Spudich, John A. Mercer

1766-Pos  Board #B496
SKELETAL MUSCLE MYOPATHY MUTATIONS İN TROPOMYOSİN GENE TPM3 AFFECT THİN FILAMENT TRANSITIONS BETWEEN THE INACTIVE AND ACTIVE STATES. Mohammed El-Megueldi, Saeed Asiri, Widad Albishri, Kristen Nowak

1767-Pos  Board #B497
DIRECT VISUALIZATION OF COOPERATIVE BINDİNG OF TROPONİN-TROPOMYOSİN TO F-ACTİN. Christopher Solis-Ocampo, Maria Moutsoglu, Gi-Ho Kim, John M. Robinson

1768-Pos  Board #B498
THE ACCURACY OF CARDIAC MYOFILAMENT SIMULATİONS İS ENHANCED BY PERMITTING CALCIUM-INDEPENDENT TROPOMYOSİN TRANSİTİONS. Yasser Aboelkassem, Kimberly McCabe, Stuart G. Campbell

Microtubules, Their Motors and Associated Proteins I (Boards #B499–#B524)

1769-Pos  Board #B499
TUBULİN HETERODİMERS REVERSBİLY DISSOCIATE WITH MODERATE KİNÉTİCS AS DEMONSTRATED USING SEDİMENTATİON VELOCITY ANALYTİCAL ULTRACENTRİFÜGA-TİON. Felipe Montecinos-Franjola, Dan L. Sackett, Peter Schuck

1770-Pos  Board #B500
STUDYING THE STRUCTURAL ORİGIŃS OF MICROTUBULE DİNAMİC İSTABILITY THROUGH COMBINİNG COMPUTATİONAL MODELİNG AND CRYO-EM. Elizabeth H. Kellogg, Gregory M. Alushin, Gabriel C. Lander, David Baker, Eva Nogales
KATANIN REGULATES MICROTUBULE DYNAMIC INSTABILITY.
Megan E. Bailey, Jennifer L. Ross

LABEL-FREE OBSERVATION OF SINGLE MICROTUBULES BY MEANS OF SHG MICROSCOPY. Junichi Kaneshiro, Tomohiro Shima, Yasushi Okada, Taro Ichimura, Tomonobu M. Watanabe

MODELING THE MICROSCOPIC TO MACROSCOPIC DYNAMICS OF ACTIVELY STREAMING MICROTUBULE SUSPENSIONS. Robert Blackwell, Tony Gao, Matthew Glaser, Michael Shelley, M. D. Betterton

MONITORING REAL-TIME MICROTUBULE SPOOL FORMATION IN A PDMS MICROFLUIDIC DEVICE. Virginia VanDelinder, George D. Bachand

CRYSTAL AND EM STRUCTURES REVEAL A MECHANISM FOR LONG-RANGE ALLOSTERIC COMMUNICATION IN THE YEAST DYNEIN MOTOR DOMAIN. Hui-Chun Cheng, Gira Bhabha, Ronald D. Vale

LOAD-SHARING MECHANISM OF CYTOPLASMIC DYNEIN. Vladislav Belyy, Nathan L. Hendel, Ahmet Yildiz

THE MECHANISM OF DYNEIN’S MINUS END DIRECTIONALITY AND AN ENGINEERED PLUS END DIRECTED DYNEIN MOTOR. Frank B. Cleary, Helgo Schmidt, Zaw M. Htet, Thomas Bilyard, Andrew P. Carter, Ahmet Yildiz

SINGLE-MOLECULE STUDY OF THE COMMUNICATION BETWEEN THE TWO PRIMARY SITES OF CYTOPLASMIC DYNEIN. Mark DeWitt, Caroline Segura, Rosalie Lawrence, Ahmet Yildiz

A STRUCTURAL AND FUNCTIONAL ANALYSIS OF THE DYNEIN LIGHT INTERMEDIATE CHAIN. Courtney M. Schroeder, Ronald D. Vale

LIS1 REGULATES DYNEIN AS A MOLECULAR WEDGE. Sirui Zou, Katerina Toropova, Anthony J. Roberts, Samara L. Reck-Peterson, Andres E. Leschziner

LIS1 REGULATES DYNEIN AS A MOLECULAR WEDGE. Katerina Toropova, Sirui Zou, Anthony J. Roberts, Julie Huang, Samara L. Reck-Peterson, Andres E. Leschziner

ILLUMINATING THE COOPERATIVE ACTION OF KINESIN-II AND OSM-3-KINESIN IN THE CHEMOSENSORY CILIA OF CAENORHABDITIS ELEGANS. Bram Prevo, Felix Oswald, Pierre J. J. Mangeul, Jonathan M. Scholey, Erwin J.G. Peterman

BICD2 AND DYNACTIN CONVERT A NON-PROCESSIVE CYTOPLASMIC DYNEIN TO AN ULTRA-PROCESSIVE DIRECTIONAL MOTOR. Richard J. McKenney, Marvin E. Tanenbaum, Gira Bhabha, Ronald D. Vale

NEW FOLDING PATTERN OF P150 AND “ANNTENA” FOR DYNEIN BINDING. Kei Saito, Takashi Murayama, Tomonori Hata, Takuya Kobayashi, Yoko Y. Toyoshima

SLOW DYNEIN E WITH NO RETARDATION EFFECTS: IMPLICATION OF INDIRECT COOPERATION WITH FAST DYNEIN C. Youske Shimizu, Hitoshi Sakakibara, Hiroaki Kojima, Kazuhiro Oiwa

DIRECT MEASUREMENT OF THE PRESSURE GENERATED BY A 1D PROTEIN GAS CONFINED WITHIN MICROTUBULE OVERLAPS. Annemarie Lüdecke, Zdenek Lansky, Marcus Braun, Michael Schlierf, Pieter Rein ten Wolde, Marcel E. Jansen, Stefan Diez

NO THROUGH TRAFFIC: MODELING TAU INHIBITION OF KINESIN MOTILITY. Andrew R. Thompson, Gregory J. Hoeprich, Christopher L. Berger

INTERPLAY BETWEEN VELOCITY AND TRAVEL DISTANCE OF KINESIN-BASED TRANSPORT IN THE PRESENCE OF TAU. Jing Xu, Stephen J. King, Maryse Lapierre-Landry, Brian Nemec

THE EFFECTS OF EB1 ON MICROTUBULE MECHANICS AND KINESIN TRANSLLOCATION DEPEND ON GTP ANALOG AND THE PRESENCE OF TAXOL. Benjamin J. Lopez, Megan T. Valentine

DYNAMIC FORCE ADAPTATION OF LIPID DROPLETS IN SUB-CELLULAR TRANSPORT. Babu Reddy Janakaloti Narayanreddy, Preetha Anand, Steven Gross

PHOTOREGULATION OF MOLECULAR MOTORS USING PHOTOCHROMIC NUCLEOTIDE ANALOGUE. Akihisa Iwata, Akihisa Iwata

MECHANICS OF KINESIN-CROSSLINKED MICROTUBULE NETWORKS. Yali Yang, Megan T. Valentine

Cell Mechanics and Motility II (Boards #B525–#B554)

CONSTITUTIVE ACTIVATION OF MYOSIN-DEPENDENT CONTRACTILITY SENSITIZES GLIOMA TUMOR-INITIATING CELLS TO MECHANICAL INPUTS AND REDUCES TISSUE INVASION. Sophie Y. Wong, Theresa A. Ulrich, Loïc P. Deleyrolle, Joanna L. MacKay, Brent A. Reynolds, Sanjay Kumar
1796-Pos  Board #B526
SPATIOTEMPORAL TENSION DISTRIBUTION OF INDIVIDUAL STRESS FIBERS AT THE CELL-MATRIX INTERFACE.
Ching-Wei Chang, Sanjay Kumar

1797-Pos  Board #B527

1798-Pos  Board #B528
THE CONTRIBUTION OF THE STRUCTURAL ELEMENTS OF A SINGLE PLANT CELL TO ITS MECHANICS: HOW THE PLANT CELL BECOMES ANIMAL-LIKE. Pauline Durand-Smet, Alain Richert, Annick Berne-Dedieu, Mohammed Bendahmane, Jean Marie Frachisse, Olivier Hamant, Arezki Boudaoud, Atef Asnacios

1799-Pos  Board #B529
MUSCLE-LIKE BEHAVIOUR OF NON-MUSCLE CELLS AND REAL-TIME SINGLE CELL RESPONSE TO STIFFNESS. Atef Asnacios

1800-Pos  Board #B530
DESMIN, MECHANICS AND MYOFIBRILLAR MYOPATHIES. Elisabeth Charrier, Atef Asnacios, Sabrina Baronnet-Pichon, Patrick Vicart, Sylvie Hénon

1801-Pos  Board #B531

1802-Pos  Board #B532
INTERNATIONAL TRAVEL AWARDEE THE EFFECTS OF OUT OF PLANE CURVATURE ON COLLECTIVE CELL MIGRATION. Hannah Yevick, Guillaume Duclos, Isabelle Bonnet, Pascal Silberzan

1803-Pos  Board #B533
A SLIPPING CLUTCH IN NEURAL GROWTH CONES REVEALED BY TRANSIENT SINGLE MOLECULE INTERACTIONS BETWEEN FLOWING ACTIN AND N-CADHERIN ADHESIONS. Mikael García, Cécile Leduc, Amélie Argento, Jean-Baptiste Sibarita, Olivier R. Thoumine

1804-Pos  Board #B534
MOLECULAR MECHANISMS OF CONTRACTILITY-BASED CELLULAR MECHANOSENSING. Douglas N. Robinson, Tianzhi Luo, Krithika Mohan, Vasudha Srivastava, Yixin Ren, Pablo Iglesias

1805-Pos  Board #B535
VIMENTIN AFFECTS ACTIN NETWORK PERCOLATION AND MECHANICS. Mikkel H. Jensen, Elisa J. Morris, David A. Weitz

1806-Pos  Board #B536
INTEGRIN AVIDITY AND CYTOSKELETAL REMODELING REGULATE FORCE-DEPENDENT CELL DETACHMENT. Alexander Fuhrmann, Adam J. Engler

1807-Pos  Board #B537
DYNAMIC IMAGING WITH HIGH-SPEED AFM TO STUDY CELL MOVEMENT. Norito Kotani, Takashi Morii, Takao Okada

1808-Pos  Board #B538
LATERAL WAVES DURING PROTRUSION-RETRACTION CYCLES OF MIGRATING CELLS ARE PROPAGATING CRACKS. Satish Thiyagarajan, Matthew Stachowiak, Giovanni Meacci, Michael Sheetz, Ben O’Shaughnessy

1809-Pos  Board #B539
THE ACTOMYSIN CONTRACTILE RING REGULATES SEPTATION DURING FISSION YEAST CYKOTIKES. Satish Thiyagarajan, Zhou Zhou, Laura Munteanu, Fred Chang, Ben O’Shaughnessy

1810-Pos  Board #B540
LPA ACTIVATION OF A RHOC/CPKα-MEDIATED SIGNALING PATHWAY REGULATES OUTER HAIR CELL MOTILITY BY PHOSPHORYLATING THE CYTOSKELETAL PROTEIN ADDUCIN. Channy Park, Federico Kalinec

1811-Pos  Board #B541
FMG1-B AS A EUKARYOTIC S-LAYER. Puey Ounjai, Kenneth H. Downing

1812-Pos  Board #B542
REGULATION OF ACTIN FILAMENT TURNOVER IN BRAIN TUMOR CELL MOTILITY. Brannon R. McCullough, David J. Odde

1813-Pos  Board #B543
QUANTITATIVE ANALYSIS OF CELLULAR TRACTION GENERATION AND ACTOMYSIN DYNAMICS IN A 3D FIBRIN MATRIX. Leanna M. Owen, Arjun S. Adhikari, Luv Gupta, Natascha Leijnse, Alexander R. Dunn

1814-Pos  Board #B544
ACTOMYSIN GENERATED TENSION COORDINATES CELL MOVEMENTS DURING EARLY ZEBRAFISH DEVELOPMENT. Jack Chai, Andrea Hamilton, Michael Krieg, Craig Buckley, Ingmar Riedel-Kruse, Alexander Dunn

1815-Pos  Board #B545

1816-Pos  Board #B546

1817-Pos  Board #B547
A NEW MODEL SYSTEM TO EXPLORE THE MECHANISMS AND FUNCTIONS OF GLOBAL CORTICAL CONTRACTION WAVES IN OOCYTE AND EMBRYO CELL DIVISIONS. Johanna Bischof, Imre Majer, Peter Lenart

1818-Pos  Board #B548
BAROTAXIS IN A CONFINED NEUTROPHIL. Harrison Prentice-Mott, Chi-Han Chang, L. Mahadevan, Tim Mitchison, Daniel Irinмя, Jagesh Shah

1819-Pos  Board #B549
CORTICAL AND CYTOSKELETAL STRUCTURAL NETWORK REGULATES THE THREE-DIMENSIONAL TRACTION FORCES EXERTED BY MIGRATING AMOEBOID CELLS. Begona Alvarez-Gonzalez, Ruedi Meili, Effie E. Bastounis, Juan C. del Alamo, Richard A. Firtel, Juan C. Laserras

1820-Pos  Board #B550
BEAT FREQUENCY IS REDUCED BUT WAVEFORM SHAPE IS CONSERVED IN CHLAMYDOMONAS FLAGELLA AT HIGH VISCOSITY. Kate Wilson, Susan Dutcher, Philip Bayly

1821-Pos  Board #B551
SECOND CHANCE MECHANISM EXPLAINS DWELL TIME DISTRIBUTIONS OF MYOSIN AND DYNEIN. Henry G. Zot, Javier E. Hasbun, Nguyen Van Minh
Intracellular Transport (Boards #B555–#B563)

1825-Pos Board #B555
MOTOR PROTEINS AND THE 2ND LAW OF THERMODYNAMICS. Zhisong Wang

1826-Pos Board #B556
PARA PROTEIN PATTERN FORMATION DRIVES BACTERIAL PLASMID SEGREGATION. Ling Chin Hwang, Anthony G. Vecchiarelli, Yong Woon Han, Michiyo Mizuuchi, Yoshie Harada, Barbara E. Funnell, Kiyoshi Mizuuchi

1827-Pos Board #B557
EDUCATION TRAVEL AWARD. ANIFLAGELLAR TRANSPORT INHOMOGENEITY IN CHLAMYDOMONAS IMP3 MUTANT. Jonathan M. Kessler, Anthony Kovacs, Huawen Lin, Susan Dutcher, Yan Mei Wang

1828-Pos Board #B558
SYNTHETIC TOOLS FOR Delineating MULTIPLE MOTOR FUNCTIONS IN LIVING CELLS. Michael R. Diehl, David S. Tsao, Eric Kumar

1829-Pos Board #B559
COOPERATIVE MECHANICS OF MULTI-MOTOR AXONAL TRANSPORT REVEALED BY NOVEL NANOMANIPULATION IN LIVE NEURONS. Praveen D. Chowdary, Daphne L. Che, Chong Xie, Luke Kaplan, Bianxiao Cui

1830-Pos Board #B560
CORRELATING CARGO ORIENTATION WITH MOLECULAR MOTOR ACTIVITY DURING AXONAL TRANSPORT. Luke Kaplan, Bianxiao Cui

1831-Pos Board #B561
DYNAMICS OF ANNEXIN A6 MODULATES ATRIAL NATURETIC PEPTIDE DRIVEN COUNTER-HYPERTROPHIC RESPONSES IN CARDIOMYOCYTES. Priyam Banerjee, Arun Bandyopadhyay

1832-Pos Board #B562
HIV-1 NEF EMPLOYS CELLULAR AUTOPHAGY MACHINERY TO DOWNREGULATE CD4. Chih-Jung Hsu, Jennifer Lippincott-Schwartz

1833-Pos Board #B563
BIDIRECTIONAL MICROTUBULE-BASED TRANSPORT IN AXONS. Ludger Santen, Maximilian Ebbinghaus, Cecile Apert-Rolland

1834-Pos Board #B564
SUBSTRATE BOUND OUTWARD-OPEN STATE OF THE SYMPORTER BETP: INSIGHTS INTO SODIUM AND SUBSTRATE BINDING AND COUPLING. Camilo Perez, Belinda Faust, Ahmad R. Mehdipour, Kevin A. Francesconi, Lucy R. Forrest, Christine Ziegler

1835-Pos Board #B565
THE BETAINE TRANSPORTER BETP—ANALYSIS OF OSMOTIC STIMULI RESPONSIBLE FOR ACTIVATION. Stanislav Maximov, Markus Becker, Camilo Perez, Christine Ziegler, Reinhard Kraemer

1836-Pos Board #B566
LOCK AND LOAD: KEY ROLE OF THE UNIQUE CLOSED STATE IN TRANSPORT REGULATION OF THE SODIUM-COUPLED BETAINE TRANSPORTER BETP. Caroline Koshy, Izabela Waclowska, Christine M. Ziegler

1837-Pos Board #B567
COMPLETE MAPPING OF SUBSTRATE TRANSLOCATION IMPLICATES THE SECONDARY BINDING SITE AND HIGHLIGHTS THE SIGNIFICANCE OF LEUT N-TERMINAL SEGMENT IN REGULATING TRANSPORT CYCLE. Mary H. Cheng, Ivet Bahar

1838-Pos Board #B568
ANALYZING A CONFORMATIONAL SAMPLING OF LEUT FROM ACCELERATED MOLECULAR DYNAMICS SIMULATIONS. James R. Thomas, Patrick C. Gedeon, Jeffry D. Madura

1839-Pos Board #B569
DOPAMINE TRANSPORTER INHIBITION BY ORGANIC IONS & THEIR EFFECTS ON GBR12909 INHIBITION. Kee-Hyun Choi, Chiman Song

1840-Pos Board #B570
A QUANTITATIVE MODEL OF AMPHETAMINE ACTION ON THE SEROTONIN TRANSPORTER. Walter Sandtner, Diethart Schmid, Klaus Schicker, Michael Freissmuth, Harald H. Sirt

1841-Pos Board #B571
REAL TIME IMAGING OF SGLT1 LOCATION AND ACTIVITY IN MAMMALIAN CELL LINES. Chiara Ghezzi, Guillaume Calmettes, Bernard Ribalet, Scott John

1842-Pos Board #B572
INSIGHT INTO THE MECHANISM OF WATER PERMEATION THROUGH THE SODIUM-GALACTOSE TRANSPORTER VSLGT FROM LONG MOLECULAR DYNAMICS SIMULATIONS. Joshua L. Adelman, Ying Sheng, Seungho Choe, Jeff Abramson, Ernest M. Wright, Michael Grabe

1843-Pos Board #B573
ENERGETICS OF UREA PERMEATION THROUGH SODIUM-DEPENDENT GALACTOSE COTRANSPORTER VSLGT. Pushkar Pendse, Seungho Choe, Joshua Adelman, Jeff Abramson, Ernest Wright, John Rosenberg, Michael Grabe

1844-Pos Board #B574
SODIUM-GALACTOSE TRANSPORTER: THE FIRST STEPS OF THE TRANSPORT MECHANISM INVESTIGATED BY MOLECULAR DYNAMICS. Ina Bisha, Alex Rodriguez, Jacopo Sgrignani, Alessandra Magistrato, Alessandro Laio

1845-Pos Board #B575
COUPLING OF ION BINDING AND CONFORMATIONAL EQUILIBRIUM IN NA+-DRIVEN SECONDARY ACTIVE TRANSPORTERS. Jing Li, Emad Tajkhorshid

1846-Pos Board #B576
MECHANISM OF SODIUM/PROTON ANTIPORT IN NHAA. Oliver Beckstein, David L. Dotson, Chiara N. Lee, David Drew, Alexander D. Cameron

1847-Pos Board #B577
FUNCTIONAL EVALUATION OF NHE6 MUTATION ASSOCIATED WITH SYNDROMIC AUTISM AND TAU DEPOSITION. Hari Prasad, Kalyan C. Kondapalli, Nir Ben-Tal, Rajini Rao

Membrane Pumps, Transporters, and Exchangers I (Boards #B564–#B593)

1834-Pos Board #B564
THE ROLE OF THE CORTEX AND THE CYTOPLASM IN DEFORMATIONS OF THE PLASMA MEMBRANE. Kristina Haase, Tyler N. Shendruk, Andrew E. Pelling

1823-Pos Board #B553
MEMBRANE NANOWAVES IN SINGLE AND COLLECTIVE CELL MIGRATION. Omar F. Zouani, Marie-Christine Durrieu

1824-Pos Board #B554
STRESS-FIBERS DICTATE CELLULAR CURVATURE & FORCE EXERTION. Wim Pomp, Hedde van Hoorn, Thomas Schmidt

1822-Pos Board #B552
Kalyan C. Kondapalli, Nir Ben-Tal, Rajini Rao

Biophysical Society 58th Annual Meeting, San Francisco, California
Biophysical Society 58th Annual Meeting, San Francisco, California

1848-Pos  Board #B578
THE ASPARTATE TRANSPORTER IN MOTION - COMBINING STEERED MOLECULAR DYNAMICS WITH LANTHANIDE RESONANCE ENERGY TRANSFER BASED DISTANCE MEASUREMENTS. SanthoshKanan Venkatesan, Azmair Sohail, Kusumika Saha, Gerhard Ecker, Thomas Stockner, Walter Sandmair, Harald Sitte

1849-Pos  Board #B579
TRANSITION METAL FRET TO STUDY CONFORMATIONAL CHANGES IN GLUTAMATE TRANSPORTER. Xiaoayu Wang, Peter Larsson

1850-Pos  Board #B580
IONIC LOCKS IN MELIBIOSE PERMEASE: SCOPE TOWARDS GLUT1 DEFICIENCY SYNDROME. Anowarul Amin, Abdul S. Ethayathulla, Lan Guan

1851-Pos  Board #B581
FUNCTIONAL INHIBITION OF SUGAR TRANSPORT BY A DESIGNED NOVEL PROTEIN. Elena B. Tikhonova, Harirahan Parameswaran, Yue Su, Amin Anowarul, Lan Guan

1852-Pos  Board #B582
AN INSIGHT INTO THE XYLE TRANSPORT CYCLE BY CHARACTERIZING PROTON BINDING SITE AND ITS COUPLING TO THE SUBSTRATE TRANSPORT. Mrinal Shekhar, Giray Enkavi, Emad Takhirshid

1853-Pos  Board #B583
MECHANISM OF TONB-DEPENDENT OUTER MEMBRANE TRANSPORTERS IN E. COLI MINI-CELLS AND OUTER MEMBRANE VESICLES. Shime General, Robert K. Nakamoto

1854-Pos  Board #B584
ALTERNATING-ACCESS MECHANISM OF THE PROTON-DRUG ANTIPORTER ACRB. Claudio Anselmi, Wenchang Zhou, K. Martin Pos, Jose D. Faraldo-Gomez

1855-Pos  Board #B585
PHYSICS OF MULTIDRUG EFFLUX THROUGH A BIOMOLECULAR COMPLEX. Hirokazu Mishima, Hiraku Oshima, Satoshi Yasuda, Ken-ichi Amano, Masahiro Kinoshita

1856-Pos  Board #B586
STRUCTURE AND FUNCTION OF A PHOSPHORYLATION-COUPLED SACCHARIDE TRANSPORTER. Jason G. McCoy, Sharmistha Mitra, Elena J. Levin, Hua Huang, Jumin Lee, Woonpal Im, Matthias Quick, Brian Kloss, Renato Bruni, Ming Zhou

1857-Pos  Board #B587
FUNCTIONAL COUPLING OF A URATE-ANION EXCHANGER URAT1 AND SODIUM-DEPENDENT ANION TRANSPORTER SMCT2 ON A PDZK1 SCAFFOLD: PROPOSAL OF “TRANSPORTSOME” FOR URATE-TRANSPORT. Shushi Nagamori, Pattama Wiriyasermkul, Yasuhiro Umemura, Noriyoshi Isozumi, Yumiko Nishinaka, Yoshihatsu Kanai

1858-Pos  Board #B588
EXPERIMENTALLY DEFINED STRUCTURAL MODEL OF THE HUMAN PROTON-COUPLED FOLATE TRANSPORTER. Swapneeta Date, Michaela Jansen

1859-Pos  Board #B589
A NON-RADIOACTIVE ENZYMATIC PHOTOMETRIC ASSAY FOR GLUCOSE UPTAKE IN INSULIN-RESPONSIVE 3T3-L1 ADIPOCYTES. Qin Zhao, Jinfang Liao, Zhenjun Diwu

1860-Pos  Board #B590
FUNCTION UNKNOWN NUMBER 26 (FUN26) PROTEIN FROM SACCHAROMYCES CEREVISIAE IS A NUCLEOSIDE SELECTIVE INTEGRAL MEMBRANE TRANSPORTER. Rebbka C. Boswell-Casteel, Jennifer M. Johnson, Kelli D. Duggan, Franklin A. Hays

1861-Pos  Board #B591
LIMITATION OF LIGHT DRIVEN PROTON PUMPS AT HIGH ELECTROCHEMICAL LOAD. Arend Vogt, Jonas Wietek, Peter Hegemann

1862-Pos  Board #B592
PHOTOACTIVITY OF THE LYSENIN PROTEIN. Mathias J. Bellache, Gregory Salamo, Ralph Henry, Daniel Fologeas, Eric Krueger, Radwan Al Faouri

1863-Pos  Board #B593
EDUCATION TRAVEL AWARDEE
MD SIMULATIONS REVEAL AN ALTERNATIVE PATHWAY FOR DIOXYGEN DIFFUSION IN A32 CYTOCHROME C OXIDASES. Ana Sofia F. Oliveira, Joao M. Damas, Antonio M. Baptista, Claudio M. Soares

1864-Pos  Board #B594
CRYSTAL STRUCTURE OF SYNECOYCISTIS MUTANTS AND PLANT PHOTOSYSTEM I. Nathan Nelson, Yuval Mazor, Hila Toporkin, Anna Borovikova, Ilanit Greenberg, Daniel Natf

1865-Pos  Board #B595

1866-Pos  Board #B596

1867-Pos  Board #B597
TUNING FUNCTION OF THE LIGHT-DRIVEN PROTEORHODOPSIN PROTEIN PUMP BY FORMATION OF OLIGOMERIC AND SURFACTANT-BASED SYNTHETIC COMPLEXES. Sunyia Hussain, Maia Eikebre, Justin P. Jahnke, Matthew Idso, Nicole S. Schonenbach, Bradley F. Chmelka, Songi Han

1868-Pos  Board #B598
THE MITOCHONDRIAL TIM23 PROTEIN TRANSPORT COMPLEX UNDERGOES CONFORMATIONAL DYNAMICS COUPLED TO THE ENERGIZED STATE OF THE INNER MEMBRANE. Kenan Malhotra, Murugappan Sathapp, Judith S. Landin, Arthur E. Johnson, Nathan N. Alder

1869-Pos  Board #B599
EVOLUTIONARY PERSPECTIVE ON THE COUPLING MECHANISM OF COMPLEX I AND RELATED ENZYMES. Bruno C. Marreiros, Ana P. Barata, Manuela M. Pereira

1870-Pos  Board #B600
WATER GATED TRANSITIONS IN PROTON PUMPING OF RESPIRATORY COMPLEX I. Ville RI Kaila, Marten Wikström, Gerhard Hummer
1871-Pos  Board #B601  DIELECTRIC HETEROGENEITY IN THE CYTOCHROME B6F COMPLEX. Stanislav D. Zakharov, Saif S. Hasan, Adrien Chauvet, Valentyn Stadnytsky, Sergei Savikhin, William A. Cramer

1872-Pos  Board #B602  REMOVAL OF ENDOGENOUS PHOSPHOLIPIDS OF RHODOBACTER SPHAEROIDES CYTOCHROME C OXIDASE AFFECTS THE FLEXIBILITY OF THE ENZYME. Khadijeh S. Almajjar, Lawrence J. Prochaska

1873-Pos  Board #B603  ENERGY TRANSFER IN A MOLECULAR MOTOR IN KRAMERS’ REGIME. Katharine J. Challis, Michael W. Jack

1874-Pos  Board #B604  MITOCHONDRIAL THERMODYNAMIC EFFICIENCY AND P/O RATIOS ARE CONTROLLED BY THE F1F0 ATP SYNTHASE C-SUBUNIT STOCHIOCHEMISTRY. Todd P. Silverstein

1875-Pos  Board #B605  CYTOPLASMIC LOOPS OF SUBUNITS C AND A IN E. COLI F1F0 ATP SYNTHASE INTERACT TO GATE H+ TRANSPORT TO THE CYTOPLASMIN. Robert H. Fillingame

1876-Pos  Board #B606  EXPERIMENTAL DETERMINATION OF THE ION SELECTIVITY OF AN ATP-SYNTHASE MEMBRANE ROTOR BY ISOTHERMAL TITRATION CALORIMETRY. Vanessa Leone, Denys Pogoryelov, Thomas Meier, Ernst Grell, José D. Faraldo-Gómez

1877-Pos  Board #B607  ON THE FUNCTIONAL DIFFERENTIATION OF F- AND V-TYPE ROTARY ATPASES ATOMIC MECHANISM OF A HYBRID F/V MEMBRANE ROTOR. Wenchang Zhou, Doreen Matthies, Claudio Anselmi, Thomas Meier, José D. Faraldo-Gómez

1878-Pos  Board #B608  MULTICOLOR TIMELAPSE LUMINESCENCE MICROSCOPY: OPTIMIZING LUCIFERASES TO TRACK FAST GENE DYNAMICS IN SINGLE YEST C. Anyimilchidi Mazo-Vargas, Heungwon Park, Mert Aydin, Nicolas E. Buchler

1879-Pos  Board #B609  MICRORNAS REDUCE GENE EXPRESSION NOISE. Joern Matthias Schmiedel, Sandy Klemm, Yannan Zheng, Apratim Sahaj, Nils Bluethgen, Debora S. Marks, Alexander van Oudenaarden

1880-Pos  Board #B610  DYNAMIC GENE EXPRESSION AND DESIGN PRINCIPLES OF VIRAL INFECTION PATHWAY. Yi-Ju Chen, Timur Zhiyentayev, David Wu, Long Cai, Rob Phillips

1881-Pos  Board #B611  SUPER-RESOLUTION IMAGING OF TRANSCRIPTION IN LIVE BACTERIAL CELLS. Mathew Stracy, Stephan Uphoff, Federico Garza de Leon, Achillefs Kapanidis

1882-Pos  Board #B612  STOCHASTICITY IN CELLULAR RESPONSE TO LIGHT-INDUCED TRANSCRIPTIONAL PERTURBATIONS. Artem V. Melynykov, Yanfei Jiang, Elliot L. Elson

1883-Pos  Board #B613  SPATIO-TEMPORAL DYNAMICS OF PHASE VARIANTS IN EXPANDING GONOCOCCAL POPULATIONS. Enno R. Oldewurtel, Nadzeya Kouzel, Berenike Maier

1884-Pos  Board #B614  DISSECTING THE ROLE OF FERROUS IRON IN PSEUDOMONAS AERUGINOSA GENE REGULATION. James Boedicker, Rob Phillips

1885-Pos  Board #B615  USING A TRANSCRIPTIONAL NETWORK TO APPROACH THE MECHANISM OF FUNGAL MENINGITIS. Christina M. Homer, Alexi Goranov, Dan Santos, Ippolito Caradonna, Sarah Petnic, Hiten D. Madhani

1886-Pos  Board #B616  ALTERING STOCHASTIC NOISE IN GENE EXPRESSION FOR HIV THERAPY. Roy D. Dar, Leon S. Weinberger

1887-Pos  Board #B617  CORRELATING RAT BASOPHIL LEUKEMIA CELL ACTIVATION WITH INTERLEUKIN 4 RNA PRODUCTION USING SINGLE MOLECULE FLUORESCENCE IN-SITU HYBRIDIZATION, AUTOMATED SUPER-RESOLUTION MICROSCOPY, AND GPU-ENABLED IMAGE ANALYSIS. Evan Perillo, Phipps E. Mary, Jennifer S. Martinez, James H. Werner, Douglas Shepherd

1888-Pos  Board #B618  EXTRINSIC NOISE DRIVEN PHENOTYPE SWITCHING IN A SELF-REGULATING GENE. Michael Assaf, Elijah Roberts, Zaida Luthey-Schulten, Nigel Goldenfeld

1889-Pos  Board #B619  IMAGING CHROMOSOME STRUCTURE IN BACTERIA BY SUPER-RESOLUTION MICROSCOPY. Long Cai

1890-Pos  Board #B620  STOCHASTIC FLUCTUATIONS LINK PROMOTER CHROMATIN STRUCTURE AND GENE EXPRESSION. Christopher R. Brown, Changhui Mao, Elena Falkovskaia, Melissa S. Jurica, Hinrich Boeger

1891-Pos  Board #B621  STRUCTURE AND FUNCTION OF A TRANSCRIPTIONAL ‘ACCELERATOR’ CIRCUIT. Roy Dar, Cynthia Bolovan-Fritts, Melissa Teng, Brian Linhares, Michael Simpson, Leon S. Weinberger

1892-Pos  Board #B622  DECIPHERING TRANSCRIPTIONAL DYNAMICS IN VIVO BY COUNTING NASCENT RNAs. Sandeep Choubey, Alvaro Sanchez, Jane Kondev

1893-Pos  Board #B623  EXPLORING FEEDBACK REGULATION IN THE S. CEREVISIAE PKA PATHWAY. Susan Y. Chen

1894-Pos  Board #B624  RIBOSOME PROFILING OF THE CAULOBACTER CELL-CYCLE. Jared M. Schrader, Gene-Wei Li, Bo Zhou, Jonathan S. Weissman, Lucy Shapiro

Gene Regulatory Systems: Prokaryotic and Eukaryotic (Boards #B608–#B624)

1895-Pos  Board #B625  MODELLING THE MECHANICS OF THE CIRCULATION: BLOOD RHEOLOGY AND Atherosclerosis. Glaucia Pereira, Rob Krams, Beren van Wachem
1896-Pos  Board #B626  STOCHASTIC DISCRETE EFFECTS IN A SIMPLE GENE CIRCUIT WITH DELAYED NEGATIVE FEEDBACK. Eder Zavala, Tatiana T. Marquez-Lago

1897-Pos  Board #B627  PREDICTING AND RETRODICTING FATE PATTERNS IN C. ELEGANS VUVAL DEVELOPMENT USING LOGIC PROGRAMMING. Benjamin A. Hall, Ethan Jackson, Alex Hajnal, Jasmin Fisher

1898-Pos  Board #B628  MODELING ELECTRICAL ACTIVITY IN INTESTINAL L-CELLS. Michela Riz, Morten Gram Pedersen

1899-Pos  Board #B629  INVESTIGATION OF NOVEL ZAP-70 FUNCTIONALITY IN T CELL SIGNALING PATHWAYS USING COMPUTATIONAL MODELING. Maria P. Frushicheva, Arthur Weiss, Arup K. Chakraborty

1900-Pos  Board #B630  ACCELERATING SYSTEAMS BIOLOGY COMPUTATION: RAPID ESTIMATION OF EQUILIBRIUM AND KINETIC QUANTITIES VIA WEIGHTED ENSEMBLE SAMPLING. Rory Donovan

1901-Pos  Board #B631  NEGATIVE FEEDBACK AND CROSSTALK IN THE TGF-β SIGNALING PATHWAY. Leonor Saiz, Daniel Nicklas, Qian Mei, Victor Pantoja

1902-Pos  Board #B632  SPATIO-TEMPORAL REGULATION OF MITOTIC SPINDLE CHECKPOINTS. Jian Liu, Jing Chen

1903-Pos  Board #B633  THE ROLE OF COOPERATIVITY IN CELL SIGNALING. Jianmin Sun, Michael Grabe

1904-Pos  Board #B634  SENSITIVITY ANALYSIS AND MODEL REDUCTION APPLIED TO ADAPTING BIOLOGICAL SYSTEMS. Rajat Bhatnagar, Hana El-Samad

1905-Pos  Board #B635  MACROMOLECULAR CROWDING EFFECTS ON GENE REGULATION. Hiroaki Matsuda, Gregory Putzel, Vadim Backman, Igal Szeleifer

1906-Pos  Board #B636  CROSSTALK AND THE EVOLUTION OF SPECIFICITY IN TWO-COMPONENT SIGNALING. Michael A. Rowland, Eric J. Deeds

1907-Pos  Board #B637  HETEROGENEOUS PROTEIN-PROTEIN INTERACTION SYSTEMS MODELED USING A NEW INTEGRATOR FOR SINGLE-PARTICLE REACTION DIFFUSION. Margaret E. Johnson, Gerhard Hummer

1908-Pos  Board #B638  COMPUTATIONAL MODEL FOR CELL SHAPE REGULATION THROUGH MECHANOSENSING AND MECHANICAL FEEDBACK. Kritika Mohan, Tianzhi Luo, Douglas N. Robinson, Pablo A. Iglesias

1909-Pos  Board #B639  STOCHASTIC MODELLING OF GENE REGULATORY MECHANISMS IN PTEN DYNAMICS: DOES SPACE MATTER? Anna Christine Jones, Helen Byrne, Kevin Burrage

1910-Pos  Board #B640  BACTERIAL GROWTH AND DIVISION: THEORY. Arijit Maitra, Ken Dill

1911-Pos  Board #B641  COMPUTATIONAL MODELING PREDICTS PHOSPHATASE OXIDATION AS AN IMPORTANT AXIS OF REDOX REGULATION IN IL-4 SIGNALING. Gaurav Dwivedi, Melissa L. Kemp

1912-Pos  Board #B642  MULTI-FINITE BUFFER METHOD FOR DIRECT SOLUTION OF DISCRETE CHEMICAL MASTER EQUATION. Youfang Cao, Anna Terebus, Jie Liang

1913-Pos  Board #B643  OPTIMIZED ENERGY DISSIPATION OF MINDE OSCILLATOR FOR SYMMETRIC CELL DIVISION. Liping Xiong, Ganhuai Lan

1914-Pos  Board #B644  CONSTRUCTION OF A SELF-CONSISTENT LANDSCAPE FOR MULTISTABLE GENE REGULATORY CIRCUITS. Jing Chen, Jose Onuchic, Eschen-Ben-Jacob

1915-Pos  Board #B645  MULTISTABILITY IN GTPASE-BASED DECISION CIRCUITS. Bin Huang, Mingyang Lu, Mohit Kumar Jolly, Jose Onuchic, Eschel-Ben-Jacob

1916-Pos  Board #B646  MODELING METABOLIC VARIABILITY IN METHANOSARCINA ACETIVORANS. Joseph R. Peterson, Piyush Labhsetwar, Petra Kohler, Jeremy Ellermeier, William Metcalf, Ankur Jain, Taekjip Ha, Zaida Luthney-Schulten

1917-Pos  Board #B647  MODELING HOW EPIDERMAL HOMEOSTASIS IS ACHIEVED. Jin Seob Kim, Sean X. Sun

1918-Pos  Board #B648  TRADE OFFS BETWEEN ENERGY GENERATION AND MAINTENANCE DRIVE CELLULAR BIOGENESIS AT HIGH GROWTH RATES. Mariola Szenk, Ken Dill

1919-Pos  Board #B649  INFORMATION FLOW THROUGH CALCIUM BINDING PROTEINS. Ji Hyun Bak, William Bialek

Optogenetics (Boards #B650–#B665)

1920-Pos  Board #B650  INSIGHTS INTO THE CATION PERMEATION PATHWAY OF CHANNELRHODOPSIN-2. Robert Dempski, Ryan Richards

1921-Pos  Board #B651  EXPANDING THE VISIBLE LIGHT PHOTOSWITCH LIBRARY: A RED-SHIFTED, FAST-RELAXING AZOBENZENE PHOTOSWITCH FOR REVERSIBLE ACTIVATION OF METABOTROPIC GLUTAMATE RECEPTORS. Michael Kienzler, Joshua Levitz, Ehud Isacoff

1922-Pos  Board #B652  SITE-SPECIFIC TAGGING OF CHANNELRHODOPSINS WITH GENETICALLY-ENCODED AZIDO GROUPS. Benjamin S. Krause, Peter Hegemann, Thomas Huber, Thomas P. Sakmar

1923-Pos  Board #B653  ENCODING THE LIGHT-SENSITIVITY OF CHANNELRHODOPSIN-2. Christian Bamann, Thomas Sattig, Ernst Bamberg

1924-Pos  Board #B654  RESONANCE RAMAN AND LOW TEMPERATURE FTIR CHARACTERIZATION OF THE RED SHIFTED CHANNELRHODOPSIN 1 FROM CHLAMYDOMONAS AUGUSTEA. John I. Ogren, Daniel Russano, Sergey Mamaev, Hai Li, Jihong Wang, John L. Spudich, Kenneth J. Rothschild
1949-Pos  Board #B679  PROBING THE UNBINDING KINETICS OF DNA-H-NS-DNA PROTEIN COMPLEXES BY A HIGH-SPEED AND HIGH-THROUGHPUT SINGLE-MOLECULE PULLING ASSAY USING ATOMIC FORCE MICROSCOPY. Yan Liang, Marian Belayon, Ramon van der Valk, Remus Th. Dame, Wouter H. Roos, Gijs J.L. Wuite

1950-Pos  Board #B680  INSTRUMENT FREE BIOMOLECULAR INTERACTION MEASUREMENT WITH DNA NANOSWITCHES. Ken Halvorsen, Mounir Kouassa, Andrew Ward, Wesley P. Wong

1951-Pos  Board #B681  SIMULTANEOUS MEASUREMENT OF FORCES AND CURRENTS USING AN AFM-FET HYBRID SENSOR FOR STUDYING SINGLE BIOMOLECULAR INTERACTIONS. Byung I. Kim

1952-Pos  Board #B682  FORCES IN T CELL ANTIGEN RECOGNITION. Enrico Klotzsch, Gerhard J. Schütz

1953-Pos  Board #B683  NOVEL GENERATION OF CROSSLINKERS ALLOWS SINGLE MOLECULE FORCE SPECTROSCOPY ON OLIGOMERIC RECEPTORS. Doris Sinwel, Andreas Karner, Andreas Ebner, Rong Zhu, Peter Hinterdorfer, Hermann J. Gruber

1954-Pos  Board #B684  DESIGN AND OPTIMIZATION OF A HIGH FORCE NEODYMIUM IRON BORON BASED MAGNETIC TWEEZERS DEVICE USING FINITE ELEMENT ANALYSIS. Nicholas A. Zacchia, Timothy Thomas, Megan T. Valentine

1955-Pos  Board #B685  SMAP: MANIPULATING DNA BY ULTRASOUND - SINGLE-MOLECULES GO ACOUSTIC. Gerrit Sitters, Douwe Kamsma, Erwin J.G. Peterman, Gijs J.L. Wuite

1956-Pos  Board #B686  AN AFM FORCE PULLING STUDY OF RIBOFLAVIN RECEPTOR TARGETING NANOPARTICLES. Abigail N. Leistra, Amanda Witte, Jong Hyun Han, Seok Ki Choi, Kumar Sinniah

1957-Pos  Board #B687  ATOMIC FORCE MICROSCOPY OF DNA-CTAB AGGREGATES. Adam Rimawi, Pamela M. St. John

1958-Pos  Board #B688  ENERGETICS AND KINETICS OF SNARE ZIPPERING. Yongli Zhang

1959-Pos  Board #B689  INTERNATIONAL TRAVEL Awardee DENGUE VIRUS CAPSID PROTEIN INTERACTS SPECIFICALLY WITH VERY LOW-DENSITY LIPOPROTEINS. André F. Faustino, Filomena A. Carvalho, Ivo C. Martins, Miguel A. R. B. Castanhò, Ronaldo Mohana-Borges, Fabio C. L. Almeida, Andrea T. Da Poian, Nuno C. Santos

1960-Pos  Board #B690  EDUCATION TRAVEL Awardee CHARACTERIZING THE INTERACTION OF DESMOSOMAL CADHERINS AT SINGLE MOLECULE LEVEL. Omer Shafraz, Sabyasachi Rashtri, Molly Lowndes, W. James Nelson, Sanjeevi Sivasankar

1961-Pos  Board #B691  EDUCATION TRAVEL Awardee SINGLE MOLECULE CHARACTERIZATION OF THE ROLE OF DIVALENT IONS IN PRION PROTEIN AGGREGATION. Chi-Fu Yen, Sanjeevi Sivasankar
Advances in Single-Molecule Spectroscopy II (Boards #B707–#B730)

1977-Pos Board #B707
COMPUTATIONAL ANALYSIS OF THE SINGLE MOLECULE AFM FORCE SPECTROSCOPY DATA. Yuliang Zhang, Yuri L. Lyubchenko

1978-Pos Board #B708
EXPLORE THE FORMATION, LIFETIME AND DISSOCIATION STATISTICS OF ACID-AMINE BONDS. Sangeetha Raman, Markus Valtiner

1979-Pos Board #B709
SINGLE MOLECULE FORCE SPECTROSCOPY OF CNGA1 CHANNELS “IN SITU” REVEALS MAJOR CONFORMATIONAL CHANGES UPON GATING. Sourav Maity, Monica Mazzolini, Paolo Fabris, Marco Lazzarino, Alejandro Valbuena, Vincent Torre

1980-Pos Board #B710
HDL-LIPID UPTAKE IS REGULATED BY ELASTIC PROPERTIES OF THE PLASMA MEMBRANE. Birgit Plochberger, Gerhard J. Schuetz, Clemens Röhrle, Johannes Preiner, Erdinc Sezgin, Mario Brameshuber, Julian Weghuber, Stefan Wieser, Christian Rankl, Verena Ruprecht, Josef Madl, Robert Bittman, Peter Hinterdorfer, Herbert Stangl

1981-Pos Board #B711
AN ULTRASTABLE MEASUREMENT PLATFORM FOR SINGLE-MOLECULE STUDIES: SUB-NM LATERAL STABILITY OVER 1 HOUR USING A MULTIPLEXED BACK-SCATTERED DETECTION. Robert Walder, D. Horn Paik, Matthew S. Bull, Thomas T. Perkins

1982-Pos Board #B712
AN IMPROVED SURFACE PASSIVATION METHOD FOR SINGLE-MOLECULE STUDIES. Boyang Hua, Ruobo Zhou, Hajin Kim, Xinghua Shi, Ankur Jain, Digvijay Singh, Vasudha Aggarwal, Taekjip Ha

1983-Pos Board #B713
SINGLE-MOLECULE ANALYSIS OF THE ROTATION OF F1-ATPASE UNDER HIGH HYDROSTATIC PRESSURE. Daichi Okuno, Masayoshi Nishiyama, Hirofumi Noji

1984-Pos Board #B714
FABRICATION AND SURFACE FUNCTIONALIZATION OF HIGHLY BIREFRINGENT PARTICLES FOR OPTICAL TORQUE WRENCH. Seungkyu Ha, Maarten van Oene, Richard Janissen, Nynke H. Dekker

1985-Pos Board #B715
COMBINATION OF OPTICAL TWEEZERS WITH NANOCAPIILLARIES AS SYSTEM FOR ESTIMATION OF DNA/LIGAND INTERACTIONS. Roman Bulushev, Lorenz Steinbock, Aleksandra Radenovic

1986-Pos Board #B716
MAGNETIZATION PROPERTIES OF SUPERPARAMAGNETIC BEADS. Maarten van Oene, Laura E. Dickinson, Francesco Pedaci, Jan Lipfert, David Dulin, Jelmer P. Cnossen, Margreet W. Docter, Nynke H. Dekker

1987-Pos Board #B717
PROBING THE KINETICS OF A MODEL HELICASE-NUCLEASE WITH A TEMPERATURE-CONTROLLED MAGNETIC TWEEZERS. Benjamin Gollnick, Carolina Carrasco, Francesca Zurtion, Neville S. Gilhooly, Mark S. Dillingham, Fernando Moreno-Herrero

1988-Pos Board #B718
SINGLE MOLECULE STUDIES OF DNA-BINDING PROTEINS: DEVELOPMENT OF NEW COVALENT DNA ANCHORING TECHNIQUES FOR THE STUDY OF RUPTURE FORCES OF REPLICATION BLOCKS. Richard Janissen, Bojk A. Berghuis, Orkide Ordu, Max M. Wink, David Dulin, Jelmer P. Cnossen, Nynke H. Dekker

1989-Pos Board #B719
SENSING THE ASSOCIATION STATES OF SINGLE BIOMOLECULES BY MOTION ANALYSIS IN AN ELECTROKINETIC TRAP. Quan Wang, William E. Moerner

1990-Pos Board #B720
ON-CHIP OPTICAL MANIPULATION OF BIOMOLECULAR ARRAYS WITH NM RESOLUTION. Jun Lin, Mohammad Soltani, Robert A. Forties, Summer N. Saraf, James T. Inman, Robert M. Fullbright, Michal Lipson, Michelle D. Wang

1991-Pos Board #B721
PIF1 REGULATES TELOMERE LENGTH BY REMOVING TELOMERASE FROM TELOMERE ENDS. Jing-Ru Li, Yi-Chieh Chien, Jing-jer Lin, Hung-Wen Li

1992-Pos Board #B722
3D ORBITAL TRACKING OF A DNA LOCUS DURING THE PROCESS OF TRANSCRIPTION. Paolo Annibale, Enrico Gratton

1993-Pos Board #B723
NANOFLUIDICS TO ENHANCE SINGLE MOLECULE DNA IMAGING: DETECTING GENOMIC STRUCTURAL VARIATION IN HUMANS. David LV Bauer, Rodolphe M. Marie, Jonas N. Pedersen, Kristian H. Rasmussen, Mohammed Yusuf, Emanuela Volpi, Henrik Flyvbjerg, Anders Kristensen, Kalim U. Mir

1994-Pos Board #B724
DETECTION OF SINGLE PROTEINS BOUND ALONG DNA WITH SOLID-STATE NANOPORES. Calin Plesa, Justus W. Ruitenbeek, Menno J. Witteveen, Cees Dekker

1995-Pos Board #B725
SINGLE DNA-SHELLED SILVER NANOCYLUSTERS PROBED BY TIP ENHANCED FLUORESCENCE SPECTROSCOPY. Ivan L. Volkov, Victoria V. Karpenko, Alexey I. Kononov

1996-Pos Board #B726
INTERFEROMEROMIC SCATTERING MICROSCOPY: A NEW CAMERA FOR THE NANO-WORLD. Philipp Kukura

1997-Pos Board #B727
EFFECT OF G-QUADRUPEX STABILIZING COMPOUND ON THE FOLDING AND UNFOLDING PATHWAY OF HUMAN TELOMERIC DNA. Tao Huang, Ta-Chau Chang, Hung-Wen Li

1998-Pos Board #B728
TORSIONALLY CONSTRAINED DNA FOR SINGLE-MOLECULE ASSAYS: AN EFFICIENT, LIGATION-FREE METHOD. D. Herr Paik, Violet A. Roskens, Thomas T. Perkins

1999-Pos Board #B729
SINGLE-MOLECULE ANALYSIS OF HEPATITIS C VIRUS NS3 HELICASE TRANSLATING ON SINGLE-STRANDED RNA. Felix Trutschel, Kyung Suk Lee, Chang-Ting Lin, Meigang Gu, Charles M. Rice, Taekjip Ha

2000-Pos Board #B730
COUNTING SMALL RNA IN PATHOGENIC BACTERIA. James Werner, Douglas Shepherd, Nan Li, Sofiya Micheva-Viteva, Brian Munsky, Elizabeth Hong-Geller
Optical Microscopy and Super Resolution Imaging II (Boards #B731–#B760)

2001-Pos  Board #B731  INTERNATIONAL TRAVEL Awardee
INSIGHT INTO HYBRID NANOSCOPY TECHNIQUES: STED AFM & STORM AFM. Jenu V. Chacko, Francesca C. Zanacchi, Benjamin Harke, Luca Lanzano, Claudio Canale, Alberto Diaspro

2002-Pos  Board #B732  CORRELATING MOBILITY AND INTERACTION OF TRANSCRIPTION FACTORS BY SPIM-FCS. Jan Krieger, Agata Pernus, Anand Pratap Singh, Jan Buchholz, Thorsten Wohland, Jörg Langowski

2003-Pos  Board #B733  SUPER-RESOLUTION FLUORESCENCE IMAGING REVEALS NANOSCALE ORGANIZATION OF STRESS GRANULE. Ko Sugawara, Kohki Okabe, Akihiko Sakamoto, Takashi Funatsu

2004-Pos  Board #B734  GLYCAN CATABOLISM BY HUMAN GUT SYMBIONTS INVOLVES DYNAMIC PROTEIN INTERACTIONS. Krishanthi S. Karunatilaka, Elizabeth A. Cameron, Nicole M. Koropatkin, Eric C. Martens, Julie S. Biteen, Elizabeth A. Cameron, Julie S. Biteen, Ko Sugawara

2005-Pos  Board #B735  ORBITAL TRACKING OF SINGLE FLUORESCENT PARTICLES ON A COMMERCIAL CONFOCAL MICROSCOPE. Luca Lanzano, Enrico Gratton

2006-Pos  Board #B736  SINGLE-MOLECULE FLUORESCENCE IMAGING OF RECO LOCALIZATION AND DYNAMICS IN BACILLUS SUBTILIS. Hannah H. Tuson, Yi Liao, Lyle A. Simmons, Julie S. Biteen

2007-Pos  Board #B737  VERSATILE PULSED 560 NM LASER SOURCE FOR TIME-RESOLVED MICROSCOPY AND SPECTROSCOPY. Marcelle Koenig, Thomas Schoenau, Susanne Trautmann, Kristian Lauritsen, Romano Haertel, Dietmar Klemme, Rainer Erdmann

2008-Pos  Board #B738  SUPERRESOLUTION IMAGING OF RYR2 CLUSTERS IN GFP RYR2 KNOCK IN MOUSE CARDIOMYOCYTES. Florian Hiess, Ruiwu Wang, Alex Vallmitjana, David B.L. Scriven, Leif Hove-Madsen, Raul Benitez, Edwin D.W. Moore, S.R. Wayne Chen

2009-Pos  Board #B739  SUPER RESOLUTION MICROSCOPY WITH LOW POWER CW LASERS. Sian Culley, Richard J. Marsh, Angus J. Bain

2010-Pos  Board #B740  TOXR RECRUITS TCP2 TO THE TOX2 PROMOTER IN THE VIBRIO CHOLERAE VIRULENCE PATHWAY. Beth L. Haas, Jyl S. Matson, Victor J. DiRita, Julie S. Biteen

2011-Pos  Board #B741  EDUCATION TRAVEL Awardee
SPECTROSCOPIC PROPERTIES OF INTRINSIC PROTEINS IN COLLAGEN SAMPLES BY USING GOLD-NANOPARTICLES AND TWO-PHOTON EXCITED FLUORESCENCE MICROSCOPY. Manuela Gabriel, Enrico Gratton, Laura Cecilia Estrada

2012-Pos  Board #B742  AUTOMATED SYNAPSE DETECTION AND VALIDATION BY CORRELATED ARRAY TOMOGRAPHY AND SCANNING ELECTRON MICROSCOPY. David Lenzì, Juan G. Cueva, Nenad Amodaj, Richard J. Weinberg, Jay K. Trautman

2013-Pos  Board #B743  STRUCTURAL AND DYNAMIC STUDY OF CAVEOLIN-1 MEMBRANE MICRODOMAINS BY SINGLE MOLECULE IMAGING. Ramunas Stanciunas, Fabien Pinaud

2014-Pos  Board #B744  IMPROVED SUPER-RESOLUTION IMAGING IN HEAVY WATER. Alexandre Fuertesberg, Ulrike Endesfelder, Mike Heilemann, Katherin Klehs, Steven F. Lee, Sebastian Malkusch, Christoph Spahn, Quentin Vérolet

2015-Pos  Board #B745  PRECISE MEASUREMENT OF THE RELATIVE POSITION OF RNA DIMERS WITHIN VIRUS-LIKE PARTICLES USING 2-COLOR 3D SUPER-RESOLUTION FLUORESCENCE MICROSCOPY. Matthew D. Lew, Olga A. Nikolaitchik, Wei-Shau Hu, W. E. Moerner

2016-Pos  Board #B746  CHARACTERIZING MEMBRANE PROTEIN INTERACTIONS IN VIVO BY MULTIPARAMETER FLUORESCENCE IMAGE SPECTROSCOPY. Qijun Ma, Marc Somssich, Stefanie Weidtkamp-Peters, Yvonne Stahl, Suren Felekyan, Stanislav Kalinín, Ralf Kühnemuth, Rüdiger Simon, Claus A. M. Seidel

2017-Pos  Board #B747  VISUALIZATION OF STIMULATION DEPENDENT LOCALIZATION OF SINGLE ENDOGENOUS MRNAS TO DENDRITIC SPINES. Bin Wu, Young J. Yoon, Robert H. Singer

2018-Pos  Board #B748  3D TISSUE RECONSTRUCTION BY USING DEEP TISSUE FLUORESCENCE IMAGING SYSTEM AND FLIM. Sohail Jahid, Alexander S. Dvornikov, Michelle Digman, Enrico Gratton

2019-Pos  Board #B749  POLARIZATION AND SCATTERING CONSEQUENCES IN ADVANCED OPTICAL MICROSCOPY OF BIOLOGICAL SAMPLES THROUGH MUELLER MATRIX SIGNATURE. Alberto Diaspro

2020-Pos  Board #B750  OPTICAL VOLUME MEASUREMENT OF BEATING CARDIAC MYOCYTES USING QUANTITATIVE PHASE IMAGING. Katherine Creath, Goldie Goldstein

2021-Pos  Board #B751  EDUCATION TRAVEL Awardee
A SIMPLE CHEMICAL OXYGEN SCAVENGING SYSTEM FOR IMPROVED DSTORM TISSUE IMAGING. Tobias M.P. Hartwich, Christian Soeller, David Baddeley

2022-Pos  Board #B752  SUPER-RESOLUTION IMAGING OF GFP EXPRESSING CELLS USING DYE LABELED GFP APTAMERS. Juan Wang, Avtar Singh, Abdullah Ozer, John Lis, Warren Zipfel

2023-Pos  Board #B753  PHOTOPHYSICS, RET PROBES AND IMAGING APPLICATIONS FOR FLUORESCENT BSA AU NANOCLUSTERS. Sangram Raut, Badri Malival, Dmytro Shumilov, Ryan Rich, Rafal Fudala, Rahul Chib, Rutika Kokate, Susan Butler, Zygmunt Gryczynski, Ignacy Gryczynski

2024-Pos  Board #B754  3D MULTI-RESOLUTION MICROSCOPY FOR THE STUDY OF THE EARLY STAGES OF CELLULAR UPTAKE. Kevin Welsher, Haw Yang
Molecular Dynamics I
(Boards #B761–#B783)

2025-Pos Board #B755
RADIOLUMINESCENCE MICROSCOPY: MEASURING THE HETEROGENEOUS UPTAKE OF RADIOTRACERS IN SINGLE LIVING CELLS. Silvan C. Türkcan, Guillem Pratx

2026-Pos Board #B756
QUANTITATIVE STORM USING ORGANIC DYES. Veronica Pessino, Wei Qiang Ong, Bo Huang

2027-Pos Board #B757
MN⁺-INDUCED TRIPLET BLINKING AND PHOTobleaching OF SINGLE MOLECULE CYANINE DYES. Monika A. Ciuba, Elana M.S. Stennett, Marcia Levitus

2028-Pos Board #B758
AN OPTIMIZED AZIMUTHAL SCANNING PLATFORM FOR TIRF AND HILO IMAGING. Avtar Singh, Eli A. Doris, Alex Song, Warren R. Zipfel

2029-Pos Board #B759
CATHODOLUMINESCENCE-ACTIVATED IMAGING BY RESONANCE ENERGY TRANSFER: A NEW APPROACH TO IMAGING NANOSCALE AQUEOUS BIODYNAMICS. Connor G. Bischak, David M. Kaz, Craig L. Hetherington, Jake T. Precht, Xavier Marti, James D. Clarkson, Carolina Adamo, Darrell G. Schlam, Ramamoorthy Ramesh, Shaul Aloni, D. Frank Ogletree, Naomi S. Ginsberg

2030-Pos Board #B760
PROFILING CANCER CELL INTRINSIC FLUORESCENCE WITH THE SPECTRAL CAMERA-PHASOR ANALYSIS METHOD. Michelle A. Digman, Enrico Gratton, Hongtao Chen

2031-Pos Board #B761
NUMERICAL LANGEVIN SIMULATIONS: EQUILIBRIUM DYNAMICS AND NONEQUILIBRIUM THERMODYNAMICS. David A. Sivak, John D. Chodera, Gavin E. Crooks

2032-Pos Board #B762
ATOMIC SIMULATIONS OF GEL AND LIQUID CRYSTALLINE LIPID BILAYERS. Richard Tjörnhammar, Olle Edholm

2033-Pos Board #B763
CALCULATIONS OF THE ELECTRIC FIELD IN SOLUTIONS AND PROTEINS WITH POLARIZABLE FORCE FIELDS. Stephen D. Fried, Lee-Ping Wang, Steven G. Boxer, Vijay S. Pande

2034-Pos Board #B764
FATSLIM: ANALYSIS OF LIPID MEMBRANE MD SIMULATIONS MADE EASY. Sebastien Buchoux

2035-Pos Board #B765
SYSTEMATIC IMPROVEMENT ON THE CLASSICAL MOLECULAR MODEL OF WATER. Lee-Ping Wang, Teresa Head-Gordon, Jay Ponder, Pengyu Ren, John Chodera, Peter Eastman, Todd J. Martinez, Vijay S. Pande

2036-Pos Board #B766
SIMULATIONS OF NANO-SIZED WATER DROPLETS IN THE EXTERNAL ELECTRIC FIELD. Jane Hyojin Lee, Mayya Tokman, Michael E. Colvin

2037-Pos Board #B767
RATE CONSTANTS, TIME SCALES, AND FREE ENERGY LANDSCAPES IN THERMALLY ACTIVATED PROCESSES. Peter Salamon, Bjarne Andresen, Anca Segall, Johann Christian Schön

2038-Pos Board #B768
GNEIMO-FIXMAN: AN ACCURATE TORSIONAL MOLECULAR DYNAMICS SIMULATION METHOD FOR STUDYING BIOMOLECULAR DYNAMICS. Saugat Kandel, Adrien B. Larsen, Jeffrey E. Wagner, Abhinandan Jain, Nagarajan Vaidehi

2039-Pos Board #B769
AUTOMATED OPTIMIZATION OF POTENTIAL PARAMETERS. Michele Di Pierro, Ron Elber

2040-Pos Board #B770
HOW MUCH PRE-POLARIZATION IS IDEAL FOR FIXED-CHARGE MD SIMULATIONS? Paul S. Nerenberg, Jonathan K. Steck, David C. Wych

2041-Pos Board #B771
ADAPTIVE BIASING COMBINED WITH HAMILTONIAN REPLICA EXCHANGE TO IMPROVE UMBRELLA SAMPLING. Fabian T. Zeller

2042-Pos Board #B772
ADAPTIVE LAMBDA SQUARE DYNAMICS SIMULATION: AN EFFICIENT CONFORMATIONAL SAMPLING METHOD FOR BIOMOLECULES. Jinzen Ikebe, Shun Sakuraba, Hitoshi Kono

2043-Pos Board #B773
QM/MM SIMULATIONS OF MG AND ZN SOLVATION. Saleh Riahi, Christopher N. Rowley

2044-Pos Board #B774
RELAXATION MODE ANALYSIS FOR A PEPTIDE. Ayori Mitsutake

2045-Pos Board #B775
SPACE-TIME CHARACTERISTICS OF THE PROTEIN THERMODYNAMIC QUANTITIES UNDER THE MOLECULAR CROWDING CONDITION OF CYTOPLASM IN EXTREMOPHILES: KIRKWOOD-BUFF APPROACH COMBINED WITH MOLECULAR DYNAMICS SIMULATION. Isseki Yu

2046-Pos Board #B776
LIFTING CONSTRAINTS IN PROTEIN MOLECULAR DYNAMICS SIMULATIONS. Timo Graen, Helmut Grubmüller

2047-Pos Board #B777
SIMULATaneous COMPUTATION OF DYNAMICAL AND EQUILIBRIUM INFORMATION USING A WEIGHTED ENSEMBLE OF TRAJECTORIES. Ernesto Suarez, Steven Lettieri, Metthew C. Zwier, Sundar Raman Subramanian, Lillian T. Chong, Daniel M. Zuckerman

2048-Pos Board #B778
INFERRING STRUCTURALENSEMBLES FROM NOISY EXPERIMENTS AND MOLECULAR DYNAMICS: CORRECTING FORCE FIELD BIAS WITH BAYESIAN ENERGY LANDSCAPE TILTING. Kyle Beauchamp, Vijay Pande, Rhiju Das

2049-Pos Board #B779
EDUCATION TRAVEL Awardee OPTIMIZATION OF COARSE-GRAINED WATER-ION INTERACTION PARAMETERS FOR BIOLOGICAL SIMULATION. Joseph Fogarty, See-Wing Chiu, Eric Jakobsson, Vojtech Cizmar

2050-Pos Board #B780
THE BIO3D PACKAGE: NEW INTERACTIVE TOOLS FOR STRUCTURAL BIOINFORMATICS. Xin-Qiu Yao, Guido Scarabelli, Lars Skjerven, Barry J. Grant

2051-Pos Board #B781
LEARNING ABOUT TRANSITIONS: ADAPTIVE CONTROLS FOR THE MOLECULAR DYNAMICS DATABASE. Sarana Y. Nutanong, Yanif Ahmad, Thomas B. Woolf, I-Jeng Wang
COMPUTATIONAL METHODS I
(Boards #B784–#B813)

2054-POS  BOARD #B784
MODIFIED FAST MULTIPOLe METHOD FOR COARSE-GRAINED MOLECULAR SIMULATIONS. Mohammad Poursina

2055-POS  BOARD #B785
BIOMOLECULAR STRUCTURE REFINEMENT & PREDICTION USING DEAD-END ELIMINATION WITH A POLARIZABLE FORCE FIELD. Stephen D. LuCore, Shiho Gao, Ava M. Lynn, William T.A. Tollefson, Kyle T. Powers, Timothy D. Fen, Michael J. Schnieders

2056-POS  BOARD #B786
IMPROVING THE COMPUTATIONAL EFFICIENCY OF THE INDUCED-DIPOLE MODEL IN AMOEBA VIA THE 3-BODY APPROXIMATION. Omar Demerdash, Liam D. O’Sullivan, Theresa L. Head-Gordon

2057-POS  BOARD #B787
MULTIPOLe AS FORCE FIELD PARAMETERS - ACCURACY AND REDUNDANCY. Sofie Jakobsen

2058-POS  BOARD #B788
ASSESSMENT OF NONPOLAR TERMS IN IMPLICIT SOLVENT MODELS TO ESTIMATE SMALL MOLECULE HYDRATION FREE ENERGIES. Martin Brieg, Julia Setzler, Wolfgang Wenzel

2059-POS  BOARD #B789
SIZE-MODIFIED POISSON-BOLTZMANN ELECTROSTATICS FOR REALISTIC BIOMOLECULAR SYSTEMS. Nuo Wang, Peter Kekenes-Huskey, Shenggao Zhou, Bo Li, J. Andrew McCammon

2060-POS  BOARD #B790
FREE-ENERGY CALCULATIONS FOR SEMI-FLEXIBLE MACROMOLECULES: APPLICATIONS TO DNA KNOTTING AND LOOPING. Stefan M. Giovan, Robert G. Scharein, Andreas Hanke, Stephen D. Levene

2061-POS  BOARD #B791
FREE ENERGY CALCULATION OF PROTEIN CONFORMATIONAL CHANGES USING PARALLEL CASCADE SELECTION MOLECULAR DYNAMICS SIMULATION AND MARKOV STATE MODEL. Yasutaka Nishihara, Ryuhei Harada, Akio Kitao

2062-POS  BOARD #B792
INTERNATIONAL TRAVEL Awardee A COMPUTATIONAL METHOD INCLUDING PROTEIN FLEXIBILITY TO ESTIMATE AFFINITIES WITH SMALL LIGANDS. Ariane Nunes-Alves, Guilherme M. Arantes

2063-POS  BOARD #B793
DEVELOPMENT OF EFFICIENT ENERGY FUNCTION FOR PROTEIN-SMALL MOLECULE INTERACTIONS IN MEDUSA Dock. Praveen Nedumplly Govindan, Feng Ding

2064-POS  BOARD #B794
CONFORMATIONAL CONTRIBUTION TO THERMODYNAMICS OF BINDING IN PROTEIN COMPLEXES THROUGH MICROSCOPIC SIMULATIONS. Jaydeb Chakrabarti, Amir Das, Mahua Ghosh

2065-POS  BOARD #B795
STRUCTURE-BASED PREDICTORS OF RESISTANCE TO THE HIV-1 INTEGRASE INHIBITOR ELVITEGRAVIR. Majid Masso, Grace Chuang, Shinar Jain, Kate Hao, Isolf I. Vaisman

2066-POS  BOARD #B796
ELUCIDATING EFPRIN-INDUCED INTERSECTING SIGNALING PATHWAYS IN THE NIPAH VIRUS G PROTEIN USING MACHINE LEARNING. Mohsen Botlami, Ralph Leighty, Sameer Varma

2067-POS  BOARD #B797
DESIGN OF DRUGLIKE SMALL MOLECULES WITH LYN-SPECIFIC BINDING. D. S. Dalafave

2068-POS  BOARD #B798
EFFECT OF CRYSTAL MTH AND ECSTASY ENANTIOMERS ON FUNCTION OF DOPAMINE TRANSPORTERS. Igor Zdravkovic, Sergei Y. Noskov

2069-POS  BOARD #B799
PREDICTING DRUGGABLE SITES IN PROTEIN-PROTEIN INTERFACES USING FINDBINDSITE. Hubert Li, Vinod Kasam, Nagarajan Vaidehi

2070-POS  BOARD #B800
UNDERSTANDING THE INTERACTIONS OF THREE INTEGRINS WITH A LIBRARY OF PEPTIDES. Matt McKenzie, Aravind R. Rammohan

2071-POS  BOARD #B801
RE-DOCKING SCHEME TO EXPLORE DOCKING SEARCH SPACE BY USING INTERACTION PROFILES. Nobuyuki Uchikoga, Yuri Matsuzaki, Masahito Ohue, Takatsugu Hirokawa, Yutaka Akiyama

2072-POS  BOARD #B802

2073-POS  BOARD #B803
BIOMOLECULAR RECOGNITION BASED ON 3D MOLECULAR THEORY OF SOLVATION. Nikolay Blinov, Wenjuan Huang, Dragan Nikolic, David S. Wishart, Andriy Kovalenko

2074-POS  BOARD #B804
FLUCTUATION FLOODING METHOD (FFM) FOR ENHANCING CONFORMATIONAL SAMPLING OF PROTEINS. Ryuhei Harada

2075-POS  BOARD #B805
ACCELERATING THE MOLECULAR DYNAMICS SAMPLING OF MUTANTS: A HIERARCHICAL BAYESIAN MARKOV STATE MODEL STRATEGY. Robert T. McGibbon, Vijay S. Pande

2076-POS  BOARD #B806
PREDICTING HLA-SPECIFIC DRUG HYPERSENSITIVITY WITH MOLECULAR DOCKING AND MOLECULAR DYNAMICS SIMULATIONS. Xin-Qiu Yao, Barry J. Grant

2077-POS  BOARD #B807
GENERALIZED SCALABLE MULTIPLE COPY ALGORITHMS FOR BIOLOGICAL MOLECULAR DYNAMICS SIMULATIONS IN NAMD. Wei Jiang, James Phillips, Lei Huang, Mikolai Fajer, Yilin Meng, James C. Gumbart, Yun Luo, Klaus Schulten, Benoit Roux
2078-Pos  Board #B808
ASSESSING LIMITATIONS OF ELASTIC NETWORK MODELS IN DESCRIBING EQUILIBRIUM PROTEIN FLEXIBILITY AND EXTENSIONS TO PREDICT NON-EQUILIBRIUM UNFOLDING DYNAMICS OF PROTEINS.
Ravindra Venkatramani, Ranja Sarkar, Hema Chandra Kotamarthi, Ainanvarapu Sri Rama Kori

2079-Pos  Board #B809
STUDYING CONFORMATIONAL CHANGES OF MHP1 USING UNBIASED ALL-ATOM MOLECULAR SIMULATIONS. Pouyan Khakbaz, Jeffery B. Klausa

2080-Pos  Board #B810
A NEW STRATEGY FOR COARSE-GRAINED PROTEIN SIMULATIONS: SMOOTHED ENERGY TABLES. Justin M. Spiriti, Daniel M. Zuckerman

2081-Pos  Board #B811
MIXED-RESOLUTION MONTE CARLO: A TOOL FOR SAMPLING PROTEINS AND LIGANDS. Sundar Raman Subramanian, Rehith Palli, Daniel M. Zuckerman

2082-Pos  Board #B812
PB-SAM, A NOVEL SOLUTION TO THE POISON-BOLTZMANN EQUATION FOR APPLICATIONS IN COARSE GRAIN DYNAMICS. Lisa E. Felberg

2083-Pos  Board #B813
SIMPLE METHOD FOR HYBRID ALL-ATOM AND COARSE-GRAINED MOLECULAR DYNAMICS SIMULATIONS AND ITS APPLICATIONS. Sun Mi Choi, Pandian Sokkar, Young Min Rhee

Biosensors I (Boards #B814–#B843)

2084-Pos  Board #B814
NANOPORE QUANTITATION OF CANCER BRAF DRIVER MUTATION FACILITATED BY A DNA INTERSTRAND MERCULOCK. Kai Tian, Xi Fang, Corbin Reagan, Li-Qun Gu

2085-Pos  Board #B815
CONSTRUCTING CPG SITE-SPECIFIC INTERSTRAND LOCKS FOR SINGLE-MOLECULE EPIGENETIC DETECTION IN A NANOPORE. Insoon Kang, Yong Wang, Li-Qun Gu, Corbin Reagan

2086-Pos  Board #B816
NOVEL NANOPORE DIELECTROPHORESIS MECHANISM FOR SELECTIVE MIKRORNA DETECTION IN CLINICAL SET. Kai Tian, Brandon Fricke, Li-Qun Gu

2087-Pos  Board #B817
DETECTION OF SINGLE BIOPOLYMERS AT HIGH CURRENT BANDWIDTH WITH HAFNIUM OXIDE NANOPORTS. Joseph W. Larkin, Robert Henley, David C. Bell, Tzahi Cohen-Karni, Jacob K. Rosenstein, Meni Wanunu

2088-Pos  Board #B818
CPOW TRAVEL AWARDEE
SOLID-STATE NANOPORE MAPPING OF DNA WITH SITE-SPECIFIC BOUND LIGANDS. Autumn Carlsen, Osaka A. Zahid, Jan Ruzicka, Ethan W. Taylor, Adam R. Hall

2089-Pos  Board #B819
HARDWARE IMPLEMENTATION OF DENOISING ALGORITHMS FOR NANOPORSE SENSING. Brett W. Larsen, Michael Goryll, Prasanna Sattigeri

2090-Pos  Board #B820
GRAPHENE NANOPORE WITH SELF-ALIGNED PLASMONIC OPTICAL ANTENNA. SungWoo Nam, Inhee Choi, Chi-cheng Fu, Kwanpyo Kim, SoonGweon Hong, Yeonho Choi, Alex Zettl, Luke P. Lee

2091-Pos  Board #B821
ION CONDUCTIVITY, STRUCTURAL DYNAMICS AND THE EFFECTIVE FORCE IN DNA ORIGAMI NANOPORES. Chen-Yu Li, Jejoong Yoo, Aleksei Aksimentiev

2092-Pos  Board #B822
TAILORING NANOPROBES FOR SINGLE-CHEL SURGERY. Paolo Actis, Sergiy Tokar, David Klenerman, Yuri Korchev

2093-Pos  Board #B823
SINGLE-CHEL VOLTAGE MEASUREMENTS WITH A SET OF NANOPROBES. Gordon A. Thomas, Stephanie Maruca, Camélia Prodan, Reginald C. Farrow, Alokik Kanwal

2094-Pos  Board #B824
EDUCATION TRAVEL AWARDEE A COMPREHENSIVE LIVE CELL SCREENING APPROACH FOR DEVELOPING IMPROVED MICROBIAL RHODOPSIN-BASED VOLTAGE BIOSENSORS. Yongxin Zhao, Daniel Hochbaum, D. Jed Harrison, Adam E. Cohen, Robert E. Campbell

2095-Pos  Board #B825
BIOSENSING PROPERTIES OF AU LOADED MESOPOROUS SILICA NANOSPHERES COATED WITH LIPID BILAYERS. Rémi Veneziano, Gaelle Derrien, Sissors Th, Alain Brisson, Jean-Marie Devoisselle, Joel Chopineau, Clarence Charney

2096-Pos  Board #B826
NANOPARTICLE-MEMBRANE INTERACTIONS STUDIED WITH LIPID BILAYER ARRAYS. Bin Lu, Tyler Smith, Ruibin Li, Tian Xia, Andre Nel, Jacob Schmidt

2097-Pos  Board #B827
EDUCATION TRAVEL AWARDEE LIQUID-CRYSTAL-BASED BIOSENSOR WITHOUT ALIGNMENT SUBSTRATE. Piotr Popow, Elizabeth K. Mann, Antal Jakli

2098-Pos  Board #B828
RADIO-FREQUENCY TANK CIRCUIT FOR DNA SEQUENCING. Paul V. Gwozdz, Abhishek Bhat, Robert Blick, Arjun Seshadri, Eric Stava

2099-Pos  Board #B829
ELECTROCHEMICAL DETECTION OF ACETYLCHOLINE USING ENZYME FUNCTIONALIZED NANOPARTICLES. Jacqueline D. Keighron, Michael E. Kurczy, Joakim Wigström, Ann-Sofie Cans

2100-Pos  Board #B830
A SINGLE-STEP DIGITAL NUCLEIC ACID AMPLIFICATION PLATFORM BY DIGITAL PLASMA SEPARATION ON A CHIP. Erh-Chia Yeh, Chi-Cheng Fu Yeh, Lucy Hu, Meng-Yao Huang, Luke P. Lee

2101-Pos  Board #B831
SINGLE MOLECULE DETECTION OF INSULIN AUTOANTIBODIES IN TYPE 1 DIABETES. Juliane Beyer, Ralf Paul, Ezio Bonifacio, Stefan Diz

2102-Pos  Board #B832
NANOMATERIALS-ENHANCED ELECTROCHEMICAL BIOSENSOR FOR DETECTION OF CANCER BIOMARKERS. Bing Jin, Hongju Mao

2103-Pos  Board #B833
ELECTROCHEMICAL PUMPING OF POTASSIUM IONS AGAINST AN EXTERNAL CONCENTRATION GRADIENT IN A BIOLOGICAL ION CHANNEL. Maria Queart-Martín, Elena García-Giménez, Vicente M. Aguilella, Patricio Ramírez, Salvador Mafe, Antonio Alcaraz
2104-Pos  Board #B834
RAPID DETECTION OF PROTEIN AGGREGATION AND INHIBITION BY DUAL FUNCTIONS OF GOLD NANOPLASMONIC PARTICLES: CATALYTIC ACTIVATOR AND OPTICAL REPORTER. Inhee Choi, Elizabeth Lee, Minsun Song, Luke P. Lee

2105-Pos  Board #B835
NOVEL BIOSensor FOR POINT OF CARE MEDICAL DIAGNOSTICS. Anna Wilkes, Benjamin Evans

2106-Pos  Board #B836
TRANSPARENT MULTI-SUCTION ELECTRODE ARRAYS FOR *IN VITRO* NEURAL NETWORK INVESTIGATIONS. John M. Nagarah, Daniel A. Wagenaar

2107-Pos  Board #B837
POLYDIACETYLENE (PDA) VESICLE BASED COLORIMETRIC BIOSENSOR FOR DETECTION OF GENETICALLY MODIFIED (GM) CROPS. Huisoon Jang, Sungho Jung, Kong-Sik Shin, Sun Min Kim, Tae-Joon Jeon

2108-Pos  Board #B838
PAPER-BASED INTEGRATED DIAGNOSTIC DEVICE FOR NUCLEIC ACID DETECTION OF HIV FROM BLOOD. Fei Liu

2109-Pos  Board #B839
RAPID DETECTION OF METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS USING BUBBLE-FREE MICROFLUIDIC PCR. Sanghun Lee, Jun Ho Son, Luke P. Lee

2110-Pos  Board #B840
SIMPLE DETECTION OF AMYLOID-BETA PEPTIDE FOR A DIAGNOSIS OF ALZHEIMER’S DISEASE USING PHOTO-SENSITIVE FET WITH OPTICAL FILTERING LAYER. Kwan-Su Kim, Ki-Bong Song

2111-Pos  Board #B841
PHOTOCHROMIC FRET SENSORS TO MONITOR HEME PROTEIN DYNAMICS. Halil Bayraktar, Selen Manioglu

2112-Pos  Board #B842
AN ENGINEERED PALETTE OF METAL ION QUENCHABLE FLUORESCENT PROTEINS. Xiaozhen Yu, Marie-Paule Strub, Travis J. Barnard, Nicholas Noinaj, Grzegorz Piszczek, Susan K. Buchanan, Christi Whittington, Eric R. Kool

2113-Pos  Board #B843
NABI, A NOVEL FRET-BASED VOLTAGE SENSOR PROTEIN. Uhna Sung, Masoud Allahverdizadeh, Lei Jin, Thomas Hughes, Lawrence B. Cohen, Bradley J. Baker

Biomaterials (Boards #B844–#B866)

2114-Pos  Board #B844
ONE-DIMENSIONAL AND TWO-DIMENSIONAL ALIGNMENT OF GOLD-NANOPARTICLES COATED WITH AMYLOIDOCIC PROTEIN OF α-SYNUCLEIN AND THEIR APPLICATIONS. Seung R. Paik, Jae Hyung Park, Unkyu Paik, Daekyun Lee

2115-Pos  Board #B845
MODULAR STITCHING TO IMAGE SINGLE-MOLECULE DNA TRANSPORT. Juan Guan, Bo Wang, Sung Chul Bae, Steve Granick

2116-Pos  Board #B846
ANTIBODY-CONJUGATED SUPERPARAMAGNETIC IRON OXIDE NANOPARTICLES FOR ACTIVE TARGETING OF ADENOSINE RECEPTORS. Zdenka Markova, Marketa Havrdova, Katerina Polakova, Jiri Tucek, Roman Kubinek, Aristides Bakandritsos, Evgenia Gerasimovskaya, Radu Moldovan, Petr Paucek, Radek Zboril

2117-Pos  Board #B847
STOCHASTIC GATING AND MOLECULAR TRANSPORT IN CARBON NANOTUBE ION CHANNELS. Jia Geng, Kyunghoon Kim, Ramya Tunuguntla, Caroline Ajo-Franklin, Aleksandr Noy

2118-Pos  Board #B848
HIGH GENERATION DENDRIMERS VIA THIOL-MICHAEL CLICK CHEMISTRY. Stephen Freyne, Brian Northrop

2119-Pos  Board #B849
PRODUCTION OF SUBMICRON PDMS PARTICLES BY EMULSIFICATION OF TWO PHASES. Yo Han Choi, Ki-Bong Song

2120-Pos  Board #B850
SOFT STATE POROUS JUNCTIONS BASED MICROFLUIDIC MEMBRANE REACTOR. Jixiao Liu, Luke P. Lee

2121-Pos  Board #B851
BLOCK COPOLYMERS FOR RESPONSIVE, ENERGETIC, NANOCOMPOSITE MEMBRANE ASSEMBLIES. Gabriel A. Montano, Aaron M. Collins, Yongming Tian, Nicholas G. Parra-Vasquez, Juan Duque, Tuba Sahin, Stephen K. Doorn, Jonathan S. Lindsey

2122-Pos  Board #B852
LIVING LIQUID CRYSTALS. Shuang Zhou, Andrey Sokolov, Oleg D. Lavrentovich, Igor S. Aranson

2123-Pos  Board #B853
THE EFFECT OF MATERIAL AS CYTOTOXITY TO A549, 293T, HEp3B CELLS. Yong Hun Go, Gyu Suk O, Jeong Gyun Kim, Jae Kweon Park, You Jin Hwang

2124-Pos  Board #B854
CYTOPLASMIC STOPPED FLOW AT THE SINGLE CELL LEVEL BASED ON PHOTOSENSITIVE POLYMERSOMES. Andreas E. Vasdekis, Evan A. Scott, Conlin P. O’Neil, Demetri Psaltis, Jeffrey A. Hubbell

2125-Pos  Board #B855
SELF-ASSEMBLY OF STIMULI-RESPONSIVE HYDROGEL NANOSTRUCTURES BY PEPTIDE AMPHIPHILES VIA MOLECULAR DYNAMICS SIMULATIONS. Hung D. Nguyen

2126-Pos  Board #B856
LIVE CELL IMAGING WITH RAB-GTPASES ELUCIDATES INTRACELLULAR PATHWAYS OF RGD AND IRGD TAGGED CATIONIC LIPID-DNA NANOPARTICLES. Ramsey N. Majzoub, Kai K. Ewer, Venkata R. Kotamraju, Chia-Ling Chan, Keng S. Liang, Erkki Ruoslahti, Cyrus R. Safinya

2127-Pos  Board #B857
BIOMIMETIC LIGHT HARVESTING IN NANOPOROUS METAL ORGANIC MATERIALS. Randy W. Larsen, Lukasz Wojtas, Chirsti Whittington

2128-Pos  Board #B858
SUPERRESOLUTION IMAGING OF THE ENTHESIS UNDER MECHANICAL LOAD. Heinrich Grabmayr, Leone Rossetti, Josef Stolberg-Stolberg, Rainer Burgkart, Andreas R. Bausch

2129-Pos  Board #B859
INVESTIGATION OF NANOLIPOPROTEIN PARTICLES ENTRAPPED WITHIN NANOPOROUS SILICA: A NOVEL PLATFORM FOR IMMOLIZATION OF INTEGRAL MEMBRANE PROTEINS. Wade F. Zeno, Marjorie L. Longo, Subhash H. Risbud, Matthew A. Coleman
2130-Pos  Board #B860
HIGH SPEED ALL OPTICAL LOGIC OPERATIONS UTILIZING THE PROTEIN BACTERIORHODOPSIN. László Fábián.
Anna Mathesz, Sándor Valkai, Daniel Alexandre, Paulo V. S. Marques, Pál Ormos, Elmar K. Wolff, András Dér

2131-Pos  Board #B861
GENE EXPRESSION IN A 2D SYSTEM. Eyal Karzbrun.
Alexandra Tayar, Vincent Noireaux, Roy Haim Bar-ziv

2132-Pos  Board #B862
DESIGNING HIGHLY TUNABLE SEMIFLEXIBLE FILAMENT NETWORKS. Ronald J. Pandolfi, Lauren E. Edwards, Linda S. Hirst

2133-Pos  Board #B863
STABLE PATCHY PARTICLES FROM IMMISCIBLE LIPID MIXTURES. Dylan Bargteil, Lea-Laetitia Pontani, Martin Haase, Jasna Brujic

2134-Pos  Board #B864
DETERMINING SURFACE ACTIVITY AND MEMBRANE INTERACTIONS OF RANASPUMIN-2 AND AN ENGINEERED DERIVATIVE, SURFACTANT RESISTING FOAM FORMATION. Carly R. Strelez, David Wendell, Shellie L. Frey

2135-Pos  Board #B865
RAPID FORMATION AND FLOW AROUND STAPHYLOCOCCUS AUREUS BIOFILM STREAMERS. Min Young Kim, Knut Drescher, Bonnie L. Bassler, Howard A. Stone

2136-Pos  Board #B866
INTERFACIAL MUSSEL PROTEINS CHARACTERIZATION WITH THE SURFACE FORCES APPARATUS. Eric Danner, Yajing Kan, Malte Hammer, Jing Yu, Wei Wei, Jacob Israelachvili, J Herbert Waite
## Tuesday, February 18, 2014

### Daily Program Summary

All rooms are located in the MOSCONE CONVENTION CENTER unless noted otherwise.

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<td>Family Room</td>
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<td>8:00 AM–9:00 AM</td>
<td>Biophysical Society Business Meeting</td>
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<td>Poster Viewing</td>
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<td>8:00 AM–5:30 PM</td>
<td>Career Center</td>
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<td>Child Care</td>
<td>Marriott Marquis, Pacific H, I, J</td>
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<td>8:00 AM–6:00 PM</td>
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<td>Rotunda, 300 Level</td>
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8:15 AM–10:15 AM

**Symposium: Biophysics in Industry: Putting Evolution in Practice**

**Co-Chairs:** Kenneth Dill, Stony Brook University, and Timothy Gardner, Amyris, Inc.

TRANSFORMING YEST FROM MOONSHINERS INTO OIL BARONS. *Timothy Gardner*

SYNTHETIC BIOLOGY. *Christopher Voigt*

HARNESSING NATURE’S DIVERSITY FOR PRODUCTION OF UNIQUE TRIGLYCERIDE OILS. *Peter Licari*

PHYSICAL CONSTRAINTS ON PROTEOMES IMPOSE LIMITS TO BIOLOGICAL EVOLUTION. *Kenneth Dill*

8:15 AM–10:15 AM

**Symposium: Mechanosensing in Eukaryotes**

**Co-Chairs:** Jeffrey Holt, Harvard University & Boston Children’s Hospital, and Valeria Vasquez, Stanford University

ZEZ AND THE ART OF MECHANOSENSATION: HOW MSCS-LIKE MECHANOSENSITIVE CHANNELS HELP EUKARYOTIC CELLS AND ORGANELLES REDUCE STRESS. *Elizabeth Haswell*

MAY THE FORCE BE WITH YOU: SEARCH FOR ION CHANNELS THAT RESPOND TO PRESSURE. *Ardem Patapoutian*

TOUCH AS A MATTER OF FAT: THE PHOSPHOLIPIDS AND DEG/ENAC CHANNELS NEEDED FOR METAZOAN TOUCH SENSATION. *Miriam B. Goodman*

TMF FUNCTION IN HAIR CELL MECHANOTRANSDUCTION. *Jeffrey R. Holt*

8:15 AM–10:15 AM

**Platform: Cell Mechanics and Motility III**

Room 130/131

8:15 AM–10:15 AM

**Platform: Intrinsically Disordered Proteins**

Room 132/133

8:15 AM–10:15 AM

**Platform: Membrane Pumps, Transporters, and Exchangers II**

Room 303

8:15 AM–10:15 AM

**Platform: Protein-Nucleic Acid Interactions II**

Room 304

8:15 AM–10:15 AM

**Platform: Calcium Fluxes, Sparks, and Waves**

Room 305

8:15 AM–10:15 AM

**Platform: Ion Channels and Disease**

Room 306

9:00 AM–10:00 AM

**Subgroup Chairs Meeting**

Room 124

9:00 AM–10:30 AM

**Exhibitor Presentation: Wyatt Technology Corporation**

**Essential Biophysical Characterization™: Molar Mass, Size, Charge and Interactions—The Light Scattering Toolbox for Biomolecules and Nanoparticles**

Room 123

9:30 AM–10:30 AM

**Career Center Workshop: The Power of Groups: How to Help Others Help You in Your Job Search**

Room 300

10:00 AM–5:00 PM

**Biomolecular Discovery Dome**

Hall D

10:00 AM–5:00 PM

**Exhibits**

Hall D

10:15 AM–11:00 AM

**Coffee Break**

Hall D

10:45 AM–12:45 PM

**Symposium: Awards Symposium**

**Chair:** Francisco Bezanilla, University of Chicago, Society President

PHASES AND FLUCTUATIONS IN BIOLOGICAL MEMBRANES. *Sarah Veatch*

MULTISCALE SIMULATIONS OF BIOLOGICAL SYSTEMS. *Arieh Warshel*

STRUCTURAL AND MECHANISTIC DIVERSITY OF ABC TRANSPORTERS. *Douglas C. Rees*

ROLE OF MEMBRANE LIPIDS IN ACTIVATING G-PROTEIN-COUPLED RECEPTORS. *Michael F. Brown*

DECONSTRUCTING THE PHYSICAL AND MOLECULAR BASIS OF TOUCH AND PAIN SENSATION. *Miriam B. Goodman*

10:45 AM–12:45 PM

**Platform: Optical Microscopy and Super Resolution Imaging II**

Room 130/131

10:15 AM–12:45 PM

**Platform: Voltage-gated K Channels: Mostly BK and Structure Function**

Room 132/133

10:45 AM–12:45 PM

**Platform: Protein Design and Folding**

Room 303
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<th>Time</th>
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<td>10:45 AM–12:45 PM</td>
<td>Platform: DNA Structure and Dynamics Room 304</td>
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<td>10:45 AM–12:45 PM</td>
<td>Platform: Membrane-active Peptides and Toxins Room 305</td>
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<tr>
<td>10:45 AM–12:45 PM</td>
<td>Platform: Microtubules and Motors Room 306</td>
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<td>11:00 AM–12:30 PM</td>
<td>Exhibitor Presentation: Nanion Technologies SURFE2R - Catch the Wave for Transporters Precise Measurements of Membrane Transporter Protein Activity Room 123</td>
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<td>12:00 PM–2:00 PM</td>
<td>Postdoc to Faculty Q&amp;A: Transitions Forum and Luncheon Room 124/125</td>
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<td>12:30 PM–2:00 PM</td>
<td>Career Opportunities at Primarily Undergraduate Institutions: Finding a Job and Finding Success Room 310</td>
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<tr>
<td>1:00 PM–2:00 PM</td>
<td>Networking with Minority Biophysicists: Resources and Opportunities Room 302</td>
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<tr>
<td>1:00 PM–2:30 PM</td>
<td>Exhibitor Presentation: Molecular Devices, LLC Axon Electrophysiology Symposium: Getting the Most out of pCLAMP Software Room 123</td>
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<td>1:30 PM–2:30 PM</td>
<td>Science and Policy with Steven Chu Room 304</td>
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<td>Snack Break Room D</td>
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<td>1:45 PM–3:45 PM</td>
<td>Poster Presentations and Late Posters Hall D</td>
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<tr>
<td>2:15 PM–3:30 PM</td>
<td>The Basics, the Discoveries, and the Controversies: Membrane Protein Structure and Dynamics Room 301</td>
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<tr>
<td>2:30 PM–3:30 PM</td>
<td>Career Center Workshop: What to Do When You Are Tired of Doing What You Are Doing: A Unique Interactive Workshop for Experienced Workers Room 300</td>
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<tr>
<td>2:30 PM–4:30 PM</td>
<td>PhD Careers Beyond the Bench Room 123</td>
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<tr>
<td>3:00 PM–4:30 PM</td>
<td>Symposium: Structural Dynamics of Molecular Machines Room 134</td>
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<td>3:00 PM–5:00 PM</td>
<td>Symposium: Molecular Self-Assembly—from in Vitro to Cellular Systems Room 135</td>
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<tr>
<td>4:00 PM–6:00 PM</td>
<td>Symposium: Applications of Quantum Mechanics to Biophysical Problems Room 130/131</td>
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<td>4:00 PM–6:00 PM</td>
<td>Platform: Excitation-Contraction Coupling Room 132/133</td>
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<tr>
<td>4:00 PM–6:00 PM</td>
<td>Platform: Other Channels Room 303</td>
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<tr>
<td>4:00 PM–6:00 PM</td>
<td>Platform: Force Spectroscopy Room 304</td>
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<tr>
<td>4:00 PM–6:00 PM</td>
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<td>4:00 PM–6:00 PM</td>
<td>Platform: Membrane Dynamics Room 305</td>
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<tr>
<td>4:00 PM–6:00 PM</td>
<td>Platform: Muscle: Fiber and Molecular Mechanics and Structure Room 306</td>
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</tbody>
</table>
### Workshop: Knocking Down or Turning Off: Down-Regulation of Protein Expression

**Chair:** Suzanne Scarlata, Stony Brook University

- **Moonlighting Proteins: How the Lipid-Signaling Enzyme Phospholipase C-Beta Regulates RNA Silencing.** Suzanne Scarlata
- **Slicer and The Argonauts.** Leemor Joshua-Tor
- **Competitions Between MicroRNAs and Its Role in Post-Transcriptional Regulation.** Ofer Bilham
- **Chimeric Switches: Cell-Fate Decisions Via MicroRNA Dependent Regulation.** Herbert Levine

**Room 134**

7:30 PM – 9:30 PM

### Workshop: Applications of Supported Bilayers

**Co-Chairs:** Marjorie Longo, University of California, and Davis Khalid Salaita, Emory University

- **Super-resolution Methods to Understand Dynamics at Soft Interfaces.** Christy F. Landes
- **Fluorescence-Based Tension Probes to Image Mechanics at the Lipid Membrane.** Khalid Salaita
- **Quantifying Membrane Viscosity by Monitoring the Rotational and Translational Diffusion of Tracer Particles.** Raghuveer Parthasarathy
- **Domains in Supported Bilayers: From Winemaking to Protein Nanopatterning.** Marjorie L. Longo

**Room 135**

7:30 PM – 9:30 PM

### Workshop: Distance Measurements by Double Electron Electron Resonance (DEER)

**Co-Chairs:** Gail Fanucci, University of Florida, and Hassane Mchaourab, Vanderbilt University

- **Deer on Nitroxides: Experiment and Data Interpretation.** Yevhen Polyhach
- **Mapping Transporter Conformational Dynamics Using Double Electron Electron Spectroscopy (DEER).** Hassane S. Mchaourab
- **Evaluating Deer Distance Profiles in Terms of Protein Conformational Ensembles.** Gail E. Fanucci
- **Deer Studies of Membrane Proteins.** Gary A. Lorigan
- **Do Spin Labels Tell the Truth?** Peter Fajer

**Room 130/131**

7:30 PM – 9:30 PM

### SOBLA (The Society for Latinoamerican Biophysicists) Meeting

**Room 309**

8:00 PM – 10:00 PM
Tuesday, February 18

7:30 AM–5:00 PM, NORTH LOBBY
Registration/Information

7:30 AM–10:00 PM, ROOM 112
Family Room

8:00 AM–9:00 AM, ROOM 302
Biophysical Society Business Meeting
The annual business meeting is open to all Society members.

8:00 AM–4:30 PM, HALL D
Poster Viewing

8:00 AM–5:30 PM, ROOM 300
Career Center

8:00 AM–6:00 PM, MARRIOTT MARQUIS, PACIFIC H, I, J
Child Care

8:00 AM–6:00PM, ROTUNDA, 300 LEVEL
Undergraduate Student Lounge
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. Members of the Education Committee, which sponsors this lounge, will stop by to answer questions student attendees may have about career paths and opportunities.

8:15 AM–10:15 AM, ROOM 134
Symposium
Biophysics in Industry:
Putting Evolution in Practice

Co-Chairs
Kenneth Dill, Stony Brook University
Timothy Gardner, Amyris, Inc.

2137-Symp 8:15 AM
TRANSFORMING YEAST FROM MOONSHINERS INTO OIL BARONS. Timothy Gardner

No Abstract 8:45 AM
SYNTHETIC BIOLOGY. Christopher Voigt

2138-Symp 9:15 AM
HARNESSING NATURE’S DIVERSITY FOR PRODUCTION OF UNIQUE TRIGLYCERIDE OILS. Peter Licari

2139-Symp 9:45 AM
PHYSICAL CONSTRAINTS ON PROTEOMES IMPOSE LIMITS TO BIOLOGICAL EVOLUTION. Kenneth Dill

8:15 AM–10:15 AM, ROOM 135
Symposium
Mechanosensing in Eukaryotes

Co-Chairs
Jeffrey Holt, Harvard University & Boston Children’s Hospital
Valeria Vasquez, Stanford University

2140-Sym 8:15 AM
ZEN AND THE ART OF MECHANOSENSATION: HOW MSCS-LIKE MECHANOSENSITIVE CHANNELS HELP EUKARYOTIC CELLS AND ORGANELLES REDUCE STRESS. Elizabeth Haswell, Kira Veley, Grigory Maksaev, Margaret Wilson, Gregory Jensen, Eric Hamilton

2141-Sym 8:45 AM
MAY THE FORCE BE WITH YOU: SEARCH FOR ION CHANNELS THAT RESPOND TO PRESSURE. Ardem Patapoutian

2142-Sym 9:15 AM
TOUCH AS A MATTER OF FAT: THE PHOSPHOLIPIDS AND DEG/ENAC CHANNELS NEEDED FOR METAZOAN TOUCH SENSATION. Miriam B. Goodman

2143-Sym 9:45 AM
TMC FUNCTION IN HAIR CELL MECHANOTRANSDUCTION. Jeffrey R. Holt

8:15 AM–10:15 AM, ROOM 130/131
Platform
Cell Mechanics and Motility III

Co-Chairs
Hedde van Hoorn, Leiden University, The Netherlands
Lene Oddershede, University of Copenhagen, Denmark

2144-Plat 8:15 AM
THE PREDOMINANT ROLE OF TENSION IN THE NANOSCALE MECHANICAL BEHAVIOR OF CELLS VISUALIZED BY A NEW IMAGING PLATFORM. Nicola Mandriota, Ozgur Sahin

2145-Plat 8:30 AM
INVESTIGATING FOCAL ADHESION MECHANICS USING NANOPATTERNED MOLECULAR TENSION FLUORESCENCE MICROSCOPY (MTFM). Yang Liu, Rebecca Medda, Elisabetta Ada Cavalcanti-Adam, Khalid Salaita

2146-Plat 8:45 AM
PROBING THE MECHANICAL COUPLING OF THE CELL MEMBRANE TO THE NUCLEUS WITH VERTICAL NANOPILLAR ARRAYS. Lindsey Hanson, Wenting Zhao, Ziliang Lin, Yi Cui, Xiaoxiao Cui

2147-Plat 9:00 AM
OUTWARD MICROTUBULE-MEDIATED PUSHING FORCES DICTATE MITOSIS. Hedde van Hoorn, Martin de Valois, Claude Backendorf, Thomas Schmidt

2148-Plat 9:15 AM
ANALYSIS AND MODELING OF DENDRITIC SPINE MORPHOGENESIS. Olena Marchenko, Charles W. Wolgemuth, Leslie M. Loew

2149-Plat 9:30 AM
TRACTION FORCE MICROSCOPY BASED ON AN ACTIVE CABLE NETWORK MODEL. Jerome Soine, Christoph Brand, Jonathan Stricker, Patrick W. Oakes, Margaret L. Gardel, Ulrich S. Schwarz

2150-Plat 9:45 AM
MIGRATION, FORCE GENERATION AND MECHANOSENSING OF CELLS IN COLLAGEN GELS. Julian Steinwachs, Claus Metzner, Katerina Aifantis, Ben Fabry
**platform**

**8:15 AM–10:15 AM, ROOM 132/133**

**platform**

**Intrinsically Disordered Proteins**

Co-Chairs
Birthe Kragelund, University of Copenhagen, Denmark
Trevor Creamer, University of Kentucky

**2152-PLAT** 8:15 AM

PREDICTION OF THE EFFECTS OF THE VAL66MET POLYMORPHISM ON THE CONFORMATIONAL ENSEMBLE OF AN INTRINSICALLY DISORDERED PROTEIN, BRAIN-DERIVED NEUROTROPHIC FACTOR.  **Ruchi Lohia**, Reza Salari, Grace Brannigan

**2153-PLAT** 8:30 AM

HOW DO INTERACTIONS IN CIS WITH ORDERED DOMAINS INFLUENCE SEQUENCE-ENSEMBLE RELATIONSHIPS OF INTRINSICALLY DISORDERED REGIONS?  **Anuradha Mittal**, Kanchan Garai, Rohit V. Pappu

**2154-PLAT** 8:45 AM

THE C-TERMINAL V5 DOMAIN OF PROTEIN KINASE Ca IS A MULTI-FUNCTIONAL INTRINSICALLY DISORDERED PROTEIN MODULE.  **Yuan Yang**, Tatyana I. Igumenova

**2155-PLAT** 9:00 AM

C-TERMINAL ERK D- (AND E-LIKE) DOMAINS LINK THE NA'/H+ EXCHANGER NHE1 TO ERK2 PHOSPHORYLATION AND REGULATION VIA SCAFFOLDING.  **Ruth Hendus-Altenberger**, Jeff Schnell, Elena Pedraz, Jonas Marstrand Lacour, Jane Johansen, Stine F. Pedersen, Birthe B. Kragelund

**2156-PLAT** 9:15 AM

SPEED DATING WTH KIX: A SINGLE DOMAIN THAT HAS MANY PARTNERS.  **Sarah L. Shammas**, Jane Clarke

**2157-PLAT** 9:30 AM

MOLECULAR SIMULATIONS OF THE DYNAMICS OF DISORDEREDPROTEINS.  **W. Wendell Smith**, Po-Yi Ho, Elizabeth Rhoades, Corey O’Hern

**2158-PLAT** 9:45 AM

THE PROTECTION OF MEMBRANES FROM COLD-STRESS: A STRUCTURAL STUDY OF THE INTRINSICALLY DISORDERED DEHYDRIN BOUND TO MICELLES AND LIPOSOMES.  **Steffen P. Graether**, Matthew Clarke, Josephine Warnica, John Atkinson, Jeffrey Madge

**2159-PLAT** 10:00 AM

TRANSIENT DIVISION: CALCINEURIN AS AN EXAMPLE.  **Trevor P. Creamer**, Tori B. Dunlap, Erik C. Cook

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**Platform**

**Membrane Pumps, Transporters, and Exchangers II**

Co-Chairs
Hanne Poulsen, University of Aarhus, Denmark
Lei Zheng, University of Texas Houston Medical School

**2160-PLAT** 8:15 AM

TRANSPORT PATHWAY IN CU 2+ P-TYPE ATPASES.  **Magnus Andersson**, Daniel Mattle, Oleg Sitsel, Anna Marie Nielsen, Erik Lindahl, Stephen H. White, Poul Nissen, Pontus Gourdon

**2161-PLAT** 8:30 AM

SOMATIC MUTATIONS IN THE NA,K-ATPASE CAN CAUSE HYPERTENSION.  **Hanne Poulsen**, Elena Azizan, Poul Nissen, Morris Brown

**2162-PLAT** 8:45 AM

GLUTATHIONYLATION OF THE B1 SUBUNIT PREVENTS THE E1N43 TO E2P FORWARD REACTION IN THE NA+, K+ ATPASE.  **Alvaro Garcia**, Chia-Chi Liu, Ronald Clarke, Helge Rasmussen

**2163-PLAT** 9:00 AM

DISCOVERY OF ENZYME MODULATORS VIA HIGH-THROUGHPUT TIME-RESOLVED FRET IN LIVING CELLS.  **Simon J. Gruber**, Razvan L. Cornea, Kurt C. Peterson, Gregory D. Gillispie, Seth L. Robia, David D. Thomas

**2165-PLAT** 9:30 AM

FUNCTIONAL RECONSTITUTION OF THE MITOCHONDRIAL CA2+/H+ ANTIPORTER LETM1.  **Ming-Feng Tsai**, Christopher Miller

**2167-PLAT** 10:00 AM

FOLDING AND ASSOCIATION OF HUMAN UNCOUPLING PROTEIN-1 IN BIOLOGICAL MEMBRANES. EVIDENCE FOR MULTIMERIC FUNCTIONAL FORMS.  **Tuan Hoang**, Matthew David Smith, Masoud Jelokhani-Niaraki

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**8:15 AM–10:15 AM, Room 304**

**Platform**

**Protein-Nucleic Acid Interactions II**

Co-Chairs
Mark Williams, Northeastern University
Fredrik Westerlund, Chalmers University of Technology, Sweden

**2168-PLAT** 8:15 AM

PROBING PHYSICAL PROPERTIES OF A DNA-PROTEIN COMPLEX USING NANOSTRUCTURED CHANNELS.  **Karolin Frykholm**, Mohammadreza Alizadehheidari, Joachim Fritzsche, Jens Wigenius, Philip Nevin, Joshua Araya, Penny Beuning, Mauro Modesti, Fredrik Persson, Fredrik Westerlund

**2169-PLAT** 8:30 AM

DYNAMICS OF NAP1-ASSISTED NUCLEOSOME ASSEMBLY IMAGED WITH HIGH-SPEED ATOMIC FORCE MICROSCOPY.  **Allard Katan**, Rifka Hoogeboom-Vlijm, Alexandra Lusser, Cees Dekker

**2170-PLAT** 8:45 AM

CHARACTERIZING THE STRUCTURE AND FUNCTION OF THE N-TERMINUS OF SCHIZOSACCHAROMYCES POMBE CDC5, A PRE-MRNA SPlicing FACTOR.  **Scott E. Collier**, Dungeng Peng, Markus Voehler, Nicholas Reiter, Melanie Ohl

**2171-PLAT** 9:00 AM

CONDENSATION OF DNA MEDIATED BY THE BACTERIAL CENTROMERE BINDING PROTEIN SPO0J/ PARB.  **Cesar L. Pastrana**, James A. Taylor, Mark S. Dillingham, Fernando Moreno-Herrero
2172-Plat 9:15 AM  EDUCATION TRAVEL AWARDEE
ARCHITECTURAL ROLE OF HM01 IN BENDING, BRIDGING AND COMPACTING DNA. Divakaran Murugesapillai, Michal J. McCauley, Ran Huo, Molly H. Nelson Holte, L. James Maher III, Nathan E. Israeloff, Mark C. Williams

2173-Plat 9:30 AM
DIRECT VISUALIZATION OF DNA DYNAMICS DURING THE TELOMERASE CATALYTIC CYCLE REVEALS THE FUNCTION OF A CONSERVED TELOMERASE DOMAIN. Benjamin M. Akiyama, Michael D. Stone

2174-Plat 9:45 AM
TARGETING AND DEGRADATION OF VIRAL DNA BY THE CRISPR-CAS SYSTEM OF ESCHERICHIA COLI. Sy Redding, Samuel H. Sternberg, Prashant Bhat, Chantal K. Guegler, Megan L. Hochstrasser, Blake Wiedenheft, Jennifer A. Doudna, Eric C. Greene

2175-Plat 10:00 AM
SELECTIVE ACETYULATION REVEALS DISTINCT ROLES OF HISTONES H3 AND H4 IN NUCLEOSOME DYNAMICS – A FRET STUDY. Alexander Gansen, Katalin Toth, Lars Nordenskiöld, Jörg Langowski

Platform
Calcium Fluxes, Sparks, and Waves

Co-Chairs
Niall Macquaide, University of Glasgow, United Kingdom
Dmitry Terentyev, Brown University and Rhode Island Hospital

2176-Plat 8:15 AM
DECOMPOSITION OF A CALCIUM SPARK IN CARDIAC MYOCYTES. Didier X.P. Brochet, W. Jonathan Lederer

2177-Plat 8:30 AM
EXAMINATION OF SINGLE CHANNEL RYR BEHAVIOR FROM LONG-LASTING CA2+ SPARKS. Cherrie HT KONG, Mark B. Cannell

2178-Plat 8:45 AM
ACTIVITY OF BOTH PKA AND CAMKII IS REQUIRED FOR MAXIMAL RYR SENSITIVITY UNDER BETA-ADRENERGIC STIMULATION. Ardo Illaste, Eva Polakova, Ernst Niggli, Eric A. Sobie

2179-Plat 9:00 AM
CRITICAL REQUIREMENTS FOR THE INITIATION OF A CARDIAC ARRHYTHMIA IN HEART: CELL NUMBER. Aman Ullah, Minh Tuan Hoang Trong, George S. B. Williams, Raimond L. Winslow, William J. Lederer, Mohsin S. Jafri

2180-Plat 9:15 AM
STRUCTURAL AND FUNCTIONAL ALTERATION OF RYR CLUSTERS AFTER REMODELING IN PERSISTENT ATRIAL FIBRILLATION. Niall Macquaide, Hoang-Trong M. Tuan, Jun-Ichi Hotta, Wouter Sempels, Ilse Lenaerts, Patria Colemany, Johan Hofkens, Saleet Jafri, Rik Willems, Karin R. Sipido

2181-Plat 9:30 AM
SUBCELLULAR ORIGIN AND TISSUE-WIDE SYNCHRONIZATION OF ABNORMAL CA RELEASE IN THE GENESIS OF CA-DEPENDENT ATRIAL ARRHYTHMIA. Qing Lou, Bin Liu, Andriy E. Belevych, Przemyslaw Radwanski, Anu Kalyanasundaram, Wolfgang H. Dillmann, Antonis A. Armoundas, Bjorn C. Knollmann, Vadim V. Fedorov, Sándor Györke

2182-Plat 9:45 AM
HYPERPHOSPHORYLATION OF RYRS UNDERLIES TRIGGERED ACTIVITY IN TRANSGENIC RABBIT MODEL OF LQT2 SYNDROME. Dmitry Terentyev, Weyian Li, Radmila Terentyeva, Leroy L. Cooper, YiChun Lu, Hitesh Jindal, Xuwen Peng, Gideon Koren

2183-Plat 10:00 AM
RAPID CALCIUM MODULATION IN CELLS: DIRECT INTRACELLULAR ACCESS USING NANOSTRAWS. Alexander Xu, Sally A. Kim, Amin Aalipour, Nicholas A. Melosh

8:15 AM–10:15 AM, ROOM 305

Platform
Ion Channels and Disease

Co-Chairs
Heike Wulff, University of California, Davis
Melissa Miller, University of California, Berkeley

2184-Plat 8:15 AM  EDUCATION TRAVEL AWARDEE
A ROBUST HIGH-THROUGHPUT ASSAY FOR THERMODYNAMIC CORRECTORS OF THE PREDOMINANT MOLECULAR DEFECT CAUSING CYSTIC FIBROSIS. Chi Wang, Pradeep Kota, Zhengrong Yang, Andrei Aleksandrov, Jianli An, Farhad Forouhar, Greg Boel, Nikolay Dokholyan, John Riordan, Christie Brouillette, John Hunt

2185-Plat 8:30 AM
CONVERTING A STIMULATORY ATP BINDING SITE TO AN INHIBITORY ONE BY THE DISEASE-ASSOCIATED MUTATION, G551D. Wen-Ying Lin, Kang-Yang Jih, Tzyh-Chang Hwang

2186-Plat 8:45 AM
INFLUENZA A BLOCKERS WITH REDUCED RESISTANCE FORMATION. Antonios Kolocouris, E. Brent Johnson, Roland Zell, Michaela Schmidtke, Frances X. Sureda, Timothy A. Cross, David Fedida, Christina Tzitzoglaki, Harris Ioannidis, Anja Hoffman, Marta Lopez-Querol, Anna K. Wright, Daniel Kwan, Kelly McGuire, David D. Busath

2187-Plat 9:00 AM
DUAL REGULATION OF G PROTEINS AND THE G PROTEIN-ACTIVATED POTASSIUM CHANNELS (GIRK) BY LITHIUM. Isabella Farhy Teslacher, Vladimir Tsemakhovich, Ida Rishal, Carmen W. Dessauer, Nathan Dascal

2188-Plat 9:15 AM
THE MICROGLIAL K+ CHANNELS Kv1.3 AND KCa3.1 AS POTENTIAL THERAPEUTIC TARGETS FOR ISCHEMIC STROKE. Heike Wulff, Yi-Je Chen, Paul D. Jenkins, Hai Nguyen, April L. Garing, Ralf Köhler

2189-Plat 9:30 AM

2190-Plat 9:45 AM
MOLECULAR DYNAMICS STUDIES OF ION PERMEATION IN HUMAN VOLTAGE-GATED PROTON CHANNEL. Kulleeperuma Kulleperuma, Deri Morgan, Boris Musser, Susan M.E. Smith, Sindhu Rajan, Vladimir V. Cherny, Thomas E. DeCourcy, Regis Pomes

2191-Plat 10:00 AM
REGULATION OF CATSPER CHANNEL THROUGH NON-CONVENTIONAL LIPID SIGNALING. Melissa R. Miller, Yurii Kirichok, Polina Lishko
10:00 AM–5:00 PM, HALL D
Biomolecular Discovery Dome

10:00 AM–5:00 PM, HALL D
Exhibits

10:15 AM–11:00 AM, HALL D
Coffee Break

10:45 AM–12:45 PM, ROOM 134
Symposium

Awards Symposium

Chair
Francisco Bezanilla, University of Chicago, Society President

2192-SYMP 10:45 AM
PHASES AND FLUCTUATIONS IN BIOLOGICAL MEMBRANES.
Sarah Vearch

NO ABSTRACT 11:05 AM
MULTISCALE SIMULATIONS OF BIOLOGICAL SYSTEMS.
Arieh Warshel

11:40 AM
STRUCTURAL AND MECHANISTIC DIVERSITY OF ABC TRANSPORTERS. Douglas C. Rees

12:05 PM
ROLE OF MEMBRANE LIPIDS IN ACTIVATING G-PROTEIN-COUPLED RECEPTORS. Michael F. Brown, Udechawla, Suchiithranga M. D. C. Perera, Andrey V. Struts

12:30 PM
DECONSTRUCTING THE PHYSICAL AND MOLECULAR BASIS OF TOUCH AND PAIN SENSATION. Miriam B. Goodman

10:45 AM–12:45 PM, ROOM 130/131
Platform

Optical Microscopy and Super Resolution Imaging II

Co-Chairs
Julie Biteen, University of Michigan
Jung-Chi Liao, Columbia University

12:30 PM
0:00 AM
WATCHING GENE REGULATION BY SMALL RNA IN BACTERIA WITH SUPER-RESOLUTION IMAGING. Jingyi Fei, DigiVijay Singh, Qiwen Zhang, Seongjin Park, Ido Golding, Carin K. Vanderpool, Taekjip Ha

11:00 AM
THE TOPOLOGICAL ORGANIZATION OF THE INACTIVE X CHROMOSOME IN ITS NATIVE STATE. Elizabeth A. Smith, Gerry McDermott, Karen Leung, Barbara Panning, Carolyn A. Larabel, Mark A. Le Gros

11:15 AM
OBSERVATION OF THE CHANGE OF SYNAPSES AFTER LONG-TERM POTENTIATION INDUCTION USING SUPER-RESOLUTION IMAGING. Sang Hak Lee, En Cai, Okunola Jeyifous, Michelle A. Baird, Michael W. Davidson, William N. Green, Paul R. Selvin

12:30 PM
0:00 AM
SINGLE-MOLECULE FLUORESCENCE IMAGING REVEALS MISMATCH REPAIR DYNAMICS IN LIVE BACILLUS SUBTILIS. Yi Liao, Jeremy W. Schroeder, Lyle A. Simmons, Julie S. Biteen

11:45 AM
SUBDIFFRACTION IMAGING REVEALS MOLECULAR ARCHITECTURE AT THE TRANSITION ZONE OF PRIMARY CILI. T. Tony Yang, Won-Jing Wang, Arthi Suresh, Meng-Fu Bryan Tsou, Jung-Chi Liao

12:00 PM
SUPER-RESOLUTION IMAGING OF TELOMERES REVEALS THAT COMPACTION OF TELOMERIC DNA BY SHELTERIN PROTECTS CHROMOSOME TERMINII. Jigar N. Bandaria, Veysel Berk, Steven Chu, Ahmer Yildiz

12:15 PM
LIVE 4D IMAGING OF THE EMBRYONIC VERTEBRATE HEART WITH TWO-PHOTON LIGHT SHEET MICROSCOPY AND SIMULTANEOUS OPTICAL PHASE STAMPING. Thai V. Truong, Vikas Trivedi, Le Trinh, Daniel Holland, Francesco Cutrale, John M. Choi, Scott E. Fraser

12:30 PM
STRUCTURALLY DISTINCT CA2+ DOMAINS OF SPERM FLAGELLA MODULATE HYPERACTIVATED MOTILITY. Sang-Hee Shim, Jean-Ju Chung, Xiaowei Zhuang, David E. Clapham
10:15 AM–12:45 PM, ROOM 132/133

Platform
Voltage-gated K Channels: Mostly BK and Structure Function

Co-Chairs
Lawrence Salkoff, Washington University School of Medicine, St. Louis
Ramón Latorre, University of Valparaíso, Chile

2204-Plat 10:15 AM
LOCATION OF BK ION PERMEATION GATE REVEALED BY CD³⁻–CYS COORDINATION IN THE BK INNER PORE REGION.
Yu Zhou, Christopher Lingle

2205-Plat 10:30 AM
IDENTIFICATION OF A DISCRETE ALCOHOL-SENSING SITE IN THE BK (SLO1) CHANNEL.
Anna Bukiya, Justin Edwards, Alex Dopic

2206-Plat 10:45 AM
BASELINE PROPERTIES OF SLO1 K⁺ (BK) CHANNELS WITHOUT THE GATING RING.
Yanyan Geng, Gonzalo Budelli, Alice Butler, Celia Santi, Juan Ferreira, Lawrence Salkoff, Karl L. Magleby

2207-Plat 11:00 AM
DIVALENT CATION-DEPENDENT MOTION OF THE BK CHANNEL GATING-RING REPORTED BY STATE DEPENDENT FRET.
Pablo Miranda, Teresa Giraldez, Miguel Holmgren

2208-Plat 11:15 AM
SUBSTITUTIONS AT F380 IN S6 BY SMALL HYDROPHOBIC AMINO ACIDS MAKES THE OPENING TRANSITION IN BK CHANNELS RATE LIMITING.
Willy Carrasquel-Ursulae, Gustavo F. Contreras, Romina Sepúlveda, Daniel Aguayo, Fernando D. Gonzalez-Nilo, Carlos González, Ramón Latorre

10:45 AM–12:45 PM, ROOM 303

Platform
Protein Design and Folding

Co-Chairs
Daniel Hoersch, University of California, San Francisco
Dorothy Beckett, University of Maryland, College Park

2212-Plat 10:15 AM
SmoOth FUnctionAL trAnsition ALonG A MUtAtionAL PAtHWAY WitH An ABrUPt Protein FoLD sWitcH.
Christian Holzgräfe, Stefan Wallin

2213-Plat 11:00 AM
HYDOPHOBIC GUIDED PROTEIN FOLDING.
Alberto Perez, Justin L. MacCallum, Ken A. Dill

11:15 AM
EXACT PARTITION FUNCTION ZEROS OF THE WAKO-SAITó-MUñOZ-EATON PROTEIN MODEL.
Julian Lee

11:30 AM
ALLOSTERIC COUPLING VIA COMMUNICATION OF DISTAL DISORDER-TO-ORDER TRANSITIONS.
Dorothy Beckett, Christopher Eginton, Sharrol Bachas, Herschel Wade

11:45 AM
RESHAPING ANTIBODY DIVERSITY.
Damian C. Ekiert, Feng Wang, Ian A. Wilson, Peter G. Schultz, Vaughn V. Smider

12:00 PM
COMPUTING CONFORMATIONAL ENTROPY IN ANTIBODY INTERFACES.
Pablo Gainza, Kyle E. Roberts, Mark A. Hallen, Bruce R. Donald

12:15 PM
CONTROLLING PROTEIN BINDING SPECIFICITY BY A CONFORMATIONAL SHIFT.
Servaas Michielssen, Jan Henning Peters, David Ban, Supriya Pratihar, Stefan Becker, Thomas Michael Sabo, Karin Giller, Lee Donghan, Christian Griesinger, Bert de Groot

12:30 PM
REPROGRAMMING AN ATP-DRIVEN BIOLOGICAL MACHINE INTO A LIGHT-GATED PROTEIN NANOCAGE.
Daniel Hoersch, Soung-Hun Roh, Wah Chiu, Tanja Kortemme

10:45 AM–12:45 PM, ROOM 304

Platform
DNA Structure and Dynamics

Co-Chairs
Carey Phelps, University of Oregon
Steve Meisburger, Cornell University

2220-Plat 10:45 AM
SORTING OUT THE STRUCTURE OF SINGLE-STRANDED DNA.
Steve Meisburger, Julie Sutton, Huimin Chen, Kurt Andresen, Lois Pollack

2221-Plat 11:00 AM
SINGLE MOLECULE FRET STUDIES OF DNA HAIRPIN FOLDING.
Katherine Truex, Hoi Sung Chung, William A. Eaton, John Louis

2222-Plat 11:15 AM
FRICHTION AND INTERACTIONS BETWEEN BARE DNA MOLECULES: THE ROLE OF DNA HANDEDNESS.
Graeme A. King, Ruggero Cortini, Dominic J. Lee, Alexei A. Kornyshev, Gijs J.L Wuite

2223-Plat 11:30 AM
PHYSICAL MODELING OF CHROMOSOME SEGREGATION IN E. COli REVEALS IMPACT OF FORCE AND DNA RELAXATION.
Thomas J. Lampo, Nathen J. Kuwada, Paul A. Wiggins, Andrew J. Spakowitz

2224-Plat 11:45 AM
MULTIPLE DYNAMIC DNA REARRANGEMENTS ARE TIGHTLY COUPLED TO DISTINCT STAGES OF HUMAN TELOMERASE CATALYSIS.
Joseph Parks

2225-Plat 12:00 PM
STUDIES OF T4 PRIMOSOME DNA UNWINDING BY SINGLE-MOLECULE FLUORESCENCE-DETECTED LINEAR DICHOISM.
Carey Phelps
10:45 AM–12:45 PM, ROOM 306

Platform

Membrane-Active Peptides and Toxins

Co-Chairs
Burkhard Bechinger, University of Strasbourg/CNRS, France
Shirley Schreier, University of Sao Paulo, Brazil

2228-PL At 10:45 AM
LIPID-MEDIATED POLYPEPTIDE INTERACTIONS IN MEMBRANES: CASE STUDY ON THE SYNERGISM BETWEEN LINEAR CATIONIC ANTOMICROBIAL PEPTIDES. Evgeniy S. Salnikov, Elise Glättard, Hiba Sarrouj, Arnaud Marquette, Christopher Aisenbrey, Olivier Ouari, Paul Tordo, Frank Engelke, Fabien Assuenac, Burkhard Bechinger

2229-PL At 11:00 AM
MULTISCALE SIMULATIONS OF DIPHThERIa TOXIN T-DoMAIN MEMBRANE ASSOCIATION. Jose C. Flores-Canales, Alexey S. Ladokhin, Maria Kurnikova

2230-PL At 11:15 AM

2231-PL At 11:30 AM
THE USE OF SURFACE PLASMON-BASED INFRARED SPECTROSCOPY TO DETECT INTERCELLULAR JUNCTION ALTERATIONS IN INFILAMTED INTESTINAL CELLS. Amir Bein, Alexander Zilbershtein, Michael Golosovsky, Dan Davidov, Betty Schwartz

2232-PL At 11:45 AM
POINT MUTATION IN THE HYDROPHOBIC REGION DRIVES SELECTIVITY AND ACTIVITY OF OP-145, A DERIVATIVE OF HUMAN CATHEDILICIN IL-37. Neerima Malanovic, Jan Wouter Drijfhout, Manfred Kriechbaum, Maria Schmuck, Jennifer Ross, University of Massachusetts, Amherst

2233-PL At 12:00 PM
LOCALIZED PERMEABILIZATION OF E. COLI MEMBRANES BY THE ANTOMICROBIAL PEPTIDE CECROPIN A. Nambirajan Rangarajan, Somenath Bakshi, James Carl Weisshaar

2234-PL At 12:15 PM
DEVELOPMENT OF FUNCTIONAL ARTIFICIAL ION CHANNELS USING PEPTIDE NANOSTRUCTURES. Normand Voyer, François Oris, Eric Biron, Charles Racine-Berthiaume, Michèle Auger, Kyle Hartwick, Marise Ouellet

2235-PL At 12:30 PM
SWITCHING THE ANTOMICROBIAL ACTIVITY OF GRAMICIDIN S BY LIGHT. Oleg Babii, Segrit Afonin, Marina Berditsch, Sabine Reisser, Thomas Steinbrecher, Pavel Mykhailiuk, Igor Komarov, Anne S. Ulrich

12:30 pm

TUBULIN COFACTORS FORM A MULTI-PROTEIN PLATFORMS THAT REGULATE THE SOLUBLE TUBULIN POOL AND PROMOTE MICROTUBULE POLYMERIZATION. Stanley Nithianantham, Sinh Le, Shu Ti, Elbert Seto, Jawdat Al-Bassam

2238-PL At 11:45 AM
STRUCTURAL BASIS FOR NUCLEOTIDE EXCHANGE AND POWER STROKE GENERATION BY THE KINESIN MOLECULAR MOTOR. Zhiguo Shang, Roseanne Csoncits, Chen Xu, Jared C. Cochran, Charles Vaughn Sindelar

2239-PL At 11:30 AM
BIMODALITY IN A SYSTEM OF ACTIVE AND PASSIVE KINESIN-1 MOTORS. Lara Scharrel, Rui Ma, Frank Jülicher, Stefan Diez

2240-PL At 11:45 AM
A COMPARATIVE STUDY OF THE MAJOR BIOCHEMICAL STATES OF KINESIN-MT COMPLEX USING COMPUTATIONAL TECHNIQUES AND ALL-ATOM STRUCTURAL MODELS. Srirupa Chakraborty, Wenjun Zheng

2241-PL At 12:00 PM
SELF-REGULATION OF CYTOPLASMIC DYNEIN THROUGH ITS UNCONVENTIONAL FORCE RESPONSE. Takayuki Torisawa, Ken'ya Furuta, Akane Furuta, Muneyoshi Ichikawa, Kei Saito, Kazuhiro Oiwa, Hiroaki Kojima, Yoko Yano Toyoshima

2242-PL At 12:15 PM
DYNEIN'S C-TERMINAL DOMAIN PLAYS A NOVEL ROLE IN REGULATING FORCE GENERATION. Peter Höök, Matthew P. Nicholas, Sibylle Brenner, Caitlin Lazar, Sarah J. Weil, Richard B. Vallee, Arne Gennerich

2243-PL At 12:30 PM
REGULATORY PROTEINS ENABLE THE KINESIN KIP2 TO OVERPOWER CYTOPLASMIC DYNEIN. Anthony J. Roberts, Brian S. Goodman, Samoa L. Reck-Peterson

10:45 AM–12:45 PM, ROOM 306

Platform

Microtubules and Motors

Co-Chairs
Jennifer Ross, University of Massachusetts, Amherst
William Hancock, Pennsylvania State University

2236-PL At 10:45 AM
3.8 ANGSTROM RESOLUTION STRUCTURE OF MICROTUBULE BY CRYO-EM. Rui Zhang, Gregory Alushin, Elizabeth Kellogg, Eva Nogales

2237-PL At 11:00 AM
TUBULIN COFACTORS FORM A MULTI-PROTEIN PLATFORMS THAT REGULATE THE SOLUBLE TUBULIN POOL AND PROMOTE MICROTUBULE POLYMERIZATION. Stanley Nithianantham, Sinh Le, Shu Ti, Elbert Seto, Jawdat Al-Bassam

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2243-PL At 12:30 PM
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11:00 AM–12:30 PM, ROOM 123

Exhibitor Presentation

Nanion Technologies

SURF2R—Catch the Wave for Transporters.
Precise Measurements of Membrane Transporter Protein Activity
Ion transporters and pumps play an important role within general metabolism and information processing of organisms. Dysfunction and regulation of transporter proteins are related to diseases like obesity, diabetes, and hypertension, and CNS disorders such as epilepsy and depression. Hence, ion transporters and pumps have become potential targets within the drug development treating disease-related abnormalities. At present, labeling techniques and conventional patch clamp are commonly used for ion transporter screening. However, radioactive and fluorescence-based assays have limited sensitivity, and because of the limited molecule turnover per seconds of transporters and pumps compared to ion channels, the direct electrophysiological measurement of protein transporters and pumps ac-
tivity is extremely challenging. Here, we present the SURFE2R technology – an easy-to-handle, highly sensitive and very efficient screening platform for direct measurements of ion transporters and ion channels in diverse and heterologous membranes. Since 2012, Nanion offers the SURFE2R product line in two formats: SURFE2R N1 and the higher throughput platform SURFE2R N96.

The SURFE2R N1 which we will present at the workshop is a small footprint, fully automated device recording from membrane preparations, with proven success using native tissue, mammalian and insect cell lines, bacteria, organelles, and proteoliposomes. Come to our workshop and learn from LIVE-experiments how to make measurements of transporter-protein functionality efficient and reliable!

**Presenters:**
Andrea Brüggemann, CSO, Nanion Technologies
Maria Barthmes, Nanion Technologies

**12:00 PM–2:00 PM, ROOM 124/125**

**Postdoc to Faculty Q&A:**

**Transitions Forum and Luncheon**

This question-and-answer luncheon, sponsored by the Committee for Professional Opportunities for Women, is designed for postdocs finishing and actively applying for academic faculty positions. New faculty and recently tenured faculty in basic science and/or medical school departments will lead the discussion as well as experienced senior-level 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, 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.

**Speakers:**
Elizabeth Villa, Max Planck Institute of Biochemistry
Sarah Bondos, Texas A&M Health Science
Gabriel Lander, The Scripps Research Institute
David Rueda, Imperial College London
Catherine Royer, Rensselaer Polytechnic Institute

**12:30 PM–2:00 PM, ROOM 310**

**Career Opportunities at Primarily Undergraduate Institutions:**

**Finding a Job and Finding Success**

This session, sponsored by the Education Committee, provides graduate students, postdocs, and current faculty with information and resources on career options at PUIs. Speakers are faculty members at PUIs who have been successful in their positions.

**Moderator:** Scott Feller, Wabash College

**Speakers:**
Julia Koepp, Ursinus College
Paulo Almeida, University of North Carolina, Wilmington
Edwin Li, Saint Joseph's University

**1:00 PM–2:00 PM, ROOM 302**

**Networking with Minority Biophysicists:**

**Resources and Opportunities**

This networking event, sponsored by the Minority Affairs Committee, provides minority students and scientists the opportunity to network and discuss challenges and resources with other minority biophysicists.

**Speaker:**
Kamal Shukla, NSF, Molecular and Cellular Biosciences
Parag Chitnis, NSF

**1:00 PM–2:30 PM, ROOM 123**

**Exhibitor Presentation**

**Molecular Devices, LLC**

**Axon Electrophysiology Symposium: Getting the Most out of pCLAMP Software**

pCLAMP™ is a powerful data acquisition and analysis software and is widely used for a variety of electrophysiological recordings. In the first tutorial of this workshop, Jeffrey Tang will highlight a few features used to create a customized acquisition protocol in Clampex. In the second tutorial, Burt Maertz will share tips in single-channel analysis using Clampfit. These include burst analysis, latency analysis and P(open) analysis.

**Presenters:**
Jeffrey Tang, Product Marketing Manager, Axon Conventional Electrophysiology, Molecular Devices, LLC
Burt Maertz, Technical Support Specialist, Axon Conventional Electrophysiology, Molecular Devices, LLC

**1:30 PM–2:30 PM, ROOM 304**

**Science and Policy with Steven Chu**

Steven Chu, former US Secretary of Energy, has returned to academia and Stanford University. During this session he will discuss his current research and biophysics research in general, and also reflect on science policy in the United States.

**1:45 PM–3:00 PM, HALL D**

**Snack Break**

**1:45 PM–3:45 PM, HALL D**

**Poster Presentations and Late Posters**

(For a complete listing of regular Tuesday Poster Presentations, see page 129.)

**The list of Tuesday Late Posters is in the Program addendum.**

Posters will be on display all day long. Authors with odd-numbered boards will present from 1:45 PM–2:45 PM, and those with even-numbered boards will present from 2:45 PM–3:45 PM. Additional hours (day or evening) may be posted by the authors as desired. Paper may also be left on the board so that visitors may request an appointment.

Posters should be mounted at 6:00 PM on Monday and removed NO LATER THAN 4:30 PM on Tuesday evening. Posters will be on view until 10:00 PM the night before presentation. 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.

**2:15 PM–3:30 PM, ROOM 301**

**The Basics, the Discoveries, and the Controversies:**

**Membrane Protein Structure and Dynamics**

Attendees at this session will learn about super resolution microscopy techniques for studying membrane proteins and macromolecular complexes in cells, and the type of information this technique can provide a researcher. This session is sponsored by the Education Committee and is intended to introduce the most important ideas, breakthroughs, and outstanding questions of a specific field of Biophysics to help those that do not work directly in that area gain a perspective on what is known and what is unknown.

**Speaker:**
Bo Huang, University of California, San Francisco

*The Science of Counting: a Super-Resolution View of Membrane Protein Dimerization*
Career Center Workshop

What to Do When You Are Tired of Doing What You Are Doing: A Unique Interactive Workshop for Experienced Workers

Do you ever have “one of those days?” You know, the ones where you look around you and wonder how long you can keep on doing what you’ve always been doing? And how could you possibly have been doing this for so long? And what else is out there for you? This facilitated discussion will explore these and similar questions from the audience and then involve the audience in providing career tips and techniques for experienced professionals. Please come prepared to share experiences and give/get advice. We anticipate a lively discussion about choices and their consequences.

PhD Careers Beyond the Bench

Have you ever wondered how you can apply the skills learned during your PhD in a career away from the bench? The Early Careers Committee is sponsoring a panel to discuss the plethora of career options that exist beyond the bench, such as publishing, science writing, patent law, policy, marketing etc. Panelists involved in a wide variety of careers will share their personal experiences.

Speakers:
Prithwish Pal, Invivoscribe Technologies
Peter Aldhous, University of California, Santa Cruz Science Communication Program
Walter Auwerer, ForetBio, A Division of Pall Life Sciences

Exhibitor Presentation

GE Healthcare

The Devil is in the Detail: the Importance of Accurate Stability and Concentration Determination in Biomolecular Interaction Analysis

Education Committee Meeting

Symposium

Structural Dynamics of Molecular Machines

Co-Chairs
Julio Fernandez, Columbia University
Yasmine Meroz, Harvard University

2244-Symp 4:00 PM
POSTTRANSLATIONAL MODIFICATIONS AS MODULATORS OF MECHANICAL PROTEIN FOLDING. Julio Fernandez

2245-Symp 4:30 PM
A ZOO OF SLOW DYNAMICS. Yasmine Meroz

2246-Symp 5:00 PM
DIRECT MEASUREMENTS OF TRANSCRIPTION FACTOR BINDING AND DISSOCIATION AT INDIVIDUAL CHROMOSOMAL OPERATORS. Johan Elf

2247-Symp 5:30 PM
CLPX, A STOCHASTIC PROTEIN UNFOLDING AND TRANSLOCATION MACHINE. Robert T. Sauer, Ohad Yosefson, Benjamin M. Stinson, Andrew R. Nager, Steven E. Glynn, Karl R. Schmitz, Adriano O. Olivares, Harris W. Manning, Yongdae Shin, Juan C. Cordova, Matthew J. Lang, Tania A. Baker

Symposium

Molecular Self-Assembly—from in Vitro to Cellular Systems

Co-Chairs
Roy Bar-Ziv, Weizmann Institute of Science, Israel
Suzanne Gaudet, Harvard Medical School

2248-Symp 4:00 PM
SYMMETRY-BASED DESIGN AND STRUCTURE OF SELF-ASSEMBLING PROTEIN CAGES AND NANOMATERIALS. Yen-Ting Lai, Neil P. King, William Sheffler, Dan E. McNamara, Jacob B. Bale, David Baker, Todd O. Yeates

2249-Symp 4:30 PM
SEQUESTERED: MOLECULAR PHYSIOLOGY OF BACTERIAL MICROCOMPARTMENTS. David Savage

2250-Symp 5:00 PM
LEVERAGING CELL-TO-CELL VARIABILITY TO UNDERSTAND SIGNAL TRANSDUCTION NETWORKS. Suzanne Gaudet, Robin EC Lee

2251-Symp 5:30 PM
TOWARDS ARTIFICIAL CELLS IN 2D. Roy Bar-Ziv

Symposium

Applications of Quantum Mechanics to Biophysical Problems

Co-Chairs
Qiang Cui, University of Wisconsin–Madison
Sharon Hammes-Schiffer, University of Illinois at Urbana-Champaign

2252-Symp 4:00 PM
QM/MM METHODS: RECENT DEVELOPMENTS AND APPLICATION TO MEMBRANE PROTEINS AND MOLECULAR MOTORS. Qiang Cui

2253-Symp 4:30 PM
HYDROGEN TUNNELING, ELECTROSTATICS, AND CONFORMATIONAL MOTIONS IN ENZYME CATALYSIS. Sharon Hammes-Schiffer

2254-Symp 5:00 PM
USING QUANTUM MECHANICS IN BIOLOGICAL STRUCTURE REFINEMENT. Kenneth M. Merz

2255-Symp 5:30 PM
CLASSICAL AND MIXED QUANTUM MECHANICAL/MOLECULAR MECHANICAL (QM/MM) SIMULATIONS OF G PROTEIN COUPLED RECEPTORS. Ursula Rothlisberger

Symposium

Excitation-Contraction Coupling

Co-Chairs
Susan Treves, Basel University Hospital, Switzerland
Ole Kemi, University of Glasgow, United Kingdom

2256-Plat 4:00 PM
BIOCHEMICAL, CELLULAR AND ELECTROPHYSIOLOGICAL CHARACTERIZATION OF HMCL-7304 A HUMAN SKELETAL MUSCLE-DERIVED CELL LINE. Ori Rokach, Nina D. Ulrich, Martin Rausch, Haiyan Zhou, Francesco Muntoni, Francesco Zorzato, Susan Treves
2267-PLAT 4:45 PM
MODULATION OF THE BACTERIAL MECHANOSENSITIVE CHANNEL OF SMALL CONDUCTANCE (MSCS) BY CARDIOLIPIN - ELECTROPHYSIOLOGICAL, ALANINE MUTAGENESIS AND MODELLING STUDIES. Pietro Ridone, Samantha Maguire, Boris Martinac, Andrew R. Battle

2268-PLAT 5:00 PM
NOVEL MUTATIONS IN THE EXTRACELLULAR CAP OF THE MAMMALIAN MECHANOSENSITIVE CHANNEL TREK-1. Paul Blount, Robin Bray, Irene R. Iscla

2269-PLAT 5:15 PM
OMEGA 6 POLYUNSATURATED FATTY ACID-CONTAINING PHOSPHOLIPIDS ENHANCE NEURONAL CELL MECHANICS AND TOUCH IN C. ELEGANS. Valeria Vasquez, Michael Krieg, Dean Lockhead, Miriam B. Goodman

2270-PLAT 5:30 PM
TOUCH ACTIVATES MECHANOSENSITIVE ION CHANNELS IN MERKEL CELLS IN VITRO. Massashi Nakatani, Aislyn M. Nelson, Ellen A. Lumpkin

2271-PLAT 5:45 PM
MOLECULAR MECHANISMS OF DEAFNESS MUTATIONS DISRUPTING TIP-LINK FUNCTION IN HAIR-CELL MECHANOTRANSDUCTION. Marcos Sotomayor, Rachelle Gaudet, David P. Corey

2272-PLAT 4:00 PM
DISULFIDE BONDS ARE ALLOSTERIC REGULATOR OF MECHANICAL STABILITY. David Giganti, Guillaume Strimpan, Kevin Yan, Bruce Berne, Julio Fernandez

2273-PLAT 4:15 PM
QUANTIFYING THE RESOLUTION OF SINGLE-MOLECULE TORQUE MEASUREMENTS BY ALLAN VARIANCE. Jan Lipfert, Maarten van Oene, Tessa Jager, Mina Lee, Francesco Pedaci, Nynke H. Dekker

2274-PLAT 4:30 PM
COMBINED SINGLE MOLECULE FORCE AND FLUORESCENCE SPECTROSCOPY OF THE UNFOLDING AND REFOLDING OF GREEN FLUORESCENT PROTEIN. Ziad Ganim, Matthias Reisser, Matthias Rief

2275-PLAT 4:45 PM
VWF - COLLAGEN INTERACTIONS STUDIED WITH SINGLE MOLECULE FORCE SPECTROSCOPY. Sandra Posch, Tobias Obser, Maria A. Brehm, Hermann J. Gruber, Reinhard Schneppenheim, Robert Tampé, Peter Hinterdorfer

2276-PLAT 5:00 PM
RESOLVING THE MOLECULAR DETERMINANTS OF CADHERIN CATCH BOND FORMATION. Kristine Manibog, Hui Li, Sabyasachi Rakshit, Sanjeevi Sivasankar

2277-PLAT 5:15 PM
CATCH BOND INTERACTION BETWEEN GLYCOASINOGLYCAN SAND CELL SURFACE SULFATASE SULF1. Alexander Harder, Ann-Kristin Moeller, Fabian Milz, Philipp Neuhaus, Volker Walhorn, Thomas Dierks, Dario Anselmetti
2278-Plat  5:30 PM
QUANTITATIVE ANALYSIS OF SINGLE-MOLECULE FORCE SPECTROSCOPY DATA ON CHROMATIN FIBERS.
Kurt Andresen, He Meng, John van Noort

2279-Plat  5:45 PM
KINETICS AND ENERGETICS OF BIOMOLECULAR FOLDING AND BINDING.  Christopher A. Pierse, Olga Dudko

4:00 PM–6:00 PM, ROOM 305
Platform
Membrane Dynamics
Co-Chairs
Himanshu Khandelia, University of Southern Denmark, Denmark
Blake Mertz, West Virginia University

2280-Plat  4:00 PM
MECHANISM OF NUTRIENT DEPRIVATION IN DUCED TRIACYLGLYCERIDE ACCUMULATION IN ALGA INDICATED BY FLUORESCENCE HYPERSONTAL IMAGING.  Ryan W. Davis, Howland D.T. Jones, Jerilyn A. Timlin, Seema Singh

2281-Plat  4:15 PM
PROBING THE CELL GROWTH-DEPENDENT SPATIAL DISTRIBUTION AND DYNAMICS OF PROTEINS INSERTED IN THE BACTERIAL OUTER MEMBRANE.  Patrice Rassam

2282-Plat  4:30 PM
INTERNATIONAL TRAVEL AWARDEE
STRAIN RATE-DEPENDENT MEMBRANE RESERVOIR-KEY TO CHONDROCYTE DEATH BY IMPACT.  Eng Kuan Moo, Matthias Amrein, Marcelo Epstein, Mike Duvall, Noor Azuan Abu Osman, Belinda Pingguan-Murphy, Walter Herzog

2283-Plat  4:45 PM
MICROVESICLES: WHAT'S PLASMA MADE OF?  Alain R. Brisson, Nicolas Arraud, Romain Linares, Sisareuth Tan, Celine Gounou

2284-Plat  5:00 PM
AREA PER LIPID OF MEMBRANES FROM NATURAL ABUNDANCE SOLID-STATE 13C NMR SPECTROSCOPY.  Trivikram R. Molugu, Avigdor Leftin, Constantin Job, Michael F. Brown

2285-Plat  5:15 PM
BINDING OF NEUROTTRANSMITTERS TO LIPID MEMBRANES.  Günther H. Peters, Mikkel Verge, Maria N. Elf-Lind, Chunhua Wang, Nicolaj Cruys-Bagger, Gustavo F. Velardez, Jesper J. Madsen, Peter Westh

2286-Plat  5:30 PM
IN SILICO STUDIES OF ASYMMETRIC MEMBRANES PERTURBATIONS CAUSED BY DYNAMIC AGGREGATION OF A CELL-PENETRATING PEPTIDE.  Jean Helie, Mickael Leelimousin, Charlotte M. Deane, Francesca Milletti, Mark SP Sansom

2287-Plat  5:45 PM
RESHAPING BIOLOGICAL MEMBRANES: FROM MOLECULAR INTERACTIONS TO MACROSCOPIC MECHANICS.  Mijo Simunovic, Patricia Bassereau, Gregory A. Voth

2288-Plat  4:00 PM
HARMONIC FORCE SPECTROSCOPY REVEALS A FORCE-VELOCITY CURVE FROM A SINGLE HUMAN BETA CARDIAC MYOSIN MOTOR.  Jongmin Sung, Suman Nag, Christian Vestergaard, Kim Mortensen, Henrik Flyvbjerg, James Spudich

2289-Plat  4:15 PM
THREE-DIMENSIONALLY CONSTRAINED ACTOMYOSIN MOTILITY ON OXIDE COATED SEMICONDUCTOR NANOWIRES.  Alf Mansson, Lasse ten Siethoff, Mercy Lard, Johanna Generosi, Hakan Andersson, Heiner Linke

2290-Plat  4:30 PM
THE MINIMAL GROUP SIZE FOR GLOBALLY COORDINATED STEPPING OF MYOSINS DEPENDS ON ATP HYDROLYSIS FREE ENERGY.  Lennart Hilbert, Linda Kachmar, Michael C. Mackey, Anne-Marie Lauzon

2291-Plat  4:45 PM
TOWARD THE REALIZATION OF A SARCOMERE-LIKE MACHINE.  Luca Melli, Pasquale Bianco, Giulia Falorsi, Luca Salvi, Giovanna Coccone, Manuela Maffei, Dan Cojoc, Vincenzo Lombardi

2292-Plat  5:00 PM
LARGE-SCALE MODULATION OF TITIN ELASTICITY BY S-GLUTATHIONYLATION OF CRYPTIC CYSTEINES.  Jorge Alegre-Cebollada, Pallav Kosuri, David Giganti, Edward Eckels, Jaime Andrés Rivas-Pardo, Nazha Hamdani, Wolfgang A. Linke, Julio M. Fernández

2293-Plat  5:15 PM
THE EFFECT OF INTERFILAMENT SPACING ON THICK FILAMENT STRUCTURE AND CALCIUM ACTIVATION IN SKELETAL MUSCLE.  Elisabetta Brunello, Marco Caremani, Luca Fusi, Massimo Reconditi, Marco Linari, Theyenchery Narayanan, Gabriella Piazzesi, Malcolm Irving, Vincenzo Lombardi

2294-Plat  5:30 PM
CRYO-EM OF Z-DISCs ISOLATED FROM HONEYBEE FLIGHT MUSCLE.  Mara Rusu, Kenneth A. Taylor, John Trinick

2295-Plat  5:45 PM
CRYO-EM STRUCTURES OF THE ACTIN-TROPOMYOSIN FILAMENT REVEAL THE MECHANISM FOR THE TRANSITION FROM C- TO M-STATE.  Duncan Sousa, Scott Stagg, M. Elizabeth Stroupe

7:30 PM–9:30 PM, ROOM 134
Workshop
Knocking Down or Turning Off:
Down-Regulation of Protein Expression
Chair
Suzanne Scarlata, Stony Brook University

2296-Workshop  7:30 PM
MOONLIGHTING PROTEINS; HOW THE LIPID-SIGNALING ENZYME PHOSPHOLIPASE C-BETA REGULATES RNA SILENCING.  Suzanne Scarlata, Finly Philip, Shriya Sahu
Biophysical Society 58th Annual Meeting, San Francisco, California

2297-WKSHP  8:00 PM
SLICER AND THE ARGONAUTES. Christopher R. Faehele, Elad Elkayam, Astrid D. Haase, Gregory J. Hannon, Leemor Joshua-Tor

2298-WKSHP  8:30 PM
COMPETITION BETWEEN MICRORNAS AND ITS ROLE IN POST-TRANSCRIPTIONAL REGULATION. Ofer Biham

2299-WKSHP  9:00 PM
CHIMERIC SWITCHES: CELL-FATE DECISIONS VIA MICRORNA DEPENDENT REGULATION. Herbert Levine

7:30 pm–9:30 pm, ROOM 135

Workshop

Applications of Supported Bilayers

Co-Chairs
Marjorie Longo, University of California, Davis
Khalid Salaita, Emory University

2300-WKSHP  7:30 PM
SUPER-RESOLUTION METHODS TO UNDERSTAND DYNAMICS AT SOFT INTERFACES. Christy F. Landes

2301-WKSHP  8:00 PM
FLUORESCENCE-BASED TENSION PROBES TO IMAGE MECHANICS AT THE LIPID MEMBRANE. Khalid Salaita, Yang Liu, Yun Zhang, Daniel Stabley, Carol Jurchenko, Yoshie Narui, Yuan Yang

2302-WKSHP  8:30 PM
QUANTIFYING MEMBRANE VISCOSITY BY MONITORING THE ROTATIONAL AND TRANSLATIONAL DIFFUSION OF TRACER PARTICLES. Raghuvueer Parthasarathy

2303-WKSHP  9:00 PM
DOMAINS IN SUPPORTED BILAYERS: FROM WINEMAKING TO PROTEIN NANOPATTERNING. Marjorie L. Longo

7:30 pm–9:30 pm, ROOM 130/131

Workshop

Distance Measurements by Double Electron Electron Resonance (DEER)

Co-Chairs
Gail Fanucci, University of Florida
Hassane Mchaourab, Vanderbilt University

2304-WKSHP  7:30 PM
DEER ON NITROXIDES: EXPERIMENT AND DATA INTERPRETATION. Yevhen Polyhach

2305-WKSHP  7:54 PM
MAPPING TRANSPORTER CONFORMATIONAL DYNAMICS USING DOUBLE ELECTRON ELECTRON SPECTROSCOPY (DEER). Hassane S. Mchaourab

2306-WKSHP  8:18 PM
EVALUATING DEER DISTANCE PROFILES IN TERMS OF PROTEIN CONFORMATIONAL ENSEMBLES. Xi Huang, Ian S. Mitchell de Vera, Mandy E. Blackburn, Luis Galiano, Gail E. Fanucci

2307-WKSHP  8:42 PM
DEER STUDIES OF MEMBRANE PROTEINS. Gary A. Lorigan

2308-WKSHP  9:06 PM
DO SPIN LABELS TELL THE TRUTH? Peter Fajer, Fajer Mikolai, Michael Zawrotny, Wei Yang

8:00 PM–10:00 PM, ROOM 309

SOBLA
(The Society for Latinoamerican Biophysicists)

Meeting
The list of Tuesday Late Posters is in the Program addendum. The abstracts are available through the online itinerary planner.

Posters should be mounted at 6:00 pm on Monday and must be removed NO LATER THAN 4:30 pm on Tuesday evening. **ALL POSTERS MUST BE REMOVED BY THIS TIME.** Posters remaining on boards after that time will be discarded. Posters will be on view until 10:00 pm the night before presentation. 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.

Posters being presented on Wednesday can 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>
<th>CATEGORY</th>
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<tr>
<td>B1–B29</td>
<td>New Methods for Studying Dynamics in Macromolecules</td>
</tr>
<tr>
<td>B30–B58</td>
<td>Large-Scale Organization of Domains and Chains</td>
</tr>
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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.
New Methods for Studying Dynamics in Macromolecules (Boards #B1–#B29)

2309-Pos  
**Board #B1**
DEVELOPMENT OF A HIGH THROUGHPUT X-RAY FOOTPRINTING FACILITY AT THE ADVANCED LIGHT SOURCE TO STUDY THE STRUCTURE AND DYNAMICS OF COMPLEX BIOLOGICAL MACROMOLECULES. Sayan Gupta, Richard Celestre, Jennifer Bohon, Mark Chance, Corie Ralston

2310-Pos  
**Board #B2**
SYNCHROTRON X-RAY FOOTPRINTING ON TOUR. Jen Bohon, Corie Ralston, Rhiutura D’Mello, Sayan Gupta, Mark R. Chance

2311-Pos  
**Board #B3**
DEVELOPMENT OF A FLEXIBLE PLATFORM FOR STUDYING THE SINGLE MOLECULE DYNAMICS OF NUCLEIC ACID MANIPULATING ENZYMES BY TIRF MICROSCOPY. Timothy J. Wendorff, Thomas Murray, James M. Berger

2312-Pos  
**Board #B4**
FUNCTIONAL DYNAMICS OF THE PACKAGING MOTOR P4 PROBED BY HYDROGEN EXCHANGE AND SIMULATION. Gae Radou, Emanuele Paci

2313-Pos  
**Board #B5**
THE BLOOD PLASMA PARTICLES SIZES OSCILLATIONS OBSERVED BY DYNAMIC LIGHT SCATTERING. Marina Maslova, Alexander Zaritskiy, Leonid Chaykov

2314-Pos  
**Board #B6**
GLASS IS A Viable SUBstrate FOR ATOMIC FORCE MICROSCOPY OF MEMBRANE PROTEINS. Nagaraju Chada, Krishna P. Sigdel, Tina R. Matin, Raghavender Reddy Sanganna Gari, Chunfeng Mao, Linda L. Randall, Gavin M. King

2315-Pos  
**Board #B7**
DETECTION OF PROTEIN NANOCRYSTALS BASED ON THE REVERSIBILITY OF CRYSTALLIZATION. Katerina Dörner, Jose Martin Garcia, Christopher Kupitz, Rebekka M. Wachter, Petra Fromme

2316-Pos  
**Board #B8**
CHARACTERIZING THE STRUCTURE OF LIPODISQ FOR MEMBRANE PROTEIN SPECTROSCOPIC STUDIES. Rongfu Zhang, Indra Sahu, Andrew Craig, Raven Comer, Anna Ostatuke, Gary Lorigan

2317-Pos  
**Board #B9**

2318-Pos  
**Board #B10**
OPTIMIZED INTERNALIZATION OF FLUORESCENTLY LABELED BIOMOLECULES INTO LIVE BACTERIA. Marko Sustarsic, Louise Aigrain, Anne Plochowitz, Timothy Craggs, Achilles Kapanidis

2319-Pos  
**Board #B11**
PHOTO-ACTIVATED CROSSLINKING MASS SPECTROMETRY FOR STUDYING BIOMOLECULAR INTERACTIONS. Samuel Kim, Jae Kyoo Lee, Hong Gil Nam, Richard N. Zare

2320-Pos  
**Board #B12**
PROTEIN RESILIENCE AND FLUORESCENT PROTEIN RESISTANCE TO PHOTobleaching. Mengyang Xu, Deepu K. George, Ralph Jimenez, Andrea G. Markelz

2321-Pos  
**Board #B13**
MICROSECOND CONFORMATIONAL DYNAMICS OF CYTOCHROME C REVEALED BY TWO-DIMENSIONAL FLUORESCENCE LIFETIME CORRELATION SPECTROSCOPY. Takuhiro Otosu, Kunihiko Ishii, Tahei Tahara

2322-Pos  
**Board #B14**
MEASURING PROTEIN STRUCTURAL HETEROGENEITY WITH TWO-DIMENSIONAL INFRARED SPECTROSCOPY. Carlos R. Baiz, Andrei Tokmakoff

2323-Pos  
**Board #B15**
CONFORMATIONAL EQUILIBRIUM BETWEEN THE SUBSTATES OF THE ACIDIC DENATURED STATE OF ACBP DETERMINED BY NMR CHEMICAL SHIFTS AND METADYNAMICS. Carlo Camilloni, Michele Vendruscolo

2324-Pos  
**Board #B16**
NON-THERMAL INDUCTION OF CONFORMATIONAL REARRANGEMENT IN PROTEINS BY FAR-INFRARED EXCITATION. István Z. Lőrincz, Gusztav Schay, Anna A. Rauscher, Miklos SzKellermayer, Michael Gensch, Andras Malnasi-Csizmadia

2325-Pos  
**Board #B17**
EXPLORING STRUCTURE AND DYNAMICS OF HUMAN AQUaporin-1 BY SOLID-STATE NMR. Shenlin Wang, Sanaz Emami, Vladimir Ladizhansky, Leonid S. Brown

2326-Pos  
**Board #B18**
AFS-MAPPING PROXIMITY WITHIN PROTEINS USING FLUORESCENCE SPECTROSCOPY: TYR AS WELL AS TRP CAN BE USED FOR DISTANCE-DEPENDENT FLUORESCENCE QUENCHING STUDIES. Amber Jones-Hackathorne

2327-Pos  
**Board #B19**
COLLECTIVE DYNAMICS AND COHERENT NEUTRON SCATTERING IN GFP. Jonathan D. Nickels

2328-Pos  
**Board #B20**
TIME-SERIES ANALYSIS OF MOLECULAR DYNAMICS: CONFORMATIONAL CHANGE AND DYNAMICS OF COLLECTIVE BEHAVIOR. Kana Fuji

2329-Pos  
**Board #B21**
CALCULATION AND VISUALIZATION OF ATOMIC MECHANICAL STRESSES IN BIOMOLECULES. Andrew T. Fenley, Hari S. Muddana, Michael K. Gilson

2330-Pos  
**Board #B22**
USING TIME-RESOLVED CHANGES IN REFLECTION INTENSITY TO TEST MECHANISTIC HYPOTHESES. James Godwy, Emanuele Paci

2331-Pos  
**Board #B23**
MULTI-SCALE SAMPLING USING TEMPERATURE ACCELERATED AND REPLICA EXCHANGE MOLECULAR DYNAMICS. Yamamori Yu, Akio Kitao

2332-Pos  
**Board #B24**
THEORETICAL ON STRUCTURAL STABILITY OF CLN025 USING OUR FREE-ENERGY FUNCTION. Satoshi Yasuda, Tomohiko Hayashi, Masahiro Kinoshita

2333-Pos  
**Board #B25**
COMPUTATIONAL AND EXPERIMENTAL CHARACTERIZATIONS OF SILVER NANOPARTICLE-APOLIPOPROTEIN BIOCORONA. Samuel S. Cho
2334-Pos  Board #B26  
BIOPHYSICAL INSIGHTS OF NEUTRAL AND NON-NEUTRAL SEQUENCE VARIANTS IN THE HUMAN PROTEOME.  
Brandon M. Butler, Sudhir Kumar, Sefika B. Ozkan

2335-Pos  Board #B27  
NMR-RESTRAINED PROTEIN STRUCTURE CALCULATIONS IN IMPLICIT ENVIRONMENT.  
Ye Tian, Charles Schwieters, Stanley J. Opella, Francesca M. Marassi

2336-Pos  Board #B28  
BENCHMARKING COLLECTIVE MOTION PREDICTIONS OF ELASTIC NETWORK MODELS.  
Edwin Fuglebak, Nathalie Reuter, Konrad Hinsen

2337-Pos  Board #B29  
PRIMO-M: AN EXTENSION OF THE COARSE-GRAINED FORCE FIELD PRIMO TO THE MEMBRANE ENVIRONMENT.  
Parimal Kar, Michael Feig

Large-Scale Organization of Domains and Chains (Boards #B30–#B58)

2338-Pos  Board #B30  
SINGLE MOLECULE STUDY OF RELA DURING THE STRINGENT RESPONSE IN LIVE E. COLI CELLS.  
Wenting Li, Heejun Choi, Emmanuelle Bouveret, Yan Zhang, James Weisshaar

2339-Pos  Board #B31  
The COP9 SIGNALOSOME: ACTIVITY AND REGULATION.  
Melissa Birol, Aude Echalier, Christian Dumas, Andre Padilla, Yinshan Yang, Francois Hoh

2340-Pos  Board #B32  
The Dicer-trBP INTERFACE STRUCTURE AND IMPLICATIONS FOR STRAND SELECTION DURING MICRORNA BIOGENESIS.  
Ross C. Wilson, Jennifer A. Doudna

2341-Pos  Board #B33  
The Assembly of ASB9 with Ubiquitin Degradation Substrate CKB.  
Jonathan Parnell

2342-Pos  Board #B34  
KINETICS OF INTERACTIONS BETWEEN LOV DOMAINS FROM CHLAMYDOMONAS REINHARDTII.  
Carey K. Johnson, Kathrin Magerl, Katec Wyant, Ashley McDade, Will Newhart, David C. Arnett, Bernhard Dick

2343-Pos  Board #B35  
TOWARDS THE DYNAMICAL ORIGIN OF THE OLIGOMERIC PLASTICITY OF RNA-ASSOCIATED SM ASSEMBLIES.  
Charles E. McAnany, Cameron Mura, Berk Ekmekci

2344-Pos  Board #B36  
INVESTIGATING A LINK BETWEEN COAGULATION AND INFLAMMATION: A STUDY OF COMPLEMENT COMPONENT C3 AND THE LECTIN-LIKE DOMAIN OF THROMBOMODULIN.  
Hongli Chen, Matthew McKay, Morgan Wambaugh, Alexander Pandelidis, Grace Soloff, Julia Koeppe

2345-Pos  Board #B37  
STRUCTURAL AND ENERGETIC DETERMINANTS OF ADHESIVE BINDING SPECIFICITY IN TYPE I CADHERINS: THE ROLE OF MULTIPLE CONFORMATIONS IN TUNING AFFINITIES.  
Hang Song, Zhongyu Yang, Klara Felsovalyi, Wayne Hubbell, Lawrence Shapiro, Barry Honig

2346-Pos  Board #B38  
ASSEMBLY OF PROTEIN KINASE A RIIB MACROMOLECULAR COMPLEXES.  
Ping Zhang, Jeffrey Copps, Donald Blumenthal, Susan Taylor

2347-Pos  Board #B39  
STRUCTURAL CHARACTERIZATION OF THE HISTONE MULTIMERS IN THE GAS PHASE USING ION MOBILITY MASS SPECTROMETRY AND MOLECULAR DYNAMICS SIMULATION.  
Kazumi Saitkusa, Takeshi Togashi, Yuuki Asano, Aritaka Nagadoi, Hiroaki Tachiwana, Hiroshi Kurumizaka, Mitsuori Ikeguchi, Yoshifumi Nishimura, Satoko Akashi

2348-Pos  Board #B40  
STRUCTURAL STUDIES OF CAVEOLINS-THE CAVEOLAE SCAFFOLDING MEMBRANE PROTEIN.  
Yanli Zhang, Xinyan Zhang, Sorin Luca

2349-Pos  Board #B41  
The Function of AMOT Dimereization in Lipid Binding.  
Maria L. Harlan

2350-Pos  Board #B42  
MEMBRANE PERMEABILIZATION BY HOLIN LIKE PROTEINS CIDA/LRG A, Xinyan Zhang, Yanli Zhang, Katie Mc Culloch, Tina Iverson, Kenneth W. Bayles, Sorin Luca

2351-Pos  Board #B43  
STRUCTURAL CHARACTERIZATION OF A THALIANA HETEROTRIMERIC G-PROTEINS.  
Sandra Quarantini, Hazal Busra Kose, Zehra Sayers

2352-Pos  Board #B44  
CONFORMATIONAL DYNAMICS DURING SPLICEOSOME ASSEMBLY INVESTIGATED BY SINGLE-PAIR FRET.  
Lena Voith von Voithenberg, Carolina Sanchez Rico, Lisa Warner, Yun Zhang, Michael Sattler, Don C. Lamb

2353-Pos  Board #B45  
INTERNATIONAL TRAVEL AWARDER EEISOMES AND PLASMA MEMBRANE DOMAIN FORMATION, Agustina Olivera-Couto, Michelle Digman, Valentia Salzman, Milagros Mailhos, Enrico Gratton, Pablo S. Aguilar

2354-Pos  Board #B46  
ARCHITECTURE OF WHOLE-MODULE AND BIMODULAR PROTEINS FROM THE 6-DEOXYERYTHRONOLIDE B SYNTHASE.  
Andrea L. Edwards, Tsutomu Matsui, Chaitan Khosla

2355-Pos  Board #B47  
SELF-ASSEMBLY OF DEHALOPOXIDASE-HEMOGLOBIN PROBED BY BACKBONE DYNAMICS USING NMR RELAXATION EXPERIMENTS AND MOLECULAR DYNAMICS SIMULATION.  
Jing Zhao, Mengjia Xue, Hanna Gracz, Stefan Franzen

2356-Pos  Board #B48  
STUDYING THE ROLE OF PROTEIN FLEXIBILITY IN ALLOSTERIC AND EVOLUTIONARY CHANGES AS SEEN IN PYRR PROTEIN FAMILY.  
Sandhya P. Tiwari, Perika Tateno, Yasushi Kondo, Stephen McLaughlin, Annette Steward, Jane Clarke, Sarah A. Teichmann, Nathalie Reuter

2357-Pos  Board #B49  
DETERMINING THE 3D TOPOLOGIES OF HETEROMERIC PROTEIN ASSEMBLIES BY A MASS-SPECTROMETRY BASED HYBRID APPROACH.  
Argyris Politis, Carla Schmidt, Elina Tjoie, Andrej Sali, Carol V. Robinson
2358-Pos  Board #B50
NATIVE ION MOBILITY-MASS SPECTROMETRY: FROM FLEXIBLE PROTEINS TO ION CHANNELS. Frank Sobott

2359-Pos  Board #B51
HUMAN P52SCH CONFORMATIONAL BIAS AND LOCALIZATION IN C-SRC ACTIVATION. Yuko Tsutsui, Franklin A. Hays

2360-Pos  Board #B52
NON-CANONICAL MODULAR DOMAIN INTERACTIONS DICTATE PKCa FUNCTION. Carter J. Swanson, Michael Ritt, William Wang, Michael Lang, John J. Tesmer, Margaret Westfall, Sivaraj Sivaramakrishnan

2361-Pos  Board #B53
THE HISTIDINE BUTTON DICTATES THE CONFORMATION OF THE PH-SENSITIVE REGION OF TROPOGIN I. Sandra E. Pineda-Sanabria, Ian M. Robertson, Peter C. Holmes, Brian D. Sykes

2362-Pos  Board #B54
PURIFICATION AND STRUCTURAL ANALYSIS OF THE ANTI-VIRAL PROTEIN BST-2. Kelly E. Du Pont, Christopher E. Berndsen

2363-Pos  Board #B55
PROBING G PROTEIN-COUPLED RECEPTOR DIMERISATION BY FRET AND DEER. Patricia M. Dijkman, Alan D. Goddard, Oliver K. Castell, Mark I. Wallace, Anthony Watts

2364-Pos  Board #B56
TUG-OF-WAR BETWEEN THERMODYNAMIC STABILITY AND ACTIN-BINDING FUNCTION OF TANDEM CALPONIN-HOMOLOGY DOMAINS. Swati Bandi, Surinder Singh, Geoffrey Armstrong, Krishna Mallela

2365-Pos  Board #B57
CHARACTERIZATION OF HUMAN, MOUSE, AND FROG RHODOPSIN MICRODOMAINS WITHIN NATIVE DISC MEMBRANES. Allison M. Whited-Holt, Paul S.-H. Park

2366-Pos  Board #B58
RECONSTITUTION OF THE 26S PROTEASOME REVEALS FUNCTIONAL ASYMMETRIES IN ITS HETEROHEXAMERIC AAA+ UNFOLDASE. Robyn Beckwith, Evan Worden, Eric Estrin, Andreas Martin

### Protein Folding and Chaperones I (Boards #B59–#B85)

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CROWD CONTROL: EFFECTS OF MACROMOLECULAR CROWDING ON EARLY EVENTS IN PROTEIN FOLDING. Eefei Chen, Vanessa Feng, Zachary Fong, Brian Rastian, Alex P. Rowe, Robert A. Goldbeck, David S. Kliger

2368-Pos  Board #B60
VALIDATION OF THE CONSERVATION AND ROBUSTNESS OF FOLDING INITIATION SITES IN EVOLUTIONARILY RELATED PROTEINS. Masanari Matsuoka, Takeshi Kikuchi

2369-Pos  Board #B61
STRUCTURAL AND FUNCTIONAL INTERACTIONS BETWEEN HSP90 AND THE CHOLERA TOXIN A1 SUBUNIT. Helen Burress, Michael Taylor, Tuhina Banerjee, Carly Bader, Suren A. Tarulian, Ken Teter

2370-Pos  Board #B62
CONTEXT-DEPENDENT FOLDING: SEQUENCE-ENCODED STRATEGIES FOR STABILIZING A PROTEIN SUBDOMAIN IN ISOLATION. Sabriya N. Rosemond, Kamibiz H. Hamadani, Jamie H.D. Cate, Susan Marqusee

2371-Pos  Board #B63

2372-Pos  Board #B64
ALTERATION OF THE CYTOCHROME C FOLDING PATHWAY IN SOLUTION AND WITHIN SOL-CEL GLASSES BY ADDITION OF HOFMEISTER SALTS. Eric S. Peterson, Sean J. Steinke

2373-Pos  Board #B65
PROTEIN-FOLDING STUDIES USING HYBRID TIR SMFRET-MAGNETIC TWEETERS. Samuel M. Leachman, Christian A. M. Wilson, Susan Marqusee, Carlos Bustamante

2374-Pos  Board #B66
DETERMINING SOLUTE EFFECTS ON PROTEIN FOLDING USING SINGLE MOLECULE FORCE SPECTROSCOPY. Emily Guinn, Bharat Jagannathan, Susan Marqusee

2375-Pos  Board #B67
EXPLORING THE COMPLEX ENERGY LANDSCAPE OF PROTEIN UNFOLDING UNDER FORCE. Bharat Jagannathan, Susan Marqusee

2376-Pos  Board #B68
IS REFOLDING OF LYSOZYME TEMPLATE-DRIVEN. Sushanth Kumar, T.K.S Kumar

2377-Pos  Board #B69
HIGH THROUGHPUT SCREENING OF FORMULATIONS TO OPTIMIZE THE THERMAL STABILITY OF THERAPEUTIC MONOCLONAL ANTIBODY. Elaine Kan, Anita Niedziela-Majka, Perry Weissburg, Scott Sellers, Roman Sakowicz

2378-Pos  Board #B70
CONFORMATIONAL ANALYSIS OF ACTH/MELANOCORTIN PRECURSOR PROTEIN. Yuji Hidaka, Tadafumi Konogami, Shigeru Shimamoto

2379-Pos  Board #B71
CONTRIBUTION OF METHIONINE OXIDATION TO AMYLOID FIBRILLATION BY APOLIPOPROTEIN A-I. Gary Kwan Leung Chan, Andrzei Witkowski, Donald L. Gantz, Sobini Jayaraman, Giorgio Cavigiolio

2380-Pos  Board #B72
INTERNATIONAL TRAVEL AWARDEE USE OF FCS TO STUDY PROTEIN DENATURATION AND AGGREGATION. Moupriya Nag, Kallool Bera, Soumen Basak

2381-Pos  Board #B73
EDUCATION TRAVEL AWARDEE AMYLOID-42 AGGREGATION ON CELLULAR MEMBRANES FACILITATES ITS CELLULAR UPTAKE. Sha Jin, Andreas Herrmann, Jan Bieschke

2382-Pos  Board #B74
CLARIFYING THE INTERSECTION BETWEEN ALPHA-CRYSTALLIN B FUNCTION AND OLGOMERIZATION BY ALTERING AGGREGATION CONDITIONS. Raysa Cabrejo, James Hebd, Patricia B. O'Hara
Protein-Ligand Interactions and Enzymes (Boards #B86–#B119)

2394-Pos Board #B86
ISOMERIZATION AND AUTOLYSIS AT SPECIFIC AMINO ACID RESIDUES OF THE TAU PROTEIN AND ITS RELATIONS TO ALZHEIMER’S DISEASE. Madeleine Lu, Thomas A. Shaler

2395-Pos Board #B87
COUPLING EVOLUTIONARY INFORMATION WITH FUNCTIONAL DYNAMICS TO REENGINEER THE OLIGOSACCHARIDE SPECIFICITY OF CVN WITH BP-DOCK. Ashini Bolia

2396-Pos Board #B88
DE NOVO DESIGN OF ANTI-INFLAMMATORY PEPTIDES FOR TREATING PATIENTS WITH SEVERE SEPSIS. Yi Chung, Je-Wen Liu, Hao-Jen Hsu

2397-Pos Board #B89
MOLECULAR DETERMINANTS OF SUBSTRATE SPECIFICITY IN TYPE VII SECRETION SYSTEMS. Dustin Dovala, Oren S. Rosenberg, Jeffery S. Cox

2398-Pos Board #B90
STRUCTURAL BASIS FOR ARSENATE-PHOSPHATE DISCRIMINATION. Elizabeth Wood, Mathias F. Gruber, Andrea Bordoni, Claus H. Nielsen

2399-Pos Board #B91
VARIATION IN THE BINDING POCKET OF AN INHIBITOR OF THE BACTERIAL DIVISION PROTEIN FTSZ ACROSS GENOTYPES, NUCLEOTIDE STATES, AND SPECIES. Amanda V. Miguel, Jen Hsin, Tianyun Liu, Grace Tang, Russ B. Altman, Kerwyn C. Huang

2400-Pos Board #B92
MIXED-RESOLUTION MONTE CARLO: APPLICATION TO FLEXIBLE DOCKING OF THE ESTROGEN RECEPTOR. Rohith Palli, Sundar R. Subramanian, Daniel M. Zuckerman

2401-Pos Board #B93
MORUSIN FROM MORUS AUSTRALIS ROOTS INHIBITS 12-O-TETRADECANOYLPHORBOL-13-ACETATE INDUCED TRANSFORMATION OF EPIDERMAL JB6 CELLS. Tsui-Hwa Tseng, Wei-Chia Chung, Wes Lee, Ye-Jang Lee

2402-Pos Board #B94
LIGAND BINDING PROPERTIES OF TWO DIFFERENT GLOBIN DOMAINS AND THE NATIVE HEMOGLOBIN OF ARTEMIA SALINA: A COMPARISON STUDY. Heshmat Akbari Borhani, Luc Moens, Mehran Habibi-rezaei, Sylvia Dewilde

2403-Pos Board #B95
FUNCTIONAL MODULATION IN A TYPICAL ALLOSTERIC PROTEIN REVISITED - BEYOND “T” AND “R”. Antonio Tsuneshige, Kohei Sugawara, Kenji Kanaori

2404-Pos Board #B96
COMBINING WATER PERCOLATION ANALYSIS AND MOLECULAR DYNAMICS SIMULATIONS FOR PROTEIN-PROTEIN BINDING INTERFACE PREDICTION. Sandeep Patel, Di Cui, Shuching Ou

2405-Pos Board #B97
THERMODYNAMICS OF INTERFACIAL CHANGES IN A PROTEIN-PROTEIN COMPLEX. Mahua Ghosh, Amit Das, Jaydeb Chakrabarti

2406-Pos Board #B98
THE SECA DIMER INTERFACE. Andy J. Wowor, Yuetian Yan, Sarah M. Auclair, Dongmei Yu, Michael L. Gross, Debra A. Kendall, James L. Cole

2407-Pos Board #B99
COMBINATORIAL INHIBITION IN PDZ CONTAINING SCAFFOLD PROTEINS. James McCann, Ucheor B. Choi, Mark E. Bowen

2408-Pos Board #B100
STRUCTURAL ANALYSIS OF INTEGRIN β3 BINDING TO THE SH3 DOMAIN OF SRC KINASE. Priya Karya, Robbins Puthenveetil, Olga Vinogradova
2409-Pos Board #B101
STUDY OF INTERACTION BETWEEN THE NUCLEAR PROTEINS: REVERBa/N-COR BY FLUORESCENCE ANISOTROPY AND NUMBER AND BRIGHTNESS (N&B). Anaïs Vaissière

2410-Pos Board #B102
WATER DYNAMICS AT PROTEIN-PROTEIN INTERFACE: MOLECULAR DYNAMIC STUDY OF VIRUS-HOST RECEPTOR COMPLEXES. Priyanka Dutta, Dr. Sameer Varma

2411-Pos Board #B103
A NON-ACTIVE SITE SET DOMAIN SURFACE THAT IS CRUCIAL FOR DI-METHYLATION OF HISTONE H3 LYSINE 4 BY THE MIXED LINEAGE LEUKEMIA-1 (MLL1) CORE COMPLEX. Stephen A. Shinsky, Michael Hu, Valerie E. Vought, Michael S. Cosgrove

2412-Pos Board #B104
IDENTIFICATION OF PROTEIN-PROTEIN-INTERACTION (PPI) INHIBITORS AND STABILIZERS FOR ANTIMALARIAL DRUG DEVELOPMENT USING SPR. Lauren E. Boucher, Adelaide U.P. Hain, Alexia S. Miller, Daisy D. Colon Lopez, Jürgen Bosch

2413-Pos Board #B105
NEW MICROCALORIMETRIC METHODS FOR MEASURING ULTRATIGHT PROTEIN-LIGAND INTERACTIONS. Georg Krainer, Jana Broecker, Carolyn Vargas, Sandro Keller

2414-Pos Board #B106

2415-Pos Board #B107
"THE WHOLE IS GREATER THAN THE SUM OF ITS PARTS"- HIT SELECTION AND THE POWER OF RTHOGONALITY. Paul E. Belcher, Marikkku Hämäläinen, Natalia Markova

2416-Pos Board #B108
‘CLICKABLE’-PHOTOCATIVE PROPOFOL ANALLOGUE FOR THE IDENTIFICATION OF ANESTHETIC TARGETS. Kellie A. Woll, Benika Pinch Pinch, William P. Dailey, Roderic G. Eckenhoff

2417-Pos Board #B109
EXPLOREING ANESTHETIC BINDING ON VOLTAGE-GATED CATION CHANNELS. Caio S. Souza, Juliana M. Hosoume, Manuel Covarrubias, Werner Treptow

2418-Pos Board #B110
NUDT9H INTERACTIONS IN THE TETRAMERIC TRPM2 ION CHANNEL. Jordi Iordanov, Laszlo Csanady

2419-Pos Board #B111
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EXPLORING THE BINDING SITE OF THE G PROTEIN-COUPLED RECEPTOR GPR119 MODEL USING A PAIR OF DIASTEREOMERS WITH OPPOSING ACTION. Evangelia Kotsikorou, Shane M. Askar

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A COMPARISON OF 3D CONFORMATIONS OF ENDOTHELIN-1 ANALOGS TO FIND THE PHARMACOPHORE MODEL REQUIRED FOR ENDOTHELIN RECEPTOR LIGAND ACTIVITY. Benson Ma, Takeshi Kawabata, Narutoshi Kamiya, Haruki Nakamura

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MOLECULAR DYNAMICS STUDIES OF TAU MONOMER AND DIMER CONFORMATIONS. Natalie Hall, Natha R. Hayre, Rajiv Singh, Daniel Cox

2430-Pos Board #B122
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2432-Pos Board #B124
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2433-Pos Board #B125
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2439-Pos  Board #B131
DIFFERENT ROLES OF BACKBONE-ORIGINATED AND NATIVE-CONTACT-ORIGINATED FLEXIBILITIES OF AN INTRINSICALLY DISORDERED PROTEIN IN FAST BINDING AND UNBINDING. Koji Umezawa, Jun Ohnuki, Junichi Higo, Mitsunori Takano

2440-Pos  Board #B132
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2444-Pos  Board #B136
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2451-Pos  Board #B143
WATCHING THE RNA POLYMERASE TRANSCRIPTION BY TIME-DEPENDENT SOAK-TRIGGER-FREEZE X-RAY CRYSTALLOGRAPHY. Katsushiko Murakami

2452-Pos  Board #B144
STRUCTURAL AND DYNAMIC REGULATION OF TFIID-MEDIATED TRANSCRIPTION INITIATION COMPLEX ASSEMBLY BY THE TUMOR SUPPRESSOR P53 PROTEIN. Anna Piasecka, Lihua Song, Michael Cianfrocco, Vincent Wong, Shenglong Wang, Joseph Hargitai, William Rice, Eva Nogales, Robert A. Coleman, Wei-Li Liu

2453-Pos  Board #B145
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2454-Pos  Board #B146
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COMPLETE DISSECTION OF TRANSCRIPTION ELONGATION REVEALS SLOW TRANSLOCATION OF RNA POLYMERASE II IN A LINEAR RATCHET MECHANISM. Manchuta Dangkulwanich, Toyotaka Ishibashi, Shixin Liu, Maria L. Kireeva, Lucyna Lubkowska, Mikhail Kahlev, Carlos J. Bustamante

2456-Pos  Board #B148
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2457-Pos  Board #B149
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2461-Pos  Board #B153
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2463-Pos  Board #B155
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2464-Pos  Board #B156
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2465-Pos  Board #B157
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2467-Pos  Board #B159
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2468-Pos  Board #B160
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2488-Pos  Board #B180
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DNA BINDING OF PORPHYRIN CONJUGATES: CHARACTERISTICS AND CONSEQUENCES. Ádám Orosz, Gábor Mező, Levente Herényi, Zsuzsa Majer, Gabriella Csík

A SINGLE MOLECULE STUDY OF GENE SILENCING BY HNS PROTEIN DNA INTERACTIONS. Haowei Wang, Grace Tong, William Willey Navarre, Joshua Milstien
INTEGRINS AND UROKINASE RECEPTORS SHOW DISTINCT MECHANISMS OF PROTEIN SEQUESTRATION IN RAFT-MIMICKING LIPID MIXTURES: INFLUENCE OF BILAYER ASYMMETRY, LIGAND BINDING, AND CHOLESTEROL CONTENT. Yifan Ge, Noor Hussain, Amanda P. Siegel, Rainer Jordan, Christoph A. Naumann

MONOLAYER SPONTANEOUS CURVATURE OF RAFT-FORMING MEMBRANE LIPIDS. Benjamin Kollmitzer, Peter Heftberger, Michael Rappolt, Georg Pabst

HYBRID AND NONHYBRID LIPIDS EXERT COMMON EFFECTS ON MEMBRANE RAFT SIZE AND MORPHOLOGY. Milka Doktorova, Frederick A. Heberle, Shih Lin Goh, Robert F. Stanat, John Katsaras, Gerald W. Feigenson

CHARACTERIZATION OF PHOSPHATIDYLCHOLINE/TWEEN-80 MODEL MEMBRANES FOR THE NMR STUDY OF MEMBRANE INTERACTIONS. André E. Gravel, Alexandre A. Arnold, Isabelle Marcotte

KINETIC STUDY OF PHOTO-INDUCED LIPID OXIDATION IN GIANT UNILAMELLAR VESICLES. Shalene Sankhagowit, Noah Malmstadt

SOLUBILIZATION OF GIANT VESICLES COMPOSED OF ERYTHROCYTE LIPID EXTRACTS AND OF TERNARY LIPID MIXTURES BY TRITON X-100. Bruna R. Casadei, Amanda C. Cariti, Cleton C. Domingues, Enedina de Paula, Milka Doktorova, Frederick A. Heberle, Shih Lin Goh, Robert F. Standat, John Katsaras, Gerald W. Feigenson

TMFRET TO STUDY SHORT-RANGE INTERACTIONS AT THE MEMBRANE. Elizabeth A. Manrao, Alexey J. Merz, William N. Zagotta, Sharona E. Gordon

MOLECULAR GRADIENTS BY COLLIDING SPREADING PHOSPHOLIPID BILAYERS. Katherine N. Liu, Jose Cortez, Babak Sanii

ON DEMAND CONTROL OF LIPID COMPOSITION IN INDIVIDUAL BILAYERS. John S. H. Daniel, Brid Cronin, Chandini Mallick, Mark I. Wallace
2558-Pos  Board #B250  
The Snare Motif of Membrane-Anchored Synaptobrevin Exhibits an Aqueous-Interfacial Partitioning that is Modulated by Membrane Curvature. Binyong Liang, Damian Dawidowski, Jeffrey F. Ellena, Lukas K. Tamm, David S. Cafiso

2559-Pos  Board #B251  
Pre-Fusion Structure of Synaptxin 1A Suggests Pathway for Folding into Neuronal Trans-Snare Complex Fusion Intermediate. Volker Kiessling, Binyong Liang, Lukas K. Tamm

2560-Pos  Board #B252  
Complexin-1 Enhances the On-Rate of Vesicle Docking via Simultaneous Snare and Membrane Interactions. Jiajia Diao, Daniel J. Cipriano, Axel T. Brunger

2561-Pos  Board #B253  
Quantitative Molecular Modeling of Membrane Curvature Induction by an Amphipathic Helix. Alexander J. Sodt, Richard W. Pastor

2562-Pos  Board #B254  
Direct Detection of Reconstituted, Snare-Mediated Fusion Pore Dynamics. Zhenyong Wu, Erdem Karatekin

2563-Pos  Board #B255  
Interference of Zippering of Snare Complexes by Alpha-Snap Arrest Fusion of Chromaffin Granule. Yongsoo Park, Wensi Vennekate, Halenur Yavuz, Reinhard Jahn

2564-Pos  Board #B256  
Education Travel Awardee Comparative Study of the Snares Zippering with Single Molecule Resolution. Sylvain Zorman, Frederic Pincet, James E. Rothman, Yongli Zhang

2565-Pos  Board #B257  
Towards Artificial Membrane Fusion: EK-PEPTIDES, THE COILIED-COIL ZIPPER. Martin van Son, Tingting Zheng, Pravin Kumar, Dayenne Valdink, Jan Raap, Alexander Kros, Martina Huber

Membrane Structure II (Boards #B258–#B287)

2566-Pos  Board #B258  

2567-Pos  Board #B259  
Myristoylation Restricts Orientation of GRASP on Membranes and Is Critical for Membrane Tethering. Frank Heinrich, Hirsh Nanda, Haw Zan Goh, Collin Bachert, Adam D. Linstedt, Mathias Lösche

2568-Pos  Board #B260  
Interaction Between Host Defence Peptides and Mycobacterial Membranes. Christian Nehls, Niels Denkert, Sam Willcocks, André Beerlink, Ulrich Schaible, Thomas Gutsmann

2569-Pos  Board #B261  
International Travel Awardee Refining Analysis of Membrane Penetration with Depth-Dependent Fluorescence Quenching and Molecular Dynamics Simulations. Alexander Kryuchenko, Mykola V. Rodnin, Douglas J. Tobias, Alexey S. Ladokhin

2570-Pos  Board #B262  
Structural Plasticity in the Topology of Membrane-Spanning Domain of HIV-1 Gp41. Alexander Kryuchenko, Jing He, William C. Wimley, Alexey S. Ladokhin

2571-Pos  Board #B263  
Travel Education Awardee Effects of Fluorescent Probes on Lipid Membrane Physical Properties. Sherry S. W. Leung, Jonathan R. Brewer, Jenifer Thewalt, Luis Bagatolli

2572-Pos  Board #B264  
Chemical Stress and the Cell Envelope: The Phospholipid Fraction. Samuel Furse, Anton I. de Kroon, J. Antoinette Killian

2573-Pos  Board #B265  
Profiling the Dielectric Constant at the Membrane-Peptide Interface Using Ionizable EPR Probes. Matthew Donohue, Maxim A. Voynov, Alex I. Smirnov, Tatiana I. Smirnova

2574-Pos  Board #B266  
Screening the Dynamics of Membrane Constituents in Intact Microalgal Cells by Solid-State NMR. Alexandre A. Arnold, Bertrand Genard, Andre L.D.A.G. Da Silva, Rejean Tremblay, Dör R. Warschawski, Francesca Zito, Isabelle Marcotte

2575-Pos  Board #B267  
Docosahexaenoic Acid Affects Gel Phase by Increasing Tilt Angle. Chai Lor, Linda S. Hirst

2576-Pos  Board #B268  
Lipopolysaccharide Induced Dynamic Lipid Organizations: Lipid Tubules, Membrane Perforations and Multi-Lamellar Stacking. Peter G. Adams, Kirstie Swingle, Loreen Lamoureux, Harshini Mukundan, Gabriel A. Montañó

2577-Pos  Board #B269  
Lipid Tilt Regulates Ripple Phase Behavior in Lipid Bilayer. Padmini Rangamani, Shachi Katira, Berend Smit, George Oster

2578-Pos  Board #B270  
Macrosopic Phase Separation, Modulated Phases, and Microemulsions: A Unified Picture of Rafts. Roie Shlomovitz, Lutz Maibaum, Michael Schick

2579-Pos  Board #B271  
The Structural Basis of Cholesterol Accessibility in Membranes. Brett N. Olsen, Agata A. Bielska, Tiffany Lee, Michael D. Daily, Douglas F. Covey, Paul H. Schlesinger, Nathan A. Baker, Daniel S. Ory

2580-Pos  Board #B272  
Keeping Order While Moving Fast: Ergosterol Pairs Lead to Dynamic Networks in Lipid Membranes. Juan M. Vanegas, Roland Faller, Marjorie L. Longo

2581-Pos  Board #B273  
Multi-Color, Live Super-Resolution Microscopy Reveals the Timescale and Potential of Mean Force for Co-Clustering Between the B Cell Receptor and Lyn Kinase. Matthew B. Stone, Sarah L. Veatch

2582-Pos  Board #B274  
The Effect of Ectoins on the Structural Organization of the Tear Fluid Monolayer. Hans Joachim Galla, Mridula Dwivedi
2583-Pos  Board #B275
LIPID ORDER INVESTIGATIONS COMBINED WITH GENERALIZED POLARIZATION PROVIDE DEEPER INSIGHTS INTO PLASMA MEMBRANE ARCHITECTURE OF LIVE CELLS. Alla Kress, Julien Savatier, Xiao Wang, Patrick Ferrand, Sophie Brasselet

2584-Pos  Board #B276
SPIN LABELS DETECT THE COEXISTENCE OF TWO LIPID DOMAINS ALONG THE ANOMALOUS GEL-FLUID TRANSITION OF ANIONIC DMPG BILAYERS. Diogo V.S. Pellegrina, Evandro L. Duarte, M. Teresa Lamy

2585-Pos  Board #B277  INTERNATIONAL TRAVEL AWARD RECIPIENT
PROTEIN PARTITIONING IN LIQUID-ORDERED (LO) / LIQUID-DISORDERED (LD) DOMAINS DEPENDS ON LIPID COMPOSITION AND PROTEIN SHAPE. Benjamín Kollmitzer, Peter Hefberger, Michael Rappolt, George Khelashvili, Daniel Harries, Georg Pabst

2586-Pos  Board #B278
PERTURBATION OF PLASMA MEMBRANE PHYSICAL PROPERTIES BY ENDOGENOUS AND EXOGENOUS MEDIATORS AFFECTS CELL FUNCTION. Kandice R. Levental, Ilya Levental

2587-Pos  Board #B279  EDUCATION TRAVEL AWARD RECIPIENT
SIZE AND ACYLATION INFLUENCE THE LATERAL MOBILITY OF PLASMA MEMBRANE PROTEINS IN LIVE CELLS. Elin Edwald, Sarah L. Veatch

2588-Pos  Board #B280
INDUCTION OF ENDOPLASMIC RETICULUM-PLASMA MEMBRANE CONTACTS IS A NON-CONDUCTING FUNCTION OF THE KV2.1 VOLTAGE-GATED POTASSIUM CHANNEL. Philip D. Fox, Diego Krapf, Michael M. Tamkun

2589-Pos  Board #B281  EDUCATION TRAVEL AWARD RECIPIENT
DIRECT IMAGING OF MOBILE NANODOMAINS IN THE LIVE CELL PLASMA MEMBRANE BY USING A TWO-COLOR PHOTOBLEACHING APPROACH. Mario Bramshuber, Christina Manner, Martin Fuerst, Eva Sevcík, Gerhard J. Schuetz

2590-Pos  Board #B282
LONG-TERM LIVE OBSERVATION OF MEMBRANE PROTEIN INTERACTION WITH LIPID NANODOMAINS SHOW DEPENDENCE ON CELL CYCLE AND TIME AFTER TRANSFECTION. Muhammed F. Simsek, Arnd Pralle

2591-Pos  Board #B283
CHARACTERIZING THE CELL SURFACE STRUCTURE AND ANTIBODY RECOGNITION FORCES ON INTACT MICROBIAL CELLS USING SCANNING PROBE MICROSCOPY. Yoo Jin Oh, Gerhard Sekot, Memed Duman, Lilja Čiččeglova, Paul Messner, Herwig Peterlik, Christina Schäffer, Peter Hinterdorfer

2592-Pos  Board #B284
SPECIFIC ROLE OF GLYCOLIPIDS IN THE REGULAR STACKING OF MEMBRANES RECONSTITUTED FROM THYLAKOIDS LIPID EXTRACTS. Bruno Demé, Céline Cataye, Maryse Block, Éric Maréchal, Juliette Jouhet

2593-Pos  Board #B285
QUANTITATIVE DIELECTRIC MEASUREMENTS OF BIOMEMBRANES AND OXIDES IN ELECTROLYTE SOLUTIONS AT HIGH FREQUENCIES. Georg Gramse, Aurora Dols-Pérez, Martin Andrew Edwards, Laura Fumagalli, Gabriel Gomila

2594-Pos  Board #B286
DYNAMICS OF BILAYER INTERACTIONS AT THE AIR-WATER INTERFACE. Michael Martynowycz, Andrey Ivankin, David Gidalevitz

2595-Pos  Board #B287  INTERNATIONAL TRAVEL AWARD RECIPIENT
TEMPERATURE DEPENDENCE OF LO/LD DOMAIN THICKNESS AND ELASTICITY BY GLOBAL SAXS DATA ANALYSIS. Peter Hefberger, Benjamín Kollmitzer, Alexander Rieder, Heinz Amenitsch, Michael Rappolt, Georg Pabst

Protein-Lipid Interactions III (Boards #B288–#B317)

2596-Pos  Board #B288
CHARACTERIZATION OF MAPCHO BICELLES—MODEL MEMBRANES FOR THE NMR STUDY OF MEMBRANE PROTEINS AND PEPTIDES. Maiwenn Beaugrand, Alexandre A. Arnold, Philip T. F. Williamson, Isabelle Marcotte

2597-Pos  Board #B289
FLUORESCENCE MEASUREMENTS OF AROMATIC AMINO ACIDS IN THE PRESENCE OF LIPID MEMBRANES. Sirine Khelifi, Merrell A. Johnson, Bruce D. Ray, Horia I. Petroche

2598-Pos  Board #B290
SINGLE MOLECULE STUDIES OF PKCa ACTIVATION MECHANISM ON MEMBRANE SURFACES. Brian P. Ziembia, Joseph J. Falke

2599-Pos  Board #B291
THE EBOLA VIRUS MATRIX PROTEIN BENDS BIOLOGICAL MEMBRANES. Smita P. Soni, Robert V. Stahelin

2600-Pos  Board #B292  EDUCATION TRAVEL AWARD RECIPIENT
PALMITOYLATION AS A KEY FACTOR TO UNDERSTAND SP-C-LIPID INTERACTIONS IN THE LUNG SURFACTANT SYSTEM. Nuria Roldan, Erik Goormaghtigh, Jesus Perez-Gil, Begoña García-Alvarez

2601-Pos  Board #B293
CLARIFYING THE ROLES OF CARDIOLIPIN. Sanja Pöyry, Oana Cramariuc, Pekka Postila, Karol Kaszuba, Marcin Sarewicz, Arrur Ösyczka, Tomasz Rog, Ilpo Vattulainen

2602-Pos  Board #B294
FLUORESCENCE CORRELATION SPECTROSCOPY REVEALS ADDITIONAL INFORMATION ON PROTEIN INSERTIONS INTO PHOSPHOLIPID MONOLAYERS. Jan Auerswald, Annette Meister, Sebasstian Daum, Kirsten Bacia

2603-Pos  Board #B295
MEMBRANE PHOSPHOinositide TURNOVER BY VOLTAGE SENSING PHOSPHATASES. Dongil Keum, Byung-Chang Suh

2604-Pos  Board #B296
TOWARD UNDERSTANDING THE ROLE OF AMOT130 LIPID BINDING IN CELLULAR PROLIFERATION AND MIGRATION. Mai T. Khue, Ann C. Kimble-Hill

2605-Pos  Board #B297
CHARACTERIZING PULMONARY SURFACTANT PEPTIDE AND LIPID INTERACTIONS WITH VARIOUS SPECTROSCOPIC TECHNIQUES. Otonye Braide, Ishana Shetty, Joanna R. Long, Gail E. Fanucci
FUNCTIONAL AND STRUCTURAL CHARACTERIZATION OF PULMONARY SURFACANT PROTEIN SP-C IN NANO DISCS: A NANOTECHNOLOGICAL APPROACH. Nuria Roledan, Sebastian Daum, Annette Meister, Kirsten Bacia

THE EFFECT OF HYDROPHOBIC MATCHING BETWEEN LIPIDS AND TRANSMEMBRANE PEPTIDES ON STEROL BILAYER AFFINITY. Kristian Ijäs, Max Lönnfors, Thomas K.M. Nyholm

SOLID-STATE NMR AND FTIR STUDY OF A NEURONAL CALCIUM SENSOR (NCS) PROTEIN, RECOVERIN. Kim Potvin-Fournier, Audrey Picard-Lafond, Melanie Schneider, Geneviève Valois-Paillard, Thierry Lefèvre, Philippe Calvez, Line Cantin, Christian Salesse, Michèle Auger

PROBING S100A12 INTERACTIONS WITH MODEL MEMBRANES. Jose Luis S. Lopes, Assueru F. Garcia, Antonio J. Costa-Filho, BA Wallace, Ana Paula U. Araujo

LIPID SELECTIVITY IN LIPID EFFLUX INDUCED BY PROTEINS AND PEPTIDES. Michel Lafleur, Alexandre Therrien

ELUCIDATING LIPID DOMAINS FUNCTION BY COMBINATORIAL SCREENING OF PROTEIN-LIPID INTERACTIONS. Roy Ziblat

DIRECT VISUALIZATION AND QUANTIFICATION OF DOC2B-MEDIATED MEMBRANE FUSION. Ineke Brouwer, Asiya Giniatullina, Niels Laurens, Alexander J. Groffen, Gijs J.L. Wuite

THE ROLE OF SALT IN MITOCHONDRIA: RETURNING CYTOCHROME C TO ITS NATIVE STATE AFTER ITS DISSOCIATION FROM CARDIOLIPIN CONTAINING MEMBRANES. Leah Pandiscia, Reinhard Schweitzer-Stenner

RI-DOM, A CELL-PENETRATING PEPTIDE, INTERACTION WITH DNA AND MEMBRANES. Joachim Seelig, Gabriela Québarre, Eric Kitspas

INTERACTIONS OF THE KINDLIN FAMILY PLECKSTRIN HOMOLOGY DOMAINS WITH MODEL MEMBRANES CONTAINING ZWITTERI ONIC LIPIDS AND PHOSPHATIDYL INOSITOL PHOSPHATES. Andreas K. Kalli, Iain D. Campbell, Mark S.P. Sansom

NEW MEASUREMENTS OF LUNG SURFACANT INTERFACIAL TENSION WITH MICROPETTE MANIPULATION TECHNIQUE. Koji Kinoshita, Kasper Glud, David Needham

PHOSPHATIDYL SERINE AND FACTOR VA REGULATE FACTOR XA STRUCTURE. Kinshuk Raj Srivasatava, Rinku Majumder, William H. Kane, Mary Ann Quinn-Allen, Barry R. Lentz

SHORT CHAIN LIPIDS MAINTAIN ADENOSINE A2AR LIGAND BINDING IN THE ABSENCE OF CHOLESTEROL. Andrea N. Naranjo, John Katsaras, Anne S. Robinson

SIMULTANEOUS IMAGING OF SINGLE-MOLECULE AND BULK LOCALIZATION OF PTEN. Seiya Fukushima, Satomi Matsuoka, Masahiro Ueda

PROTEOMIC IMAGING OF PLASMA MEMBRANES OF ANTIGEN-ACTIVATED B LYMPHOCYTES. Brad L. Busse, Ludmila Bezrukov, Jinnin Lee, Paul S. Blank, Susan Pierce, Joshua Zimmerman

T-CELL RECEPTOR-CD3 SIGNALING COMPLEX EXTRACELLULAR INTERACTIONS CHARACTERIZED BY GENETIC INCORPORATION OF UNNATURAL AMINO ACID PHOTO-CROSS-LINKERS. Wenjuan Wang, Tianqi Li, Michelle Krogsgaard

THE MOLECULAR MECHANISMS OF GRADIENT SENSING BY CXCR4. Elena Beletkaia, Susanne Fenz, Ewa Snaar-Jagalska, Pancras Hogendoorn, Thomas Schmidt

SINGLE MOLECULE OBSERVATION OF TCR SIGNALING COMPLEXES IN LIVING T CELLS. Jenny J. Lin, Geoffrey P. O’Donohue, Rafal M. Pielak, Jay T. Groves

EXPLORING THE SPATIO-MEC HOSENSITIVITY OF EPH RECEPTOR IN STEM CELLS. Meimei Dong, Dawn Spelke, Samuel J. Lord, David V. Schaffer, Jay T. Groves

2632-Pos  Board #B324  SINGLE MOLECULE MEASUREMENTS OF TCR TRIGGERING IN SELF-REACTIVE T CELLS. Katherine N. Alfi eri, Jay T. Groves

2633-Pos  Board #B325  BIOPHYSICAL PROPERTIES OF IMMUNE RECEPTOR PROTEINS AT THE MEMBRANE INTERFACE. Daniel R. Scott, C. Alejandro Velikovsky, Roy A. Mariuzza, John P. Marino, Susan Krueger, Hirsh Nanda

2634-Pos  Board #B326  DYNAMIC BEHAVIOR OF TCR MICROCLUSTERS ON A LIVE CELL INVESTIGATED BY A GOLD NANOPARTICLE ARRAY. Hiroyuki Kai, Nina Caculitan, Eulanca Liu, Nicole Fay, Yan Yu, Theobald Lohmüller, Jay T. Groves

2635-Pos  Board #B327  INVESTIGATION OF TCR TRIGGERING MECHANISM WITH MEMBRANE ANCHORED FAB’ FRAGMENTS. Michael P. Coyle, Geoffrey P. O’Donoghue, Rafał M. Pielak, Jenny J. Lin, Jay T. Groves

2636-Pos  Board #B328  T CELL COSTIMULATORY RESPONSE AND RECEPTOR DYNAMICS DETERMINED BY LIGAND ENGAGEMENT. Nicole C. Fay, Katherine Alfi eri, Hiro Kai, Jay Groves

2637-Pos  Board #B329  FcγRI SIGNAL PROPAGATION IS REGULATED THROUGH TRANSIENT BINDING OF SYK. Samantha L. Schwartz, Cheryl A. Telmer, Mara P. Steinkamp, Marcel P. Bruchez, Keith A. Lidke, Diane S. Lidke

2638-Pos  Board #B330  SHEAR FLOW REGULATES OSTEOGENIC DIFFERENTIATION OF MESENCHYMAL STEM CELLS THROUGH TRPM7-MEDIATED OSTERIX PATHWAY. Yi-Shiuan Liu, Chin-Ching Huang, Meng-Hua Yen, Oscar K. Lee

2639-Pos  Board #B331  PROFILING OF TARGET GENES THAT REGULATE EP-INDUCED GROWTH INHIBITION OF H460 THROUGH THE TRANSCRIPTIONAL AND PROTEOMIC ANALYSIS. Joonhee Kim, Eunil Lee, Eunjeong Cha, Eunyoung Hong

2640-Pos  Board #B332  ACTIVE PATTERNING OF CELL SURFACE MOLECULES FROM NANOSCALE CLUSTERS TO MESOSCALE MEMBRANE MOSAICS DICTATED BY DYNAMIC ACTIN. Suvarjit Saha, Amit Das, Anirban Polley, Madan Rao, Satyajit Mayor

2641-Pos  Board #B333  CORTICAL MICROTUBULES SHAPE GPCR SPATIOTEMPORAL MEMBRANE ORGANIZATION AND SIGNALING. Alessandra Cambi

2642-Pos  Board #B334  NANOARCHITECTURE OF INTEGRIN RECEPTOR CLUSTERS ON VERY SOFT SUBSTRATES. Rishita Changede, Felix Margadant, Michael P. Sheetz

2643-Pos  Board #B335  ALLOSTERIC REGULATION BY COMPONENTS OF A CRITICAL MEMBRANE. Benjamin B. Machta

2644-Pos  Board #B336  EXCITABILITY OF GUANYLATE CYCLASE SIGNALING PATHWAY MEDIATING CHEMOTAXIS. Yuki Tanabe, Masahiro Ueda

2645-Pos  Board #B337  INVESTIGATING PHOSPHATIDYLINOSITOL 3,4-BISPHOSPHATE 3-PHOSPHATASE ACTIVITY OF CI-VSP IN XENOPUS LAEVIS OOCYTES AND CHO CELLS USING FLUORESCENT PHOSPHOINOSITIDE PROBES. Svenja Mertelmeyer, Angeliki Mavrantoni, Dominik Oliver, Christian R. Halaszovich

2646-Pos  Board #B338  INTERNATIONAL TRAVEL Awardee IN-SITU DESCRIPTION OF THE ROLE OF PTDINS(3,4,5)P3 AND PTDSER ON PD1 REGULATION IN HUMAN CANCER CELLS BY ADVANCED QUANTITATIVE MICROSCOPY. Gloria de las Heras, Veronica Calleja, Banafshe Larijani, Jose Requejo-Isidro

2647-Pos  Board #B339  HER2 OVEREXPRESSION INDUCES MEMBRANE DEFORMATION THAT INCREASES CELL MOTILITY. Inhee Chung, Mike Reichelt, Don Dowbenko, Ira Mellman, Mark Sliwkowski

2648-Pos  Board #B340  CD44-BASED ADHESION AND MECHANOTRANSDUCTIVE SIGNALING ON ENGINEERED HYALURONIC ACID MATRICES. Yushan Kim, Sanjay Kumar

2649-Pos  Board #B341  REGULATION OF THE HER3/ERBB3 PSEUDOKINASE DOMAIN BY AN ATP-COMPETITIVE INHIBITOR. Peter Littlefield, Mark M. Moasser, Natalia Jura

2650-Pos  Board #B342  ARCHAZOLID-B PROVIDES ALTERNATIVE THERAPY FOR TRASTUZUMAB-RESISTANT ERBB2 POSITIVE BREAST CANCER. Tamás Lajtos, László Simon, Angelika M. Vollmar, János Szölősi, György Vereh

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Exocytosis and Endocytosis II
(Boards #B343-B359)

2651-Pos  Board #B343  RESCUE OF DOPAMINE RELEASE AND BEHAVIOR BY TRANSPLANTED NEURAL STEM CELLS IN A RAT MODEL OF PARKINSONISM. Xinjiang Kang, Huadong Xu, Li Zhou, Panli Zuo, Zijun Deng, Bing Liu, Bin Liu, Li Wang, Huiqian Dou, Feipeng Zhu, Changhe Wang, Shifang Wang, Wenlin Li, Kang Zhang, Zhuan Zhou

2652-Pos  Board #B344  FISB MEDIATED MEMBRANE FUSION DURING SPORULATION IN BACILLUS SUBTILIS. Martha Braun, Christopher Daniel Rodrigues, Thierry Doan, Jeff Coleman, David Rudner, Erdem Karatekin

2653-Pos  Board #B345  FRET BASED THERMODYNAMICS AND KINETICS INVESTIGATION OF ENDOPHILIN DIMERIZATION. Zhiming Chen, Ken Chang, Benjamin R. Capraro, Chih-Jung Hsu, Tobias Baumgart

2654-Pos  Board #B346  ENDOPHILIN RAPIDLY BENDS MEMBRANES TO PROMOTE ENDOCYTOSIS. Kumud P. Poudel, Jihong Bai

2655-Pos  Board #B347  ENDOCYTOSIS OF LIPOSOMES CONTAINING SULFO-CEREBROSIDES BY AN ASTROCYTOMAL CELL LINE: IS IT A CHARGE MEDIATED PROCESS OR DOES IT INVOLVE A SPECIFIC RECEPTOR? Elizabeth Suesca, Nathalia Bustamante, Natalia Bolaños, John Mario González, Chad Leidy
**Biophysical Society 58th Annual Meeting, San Francisco, California**

**Calcium Signaling II**  
(Boards #B360–#B378)

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(Boards #B360–#B378)

**Calcium Signaling II**  
(Boards #B360–#B378)
Calcium Fluxes, Sparks, and Waves II (Boards #B379–#B398)

2687-Pos Board #B379
LATENCY TO THE ONSET OF CALCIUM WAVES IN CARDIAC MYOCYTES IS PREDICTED BY CRITICALITY THEORY. Christopher Y. Ko, Michael Nivala, Zhilin Qu, James N. Weiss

2688-Pos Board #B380
CONTRIBUTIONS OF I(F) AND SARCOPLASMIC RETICULUM CA++ IN THE CONTROL OF SPONTANEOUS CARDIAC BEATING RATE IN MOUSE AND GUINEA-PIG. Isolm Nazarov, Wee Khang Lin, Qiong Xiao, Derek A. Tarrar

2689-Pos Board #B381
DOXORUBICIN STIMULATES THE NA+/CA++ EXCHANGER IN VENTRICULAR CARDIOMYOCYTES. Rosana A. Bassani, Alexandre P. Corrado, José W. Bassani

2690-Pos Board #B382
LOCAL CALCIUM DYNAMICS STABILIZE NCX CURRENT IN AN INTEGRATED CALCIUM CYCLING AND MEMBRANE MODEL. Anna Maltsev, Yael Yaniv, Michael Stern, Edward Lakatta, Victor Maltsev

2691-Pos Board #B383
DEPOLARIZATION OF CARDIAC MEMBRANE POTENTIAL PROMOTES CALCIUM WAVES. Daisuke Sato, Donald M. Bers

2692-Pos Board #B384
OBSERVING THE DYNAMICS OF LUMINAL AND CYTOSOLIC CALCIUM DURING IP3R-MEDIATED CALCIUM SIGNALS. Lucas Lopez, Lorena Sigaut, Silvina Ponce Dawson

2693-Pos Board #B385
INSRR ACTIVATION FACILITATES CA++ WAVE PROPAGATION IN VENTRICULAR MYOCYTES. D. Caroline Egger, Marcel Wullschleger, Hanneke Okkenhaug, H. Llewelyn Roderick, Marcel Egger

2694-Pos Board #B386
CHARACTERIZATION OF CALCIUM RELEASE EVENTS EVOKED BY INSRR ACTIVATION IN INTACT AND PERMEABILIZED ATRIAL MYOCYTES. Marcel Wullschleger, Ardo Illaste, Ernst Niggli, Marcel Egger

2695-Pos Board #B387
EXTRACTING DETAILED CA++ SIGNALING INFORMATION FROM NOISY CONFOCAL IMAGES. Ardo Illaste, Marcel Wullschleger, Miguel Fernandez - Tenorio, Marcel Egger, Ernst Niggli

2696-Pos Board #B388
INCREASED ACCURACY OF CALCIUM SPARK PARAMETER DETECTION USING HIGH-SPEED CONFOCAL MICROSCOPY. János Vincze, László Z. Szabó, Beatriz Dienes, Péter Szentesi, László Csernoch

2697-Pos Board #B389
AUTOMATED DETECTION AND ANALYSIS OF CA++ SPARKS IN X-Y IMAGE STACKS USING A NOVEL ALGORITHM IMPLEMENTED WITHIN THE OPEN-SOURCE IMAGE ANALYSIS PLATFORM, IMAGEJ. Elliot M. Steele, Derek S. Steele

2698-Pos Board #B390
QUANTITATIVE ANALYSIS OF CALCIUM SPIKES IN NOISY FLUORESCENT BACKGROUND. Radoslav Janicek, Matej Hotka, Alexandra Zahradnikova, Jr, Ivan Zahradnik, Alexandra Zahradnikova

2699-Pos Board #B391
SPARKLAB: A STATISTICALLY BASED PROGRAM TO DETECT 2D SPARKS. APPLICATION TO SMOOTH MUSCLE. Jose L. Puglisi, Manuel Navedo, Donald M. Bers, Leighton T. Izu

2700-Pos Board #B392
A CHLORIDE CHANNEL BLOCKER PREVENTS INORGANIC PHOSPHATE ACCUMULATION AND ITS EFFECTS IN THE SARCOPLASMIC RETICULUM OF FROG PERMEABILIZED SKELETAL MUSCLE FIBERS. Juan José Ferreira, Germán Pequera, Bradley Launikonis, Eduardo Ríos, Gustavo Brum

2701-Pos Board #B393
THE MBOAT FAMILY PROTEIN MITSUGUMIN 56 CONTRIBUTES TO POSTNATAL MATURATION IN THE MUSCLE SARCOPLASMIC RETICULUM. Bo Van, Miyuki Nishi, Shinji Komazaki, KI Ho Park, Daiju Yamazaki, Jianjie Ma, Hiroshi Takeshima

2702-Pos Board #B394

2703-Pos Board #B395
MODELING MITOCHONDRIAL CALCIUM DYNAMICS IN HEART. Andrew P. Wescott, W. J. Lederer, George S. B. Williams

2704-Pos Board #B396
PROPERTIES OF CALCIUM TRANSIENTS IN CARDIOMYOCYTES WITH IMPAIRED INSULIN SIGNALING. Anders Peter Larsen, Kenneth W. Spitzer

2705-Pos Board #B397
SEALING OF CARDIAC T-TUBULES LEADS TO INFUX OF TRAPPED EXTRACELLULAR CA++. Ian Moench, Anatoli N. Lopatin

2706-Pos Board #B398
ROS IN CARDIAC CALCIUM SIGNALING. Moradeke A. Bamgboye, W J. Lederer
Voltage-gated K Channels II
(Boards #B399–#B428)

2707-Pos Board #B399
CALCIUM-ACTIVATED K CHANNEL REGULATES CELL VIABILITY IN HYPERKALEMIC AND HYPOKALEMIC CONDITIONS: IMPLICATION IN THE NEUROMUSCULAR DYSORDERS. Domenico Tricarico, Antonietta Mele, Sara Calzolaro, Giulia Maria Camerino, Diana Conte

2708-Pos Board #B400
STOCHASTIC MODELING OF CA\textsuperscript{2+}-CHANNEL / BKCA-CHANNEL COMPLEXES. Daniel H. Cox

2709-Pos Board #B401
THE CYTOCHROME C-LIKE DOMAIN OF THE HUMAN BK CHANNEL. Taleh Yusifov, Rossh V. Madhvari, Riccardo Olcese

2710-Pos Board #B402
ENZYMATIC ACTIVITY OF THE HUMAN BK CHANNEL: A FUNCTION BEYOND ELECTRICAL SIGNALING. Taleh Yusifov, Nicoletta Savalli, Antonios Pantazis, Riccardo Olcese

2711-Pos Board #B403
BK β1 TRANSMEMBRANE REGIONS CRITICALLY CONTROL THE CHARACTERISTIC PHENOTYPE OF β1-CONTAINING BK CHANNEL CURRENTS. Guruprasad Kuntamallappanavar, Anna N. Bukiya, Alex M. Dopico

2712-Pos Board #B404
PHOSPHORYLATION OF A CONSTITUTIVE SERINE (S642) IN BK MEMBRANE VARIANTS CONTAINING THE ALTERNATE EXON 'SRK' ALTERS CURRENT PROPERTIES. Joshua P. Whitt, Chris Shelley, Andrea L. Meredith

2713-Pos Board #B405
UNCOVERING MITOBK\textsubscript{γ} CHANNEL MITOCHONDRIAL TRANSLOCATION MECHANISMS. Jin Zhang, Zhu Zhang, Enrico Stefani, Ligia Toro

2714-Pos Board #B406
PROTEOMIC ANALYSIS IDENTIFIES MAXIK CHANNEL INTRACELLULAR PARTNERS FROM HUMAN CORONARY ARTERY. Min Li, Zhu Zhang, Jure Marijic, Enrico Stefani, Ligia Toro

2715-Pos Board #B407
ALL-OR-NONE EFFECT OF γ, AUXILIARY SUBUNIT ON BK CHANNEL GATING. Vivian Gonzalez-Perez, Xiao-Ming Xia, Christopher Lingle

2716-Pos Board #B408
CYTOSOLIC ACTIVATION DYNAMICS IN THE KV CHANNEL PROBED BY A FLUORESCENT UNNATURAL AMINO ACID. Tanja Kalstrup, Rikard Blunck

2717-Pos Board #B409
OFFSETTING THE ELECTRIC FIELD SENSED BY K\textsubscript{+} CHANNELS THROUGH RESIDUE SUBSTITUTIONS ON TOP OF S1. Evelyn Martinez-Morales, Alain J. Labro, Dirk J. Snyders

2718-Pos Board #B410
ALLOSTERIC COUPLING OF THE INNER ACTIVATION GATE TO THE OUTER POLE OF A POTASSIUM CHANNEL. Chris Peters, David Fedida, Eric Accili

2719-Pos Board #B411
ENHANCEMENT OF C-TYPE INACTIVATION BY EXTERNAL CA\textsuperscript{2+} AND LA\textsuperscript{3+}. Clay M. Armstrong

2720-Pos Board #B412
SHAKER KV CHANNEL'S SUGAR REMOTION IN REAL-TIME. Angelica M. Lopez-Rodriguez, Gaurav Venkataraman, Miguel Holmgren

2721-Pos Board #B413
LOCKING THE OPEN STATE OF A VOLTAGE-DEPENDENT CONCATAMER POTASSIUM CHANNEL WITH METAL BRIDGES. Angel A. de la Cruz Landrau, Miguel Holmgren

2722-Pos Board #B414
MUTATIONS IN THE CAVITY AFFECT THE RATE OF SLOW INACTIVATION IN SHAKER K\textsuperscript{+} CHANNELS. Tibor G. Szanto, Oszolya Szilagyi, Florina Zakany, Gyorgy Panyi

2723-Pos Board #B415
VOLTAGE SENSOR DOMAIN MUTATIONS INVOLVED IN THE KV1.2 CHANNEL ACTIVATION VIA MD SIMULATIONS. Cristiano Amaral

2724-Pos Board #B416

2725-Pos Board #B417
CAUTION IS NEEDED IN INTERPRETATION OF ARGYCYS MUTATION + MTS REACTION IN THE S4 TRANSMEMBRANE SEGMENT OF A VOLTAGE SENSING DOMAIN (VSD) OF A VOLTAGE GATED CHANNEL: RESULTS OF QUANTUM CALCULATIONS. Alisher M. Kariev, Michael E. Green

2726-Pos Board #B418
QUANTUM CALCULATIONS SHOW HOW THE WATER AT THE GATE OF THE VOLTAGE GATED KV1.2 CHANNEL PLAYS A MAJOR ROLE IN DETERMINING CONDUCTION THROUGH THE GATE. Alisher M. Kariev, Philipa Njau, Michael E. Green

2727-Pos Board #B419
TURNING A SMALL INTO LARGE CONDUCTANCE K-CHANNEL - HOW FAR CAN WE GO? Ignacio Diaz-Franulic, Nieves Navarro, Fernando Gonzalez-Nilo, Romina V. Sepulveda, David Naranjo

2728-Pos Board #B420
AMINO ACID SUBSTITUTIONS FOR T75 IN KCNA ALTER ION SELECTIVITY. Melia Tabakhian, Van Ngo, Stephan Haas, Robert Farley

2729-Pos Board #B421
ION PERMEATION EFFICIENCY THROUGH POTASSIUM CHANNELS. David A. Kopfer, Chen Song, Ulrich Zachariae, Bert L. de Groot

2730-Pos Board #B422
STRATEGIES TO ACHIEVE SELECTIVE CONDUCTANCE IN K- AND NA- SELECTIVE ION CHANNELS. Yibo Wang, Chunfeng Zhao, Sergei Yu. Noskov

2731-Pos Board #B423
INSIGHTS INTO THE ION PERMEATION PROCESS OF HIGH AND LOW CONDUCTANCE K-CHANNELS USING NON-EQUILIBRIUM MOLECULAR DYNAMICS. Fernando D. Gonzalez-Nilo, Romina Sepulveda, David Naranjo, Daniel Aguayo, Ingrid Araya, Ignacio Varas, Felipe Bravo, Ignacio Diaz-Franulic, Valeria Marquez-Miranda

2732-Pos Board #B424
2D IR AS AN EXPERIMENTAL PROBE OF ION-INDUCED STRUCTURAL CHANGES IN KCNA. Paul Stevenson, Christoph Götz, Carlos R. Baiz, Alipasha Vaziri, Andrei Tokmakoff
K Channels, Other (Boards #B429–#B447)

K Channels, Other (Boards #B429–#B447)

NERVE GROWTH FACTOR SENSITIZES SUPERIOR CERVICAL GANGLION NEURONS TO BRADYKININ. Oscar Vivas, Martin Kruse, Bertil Hille

POSTNATAL DEVELOPMENT OF Kᵢ S CURRENTS IN CULTURED SMALL MOUSE DORSAL ROOT GANGLION (DRG) NEURONS. Glenn Regnier, Elke Bocksteins, Gerda van de vijver, Dirk J. Snijders, Pierre-Paul van Bogaert

CHARACTERIZATION OF THE SLO1 CHANNEL AS A PRINCIPAL POTASSIUM CHANNEL OF HUMAN SPERM. Nadja Mannowitz, Natasha M. Naidoo, Seung-A S. Choo, James F. Smith, Gunther Wennemuth, Polina V. Lishko

MODULATION OF SARCOLEMMAL ATP-SENSITIVE POTASSIUM CHANNELS BY ATRIAL NATRIURETIC PEPTIDE IN VENTRICULAR CARDIOMYOCYTES. Dai-Min Zhang, Yu-Fung Lin

AN INTRAMOLECULAR INTERACTION CONTROLS A RATE-LIMITING STEP IN ATP-DEPENDENT GATING OF KᵢR6.2 CHANNELS. Roger S. Zhang, Jordan Wright, Stephan A. Pless, John-Jose Nunez, Robin Y. Kim, Runying Yang, Christopher A. Ahern, Harley T. Kurata

RESCUE MECHANISMS FOR LOSS OF FUNCTION MUTATIONS HIGHLIGHT ESSENTIAL RESIDUES AT THE KᵢR6.2 CHANNEL DOMAIN INTERFACE. Jenny BW Li, Robin Y. Kim, Runying Yang, Harley T. Kurata

MECHANISM OF CARBAMAZEPINE MEDIATED RESCUE OF TRAFFICKING DEFECTIVE MUTANT Kᵢ ATP CHANNELS. Prasanna Devaraneni, Qing Zhou, Erik Olson, Show-Ling Shyng

MICROSCOPIC MECHANISMS UNDERLYING INACTIVATION IN THE KCSA AND MTHK Kᵢ CHANNELS. Florian T. Heer, Andrew S. Thomson, Brad S. Rothberg, Simon Bernèche

STRUCTURAL MODELING OF KCA3.1 CHANNEL INTERACTION WITH SMALL MOLECULES. Vladimir Varov-Yarovoy, Heike Wulf

DEVELOPMENT OF A QPATCH AUTOMATED ELECTROPHYSIOLOGY ASSAY FOR IDENTIFYING KCA3.1 INHIBITORS AND ACTIVATORS. Brandon M. Brown, David P. Jenkins, Weifeng Yu, Lars D. Lejkner, Heike Wulf

DIVERSITY IN THE PHARMACOLOGICAL PROFILE OF HETEROTETRAMERIC K₂/K₃ S CHANNELS FOR CHANNEL BLOCKERS. Jeroen I. Stas, Elke Bocksteins, Alain J. Labro, Dirk J. Snijders

SUBUNIT COMPOSITION DETERMINES γᵢ ACTIVATION OF SINGLE GIRK CHANNELS. Daniel Yakubovich, Nathan Dascal

ALCOHOL MODULATION OF A EUKARYOTIC LIGAND-GATED ION CHANNEL OF KNOWN STRUCTURE. Erika Riederer, Ozge Yoluk, James Trudell, Erik Lindahl, Adron Harris, Rebecca Howard
Ion Channels and Disease I
(Boards #B465–#B493)

2773-Pos Board #B465
LEARNING THE KINETICS OF AMYLOID β PORE IN ALZHEIMER’S DISEASE PATHOLOGY. Ghanim Ullah, Angelo Demuro, Ian Parker, John E. Pearson

2774-Pos Board #B466
INVESTIGATING HOW AB AND αSYNUCLEIN OLIGOMERS INITIALLY DAMAGE NEURONAL CELLS. Anna Drews

2775-Pos Board #B467
ACUTE EFFECTS OF β-AMYLOID (1-42) OLIGOMERS ON RAT PYRAMIDAL ENTRORHINAL NEURONS. Miguel Cuaxospa, Rosana Fiorentino, Ubaldo Garcia

2776-Pos Board #B468
DISREGULATION OF CALCIUM HOMEOSTASIS CONNECTED WITH FAMILIAL ALZHEIMER’S DISEASE. Maria Ryazantseva, Ksenia Skobeleva, Elena Kaznacheyeva

2777-Pos Board #B469
TAU PROTEIN FORMS ION CHANNELS. Rustam Azimov, Bruce L. Kagan

2778-Pos Board #B470
EDUCATION TRAVEL Awardee
ALTERATIONS IN IONIC CURRENTS AND GAP JUNCTIONAL COUPLING BY PAN-HISTONE DEACETYLASE INHIBITION. Dakshesh Patel

2779-Pos Board #B471
SELF-ASSEMBLY OF THE VIRAL CHANNEL FORMING PROTEIN VPU OF HIV-1 USING COARSE-GRANING MOLECULAR DYNAMICS SIMULATIONS. Meng-Han Lin, Wolfgang B. Fischer

2780-Pos Board #B472
ION-TRAPPING IN HCV P7 HEXAMERIC BUNDLES - A MOLECULAR DYNAMICS SIMULATION STUDY. Wolfgang B. Fischer, Yi-Ting Wang

2781-Pos Board #B473
STRUCTURE AND INHIBITION OF THE M2 PROTON CHANNEL FROM THE INFLUENZA A VIRUS. Jun Wang, Yibing Wu, William F. DeGrado

2782-Pos Board #B474
MECHANO-SENSITIVE ION CHANNELS (MCS) PROVIDE HUMAN BREAST CANCER CELLS WITH A SENSORS FOR MECHANICAL STRESS. Chouyang Li, Simin Rezania, Sarah Kammerer, Astrid Gorischek, Thomas Bauernhofer, Wolfgang Schreibmayer
2783-Pos  Board #B475
DIMINAZENE INTERACTION WITH ASIC1A CHANNELS.
Bogdan P. Amuzescu, Thomas Knott, Olaf Scheel, Dan Mihailescu, Maria Mernea

2784-Pos  Board #B476
EFFECTS OF DISEASE-ASSOCIATED MUTATIONS ON THE CONFORMATIONS OF GABA(A) RECEPTORS. Sruithi Muridaran, Reza Salari, Grace Brannigan

2785-Pos  Board #B477
PROTEIN KINASE C-THETA CONTROLS THE CLC-1 CHLORIDE CHANNEL FUNCTION AND SKELETAL MUSCLE PHENOTYPE: A BIOPHYSICAL AND GENE EXPRESSION STUDY IN PKC-THETA NULL MICE. Giulia M. Camerino, Michela De Bellis, Maria Cannone, Antonella Liantronio, Keja Musaraj, Jean-Francois Desaphy, Luca Madaro, Marina Bouchè, Sabata Pierno

2786-Pos  Board #B478
BLOCKING KCa1.1 CHANNELS INHIBITS THE PATHOGENIC FEATURES OF FIBROBLAST-LIKE SYNVOCIOTES AND TREATS RAT MODELS OF RHEUMATOID ARTHRITIS. Mark R. Tanner, Xueyou Hu, Redwan Huq, Teresina Laragione, Rajeev B. Tajhya, Frank T. Horrigan, Percio S. Gulko, Christine Beeton

2787-Pos  Board #B479
THE FUNCTIONAL SWITCH IN POTASSIUM CHANNELS IN MYOTONIC DYSTROPHY TYPE 1 IMPAIRS PROLIFERATION, MIGRATION AND FUSION DURING MYOGENESIS. Rajeev B. Tajhya, Xueyou Hu, Mark R. Tanner, Lubov Timchenko, Christine Beeton

2788-Pos  Board #B480
ALTERED GATING OF KV1.3 CHANNELS OF T LYMPHOCYTES IN SMITH-LEMIL-OPTITZ SYNDROME. Andras Balajthy, Sandor Somodi, Maria Peter, Zoltan Petho, Laszlo Vigh, Gyorgy Panyi, Peter Hajdu

2789-Pos  Board #B481

2790-Pos  Board #B482
MALIGNANT LYMPHOBLASTS IN T CELL ACUTE LYMPHOBLASTIC LEUKEMIA EXPRESS HIGH LEVELS OF KV1.3. Eva Groessinger, Lukas Weiss, Mingyi Chen, Heike Wulf, Richard Grell, Hubert Kerschbaum

2791-Pos  Board #B483
MARGINOXIN IS A NONSELECTIVE INHIBITOR OF KV1.3 CHANNELS - A COMPREHENSIVE STUDY. Adam Bartok, Agnes Toth, Peter Hajdu, Zoltan Varga, Gyorgy Panyi

2792-Pos  Board #B484
MECHANISMS OF ATP-SENSITIVE POTASSIUM CHANNEL OVERACTIVITY IN CANTU MUTANTS. Paige Cooper, Monica Sala-Rabanal, Colin Nichols

2793-Pos  Board #B485
TWO-PORE-DOMAIN TASK-1 POTASSIUM CHANNELS MODULATE PANCREATIC ISLET GLUCAGON SECRETION. Prasanna Dadi, Brooke Luo, David Jacobson

2794-Pos  Board #B486
CLONING OF EQUINE KCNH2 AND KCNQ1 AS THE BASIS FOR DIAGNOSING LONG QT SYNDROME IN HORSES. Philip J. Pedersen, Jon B. Flak, Rikke Buhl, Dan A. Klaerke

2795-Pos  Board #B487
CPOW TRAVEL Awardee

2796-Pos  Board #B488
DYNAMIC ACTION POTENTIAL CLAMP INVESTIGATION OF PRO-ARRHYTHMIC RISK OF DRUGS BINDING TO HERG POTASSIUM CHANNELS. Stefan A. Mann, Jamie I. Vandenberg

2797-Pos  Board #B489
CA2+ SENSITIVITY OF L-TYPE CALCIUM CHANNEL INACTIVATION PROBED BY CA2+ PHOTOUNCAGING—WINDOW DOW ON CALMODULINOPATHIES. Worawan Limpitikut, David T. Yue

2798-Pos  Board #B490
TRAFFICKING-DEFECTIVE Kir6.1 (KATP) MUTATIONS IN SUDDEN INFANT DEATH SYNDROME. Bi-Hua Tan, Rou-Mu Hu, Blaise Peterson, Sinisa Dovat, Michael J. Ackerman, Jonathan C. Makielski, Chunhua Song

2799-Pos  Board #B491

2800-Pos  Board #B492
INTERLEUKIN 1B MODULATES THE VENTRICULAR L-TYPE CALCIUM CURRENT THROUGH ROS SIGNALLING. Nabil El Khoury, Sophie Mathieu, Céline Fiset

2801-Pos  Board #B493
A NOVEL NA1.1 MUTATION L1613P ASSOCIATED WITH FAMILIAL HEMIPLEGIC MIGRAINE. Chunxiang Fan, Frank Lehmann-Horn, Karin Jurkat-Rott

Other Channels (Boards #B494–#B526)

2802-Pos  Board #B494
CPOW TRAVEL Awardee
A LACK OF SIGNIFICANT LIPID INTERACTIONS IN THE OPEN STATE OF MSCS IMPLIES A JACK-IN-THE-BOX TYPE CHANNEL GATING MECHANISM. Hannah R. Malcolm, Paul Blount, Joshua A. Maurer

2803-Pos  Board #B495
FOLLOWING THE GLOBAL STRUCTURAL CHANGES OF AN ION CHANNEL DURING ITS GATING BY USING A NOVEL MASS SPECTROMETRY APPROACH. Duygu Yilmaz, Albert Konijnenberg, Helgi Ingólfsson, Anna Dimitrova, Siewert J. Marrink, Frank Sobott, Armağan Koçer

2804-Pos  Board #B496
THE RATE OF OSMOTIC SHOCK DETERMINES BACTERIAL SURVIVAL. Heun Jin Lee, Maja Bialecka-Fornal, Rob Phillips

2805-Pos  Board #B497
GATING MECHANISM OF MECHANOSENSITIVE ION CHANNELS STUDIED BY CONTINUUM MECHANICS. Navid Bavi, Takeshi Nomura, Qinghua Qin, Boris Martinac
2806-Pos  Board #B498
PORE PROPERTIES OF THE HUMAN PIEZO1 CHANNEL BASED ON CATION PERMEATION. Radhakrishnan Gnanasambandam, Chilman Bae, Philip A. Gottlieb, Frederick Sachs

2807-Pos  Board #B499
EFFECT OF INFLAMMATORY MEDIATORS ON CYTOSKELETAL STRESS AND ENDOGENOUS MECHANOSENSITIVE CURRENTS IN DORSAL ROOT GANGLION NEURONS. Radhakrishnan Gnanasambandam, Frederick Sachs, Thomas Suchyna

2808-Pos  Board #B500
RESONANCE OF AMPHOTERICIN B CHANNEL ACTIVITY IN LIPIDIC MEMBRANES. Karla S. Récamier, Javier González-Damián, Iván Ortega-Blake

2809-Pos  Board #B501
MOLECULAR DYNAMICS SIMULATION STUDY OF GRAMICIDIN LIKE CHANNEL. Shima Arasteh, Mohammad Hosein Karimi-Jafari, Bahram Goliaei

2810-Pos  Board #B502
GATING BY PROTEOLYSIS: HOW PANNEXIN-1 IS MAINTAINED CLOSED BY ITS C-TERMINAL GATING PEPTIDE. David H. Hackos, Michelle Dourado

2811-Pos  Board #B503
COMPUTATIONAL STUDIES OF MOLECULAR PERMEATION THROUGH CONNEXIN26 CHANNELS. Yun Luo, Angelo R. Rossi, Taekyung Kwon, Thaddeus A. Bargiello, Andrew L. Harris

2812-Pos  Board #B504
ON THE USE OF CHEMICAL MODIFICATION TO DETERMINE CONNEXIN HEMICHEMICAL TOPOLOGY AND FUNCTION. Tong Xuhui, William Lopez, Wafaa A. Ayad, Yu Liu, Angelica Lopez-Rodriguez, Andrew L. Harris, Jorge E. Contreras

2813-Pos  Board #B505
INVESTIGATION OF ION PERMEATION THROUGH THE CX26 HEMICHEMICAL. Marina Kasimova, Alexey Shaytan, Konstantin Shaitan, Mounir Tarek

2814-Pos  Board #B506
THE RESIDUES IN THE FIRST EXTRACELLULAR DOMAIN PLAY AN IMPORTANT ROLE IN TRANSJUNCTIONAL-VOLTAGE DEPENDENT GATING AND UNITARY CONDUCTANCE OF CX50 GAP JUNCTION CHANNELS. Xiaoling Tong, Donglin Bai

2815-Pos  Board #B507
ROLE OF ANTIBIOTIC SIDE CHAINS IN UPTAKE THROUGH OMPPST1 CHANNEL FROM PROVIDENCIA STUARTII. Harsha Bajaj, Jacques-Philippe Colletier, Jean-Marie Pagès, Matteo Ceccarelli, Mathias Winterhalter

2816-Pos  Board #B508
ANTIBIOTIC TRANSPORT THROUGH PORINS. Harsha Bajaj, Matteo Ceccarelli, Kozhinjampa Radhakrishnan Mahendran, Chloé E. James, Jean-Marie Pagès, Mathias Winterhalter

2817-Pos  Board #B509

2818-Pos  Board #B510
ELECTROPHYSIOLOGICAL ANALYSIS OF PAPC MUTANTS PROVIDES INSIGHTS INTO THE MECHANISM OF PLUG DISPLACEMENT. Thieng Pham, Nadine S. Henderson, Gilles Phan, Ender Volkan, Scott Hultgren, Gabriel Waksman, David G. Thanassi, Anne H. Delcour

2819-Pos  Board #B511
RECOMBINANT PRODUCTION OF HUMAN AQUAPORIN-1 TO AN EXCEPTIONAL HIGH MEMBRANE DENSITY IN SACCHAROMYCES CEREVISIAE. Julie Bonholt, Claus Helix-Nielsen, Peter Scharff-Poulsen, Per Amstrup Pedersen

2820-Pos  Board #B512
AQUAPORIN TRAFFICKING AS A SPECIFIC REGULATORY MECHANISM TO ADJUST MEMBRANE WATER PERMEABILITY. Gabriela Amodeo, Yanef Agustin, Jozefkowicz Cintia, Marquez Mercedes, Virali Victoria, Scochera Florencia, Alleva Karina

2821-Pos  Board #B513
SELECTIVITY FILTER SCANNING OF THE HUMAN VOLTAGE GATED PROTON CHANNEL HHV1. Deri Morgan, Boris Musset, Vladimir V. Cherny, Susan M.E. Smith, Kethika Kulleperuma, Sindhu Rajan, Régis Pomès, Thomas E. DeCourcey

2822-Pos  Board #B514
THE PERMEATION PATHWAY MECHANISM IN CIONA INTESTINALIS HV CHANNEL. Ester Otarola, David E. Baez-Nieto, Gustavo Contreras, Osvaldo Yañez, Karen Castillo, Peter Larsson, Ramon Latorre, Carlos Gonzalez

2823-Pos  Board #B515
MECHANISM OF NON-SELECTIVITY IN NAK CHANNEL. Van Ngo, Hainu Wu, Stephan Haas, Robert Farley

2824-Pos  Board #B516
STATISTICS OF SIMULATED ION CHANNELS. Prashant Srinivasan, Rishabh Kumar, Luis A. Palacio, Horia I. Petracek

2825-Pos  Board #B517
SCREENING FOR INFLUX THROUGH MEMBRANE PROTEINS ON THE SINGLE-MOLECULE LEVEL USING AN AUTOMATED AND PARALLEL LIPID BIAYER PLATFORM. Mohamed Kreir, Matthias Beckler, Astrid Seifert, Conrad Weichbrodt, Gerhard Baaken, Bert Van Den Berg, Jan C. Behrends, Niels Fertig

2826-Pos  Board #B518
MOLECULAR DYNAMICS SIMULATION OF FAST WATER TRANSPORT THROUGH AQUAPORIN-MIMIC NANOPORES. Dai Tang, Daejoong Kim

2827-Pos  Board #B519
1/F FLUCTUATIONS OF AMINO ACIDS GENERATE NON-POISSON WATER TRANSPORTATION IN AQP1. Eiji Yamamoto, Takuma Akimoto, Yoshinori Hirano, Masato Yasui, Kenji Yasuoka

2828-Pos  Board #B520
THERMODYNAMICS OF WATER ENTRY IN AQUAPORINS. Amir Barati Farimani, Emad Tajkhorshid, Narayana Aluru

2829-Pos  Board #B521
ION TRANSPORT MODELLING FOR QUALITY ASSESSMENT OF TRANSMEMBRANE PROTEIN STRUCTURES. Monika Kurczyńska, Witold Dyrka, Bogumil M. Konopka, Małgorzata Kotulska
Cardiac Muscle II
(Boards #B527–#B558)

2830-Pos  Board #B522
BIOPHYSICAL PROPERTIES OF CX40 MUTANTS LINKED TO ATRIAL FIBRILLATION. Virgis Valiunas, Ana Santa Cruz, Laima Valiuniene, Gulistan Mese, Thomas W. White, Peter R. Brink

2831-Pos  Board #B523  INTERNATIONAL TRAVEL AWARDEE
THE MITOCHONDRIAL PERMEABILITY TRANSITION IN SACCHAROMYCES CEREVISIAE IS CONTROLLED BY HEXOSE PHOSPHATES FROM THE GLYCOLYTIC PATHWAY. Monica Rosas-Lemus, Natalia Chiquez-Felix, Salvador Uribe-Carvajal

2832-Pos  Board #B524
ANO1 - A CANDIDATE FOR ANGIOTENSIN-II-ACTIVATED CALCIUM DEPENDENT CHLORIDE CHANNEL IN HUMAN ATRIAL FIBROBLASTS. Antoun El Chemaly, Caroline Norez, Christophe Magaud, Aurelien Chatelier, Patrick Bois

2833-Pos  Board #B525
EMERGING ELECTROPHYSIOLOGY OF FACULTATIVE BACTERIAL PATHOGENS. Ian Rowe, Vladislav Belyy, Andriy Anishkin, Herman Sintim, Anwar Huq, Sergei Sukharev

2834-Pos  Board #B526
THE COUPLING OF TENSION AND CROWDING SENSING IN THE BACTERIAL CHANNEL MSCs. Andriy Anishkin, Ian Rowe, Sergei Sukharev

2835-Pos  Board #B527
THERMAL ACTIVATION OF CARDIAC THIN FILAMENTS INDUCES CONTRACTION WITHOUT INTRACELLULAR CA2+ CHANGES: STUDIES WITH CARDIOMYOCYTES AND AN IN VITRO MOTILITY ASSAY. Kotaro Oyama, Shuya Ishii, Tomomi Araii, Seine A. Shintani, Hideki Itoh, Norio Fukuda, Madoka Suzuki, Shinichi Ishiwa

2836-Pos  Board #B528
FASTER CROSS-BRIDGE RELAXATION RATES CORRELATE WITH INCREASED TENSION COST IN HCM WITH THE R403Q MYH7 MUTATION. Rosalie Witjjas-Paalberends, Claudia Ferrara, Beatrice Scellini, Judith Montag, Ger Stienen, Theresa Kraft, Michelle Michels, Carolyn Ho, Corrado Poggesi, Jolanda van der Velden

2837-Pos  Board #B529
THE R403Q MUTATION ALTERS ISOMETRIC AND ENERGETIC PROPERTIES IN 2 MONTH MICE. Camille Birch, John Konhilas

2838-Pos  Board #B530
THE R435C MUTATION IN THE HUMAN BETA MYOSIN MOTOR DOMAIN ALTERS THE ATP-BINDING AND HYDROLYSIS STEPS. Mariève Bloemink, John Deacon, Stephen Langer, Carlos Vera, Ariana Combs, Leslie Leinwand, Michael A. Geeves

2839-Pos  Board #B531
SPECTROSCOPIC SYSTEM FOR CHARACTERIZATION OF HUMAN β-CARDIAC MYOSIN. Anja M. Swenson, Donald A. Winkelmann, Christopher M. Yengo

2840-Pos  Board #B532
DIFFERENCES IN ACTIVATION AND RELAXATION KINETICS OF HUMAN FETAL SKELETAL AND CARDIAC MYOFIBRILS. Alice Ward Racca, Anita E. Beck, Michael J. Bamshad, Michael Regnier

2841-Pos  Board #B533
IMPROVED LOADED IN VITRO MOTILITY ASSAY AND ACTIN FILAMENT TRACKING SOFTWARE DELINEATES THE EFFECT OF HYERTROPHTIC AND DILATED CARDIOMYOPATHY MUTATIONS ON THE POWER OUTPUT OF CARDIAC MYOSIN. Toral Alsed, Masataka Kawana, Arjun Adhikari, Shirley Sutton, Kathleen Ruppel, James Spudich

2842-Pos  Board #B534
MODULATION OF THE CARDIAC SARCOMERE BY A SMALL MOLECULE AGENT MYK0000461: A POTENTIAL THERAPEUTIC FOR THE TREATMENT OF GENETIC HYERTROPHTIC CARDIOMYOPATHIES. Hector M. Rodriguez, Stephanie Whitman-Cox, Raja Kawa, Yonghong Song, Arvinder Sran, Johan Oslob

2843-Pos  Board #B535
BIOPHYSICAL ANALYSIS OF THE PUTATIVE HEART FAILURE DRUG OMECAMTIV MECARBIL. Joseph M. Muretta, Ewa Prochniewicz, David D. Thomas

2844-Pos  Board #B536
THE EFFECT OF MYOSIN REGULATORY LIGHT CHAIN PHOSPHORYLATION ON THE STIFFNESS OF a AND β MYOSIN. Gerrie P. Farman, Jeffery R. Moore

2845-Pos  Board #B537
THE EFFECT OF MYOSIN REGULATORY LIGHT CHAIN PHOSPHORYLATION ON N47K MUTANT MYOSIN MECHANICS. Anastasia Karabina, Priya Muthu, Katarzyna Kazmierczak, Danuta Szczesna-Cordary, Jeffrey Moore

2846-Pos  Board #B538
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ORIENTAL PLANT ALKALOIDS ORIENTALIS EXTRACTS EFFECTS ON ENTEROCOCCAL MEMBRANE-ASSOCIATED PROPERTIES.
Anna Poladyan, Zaruhi Vardanyan, Margarit Petrosyan, Armen Trchounian

BRIIDING A GAP BETWEEN CYTOCHROME BC1 COMPLEX STRUCTURE AND FUNCTION.
Pekka A. Postila, Oana Crumariuc, Sanja Piwyry, Karol Kaszuba, Ilpo Varttaininen, Marcin Sarewicz, Artur Osyczka, Tomasz Rög

Vanessa V. Galassi, João P. Camargo da Silva, Guilherme Menegon Arantes

COMPUTATIONAL STUDIES OF ELECTRON TUNNELING IN RESPIRATORY COMPLEX III.
Muhammad A. Hagras, Tomoyuki Hayashi, Alexei A. Stuchebrukhov

THE ROLES OF THE HIGHLY CONSERVED AMINO ACID RESIDUES VAL236 AND GLY232 IN THE LIGAND CHANNEL OF BA\(_{4}\), CYTOCHROME C OXIDASE FROM THERMUS THERMOPHILUS.
Chie Funatogawa, Yang Li, Ying Chen, Istvan Szundi, James A. Fee, C. David Stout, Olof Einarsdottir

Jennifer A. Cassano, Sylvia Choi, Terra Villa Gawboy, Robert B. Gennis, Olof Einarsdottir

STUDY OF A RESPIRATORY SUPERCOMPLEX FROM THE LOW GC FIRMICUTE GEOBACILLUS STEAROTHERMOPHILUS.
Lucie Bergdoll, Frauke Baymann, Daniel Picot

ENHANCING ELECTRON TRANSFER FORM PHOTOSYNTHETIC REACTION CENTERS TO ELECTRODES BY EXPOSING QUINONE BINDING POCKET.
Chang Sun, Colin A. Wright

MIDPOINT POTENTIAL OF THE INTERPOLYPEPTIDE [4Fe-4S] CLUSTER FX IN REACTION CENTERS FROM HELIOBACTERIUM MODESTALDUM.
Bryan Ferlez

ELECTRIC FIELD ASYMMETRY IN THE PHOTOSYNTHETIC REACTION CENTER.
Miguel Saggu, Steven G. Boxer

CU-TO-CU ELECTRON TUNNELING IN COPPER MONOOXYGENASES.
Agostino Migliore, David N. Beratan

EXPONENTIAL DISTANCE DECAY OF ELECTRON TRANSFER RATES WITHOUT TUNNELING: A Flickering Resonance MODEL FOR TRANSPORT.
David N. Beratan

SQUEEZING OR STRETCHING MOLECULES AS A POSSIBLE WAY TO FACILITATE ELECTRON TRANSFER.
Helen G. Hansma
Mitochondria in Cell Life and Death II (Boards #B673–#B688)

2987-Pos   Board #B679
SPERMINE SELECTIVELY INHIBITS HIGH-CONDUCANCE BUT NOT LOW-CONDUCANCE MODE OF THE MITOCHONDRIAL PERMEABILITY TRANSITION PORE (MPTP). Pia A. Elustondo, Evgeny V. Pavlov

2988-Pos   Board #B680
CONTROL OF MITOCHONDRIAL CA\textsuperscript{2+} UPTAKE THRESHOLD VIA THE MICU1:MCU RATIO. Tünde Golenár, György Csordás, Gergő Szanda, Cynthia Moffat, Erin L. Seifert, András Spät, György Hajnóczky

2989-Pos   Board #B681
REGULATION OF MITOCHONDRIAL OUTER AND INNER MEMBRANE FUSION COUPLING. David Weaver, Xingguo Liu, Gyorgy Hajnoczky

2990-Pos   Board #B682
MITOCHONDRIAL DYNAMICS IN NEONATAL AND ADULT CARDIOMYOCYTES. Veronica Eisner, Ryan Capo, Csordas Gyorgy, Lan Cheng, Walter Koch, Gyorgy Hajnoczky

2991-Pos   Board #B683
PURINE NUCLEOTIDES SIMILARLY REGULATE UNCOUPLING PROTEIN 3 AND 1. Gabriel Pürstinger, Anne Rupprecht, Melanie Köhler, Peter Hinterdorfer, Elena E. Pohl

2992-Pos   Board #B684
QUANTIFICATION OF MITOCHONDRIAL UCP3 EXPRESSION IN MOUSE TISSUES. Karolina E. Hilse, Anne Rupprecht, Anastasia Kalinovich, Irina G. Shabalina, Elena E. Pohl

2993-Pos   Board #B685
MITOCHONDRIAL UNCOUPLING AND THERMOGENESIS IN BEIGE FAT. Ambre M. Bertholet, Anne Rupprecht, Melanie Köhler, Peter Hinterdorfer, Elena E. Pohl

2994-Pos   Board #B686
UCP2 OVEREXPRESSION WORSENS MITOCHONDRIAL DYSFUNCTION AND ACCELERATES DISEASE PROGRESSION IN A MOUSE MODEL OF AMYOTROPHIC LATERAL SCLEROSIS. Pablo M. Peixoto, Hyun-Jeong Kim, Giovanni Manfredi

2995-Pos   Board #B687
UCP2 MODULATES MITOCHONDRIAL CALCIUM UNIPORTER. Lukas Jaroslav Motloch, Robert Larbig, Tina Gebing, Sara Reda, Stephanie Weichselbaumer, Daniela Kokoschinegg, Astrid Schwaiger, Martin Wolny, Uta C. Hoppe

2996-Pos   Board #B688
UCP2 MODULATES CELLULAR EXCITATION CONTRACTION COUPLING VIA MITOCHONDRIAL CALCIUM UPTAKE. Robert K. Larbig, Lukas J. Motloch, Tina Gebing, Sara Reda, Eva Deininger, Astrid Schwaiger, Martin Wolny, Uta C. Hoppe

Cellular Pathways and Networks: Prokaryotic and Eukaryotic (Boards #B689–#B705)

2997-Pos   Board #B689
REGULATORY FEEDBACK PROGRAMS IN THE APOPTOTIC DECISION-MAKING OF HER2-POSITIVE BREAST CANCER CELLS IN RESPONSE TO HER2 INHIBITION. Christina Sutera, Mercedes A. Duran-Paez, Elizabeth Haughney, Azad Guewa, Marc R. Birr twistle, Marc Y. Fink
2998-Pos  Board #B690
TEMPORAL REGULATION OF ERK ACTIVITY BY LIGHT REVEALS A MEMORY EFFECT IN PC12 CELL NEURITE OUTGROWTH. Kai Zhang, Liting Duan, Quanxiang Ong, Ziliang Lin, Pooja Mahendra Varman, Kijung Sung, Biaoxiao Cui

2999-Pos  Board #B691
USING OPTICALLY REVERSIBLE SPATIAL MUTATIONS TO DISSECT THE ASYMMETRIC DEVELOPMENTAL PROGRAM OF A BACTERIUM. Keren Lasker, Aaron Abraham, W. Seth Childers, Lucy Shapiro

3000-Pos  Board #B692
RECONSTITUTION OF THE ENVZ/OMPR BACTERIAL SIGNALING SYSTEM USING SUPPORTED LIPID BILAYERS. Yong Hwee Foo, Kahir Hassan Biswas, Jay Groves, Linda J Kenney

3001-Pos  Board #B693
TOWARD A SPATIALLY-RESOLVED MODEL OF METABOLISM IN DENSE BACTERIAL COLONIES. John A. Cole, Zaida Luthey-Schulten

3002-Pos  Board #B694
SINGLE-MOLECULE SUPER-RESOLUTION IMAGING OF TCPP DYNAMICS IN VIBRIO CHOLERAE IN RESPONSE TO VIRULENCE PATHWAY DEACTIVATION BY INCREASED CELL DENSITY. David J. Rowland, Hannah Tuson, Victor DiRita, Julie S. Biree

3003-Pos  Board #B695
GROWING YEAST INTO CYLINDRICAL COLONIES. Clément Vulin, Pascal Hersen

3004-Pos  Board #B696
UNRAVELLING THE SIZE SENSING MECHANISM IN BUDDING YEAST. Kurt M. Schmoller, Jonathan J. Turner, Jan M. Skorheim

3005-Pos  Board #B697
INFLUENCE OF EXTRACELLULAR MATRIX STIFFNESS ON MICRO-RNA EXPRESSION IN HUMAN TRABECULAR MESHWORK CELLS. Thomas Wecker, Hong Han, Susanne Kneitz, Franz Grehn, Günther Schlunck

3006-Pos  Board #B698
CONTROL OF CELL EXCITABILITY THROUGH MICROTUBULE NETWORK. Takuma Degawa, Satomi Matsuoka, masahiro ueda

3007-Pos  Board #B699
ESTRADIOL ACTIVATES AMPK THROUGH INTERACTION WITH ESTROGEN RECEPTOR BETA. Yulia Lipovka, John P. Konhilas

3008-Pos  Board #B700
SIMULATIONS OF THE STRUCTURAL SWITCH IN PKM2 MEDIATING THE WARBURG EFFECT IN CANCER. Michael E. Colvin, Fabian V. Filipp

3009-Pos  Board #B701
PUTATIVE PROGRAMMED CELL DEATH PATHWAY OF THE MALARIA PARASITE AND THE ROLE OF CYTOCHROME C. Patrick Finneran, Nicholas Darinzo, Judith H. Prieto

3010-Pos  Board #B702
A COMPUTATIONAL MODEL OF ASTROCYTE POTASSIUM BUFFERING AND BIDIRECTIONAL SIGNALING IN THE NEUROVASCULAR UNIT. Alexandra E. Witthoft, Jessica A. Filosa, George E. Karniadakis

3011-Pos  Board #B703
MEMBRANE PATTERNS CARRY ONTOGENETIC INFORMATION THAT IS SPECIFIED INDEPENDENTLY OF DNA. Jonathan Wells

3012-Pos  Board #B704
EXPRESSION AND PURIFICATION OF A GRAS DOMAIN OF RICE GRAS PROTEIN, SLR1, SUITABLE FOR STRUCTURAL ANALYSIS. Tomomi Sato, Yohei Miyanoiri, Mitsuhiro Takeda, Rie Mitani, Ko Hirano, Masatsune Kainoshio, Makoto Matsuoka, Hiroaki Kato, Miyako Ueguchi-Tanaka

3013-Pos  Board #B705
BUILT-IN REGULATORY MECHANISMS AND ACTIVE SITE PLASTICITY OPEN THE DOOR FOR ENGINEERING THE STYRENE CATABOLIC PATHWAY. George T. Gassner, Sophia Chu, Lisa Cox, Nonye Okonokwo, Juan Pena, Andrew Skinner, Phi Truong, Kristine Vilaneuava, Alessandro Maggi

**Sensory Receptors** (Boards #B706–#B710)

3014-Pos  Board #B706
MECHANICAL AMPLIFICATION BY NON-OSCILLATING SACULAR HAIR CELL BUNDLES. Yuttana Roongthumskul, Dolores Bozovic

3015-Pos  Board #B707
BARRIERS IN THE BRAIN: MORPHOLOGY AND CONFINEMENT AS BARRIER FOR LATERAL DIFFUSION IN DENDRITIC SPINES. Remy Kusters, Cornelis Storm

3016-Pos  Board #B708
CHARACTERIZATION OF CALCIUM CURRENT AND EXOCYTOSIS IN ZEBRAFISH LATERAL LINE HAIR CELLS DURING DEVELOPMENT. Caizia Lv, Joseph Santos-Sacchi, David Zenisek

3017-Pos  Board #B709
MAGNETIC FIELD EFFECTS ON GEOTACTIC RESPONSES IN DROSOPHILA MELANOGASTER. Timothy Ma

3018-Pos  Board #B710
THE CLONING AND EXPRESSION OF WHOOPING CRANE PHOTOPIGMENTS. Ifeolu Akinnola, Elelbin Ortiz, Devyani Ujla, Robert McCready, Evan Cameron, Alexandra Kingston, Megan Porter, Thomas Cronin, Phyllis Robinson

**Electron Microscopy** (Boards #B711–#B731)

3019-Pos  Board #B711
INTERNATIONAL TRAVEL AWARD RECIPIENT. Haibo Jiang

3020-Pos  Board #B712
A TIME-RESOLVED CRYO-EM STUDY OF RIBOSOME SUBUNIT ASSOCIATION BY MIXING-SPRAYING. Bo Chen, Ming Sun, Bingxin Shen, Zonghuan Lu, David Barnard, Toh-Ming Lu, Ruben Gonzalez, Joachim Frank

3021-Pos  Board #B713
VISUALIZING BIOLOGICAL SAMPLES IN LIQUID SOLUTION BY ELECTRON MICROSCOPY. Gang Ren, Lei Zhang, Zhuoyang Lu, Bo Peng, Ed Wong, Dongsheng Lei, Meng Zhang, Matthew J. Rames
Biophysical Society 58th Annual Meeting, San Francisco, California

3022-Pos Board #B714
CRYO-EM STUDIES OF DRP1 SELF-ASSEMBLY PROVIDE INSIGHTS INTO THE MECHANISM OF MITOCHONDRIONAL FISSION. Frances JD Alvarez, Christopher A. Francy, Jason A. Mears

3023-Pos Board #B715
CRYO-TOMOGRAPHY OF VITRIFIED BACTERIAL AND HUMAN CELLS BY SCANNING TRANSMISSION ELECTRON MICROSCOPY. Sharon G. Wolf, Lorhar Houben, Michael Elbaum

3024-Pos Board #B716
COMPRESSED SENSING METHODS FOR ELECTRON TOMOGRAPHY OF CELLULAR STRUCTURE. Matthew D. Guay, Wojciech Czaja, Richard D. Leapman

3025-Pos Board #B717
HELMICAL ORGANIZATION OF COAGULATION FACTOR VIII ON LIPID NANOTUBES. Svetla Stoilova-McPhie, Jamiey Miller, Daniela Dalm, Kirill Grushin

3026-Pos Board #B718
ANSWERING REAL BIOLOGICAL QUESTIONS BY COMBINING CRYO-TEM, XRD AND NMR. Eric Hnath, Marc Storms, Jeff Lengyel, Thomas Wohlfarth

3027-Pos Board #B719
ZERNIKE PHASE-CONTRAST ELECTRON TOMOGRAPHY OF MICROTUBULE-RELATED COMPLEXES IN AXONEMES. Haixin Sui, Radostin Danev, Rebecca Fisher, Jie He, Chyongere Hsie, Michael Marko

3028-Pos Board #B720
FLEXIBLE FABS IN THE REFINEMENT OF COMPLEXES BY SINGLE-PARTICLE TRANSMISSION ELECTRON MICROSCOPY. Ryan MB Hoffman, Andrew B. Ward

3029-Pos Board #B721
RESOLVING THE STRUCTURAL BASIS OF FACTOR VIII ACTIVATION. Daniela Dalm, Kirill Grushin, Alexey Y. Koyfman, Jamiey Miller, Svetla Stoilova-McPhie

3030-Pos Board #B722
OPENING WINDOWS INTO THE CELL: FOCUSED-ION-BEAM MILLING FOR CRYO-ELECTRON TOMOGRAPHY. Elizabeth Villa, Mirosława Schaffer, Jürgen M. Plitzko, Wolfgang Baumeister

3031-Pos Board #B723

3032-Pos Board #B724
STRUCTURAL VISUALIZATION OF MITOTIC CYCLE BY THREE-DIMENSIONAL FOCUSED ION BEAM-SCANNING ELECTRON MICROSCOPE (FIB-SEM) WITH NANOSCALE RESOLUTION AT WHOLE CELL LEVEL. Rina Nagai, Keisuke Ohta, Asuko H. Iwane

3033-Pos Board #B725
OVERCOMING PATCH-POTENTIAL EFFECTS ON THE SURFACES OF TEM PHASE-CONTRAST DEVICES. Robert M. Glaeser

3034-Pos Board #B726
SUBSTRATE EFFECTS ON STRUCTURAL STUDIES USING CRYO-EM. Lige Tonggu, Liguo Wang

3035-Pos Board #B727

3036-Pos Board #B728
A CRYO-EM STRUCTURE OF A MINIMAL TRANSLATION INITIATION SYSTEM: DELETION IN SELF-SUFFICIENT IRES PREVENTS TRANSLOCATION. Amy Jobe, Marisa D. Ruehle, Jeffrey S. Kieft, Joachim Frank

3037-Pos Board #B729
SERIAL BLOCK-FACE SCANNING ELECTRON MICROSCOPE FOR NANOSCALE CHARACTERIZATION OF TISSUE ULTRA-STRUCTURE. Charlotte R. Pfeifer, Andre Shomorony, Guofeng Zhang, Maria A. Aronova, Richard D. Leapman

3038-Pos Board #B730
EXAMINING DRP1 CONFORMATIONAL CHANGES AND DOMAIN INTERACTIONS IN THE MITOCHONDRIAL FISSION COMPLEX USING CRYO-EM. Christopher A. Francy, Chris Frölich, Oliver Daumke, Jason A. Mears

3039-Pos Board #B731
STRUCTURE DETERMINATION OF SMALL MACROMOLECULAR COMPLEXES BY CRYO-ELECTRON MICROSCOPY. Alberto Bartesaghi, Jason Pierson, Prashant Rao, Soojay Banerjee, Mario Borgnia, Lingbo Yu, Lesley Earl, Michael Alink, Jacqueline Milne, Sriram Subramaniam

Optical Microscopy and Super Resolution Imaging III (Boards #B732–#B761)

3040-Pos Board #B732
EXPLOITING BINDING KINETICS OF FLUORGEN ACTIVATING PEPTIDES TO ENHANCE PHOTOSTABILITY: APPLICATIONS TO LIVE CELL SINGLE MOLECULE IMAGING. Saumya Saurabh, Victor R. Mann, Lauren E. Beck, Ming Zhang, Andrea Costello, Marcel P. Bruchez

3041-Pos Board #B733
QUANTITATIVE RETARDANCE IMAGING USING QUADRI-WAVE LATERAL SHEARING INTERFEROMETRY (QWSLI). Sherazade Aknoun, Pierre Bon, Julien Savatier, Benoit Wattellier, Serge Monneret

3042-Pos Board #B734
QUANTIFICATION OF COLocalisation; CO-occurrence, CORRELATION, EMPTY VOXELS, REGIONS OF INTEREST AND THRESHOLDING. Jeremy Adler, Ingela Parmryd

3043-Pos Board #B735
NANOSCALE PROTEIN DIFFUSION BY STED-BASED SPATIOTEMPORAL FLUORESCENCE CORRELATION SPECTROSCOPY. Paolo Bianchini, Francesco Cardarelli, Mariagrazia Di Luca, Alberto Diaspro, Ranieri Bizzarri

3044-Pos Board #B736
MOUSE RETINA IMAGING BY MEANS OF INVERTED SELECTIVE PLANE ILLUMINATION MICROSCOPY (ISPIM). Zeno Lavagnino, Francesca Cella Zanacchi, Luca Lanzanò, Alberto Diaspro

3045-Pos Board #B737
TOMOGRAPHIC INCOHERENT PHASE IMAGING, A DIFFRACTION TOMOGRAPHY ALTERNATIVE. Sherazade Aknoun, Benoit Wattellier, Pierre Bon, Serge Monneret
3046-Pos Board #B738
ACCURATE HIGH THROUGHPUT BRIGHT FIELD BEAD TRACKING USING GPU HARDWARE. Jelmer Cnossen, David Dulin, Nynke H. Dekker

3047-Pos Board #B739
SUPER-RESOLUTION MICROSCOPY OF CELLS EXPRESSING RHABDOVIRUS PROTEINS. Toby D M Bell, Donna R. Whelan, Aaron Brice, Gregory W. Moseley

3048-Pos Board #B740
INVESTIGATION OF HYBRID LIPID-POLYMER GUVS BY FLUORESCENCE CORRELATION SPECTROSCOPY. Jan Ebenhan, Stefan Werner, Matthias Schulz, Wolfgang Binder, Kirsten Bacia

3049-Pos Board #B741
TEMPORAL FOCUSING, LINE AND POINT-SCANNING TWO-PHOTON FLUORESCENCE MICROSCOPY FOR IN VIVO IMAGING: A COMPARATIVE STUDY OF SIGNAL LEVELS AND BLEACHING RATES. Jules Girard, Erwin JG Peterman

3050-Pos Board #B742
REAL-TIME MONITORING OF MRNA DECAY IN LIVING CELLS. Kohki Okabe, Yoshiie Harada, Takashi Funatsu

3051-Pos Board #B743
SINGLE-BACTERIAL PROFILING AND IDENTIFICATION BASED ON QUANTITATIVE PHASE IMAGING. YoungJu Jo, Jaehwang Jung, Hyunjoop Park, YongKeun Park

3052-Pos Board #B744
ANALYSIS OF HETEROGENEOUS NADH FLUORESCENCE IN LIVE CELLS DURING HYPOXIA. Vinod Jyothikumar, Ammasi Periasamy

3053-Pos Board #B745

3054-Pos Board #B746
A NEW EFFICIENT IMPLEMENTATION OF 2PE-STED MICROSCOPY. Iván Coto Hernández, Paolo Bianchini, Chiara Peres, Gustavo De Miguel, Alberto Diaspro, Giuseppe Vicidomini

3055-Pos Board #B747
DUAL COLOR STED MICROSCOPY WITH ULTRAFAST PHOTON COUNTING. Yong Wu, Xundong Wu, Rong Lu, Ligia Toro, Enrico Stefani

3056-Pos Board #B748
EFFICIENT ROI SELECTION FOR MULTI-EMITTER FITTING APPROACHES IN SINGLE-MOLECULE SUPER-RESOLUTION MICROSCOPY. David Baddeley

3057-Pos Board #B749
HIGHLY EFFICIENT HIV-1 ENTRY MEDIATED BY NONSPECIFIC VIRION-CELL INTERACTIONS QUANTIFIED BY REAL-TIME SINGLE PARTICLE IMAGING. Michael C. DeSantis, Jamie L. Austin, Wei Cheng

3058-Pos Board #B750
DEVELOPMENT OF STABLE SMALL QUANTUM DOTS FOR AMPA RECEPTOR TRACKING AT NEURONAL SYNAPSES. En Cai, Pinghua Ge, Sang Hak Lee, Yong Wang, Okunola Jeyifous, Sung Jun Lim, Andrew M. Smith, William N. Green, Paul R. Selvin

3059-Pos Board #B751
THERMODYNAMICALLY DRIVEN BLINKING FOR SUPER-RESOLUTION MICROSCOPY. Susan Gayda, Richard Haack, Joseph P. Skinner, Qiaoqiao Ruan, Richard J. Himmelsbach, Sergey Y. Teten

3060-Pos Board #B752
MULTIPLEXED IMAGING OF OSTEOCYTES IN BONE. LeAnn M. Tiede-Lewis, Yixia Xie, Sarah E. Dallas

3061-Pos Board #B753
STRUCTURAL STUDIES BY CORRELATIVE STOCHASTIC OPTICAL RECONSTRUCTION MICROSCOPY AND ELECTRON MICROSCOPY. Dprpy Kim, Miriam Bujny, Xiaowei Zhuang

3062-Pos Board #B754
4D MULTIPLEXED FUNCTIONAL IMAGING IN DEEP TISSUE. Ming Zhao, Xiaoyang Wan, Weibin Zhou, Leilei Peng

3063-Pos Board #B755
DESIGN AND IMPLEMENTATION OF 3D FOCUS STABILIZATION FOR FLUORESCENCE MICROSCOPY. Karl Bellve, Clive Standley, Lawrence Lifshitz, Kevin Fogarty

3064-Pos Board #B756
OPTICALLY MODULATED FLUORESCENT PROTEINS ENHANCE SENSITIVITY IN LIVE CELL IMAGING. Amy E. Jablonski, Irina Issaeva, Yen-Cheng Chen, Jung-Cheng Hsiang, Russell B. Vehg, Pritha Bagchi, Bettina Bommarius, Andreas S. Bommarius, Laren M. Tolbert, Christoph J. Fahrni, Robert M. Dickson

3065-Pos Board #B757
MECHANISMS OF MULTIPHOTON BLEACHING OF RED FLUORESCENT PROTEINS. Mikhail Drozhzhev, Caleb Stolz, Thomas Hughes, Igor Topol, Lauren M. Barnett, Geoffrey R. Wicks, Aleksander Rebane

3066-Pos Board #B758
QUANTITATIVE IMAGING OF PROTEIN SECRETIONS FROM SINGLE CELLS IN REAL TIME. Marc Raphael, Joseph Christodoulides, James Delehanty, James Long, Jeff Byers

3067-Pos Board #B759
A FLUORESCENCE APPROACH TO DISCRIMINATION OF AGGREGATED AMYLOID PROTEINS. Kevin J. Cao, Kristyna Elbel, Christina Sigurdson, Emmanuel Theodorakis, Jerry Yang

3068-Pos Board #B760
LIVE SYNAPTIC MAPPING OF VERTEBRATE WHOLE BRAIN WITH LIGHT SHEET MICROSCOPY AND ENDΟGENOUSLY LABELED SYNAPSIN-2B PROTEIN. Andrey Andreev, John M. Choi, Le A. Trinh, Thai V. Truong, Scott E. Fraser

3069-Pos Board #B761
A MULTI-EMITTER LOCALIZATION COMPARISON OF 3D SUPERRESOLUTION IMAGING MODALITIES. Sheng Liu, Keith A. Lidke

Molecular Dynamics II
(Boards #B762–#B785)
3071-Pos Board #B763
IDENTIFYING LOCAL REGIONS OF ORDER AND DISORDER IN FG-NUCLEOPORINS AND PARTIALLY DISORDERED PROTEINS USING MOLECULAR DYNAMICS SIMULATIONS. Timothy G. Connolly, David Ando, Robert L. Wang, Ajay Gopinathan, Shawn D. Newsam, Michael E. Colvin

3072-Pos Board #B764
HOW STRUCTURAL FLUCTUATIONS OF THE ATP POCKET INFLUENCE THE CATALYTIC CYCLE OF FAK. Florian Herzog, Vogel Viola

3073-Pos Board #B765
MOLECULAR DYNAMICS SIMULATIONS OF LASER-INDUCED AND PH-INDUCED UNFOLDING IN β-LACTOGLOBULIN AT DIFFERENT HYDRATION LEVELS. James E. Parker, Aaron F. Hoffman, Robert J. Thomas, Lorenzo Brancaleon

3074-Pos Board #B766
IN SILICO DYNAMICS OF CARBON MONOXIDE IN THE ACTIVE SITE POCKET OF NITROGENASE. Leland B. Gee, Igor Leontyev, Stephen P. Cramer, Frauke Gräter,

3075-Pos Board #B767
STUDYING THE EFFECTS OF METHIONINE OXIDATION ON HUMAN FIBRIN WITH MULTISCALE SIMULATIONS. Patrick R. Burney, Jim Pfandtner

3076-Pos Board #B768
DATABASE GUIDED EXPLORATION TO DETERMINE NATIVE LIGANDS FOR ORPHANED ODORANT RECEPTORS. Sarana Nutanong, Kyle Wong, Yanif Ahmad, Jen Pluznick, Blythe Shepard, Thomas W. Woolf

3077-Pos Board #B769
PROBING DIFFUSIVE AND ENERGETIC ASPECTS OF RIBOSOME FUNCTION. Jeff K. Noel, Vitor B.P. Leite, Jorge Chahine, Paul C. Whitford

3078-Pos Board #B770
PROTEIN-LIGAND BINDING SIMULATION WITH THE MARTINI COARSE-GRANED FORCE FIELD. Tatsuki Negami, Kentaro Shimizu, Tohru Terada

3079-Pos Board #B771
LOCAL DYNAMICS OF FRET DYES IN AN INTRINSICALLY DISORDERED PROTEIN STUDIED BY MD SIMULATIONS. Reinhard Klement, Helmut Grubmuller

3080-Pos Board #B772
COMPARISON OF SIDE-CHAIN MOTION OF CALBINDIN D-9K IN ITS FOUR CALCIUM BINDING STATES BY MOLECULAR DYNAMICS SIMULATION. Mahendra B. Thapa, Mark Rance

3081-Pos Board #B773
AN ALLOSTERIC SIGNALING PATHWAY OF HUMAN 3-PHOSPHOGLYCERATE KINASE. Zoltan Palmai, Christian Seifert, Frauke Gräter, Erika Balog

3082-Pos Board #B774
ENHANCED SAMPLING OF THE CATALYTIC DOMAIN OF THE ADENYL CYCLASE CYAA FROM BORDETELLA PERTUSSIS. Isido Cortes Crianzo, Guillaume Bouvier, Michael Nilges, Luca Maraglino, Therese E. Malliavin

3083-Pos Board #B775
SYNTHESIS AND MODELING OF NOVEL α-AMINOALKYLPHOSPHONATE ESTER DERIVATIVES AS POTENT INHIBITORS OF PROSTATE-SPECIFIC ANTIGEN; A COMPARISON STUDY. Arben Kojtari, Haifeng Ji

3084-Pos Board #B776
MOLECULAR DYNAMICS STUDIES: THE EFFECT OF PHOSPHORYLATION IN SACCHARIDE TRANSPORTER SYSTEM. Jumin Lee, Wonpil Im

3085-Pos Board #B777
COMPARISON OF METRICS OF INTER-STRUCTURE DISTANCE WHEN APPLIED TO MOLECULAR DYNAMICS SIMULATIONS OF INTRINSICALLY DISORDERED PROTEINS. Robert L. Wang, Timothy G. Connolly, Joshua L. Phillips, Amanda V. Miguel, Ajay Gopinathan, Shawn D. Newsam, Michael E. Colvin

3086-Pos Board #B778
MOLECULAR DYNAMICS-BASED PREDICTIONS OF THE STRUCTURAL AND FUNCTIONAL DIFFERENCES BETWEEN THE CARDIAC AND NOVEL SLOW-SKELETAL ISOFORMS OF ZEBRAFISH TROPONIN C. Charles M. Stevens, Christine E. Genge, Cindy Li, Glen F. Tibbits

3087-Pos Board #B779
HIGH PRESSURE EFFECT ON A HELICAL PEPTIDE STUDIED BY SIMULATED TEMPERING MOLECULAR DYNAMICS SIMULATIONS. Yoshiharu Mor, Hisashi Okumura

3088-Pos Board #B780
CONSTANT DOMAIN OF FAB FRAGMENT AFFECTS ANTI-GEN BINDING OF ANTIBODIES: MOLECULAR DYNAMICS STUDY. Keiko Shinoda, Hideaki Fujitani

3089-Pos Board #B781
A SMALL CHEMICAL MIMICKING ACTIN BINDING TO MYOSIN AND PUTATIVE STRUCTURAL CHANGES OF MYOSIN MOLECULE UPON LIGAND BINDING. Takayuki Miyaniashi, IO Omotuyi, Taku Yamaguchi

3090-Pos Board #B782
FREE ENERGY SIMULATIONS FOR THE CONFORMATIONAL CHANGE OF THE αβ SUBUNITS IN F1-ATPASE AFTER THE ATP HYDROLYSIS. Yuko Ito, Mitsunori Ikekuchi

3091-Pos Board #B783
MOLECULAR DYNAMICS STUDY OF CONSERVED WATER MOLECULES IN PRPC AND PATHOLOGICAL POINT MUTATION T188R. Katsufumi Tomobe, Eiji Yamamoto, Takuma Akimoto, Masato Yasui, Kenji Yasuoka

3092-Pos Board #B784
CHARACTERISATION OF THE PRION PROTEIN OLIGOMERISATION BY MD SIMULATIONS AND SMALL ANGLE X-RAY SCATTERING. Nesrine Chakroun, Stéphanie Prigent, Human Rezaei, Marc Malfois, Cécile A. Dreiss

3093-Pos Board #B785
ACCELERATE LATERAL EQUILIBRATION IN MIXED LIPID BILAYERS USING REPLICA EXCHANGE WITH SOLUTE TEMPERING. Kun Huang, Angel E. Garcia

CD and Vibrational Spectroscopy
(Boards #B786–#B794)

3094-Pos Board #B786
ION-PROTEIN INTERACTION IN CHANNEL AND PUMP PROTEINS STUDIED BY FTIR SPECTROSCOPY. Yuji Furutani

3095-Pos Board #B787
MEASURING PROTEIN DYNAMICS AND MECHANISM USING INFRARED SPECTROSCOPY. Curtis W. Meuse
3096-Pos  Board #B788
A NOVEL MICROFLUIDIC MIXER UTILIZING INFRARED IMAGING SPECTROSCOPY WITH A SUBMILLISECOND MIXING TIME. Drew P. Kise

3097-Pos  Board #B789
ULTRA FAST RAMAN HYPERSONTAL IMAGING USING BRAGG TUNABLE FILTERS AND A HIGH PERFORMANCE EMCCD CAMERA. Félix Thouin, Frédéric Leblond, Richard Martel, Marc Verhaegen, Olivier Duigle

3098-Pos  Board #B790
DIFFERENCE FT-IR STUDIES ON THE EFFECTS OF BUFFERS ON NUCLEOTIDE BINDING TO RECA. Joshua Temple

3099-Pos  Board #B791

3100-Pos  Board #B792
ULTRAFAST WATER DYNAMICS IN BACTERIORHODOPSIN. Philipp Alt, Miriam Colindres-Rojas, Rolf Diller

3101-Pos  Board #B793
A NEW METHOD FOR ANALYSIS OF TEMPERATURE DEPENDENT IR AMIDE I SPECTRA OF PEPTIDES AND PROTEINS. Jan Kubelka

3102-Pos  Board #B794
COMPUTING THEORETICAL CIRCULAR DICHRÖISM OF PROTEINS USING THE DIPOLE INTERACTION MODEL, (DINAMO) WITH A UNITED ATOM APPROACH. Rahul Nori, Igor V. Uporov, Neville Y. Forfem, Yvonne E. Bongfen, Tsvetan Aleksandrov, Kathryn A. Thomasson

Bioengineering (Boards #B795–#B824)

3103-Pos  Board #B795
PHOTOREGULATION OF SMALL G PROTEIN KRAS USING PHOTOCHROMIC MOLECULES. Seigo Iwata, Shinsaku Maruta

3104-Pos  Board #B796
STRUCTURAL COMPLEMENTATION OF THE CATALYTIC DOMAIN OF PSEUDOMONAS EXOTOXIN A. Erin L. Boland, Crystal M. Van Dyken, Rachel M. Duckett, Andrew J. McCluskey, Gregory M. Poon

3105-Pos  Board #B797
FIBRIN FIBERS: BLOCKING THE B:B KNOB-POCKET INTERACTION. Stephen Baker, Ashley Carson-Brown, Martin Guthold, Thomas Barker

3106-Pos  Board #B798
PRINCIPLES FOR THE RATIONAL DESIGN OF ALLOSTERICALLY COOPERATIVE BIOMOLECULAR RECEPTORS. Anna J. Simon, Alexis Valle-Belisle, Francesco Ricci, Herschel M. Watkins, Kevin W. Plaxco

3107-Pos  Board #B799
NECKING AND FAILURE OF CONSTRAINED CONTRACTILE 3D MICROTISSUES INDUCED BY CELL DERIVED TENSION. Vivek B. Shenoy, Hailong Wang, Alexander A. Svoronos, Thomas Boudou, Jeffrey R. Morgan, Christopher S. Chen

3108-Pos  Board #B800
THE ROLE OF EXTRACELLULAR ENVIRONMENT IN REGULATION OF CELLULAR RESPONSE TO ELECTRIC FIELD. Toloo Taghian, Abdol Q. Sheikh, Daria Narmonova, Andrei Kogan

3109-Pos  Board #B801
ORBITAL SHAKING PROMOTED VASCULAR ELASTOGENESIS IN CULTURED RAT AORTIC SMOOTH MUSCLE CELLS. Ryosuke Shiraishi, Kiyotaka Iwasaki, Takashi Aida, Shumpei Saito, Nur Khatijah Mohd Zin, Shoji Takeoka, Mitsuo Umezu, Susumu Minamisawa

3110-Pos  Board #B802
DYNAMICS OF BIO-INSPIRED PRESSURE GENERATION. Thomas B. H. Schroeder, Brandon R. Bruhn, Suyi Li, Yazen N. Billeh, K. W. Wang, Michael Mayer

3111-Pos  Board #B803
CELLULAR FATE DECISION BY AUTOCRINE AND PARACRINE IN TUMOR. SoonGweon Hong, Luke Lee

3112-Pos  Board #B804
NUMERICAL MODELING OF NANOPARTICLES DOSAGE IN ISOLATED AND SUBCUTANEOUS TUMORS. Wan-I Chang, Win-Li Lin, Tsuy-Leng Horng, Cheng-Ying Chou

3113-Pos  Board #B805
APPLICATION OF CUP SHAPED SUPERPARAMAGNETIC HEMISPHERES FOR SIZE SELECTIVE CELL PURIFICATION. Hyonchol Kim, Hideyuki Terazono, Hiroyuki Takei, Kenji Yasuda

3114-Pos  Board #B806
MOLECULAR DYNAMICS STUDY OF SELF-ASSEMBLED LIPID NANO-PARTICLES FOR DRUG DELIVERY. Dmitri Rozmanov, Peter Tielemann

3115-Pos  Board #B807
MOLECULAR THEORY OF PROTEIN SORPTION ON WEAK POLYELECTROLYTE GEL-MODIFIED CHARGED SURFACE. Claudio F. Narambuena, Gabriel Longo, Igal Szleifer

3116-Pos  Board #B808
ANTIBODY-BASED MAGNETIC NANOPARTICLE IMMUNOASSAY FOR QUANTIFICATION OF SALIVARY BETA-AMYLOID PEPTIDES. Chang-Beom Kim, Ki-Bong Song

3117-Pos  Board #B809
SYNTHESIS OF GRAPHENE-BASED NANOMATERIALS FOR BIOSENSING. Yong Ju Yun, Ki-bong Song

3118-Pos  Board #B810
SELECTIVE NUCLEAR ACID CAPTURE WITH SHIELDED COVALENT PROBES. Jeffrey Vieregg, Niles A. Pierce

3119-Pos  Board #B811

3120-Pos  Board #B812
SYNTHETIC MEMBRANE CURVATURE-INDUCING DNA ORIGAMI SCAFFOLDS. Henri G. Franquelim, Veikko Linko, Aleksander Czogalla, Hendrik Dietz, Petra Schwille

3121-Pos  Board #B813
ON-CHIP FAST PLASMONIC DETECTION OF SINGLE MOLECULE MiRNA FOR CANCER DIAGNOSIS. Julian A. Diaz
Micro- and Nanotechnology II (Boards #B825–#B854)

3133-P  Board #B825
STUDIES ON INTRACELLULAR DELIVERY OF THIOL-CAPPED CdTe NANOCRYSTALS MEDIATED BY LIPOSOMES IN MESENCHYMAL STEM CELLS. Maria B. Seabra, Mong-Jen Chen, Ahmed S. Elshikhha, Sihong Song, Vivaldo Moura Neto, Adriana Fontes, Beate S. Santos, Guenther Hochhaus

3134-P  Board #B826
EFFICIENCY STUDIES IN SUPERCritical FLUID CHROMATOGRAPHY: IMPORTANCE OF THERMAL DIFFUSIVITY NEAR THE CRITICAL POINT. Shawn C. Helmueller, Donald P. Poe
A KINESIN DRIVEN ENZYME LINKED IMMUNOSORBANT ASSAY (ELISA) FOR ULTRA LOW PROTEIN DETECTION APPLICATIONS. Jenna Campbell, Dibyadeep Paul, Katsu K. Kurabayashi, Edgar Meyhofer

MIMICKING APOPTOSIS USING ASYMMETRIC LIPOSOMES: A THERAPEUTIC APPROACH AGAINST HIV-1 INFECTION. Andrea Gramatica, Roberto A. Petazzi, Maik J. Lehmann, Joanna Ziomkowska, Andreas Herrmann, Salvatore Chiantia

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A NOVEL METHOD FOR HIGH THROUGHPUT FORMATION OF LIPID MEMBRANE ARRAYS. Naoki Soga, Rikiya Watanabe, Hiroyuki Noji

FORMATION OF A GEL-SUPPORTED LIPID MEMBRANE ARRAY ON A MICROPATTERNED SUBSTRATE. Aya Tanaka, Hiroshi Nakashima, Yoshiaki Kashimura, Koji Sumitomo

PARALLEL RECONSTITUTION OF BACTERIAL TOXINS, PORINS AND ION CHANNELS INTO SUSPENDED LIPID MEMBRANE MICROARRAYS FOR HIGH-THROUGHPUT ELECTROPHYSIOLOGY. Ekaterina Zaitseva, Liviu Movileanu, Bert van den Berg, Frank Bernhard, Christopher Hein, Gerhard Baaken, Jan C. Behrends

A MINIATURIZED SINGLE CHANNEL AMPLIFIER FOR VARIOUS DIFFERENT ELECTROPHYSIOLOGY SETUP. Federico Thei, Michele Rossi, Marco Bennati, Marco Crescentini, Marco Tartagni

DESIGN PRINCIPLES FOR NANOPARTICLES ENVELOPED BY A POLYMER-TETHERED LIPID MEMBRANE COAT. Markus Deserno, Mingyang Hu

NANOPARTICLE LAYER FORMATION, STRUCTURE AND INTERACTIONS WITH MODEL MEMBRANES. Kaisa E. Lilja, Maiju Pykönä

CELLULAR BINDING OF CHARGED NANOPARTICLE-PROTEIN COMPLEXES. Candace C. Fleischer, Christine K. Payne

PROBING OSTEOARTHROSIS BIOMARKERS WITH MAGNETIC NANOCACTES. Elena G. Yarmola, Zachary A. Kaufman, David P. Arnold, Yash Shah, Bettina Koszinski, Alexandra Garraud, Jon P. Dobson, Kyle D. Allen

MAGNETIC NANOCACTEDELIVERY SYSTEM FOR MUCUS LAYER PENETRATION. Kathrin Spender, William Townend, Evangelos Economou, Joshua Baptist, Robert Camley, Hong W. Chu, Zbigniew Celinski

GATE CONTROL OF MESOPOROUS SILICA WITH α-SYNUCLEIN-COATED Au NANOCACTES VIA PARTICLES-ON-A-PARTICLE ASSEMBLY. Daekyun Lee, Je Won Hong, Seung R. Paik

CONTROLLED SOLID-STATE SYNTHESIS OF MRI EFFECTIVE SUPERPARAMAGNETIC MAGHEMITE NANOCACTES FROM IRON(II) ACETATE. Katerina Polakova, Jiri Pechousek, Jiri Tucek, Jan Filip, Roman Kubineck, Radek Zboril, Petr Paucek

EFFECT OF NANOPARTICLES IN TOP CONSUMERS. Karin Mattsson, Lars Anders Hansson, Sara Linse, Anders Malmendal, Tommy Cedervall

METHANE CARBON NANOCACTES: SYNTHESIS, CHARACTERIZATION, AND SINGLET OXYGEN PRODUCTION. Rachel Taylor, Chris Geddes

ADVANCED SPIM MICROSCOPY TOWARDS THE STUDY OF NANOPARTICLE UPTAKE CONSEQUENCE ON SMALL ORGANISMS. Marta d'Amora, Francesca Cella Zanacchi, Zeno Lavagnino, Gaser Nagah Abdelrasoul, Francesca Pennacchietti, Alberto Diaspro

GENE DELIVERY TO CANCER CELLS WITH METAFACTENE AND ITS DERIVATIVES: NANOPARTICLE TRACKING ANALYSIS OF LIPOPLEXES. Senait Gebremedhin, Stephen Koons, William Bernt, Nejat Düzgünès
**Wednesday, February 19, 2014**

**Daily Program Summary**

All rooms are located in the MOSCONE CONVENTION CENTER unless noted otherwise.

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<td>SOLID-STATE NMR STRUCTURAL MEASUREMENTS AND MODELS OF THE HIV AND INFLUENZA FUSION PROTEINS IN MEMBRANES. David P Weliky</td>
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<td>HOW SNARE ASSEMBLY AND FOLDING MAY DRIVE MEMBRANE FUSION. Lukas K. Tamm</td>
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<td>STRUCTURAL REARRANGEMENT OF THE EBOLA VIRUS VP40 PROTEIN BEGETS MULTIPLE FUNCTIONS IN THE VIRUS LIFE CYCLE. Erica Ollmann Saphire</td>
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<td>DIRECT EVIDENCE FOR SISTER KINETOCHORE FUSION IN MEIOSIS I. Sue Biggins</td>
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<td>INTRINSIC AND EXTRINSIC NOISE IN THE FLAGELLAR LENGTH CONTROL SYSTEM. Wallace Marshall</td>
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<td>A CELL'S LIFE UNDER CONFINEMENT: GROWTH, DIVISION AND MIGRATION WHEN SPACE IS LIMITED. Matthieu Piel</td>
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Wednesday, February 19

8:00 AM–11:00 AM, Room 124
New Council Meeting

8:00 AM–12:00 PM, Room 300
Career Center

8:00 AM–12:00 PM, Rotunda, 300 Level
Undergraduate Student Lounge

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. Members of the Education Committee, which sponsors this lounge, will stop by to answer questions student attendees may have about career paths and opportunities.

8:00 AM–3:00 PM, Marriott Marquis, Pacific H, I, J
Child Care

8:00 AM–3:00 PM, Hall D
Poster Viewing

8:00 AM–3:30 PM, Room 112
Family Room

8:15 AM–10:15 AM, Room 134
Symposium
Myosin Motors in Vitro and in Cells

Co-Chairs
Michelle Peckham, University of Leeds, United Kingdom
Margaret Titus, University of Minnesota

3163-Symp 8:15 AM
UNRAVELLING THE PROPERTIES OF SINGLE α-HELICAL DOMAINS IN MYOSIN AND OTHER PROTEINS. Marcin Wolny, Matthew Batchelor, Francine Parker, Thomas Baboolal, Gregory Mashanov, Justin Mollov, Emanuele Paci, Lorna Dougan, Peter J. Knight, Michelle Peckham

3164-Symp 8:45 AM
MYTH-FERM MYOSINS HAVE ROLES IN REGULATING ACTIN POLYMERIZATION. Karl J. Petersen, Laura M. Breshears, Anne Heun, Gant W.G. Luston, Margaret Titus

3165-Symp 9:15 AM
DIRECTED ACTIN ASSEMBLY AND CONTRACTILITY. Laurent Blanchon

No Abstract 9:45 AM
HOW ACTIN FILAMENT ELONGATORS PAVE THE ROAD FOR MYOSIN. Jan Faix

8:15 AM–10:15 AM, Room 135
Symposium
Biophysics of Genetic Switches

Co-Chairs
Laurea Finzi, Emory University
Ido Golding, Baylor College of Medicine

3166-Symp 8:15 AM
A QUANTITATIVE NARRATIVE FOR THE LIFE CYCLE OF BACTERIOPHAGE LAMBDA. Ido Golding

3167-Symp 8:45 AM
LONG-RANGE DNA LOOPING IN THE LAMBDA GENETIC SWITCH. Keith Shearwin, Lun Cui, Iain Murchland, Ian B. Dodd

3168-Symp 9:15 AM
GENETIC SWITCHES AND TRANSCRIPTIONAL REGULATION: INSIGHTS FROM SINGLE MOLECULES. Laura Finzi

No Abstract 9:45 AM
AN INTEGRATED SYSTEM CONTROLS THE GENETIC CIRCUITRY THAT DRIVES A BACTERIAL CELL CYCLE. Lucille Shapiro

8:15 AM–10:15 AM, Room 130/131
Platform
Ion Channel Regulatory Mechanisms

Chair
Mark Shapiro, University of Texas Health Science Center at San Antonio

3169-Plat 8:15 AM
CFTR CLUSTERING AND TETHERING IN CERAMIDE-PLATFORMS IN RESPONSE TO POST-INFECTION PKC STIMULATION. Asmahan AbuArish, Elvis Pandzic, Paul W. Wiseman, John W. Hanrahan

3170-Plat 8:30 AM
ORAI PORE MUTATIONS AND CALCIUM-DEPENDENT INACTIVATION. Franklin M. Mullins, Michelle Yen, Richard S. Lewis

3171-Plat 8:45 AM
CONSERVATION OF CALMODULIN REGULATION ACROSS SODIUM AND CALCIUM CHANNELS. Manu Ben Johny, Philemon S. Yang, Jacqueline Niu, Wanjun Yang, Rosy Joshi-Mukherjee, David T. Yue

3172-Plat 9:00 AM
DISCOVERY AND CHARACTERIZATION OF A DISTINCT CYCLIC NUCLEOTIDE BINDING POCKET IN HCN CHANNELS. Anna Moroni, Marco Lolicato, Annalisa Bucchi, Cristina Arrigoni, Stefano Zucca, Marco Nardini, Katie Simmons, Marco Aquila, Frank Schwede, Gerhard Thiel, Martino Bolognesi, Dario DiFrancesco

3173-Plat 9:15 AM
MEMBRANE ASYMMETRY: KEY TO PHOSPHOHISTIDINE (4,5)-BISPHOSPHATE REGULATION OF TRPV1. Anastasia Stratiievksa, Eric N. Senning, Marcus D. D. Collins, Carmen A. A. Ufret-Vincenty, Sharona E. Gordon

3174-Plat 9:30 AM
USE-DEPENDENT ACTIVATION OF KV1.2 CHANNEL COMPLEXES. Victoria Baronas, Brandon McGuinness, Yury Y. Vlin, Robin Kim, Runying Yang, Harley T. Kurata

3175-Plat 9:45 AM
FUNCTIONAL COUPLING IN NOCICEPTIVE SENSORY NEURONS BETWEEN IP3 RECEPTORS AND THE CALCIUM-ACTIVATED ANO1(TMEM16A) CHLORIDE CHANNEL. Xin Jin, Shihab Shah, Yani Liu, Huiran Zhang, Meredith Lees, Zhaojun Fu, Jonathan D. Lippiat, David J. Beech, Asipu Sivaprasadarao, Stephen A. Baldwin, Hailin Zhang, Nikita Gamper

3176-Plat 10:00 AM
ION CHANNEL - ION CHANNEL INTERACTION AT ATOMIC RESOLUTION. Elwin van der Crijissen, Koen Visscher, Joao Rodrigues, Alexandre Bonvin, Marc Baldus, Markus Weingarth
8:15 AM–10:15 AM, ROOM 132/133

Platform

Neurons: Modeling, Synaptic Transmission, and Optogenetics

Co-Chairs
Guido Zampighi, University of California, Los Angeles, School of Medicine
Neda Najafinobar, Chalmers University of Technology, Sweden

3177-PLAT 8:15 AM
Using a cell model to study the effect of cholesterol on exocytosis. Neda Najafinobar, Lisa Mellander, Mike E. Kurczy, Ann Sofie Cans

3178-PLAT 8:30 AM
BDNF modulates presynaptic functions at a central synapse. Maryna Baydruk, Xinsheng Wu, Jiansong Sheng, Liming He, Ling-Gang Wu

3179-PLAT 8:45 AM
Synapses between interneurons in the rat cerebral cortex at 2nm resolution and in three-dimensions. Guido A. Zampighi, Julio Vergara

3180-PLAT 9:00 AM
SY1 acts as a clearance factor for SYB2 at the presynapse. Anne Gauthier-Kemper, Rajit Rajappa, Martin Wiemhöfer, Cora S. Thiel, Jana Hüve, Jürgen Klingauf

3181-PLAT 9:15 AM
Single molecule motion maps of open and desensitization states of nicotinic acetylcholine receptors. Hiroshi Sekiguchi, Maki Tokue, Yuri Nishino, Kouhei Ichiyanagi, Naoto Yagi, Atsuo Miyazawa, Tai Kubo, Yuji C. Sasaki

3182-PLAT 9:30 AM
Photoswitching HCN channels in degenerated retina neurons. Vadim E. Degtyar, Ivan Tochitsky, Caleb Smith, Richard H. Kramer

3183-PLAT 9:45 AM
Development of a red genetically-encoded voltage indicator and its use with channelrhodopsin for all-optical electrophysiology. Ahmed S. Abdelfattah, Jelena Platisa, Yongxin Zhao, Vincent A. Pieribone, Robert E. Campbell

3184-PLAT 10:00 AM
Optogenetic stimulation of channelrhodopsin-2 expressing neurons flips cortical networks from low to high activity state. Parijat Sengupta, Lindsay Fague

8:15 AM–10:15 AM, ROOM 303

Platform

Cardiac, Smooth, and Skeletal Muscle Electrophysiology

Co-Chairs
Glenna Bett, State University of New York
Gil Bub, University of Oxford, United Kingdom

3185-PLAT 8:15 AM
Myocyte stretch slows cardiac conduction by a caveolae-dependent increase in sarcolemmal capacitance. Emily Pfeiffer, Adam Wright, Andrew Edwards, Jennifer Stowe, Katie McNall, Justin Tan, Hemal Patel, Jeffrey Omens, Andrew McCulloch

8:15 AM–10:15 AM, ROOM 304

Platform

Micro- and Nanotechnology II

Co-Chairs
Stefan Howorka, University College London, United Kingdom
Ian Derrington, University of Washington

3186-PLAT 8:30 AM
Electrical propagation of three-dimensional engineered hearts using decellularized extracellular matrix. Haruyo Yasui, Jong-Kook Lee, Akira Yoshida, Teruki Yokoyama, Junichi Nakai, Issei Komuro

3187-PLAT 8:45 AM
Spatiotemporal transitions in cardiac neuronal co-cultures. Rebecca AB Burton, Guy Stephens, Amy Sharkey, Sam Milton, Hege Larsen, Helger Kramer, Carla Schmidt, Claudia Molina, Dan Li, Gary Mirams, Carol Robinson, David Paterson, Gil Bub

3188-PLAT 9:00 AM
Voltage and calcium coupling in the genesis of cardiac afterdepolarizations. Zhen Song, Alain Karma, Hrayr S. Karaguezian, James N. Weiss, Zhihui Qu

3189-PLAT 9:15 AM
Education travel awardee correlation between ventricular repolarisation patterns and T-wave generation in isolated rabbit hearts using panoramic imaging. Andrew Allan, Godfrey Smith, Francis Burton

3190-PLAT 9:30 AM
Enhanced differentiation of stem cell derived cardiac myocytes by electronic expression of IK1 reveals an atrial-specific KV1.5-like current. Aaron D. Kaplan, Agnieszka Lis, Thomas R. Cimato, Emmanuel S. Tzanakakis, Qinlian Zhou, Michael J. Morales, Randall L. Rasmussen, Glenna C.L. Bett

3191-PLAT 9:45 AM
PLB drives the kinetics of the Ca2+ clock in mouse isolated sinoatrial nodal cells and the intrinsic heart rate in vivo. Syevda Sirenko, Ismayil Ahmet, Edward G. Lakatta

3192-PLAT 10:00 AM
Burst pacemaker activity in NCX1 knockout mice: Is it funny current? Angelo Giovanni Torrente, Audrey Zaini, Ashley Rosenberg, Rui Zhang, Jeanney Kang, Kenneth D. Philipson, Joshua I. Goldhaber

8:15 AM–10:15 AM, ROOM 305

Platform

Biophysical Society 58th Annual Meeting, San Francisco, California
3196-PLAT  9:00 AM  EDUCATION TRAVEL AWARDEE
ELECTROFORMATION OF UNIFORMLY SIZED GIANT LIPOSOMES WITH FUNCTIONAL MEMBRANE PROTEINS.  You Jung Kang, Harrison S. Wostein, Sheereen Majd

3197-PLAT  9:15 AM  DNA SENSING WITH THE MSPA NANOPORE USING VARIABLE VOLTAGE.  Ian M. Derrington, Kyle W. Langford, Andrew H. Laszlo, Elizabeth Manrao, Henry Brinkerhoff, Jacqlynn E. Blum, Jens H. Gundlach

3198-PLAT  9:30 AM  SHRINKING NANOCAPILLARIES TO LOW NOISE NANOPORES FOR SINGLE MOLECULE DETECTION.  Lorenzo M. Steinbock, Swati Krishnan, Roman Bulushev, Aleksandra Radenovic

3199-PLAT  9:45 AM  NOVEL QUANTUM DOT PROBES FOR SINGLE-MOLECULE BIOPHYSICS.  Sara M. Wichner, Mark A. DeWitt, Bruce E. Cohen, Ahmet Yildiz

3200-PLAT  10:00 AM  SPLIT-FP CONJUGATED METAL NANOPARTICLE RAMAN NANOPROBES FOR ULTRA-SENSITIVE MOLECULAR DETECTION.  Tugba Koker, Fabien Pinaud

8:15 AM–10:15 AM, ROOM 305
Platform
Membrane Structure

Co-Chairs
Edward Lyman, University of Delaware
Gerhard Groebner, Umeå University, Sweden

3201-PLAT  8:15 AM  SUPERRESOLUTION MICROSCOPY REVEALS NANOMETER-SCALE REORGANIZATION OF MG53 ASSOCIATED WITH MEMBRANE REPAIR.  Mingzhi Sun, Jiaqing Huang, Kristyn Gumpper, Gejing De, Matthew Sermersheim, Pei-Hui Lin, Haichang Li, Pu Duann, Jianjie Ma

3202-PLAT  8:30 AM  INVESTIGATING THE CELL MEMBRANE VIA SINGLE PARTICLE TRACKING, BAYESIAN INFERENCE AND HYDRODYNAMIC FORCE APPLICATION.  Maximilian U. Richly, Silvan Türkcan, Cedric Bouzigues, Michel R. Popoff, Jean-Baptiste Masson, Jean-Marc Allain, Antigoni Alexandrou

3203-PLAT  8:45 AM  THE MOLECULAR STRUCTURE OF THE LIQUID ORDERED PHASE.  Edward R. Lyman, Alex SoD, Klaus Gawrisch, Richard Pastor

3204-PLAT  9:00 AM  A LIPOP DI BOUND ACTIN MESHWORK ORGANIZES LIQUID PHASE SEPARATION IN MODEL MEMBRANES.  Alf Honigmann, Sina Sadeghi, Keller Jan, Stefan W. Hell, Christian Eggeling, Richard Vink

3205-PLAT  9:15 AM  THE IMPACT OF OXIDIZED PHOSPHOLIPIDS ON LIPOP DI MEMBRANES: CONSEQUENCES FOR MITOCHONDRIAL APOPTOSIS.  Martin Lidman, Sarka Pokorna, Marcus Wallgren, Martin Hof, Gerhard Groebner

3206-PLAT  9:30 AM  EDUCATION TRAVEL AWARDEE
G-PROTEIN-COUPLED RECEPTOR ACTIVATION INVESTIGATED USING SMALL-ANGLE NEUTRON SCATTERING.  Suchithranga M. D. C. Perera, Usatsh Shretha, Udeep Chawla, Andrey V. Struts, Shuo Qian, Michael F. Brown, Xiang-Qiang Chu

3207-PLAT  9:45 AM  MEMPROTM: MEMBRANE PROTEIN STRUCTURES AND SIMULATIONS.  Phillip J. Stansfeld, Mark S. P. Sansom

3208-PLAT  10:00 AM  STRUCTURES OF BLOOD COAGULATION FACTOR VIII IN SOLUTION AND MEMBRANE-BOUND.  Alexey Y. Koyfman, Jaimy L. Miller, Daniela Dalm, Kirill Grushin, Svetla Stoilova-McPhie

8:15 AM–10:15 AM, ROOM 306
Platform
Dynamics of Ligand Binding and Coupled Motions

Co-Chairs
Vanessa Ortiz, Columbia University
Jinhui Tian, Oak Ridge National Laboratory

3209-PLAT  8:15 AM  MAPPING ALLOSTERIC COMMUNICATION PIPELINES IN GPCRS FROM MICROSECOND TIMESCALE MOLECULAR DYNAMICS SIMULATIONS.  Supriyo Bhattacharya, Nagarajan Vaidehi

3210-PLAT  8:30 AM  MOLECULAR DYNAMICS SIMULATIONS OF THE CATALYTIC SUBUNIT OF PROTEIN KINASE A REVEAL NEW INSIGHT INTO THE CATALYTIC PROCESS.  Jianhui Tian, Loukas Petridis, William T. Heller

3211-PLAT  8:45 AM  OXYGEN-AFFINITY OF HEMOGLOBIN IS REGULATED BY EFFECTOR-LINKED DYNAMIC MODULATIONS OF HIGH-FREQUENCY THERMAL FLUCTUATIONS.  Takashi Yonetani

3212-PLAT  9:00 AM  DISCOVERING AND MANIPULATING PROTEIN CONFORMATIONAL HETEROGENEITY AND FUNCTION.  Daniel Keeley, Henry van den Bedem, Justin Rettenmaier, James Wells, James Fraser

3213-PLAT  9:15 AM  DETERMINATION OF THE INDIVIDUAL ROLES OF THE LINKER RESIDUES IN THE INTER-DOMAIN MOTIONS OF CALMODULIN USING NMR CHEMICAL SHIFTS.  Predrag Kukic, Carlo Camilloni, Andrea Cavalli, Michele Vendruscolo

3214-PLAT  9:30 AM  THE ROLE OF PROTEIN DYNAMICS IN CALMODULIN TARGET RECOGNITION.  Laurel Hoffman, Xu Wang, Margaret S. Cheung, John A. Putkey, M. Neal Waxham

3215-PLAT  9:45 AM  INSIGHTS INTO ALLOSTERY FROM THE LOCAL ELASTIC CONSTANTS OF A PROTEIN.  Andre A. S. T. Ribeiro, Vanessa Ortiz

3216-PLAT  10:00 AM  A SUBSTRATE CHANNEL IN NITROGENASE REVEALED BY A MOLECULAR DYNAMICS APPROACH.  Dayle M. Smith, Simone Raugei, Karamarullah Danyal, Lance Seefeldt

9:00 AM–1:00 PM, HALL D
Biomolecular Discovery Dome

10:30 AM–11:15 AM, HALL D
Coffee Break
10:30 AM–12:30 PM, HALL D
Poster Presentations and Late Posters
(For a complete listing of regular Wednesday Poster Presentations, see page 173.)

The list of Wednesday Late Posters is in the Program addendum.

Posters will be on display from 8:00 AM–3:00 PM. Authors with odd-numbered boards will present from 10:30 AM–11:30 AM, and those with even-numbered boards will present from 11:30 AM–12:30 PM. Additional hours may be posted by the authors as desired. Paper may also be left on the board so that visitors may request an appointment.

Posters should be mounted beginning at 7:00 AM on Wednesday and removed by 3:00 PM. Posters 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.

10:30 AM–12:30 PM, HALL D
Meet the Speakers/Meet the Editors
All attendees are invited to take advantage of this opportunity to meet the speakers and Biophysical Journal editors who are the leading experts in their field, to ask questions, and to foster interactions and collaborations. Attend the session for a chance to win a Kindle Paperwhite.

12:30 PM–3:00 PM, ROOM 122
Publications Committee Meeting

1:00 PM–3:00 PM, ROOM 134
Symposium
Structures of Membrane Fusion
Co-Chairs
Erica Ollmann Saphire, The Scripps Research Institute
David Weliky, Michigan State University

3217-SYMP  1:00 PM
SOLID-STATE NMR STRUCTURAL MEASUREMENTS AND MODELS OF THE HIV AND INFLUENZA FUSION PROTEINS IN MEMBRANES. David P. Weliky

3218-SYMP  1:30 PM
MEMBRANE DYNAMICS AND LIPID INTERACTIONS OF INFLUENZA FUSION PROTEINS. Peter Kasson

3219-SYMP  2:00 PM
HOW SNARE ASSEMBLY AND FOLDING MAY DRIVE MEMBRANE FUSION. Lukas K. Tamm

3220-SYMP  2:30 PM
STRUCTURAL REARRANGEMENT OF THE EBOKA VIRUS VP40 PROTEIN BEGINS MULTIPLE FUNCTIONS IN THE VIRUS LIFE CYCLE. Erica Ollmann Saphire, Zachary A. Bornholdt, Dafna M. Abelson, Peter Halfmann, Takeshi Noda, Malcolm Wood, Yoshihiro Kawaoka

1:00 PM–3:00 PM, ROOM 135
Symposium
Biophysics of Cell Division and Spatial Relationships
Co-Chairs
Sue Biggins, Fred Hutchinson Cancer Research Center
Wallace Marshall, University of California, San Francisco

3221-SYMP  1:00 PM
INTRINSIC AND EXTRINSIC NOISE IN THE FLAGELLAR LENGTH CONTROL SYSTEM. Wallace Marshall

3222-SYMP  1:30 PM
CYTOSKELETAL ASSEMBLY UNDER CONFINEMENT. Daniel Fletcher

3223-SYMP  2:00 PM
A CELL'S LIFE UNDER CONFINEMENT: GROWTH, DIVISION AND MIGRATION WHEN SPACE IS LIMITED. Matthieu Piel

3224-SYMP  2:30 PM
MOLECULAR MECHANISM OF TRPV2 TRAFFICKING IN SENSORY NEURONS. Matthew R. Cohen, Kevin W. Huynh, Daniel Cawley, Vera Y. Moiseenkova-Bell

3226-SYMP  1:15 PM
DIRECT RECORDING AND MOLECULAR IDENTIFICATION OF THE CALCIUM CHANNEL OF PRIMARY CILIÁ. Paul G. DeCaen, Markus Delling, David E. Clapham

3227-SYMP  1:30 PM
SOLUBLE PHOSPHOINOSITIDE PHYSICAL CHEMISTRY AND THE INTERPRETATION OF TRPV1 POTENTIATION. Marcus D. Collins, Sharona E. Gordon

3228-SYMP  1:45 PM
STORE-OPERATED CA²⁺ ENTRY CHANNELS REGULATE CELL GROWTH AND MIGRATION IN HUMAN CARDIAC C-KIT⁺ PROGENITOR CELLS. Hui Che, Gui-Rong Li

3229-SYMP  2:00 PM
GLYCOSYLATION OF TRPM4 AND TRPM5 CHANNELS: MOLECULAR DETERMINANTS AND FUNCTIONAL ASPECTS. Ninda R.M. Syam, Jean-Sebastien Rougier, Hugues Abriel

3230-SYMP  2:15 PM
PROTON ACTIVATION OF TRPV1 CHANNELS. Bo Hyun Lee, Jie Zheng

3231-SYMP  2:30 PM
SINGLE-POINT MUTATIONS IN ANKYRIN REPEAT SIX MAKE MOUSE TRPA1 SENSITIVE TO HOT TEMPERATURES. Sairam V. Jabba, Raman Goyal, Hans Moldenhauer, Breanna Kalmeta, Michael Bandell, Ramon Latorre, Ardem Patapoutian, Jorg Grandl

3232-SYMP  2:45 PM
EFFECTS OF A NON-HYDROLYZABLE ADP-RIBOSE ANALOG ON THE GATING OF THE TRPM2 CHANNEL. Balázs Tóth, Jordan Jordanov, László Csanády
1:00 PM–3:00 PM, ROOM 132/133

Platform

Molecular Dynamics II

Co-Chairs
Emad Tajkhorshid, University of Illinois at Urbana-Champaign
Pengfei Tian, Niels Bohr Institute, Denmark

3233-PLAT  1:00 PM
TRANSCRIPTION FACTOR BINDING AND SLIDING STUDIED USING MICROSCOPIC AND MESOSCOPIC MODELS. Anel Mahmutovic

3234-PLAT  1:15 PM
SIMULATION OF THE CONFORMATIONAL TRANSITION PATHWAY FOR THE ACTIVATION OF FULL-LENGTH C-SRC KINASE USING THE STRING METHOD. Mikolaj Fajer, Yilin Meng, Benoît Roux

3235-PLAT  1:30 PM
EXPLORING PKA VALUES FOR BURIED RESIDUES IN MEMBRANE BILAYERS USING CONSTANT PH MOLECULAR DYNAMICS SIMULATIONS. Afra Panahi, Charles L. Brooks, III

3236-PLAT  1:45 PM
ROBUST ESTIMATION OF DIFFUSION-OPTIMIZED ENSEMBLES FOR ENHANCED SAMPLING. Pengfei Tian, Sigurður Jónsson, Jesper Ferkinghoff-Borg, Sergei Krivov, Kresten Lindorff-Larsen, Wouter Boomsma

3237-PLAT  2:00 PM
DRIVEN ADAPTIVE-BIAS SCHEME: A HYBRID FREE ENERGY METHOD FOR BIOMOLECULAR SYSTEMS WITH COMPLEX ENERGY LANDSCAPES. Mahmoud Moradi, Emad Tajkhorshid

3238-PLAT  2:15 PM
GOING BACKWARD: AN EFFICIENT MULTISCALE APPROACH USING REVERSE TRANSFORMATION. Tsjerk A. Wassenaar, Kristyna Płuhačkova, Rainer Böckmann, Siewert J. Marrink, D. Peter Tieleman

3239-PLAT  2:30 PM
MIXING AND MATCHING SIMULATIONS AT DIFFERENT RESOLUTIONS. Manuel N. Melo, Niculae Goga, Alexander de Vries, Herman Berendsen

3240-PLAT  2:45 PM
CAVEOLIN IN BILAYERS: CAN THE INTRAMEMBRANE U-SHAPED CONFORMATION REALLY EXIST. Huann Rui, Kyle T. Root, Jinwoo Lee, Kerney Jebrell Glover, Wonpil Im

1:00 PM–3:00 PM, ROOM 303

Platform

Ligand-gated Channels II

Co-Chairs
Marc Delarue, Institut Pasteur, France
Crina Nimigean, Weill Cornell Medical College

3241-PLAT  1:00 PM
EDUCATION TRAVEL Awardee
COORDINATED MOVEMENTS DURING ASCIA ACTIVITY. Gaetano Bonifacio, Claudia Suenaga Ielfi, Stephan Kellenberger

3242-PLAT  1:15 PM
OPTOCHEMICAL CONTROL OF ENGINEERED TRIMERIC P2X RECEPTORS AND ACID-SENSING ION CHANNELS. Liam E. Browne, João P. M. Nunes, Joan Sim, Vijay Chudasama, Laricia Bragg, Stephen Caddick, R. Alan North

3243-PLAT  1:30 PM

3244-PLAT  1:45 PM
STRUCTURAL BASIS FOR ALLOSTERIC COUPLING AT THE MEMBRANE-PROTEIN INTERFACE IN GLIC. Phanindra Velisety, Sreevatsa V. Chalamalasetti, Sudha Chakrapani

3245-PLAT  2:00 PM
CALCIUM-DEPENDENT GATING IN MTHK K+ CHANNELS. Jiusheng Yan, Radda Rusinova, Olaf S. Andersen, Crina M. Nimigean

3246-PLAT  2:15 PM
CLOSED STATE COUPLED C-TYPE INACTIVATION IN BK CHANNELS. David J. Posson, Andi Lam, Andy Galiane, Rebecca Sitrapesana

3247-PLAT  2:30 PM
TPC1 IS A PROTON PERMEABLE CHANNEL THAT CAN BE INDEPENDENTLY ACTIVATED BY CYTOSOLIC CALCIUM OR NAADP. Samantha J. Pitt, Andi Lam, Antony Gallone, Rebecca Sitrapesana

3248-PLAT  2:45 PM
SKA-111, A POSITIVE KCA CHANNEL GATING MODULATOR WITH SELECTIVITY FOR KCA3.1. Nichole T. Coleman, Brandon M. Brown, Aida O. Viguera, Ralf Köhler, Heike Wulf

1:00 PM–3:00 PM, ROOM 304

Platform

Computational Systems Biology and Cellular Network

Co-Chairs
Carlos Lopez, Vanderbilt University School of Medicine
Eric Deeds, University of Kansas

3249-PLAT  1:00 PM
INTEGRATED 3D SIMULATION OF CARDIOMYOCYTE REVEALED THE DISTINCT FUNCTIONAL CHARACTERISTICS BETWEEN SUBSARCOLEMMAL AND INTERFIBRILLAR MITOCHONDRIA. Asuka Hatano, Jun-ichi Okada, Takumi Washio, Toshiaki Hisada, Seiryo Sugienda

3250-PLAT  1:15 PM
PYSB: A MODELING FRAMEWORK TO EXPLORE BIOCHEMICAL SIGNALING PROCESSES AND CELL-DECISIONS. Carlos F. Lopez, Shawn P. Garbett

3251-PLAT  1:30 PM
THE EVOLUTION OF CROSS TALK IN SIGNALING NETWORKS. Eric J. Deeds, Michael A. Rowland

3252-PLAT  1:45 PM
COMPUTATIONAL MODELING OF BIOFILM STRUCTURE AND FUNCTIONS WITH BACTERIA MOTILITY FEATURE AND EXPERIMENT VALIDATION. Jia Zhao, Qi Wang

3253-PLAT  2:00 PM
IDENTIFYING ACTIVE NEURONS FROM IN VIVO 2-PHOTON CALCIUM IMAGING OF THE BRAIN VIA PIXEL CORRELATION ANALYSIS AND REGION-GROWING SEGMENTATION. Jean-Francois Desjardins, Lois S. Miraucourt, Edward S. Ruthazer, Paul W. Wiseman
3254-PLAT  2:15 PM
OVERCOMING REVERSE RATE DEPENDENCE IN VENTRICULAR CELL MODELS. Megan A. Cummins, Pavan Dalal, Marco Bugana, Stefano Severi, Eric Sobie

3255-PLAT  2:30 PM
ELUCIDATING METABOLIC VARIABILITY IN ISOCENIC MICROBIAL POPULATIONS ARISING DUE TO NOISE IN PROTEIN EXPRESSION. Piyush Labhsetwar, John Cole, Nathan Price, Zaida Luthey-Schulten

3256-PLAT  2:45 PM
COMPUTATIONAL MODELING OF GRANULOMA FORMATION IN TUBERCULOSIS YIELDS INSIGHTS INTO BOTH INFECTION AND TREATMENT. Nicholas A. Cifone, Elise Pienaar, Denise E. Kirschner, Jennifer J. Linderman

1:00 PM–3:00 PM, room 305
Platform
Cardiac Muscle II

Co-Chairs
Satish Rao, Icahn School of Medicine at Mount Sinai
Steven Wu, South Dakota State University

3257-PLAT  1:00 PM
E-C COUPLING ALTERATIONS AND SPONTANEOUS ACTIVITY IN MICE CARRYING CARDIAC TROPOVIN T’ MUTATIONS. José Manuel Pioner, Raffaello Coppini, Cecilia Ferrantini, Benedetta Tosi, Luca Mazzoni, Rachel Moore, Elisabetta Cerbai, Alessandro Mugelli, Jil Tardiff, Chiara Tesi, Corrado Poggesi

3258-PLAT  1:15 PM

3259-PLAT  1:30 PM
MULTI-SCALE BIOMECHANICS IN A MARFAN SYNDROME MODEL OF DILATED CARDIOMYOPATHY. Satish Rao, Emily Chiu, Jason R. Cook, Jia-Jye Lee, Ludovic Bénard, Roger J. Hajjar, Francesco Ramirez, Kevin D. Costa

3260-PLAT  1:45 PM
EFFECTS OF NITROSYLATION ON CARDIAC MYOFILAMENT PROTEINS. Steven C. Wu, Maria E. Moutosoglou, John M. Robinson

3261-PLAT  2:00 PM
SARCOMERE LENGTH-VENTRICULAR FILLING PRESSURE RELATIONSHIP IN THE PERFUSED MURINE HEART VISUALIZED WITH 2-PHOTON FLUORESCENCE MICROSCOPY. Michael E. Nance, Charnain A. Fernando, Anne K. Gibson, Laurin M. Hanft, Steven S. Segal, Kerry S. McDonald, Timothy L. Domeier

3262-PLAT  2:15 PM
REAL-TIME IMAGING OF SARCOMERE DYNAMICS IN THE MOUSE HEART IN VIVO. Fuyu Kobirumaki-Shimozawa, Kotaro Oyama, Akari Mizuno, Takako Terui, Togo Shimozawa, Takashi Ōhki, Shin’ichi Ishiwata, Norio Fukuda

3263-PLAT  2:30 PM
END SYSTOLIC STRAIN RATE, NOT AFTERLOAD, CONTROLS MYOCARDIAL RELAXATION. Charles S. Chung, Kenneth S. Campbell

3264-PLAT  2:45 PM
EXPERIMENTALLY INCREASING TITIN COMPLIANCE IN A NOVEL MOUSE MODEL ATTENUATES THE FRANK-STARRLING MECHANISM BUT HAS A BENEFICIAL EFFECT ON DIASTOLE. Mei Methawasin, Kirk R. Hutchinson, Eun-Jeong Lee, John E. Smith III, Chandra Saripalli, Carlos G. Hidalgo, Henk L. Granzier

1:00 PM–3:00 PM, ROOM 306
Platform
Structure, Dynamics, and Allostery in Drug Target Interactions

Co-Chairs
Iris Antes, Technical University of Munich, Germany
Roman Agafonov, Brandeis University

3265-PLAT  1:00 PM

3266-PLAT  1:15 PM
HOW ENZYMES ACCESS CAGED SUBSTRATES? UNDERSTANDING TARGETED HYDROLYSIS OF CYCLIC AMP BY PHOSPHODIESTERASE-PROTEIN KINASE A INTERACTIONS. Nikhil K. Tulisan, Srinath Krishnamurthy, Ganesh S. Anand

3267-PLAT  1:30 PM
CRYSTALLOGRAPHIC STRUCTURE OF A SMALL MOLECULE SIRT1 ACTIVATOR/ENZYME COMPLEX. Han Dai, Huizhen Zhao, Yong Jiang, Sharon M. Sweitzer, Beth Pietrak, Benjamin Schwartz, William Miller, Erding Hu, James L. Ellis

3268-PLAT  1:45 PM
A CONSERVED WATER-MEDIATED HYDROGEN BOND NETWORK UNDERLIES SELECTIVITY OF THE KINASE INHIBITOR BOSUTINIB. Nicholas M. Levinson, Steven G. Boxer

3269-PLAT  2:00 PM
MOLECULAR MECHANISMS UNDERLYING THE CLINICAL SUCCESS OF THE CANCER DRUG GLEEVEC. Roman V. Agafonov, Chris Wilson, Renee Otten, Vanessa Buosi, Dorothee Kern

3270-PLAT  2:15 PM
FINDING HIDDEN ALLOSTERIC SITES IN PROTEINS. Gregory R. Bowman, Phillip L. Geissler, Susan Marqusee

3271-PLAT  2:30 PM
COMPUTATIONAL PREDICTION OF PROTEIN-PEPTIDE BINDING. Iris Antes, Manuel Glaser, Atanas Patronov

3272-PLAT  2:45 PM
EDUCATION TRAVEL Awardee
RASTERING THE INFLUENZA VIRUS SURFACE WITH MOLECULAR RULERS AND NANOPARTICLES TO DESIGN OPTIMAL MULTIVALENT INHIBITORS. Daniel Lauster, Victor Bandlow, Henry Memczak, Sumati Bhatia, Christian Sieben, Walter Stöcklein, Oliver Seitz, Rainer Haag, Andreas Herrmann

Biophysical Society 58th Annual Meeting, San Francisco, California
WEDNESDAY POSTER SESSIONS

The list of Wednesday Late Posters is in the Program addendum. The abstracts are available through the online itinerary planner.

Posters should be mounted 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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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.
Correlated Motions in Proteins
(Boards #B1–#B30)

**3273-Pos**
**Board #B1**
DISTINCT DYNAMIC SIGNATURES OF AMYLOIDOGENIC INSULIN REVEALED BY NEUTRON SPIN ECHO SPECTROSCOPY. 
Claus Czeslik, Mirko Erkamp, Roland Winter

**3274-Pos**
**Board #B2**
GSATOOLS: ANALYSIS OF ALLOSTERIC COMMUNICATION AND FUNCTIONAL LOCAL MOTIONS USING A STRUCTURAL ALPHABET. Alessandro Pandini, Arianna Fornili, Franca Fraternali, Jens Kleinjung

**3275-Pos**
**Board #B3**
RECAPUTURING THE CORRELATED MOTIONS OF PROTEIN BY USING COARSE GRAINED MODELS. Yan Lu, Freddie R. Salsbury, Jr

**3276-Pos**
**Board #B4**
MODULATION OF ACTIVE SITE PICOSECOND DYNAMICS IN MUTANT FORMS OF A THERMOPHILIC ALCOHOL DEHYDROGENASE (HT-ADH). Corey W. Meadows, Judith P. Klinman

**3277-Pos**
**Board #B5**
ATP BINDING INDUCED CONFORMATIONAL CHANGE IN RECQ HElICASE. Maria Mills, Keir Neuman

**3278-Pos**
**Board #B6**
THERMODYNAMIC BASIS OF THE ALLOSTERIC ACTIVATION OF PROTEIN KINASE A. Jonggul Kim, Frank Chao, Gianluigi Veglia

**3279-Pos**
**Board #B7**
PROBING ALLOSTERIC MECHANISMS OF UTROPHIN AND DYSTROPHIN ACTIN-BINDING DOMAINS, USING THERMAL DENATURATION. Michael E. Fealey, Jonathan Crain, Anne Hinderliter, David D. Thomas

**3280-Pos**
**Board #B8**
TEMPERATURE DEPENDENCE OF THE PROTEIN-CHROMOPHORE HYDROGEN BOND DYNAMICS IN THE FAR-RED FLUORESCENT PROTEIN MPLUM. Chola K. Regmi, Prem P. Chapagain, Bernard S. Gerstman

**3281-Pos**
**Board #B9**
DYNAMICS OF NEUROTOXIN II PROVIDES ADAPTIVITY OF ITS FUNCTIONAL SITES. Dmitry M. Lesosov, Svetlana B. Nolde, Eduard V. Bocharov, Ekaterina N. Lyukmanova, Dmitry A. Dolgikh, Mikhail P. Kripchnikov, Alexander S. Arseniev

**3282-Pos**
**Board #B10**
EDUCATION TRAVEL Awardee THE DYNAMIC FUNCTIONAL CONSEQUENCES OF THE THROMBIN-THROMBOMODULIN INTERACTION. Lindsey D. Handle, Kyle N. Stearns, Elizabeth A. Komives

**3283-Pos**
**Board #B11**
COMPUTATIONAL SIMULATIONS REVEAL HOW CALMODULIN METHIONINE OXIDATION TRIGGERS LARGE-SCALE CHANGES IN STRUCTURAL DYNAMICS. Michael Olenek, David D. Thomas, Jennifer C. Klein

**3284-Pos**
**Board #B12**
ALLOSTERIC EFFECTORS HAVE AN ASYMMETRIC EFFECT ON THE COMPRESSIBILITY OF HEMOGLOBIN SUBUNITS. Gustav Schay, Andras Kaposi, Miklos Kellermayer, Laszlo Smeller, Levente Herenyi, Krisztian Szigeti, Judit Fidy

**3285-Pos**
**Board #B13**
SUPERVISED LEARNING ON MARKOV STATES AS A METHOD FOR GAINING INSIGHT INTO PROTEIN ALLOSTERY. Mohammad M. Sultan

**3286-Pos**
**Board #B14**
ALLOSTERIC MODULATION OF CADHERIN AFFINITY. Nitesh Shashikanth, Jillian Newhall, Yuliya Petrova, Barry M. Gumbiner, Deborah Leckband

**3287-Pos**
**Board #B15**
SECTOR ANALYSIS OF PROTEIN BASED ON MOLECULAR DYNAMICS SIMULATIONS: ROLE OF ATOMIC FLUCTUATIONS IN SINGLE DOMAIN ALLOSTERICISM. Lakhani Bharat, Beveridge L. David

**3288-Pos**
**Board #B16**
EDUCATION TRAVEL Awardee DYNAMIC BEHAVIOR OF OLIGOMERIC INORGANIC PYROPHOSPHATASE (IPPA) STUDIED BY QUASIELASTIC NEUTRON SCATTERING. Utsab R. Shrestha, Kurt VanDelinder, Manavalan Gajapathy, John Copley, Juscelino Leao, Joseph D. Ng, Xiang-Qiang Chu

**3289-Pos**
**Board #B17**
ALLOSTERIC REGULATION OF PROTEIN KINASE ENZYMES VIA AN ELECTROSTATIC SWITCH THAT MODULATES ACTIVE SITE DYNAMICS. Matthew A. Young, Douglas M. Jacobsen, Zhao-Qin Bao

**3290-Pos**
**Board #B18**
A NETWORK OF "MOLECULAR-SWITCHES" CONTROL THE ACTIVATION OF KEY BACTERIAL SIGNALING PROTEIN. Dan Vanatta

**3291-Pos**
**Board #B19**
COARSE-GRAINED MODELING OF THE DYNAMICS AND ALLOSTERIC MODULATION OF HRAS PROTEIN. Abhijeet Kapoor, Alex Travesset

**3292-Pos**
**Board #B20**
REDISTRIBUTION OF FLEXIBILITY IN STABILIZING ANTIBODY FRAGMENT MUTANTS FOLLOWS LE CHATELIER’S PRINCIPLE. Tong Li, Malgorzata B. Tracka, Shahid Uddin, Jose Casas-Finet, Donald J. Jacobs, Dennis R. Livesay

**3293-Pos**
**Board #B21**
EDUCATION TRAVEL Awardee GENERALIZED MODEL-FREE SPECTRAL DENSITY ANALYSIS APPLIED TO RHODOPSIN ACTIVATION IN MEMBRANES. Xiaolin Xu, Andrey V. Struts, K. J. Mallikarjunaiah, Michael F. Brown

**3294-Pos**
**Board #B22**
CONFORMATIONAL MOTION IN GENE REGULATORY PROTEINS. David V. Svintradze

**3295-Pos**
**Board #B23**
DIFFERENCES IN TROPONIN C DYNAMICS BETWEEN CARDIAC AND SKELETAL MUSCLE - A MOLECULAR DYNAMICS PERSPECTIVE. Steffen Lindert, Andy McCammon

**3296-Pos**
**Board #B24**
THE ROLE OF CONFORMATIONAL FLEXIBILITY IN INHIBITOR BINDING AND SUBSTRATE RECOGNITION FOR CYP119. Xiaoxiao Shi, Shu-Hao Liou, R. David Britz, David B. Goodin

**3297-Pos**
**Board #B25**
CONFORMATIONAL CHANGES IN PROTEIN BINDING PROCESSES. Béla Voß, Helmut Grubmüller
Protein Design, Prediction, and Evolution (Boards #B31–#B55)

3303-Pos  Board #B31  RATIONAL STRUCTURE-BASED DESIGN OF PLN MUTANTS TO OPTIMIZE DEPHOSPHORYLATION AND TUNE SERCA FUNCTION. Choua Xiong, Adedolapo Ojoawo, Gianluigi Veglia, Kim N. Ha

3304-Pos  Board #B32  PROTEIN-CROMPHORE INTERACTIONS IN GREEN FLUORESCENT PROTEIN (GFP) STUDIED BY SPLIT PROTEIN RECONSTITUTION. Luke M. Oltrogg, Steven G. Boxer

3305-Pos  Board #B33  SIDE CHAIN ENTROPY IN ENZYMES AND ITS ROLE IN CATALYSIS. Asmit Bhonwich

3306-Pos  Board #B34  RATIONALIZING DIRECTED EVOLUTION THROUGH PROTEIN DYNAMICS. Saurabh Belsare

3307-Pos  Board #B35  UNDERSTANDING THE STRUCTURAL DETERMINANTS FOR THE STABILITY OF HUMAN FIBROBLAST GROWTH FACTOR. Rachael A. Pellegrino, Rebecca Kerr, T.K.S. Kumar

3308-Pos  Board #B36  IS THERE A BETA-PEPTIDE EQUIVALENT OF THE ALPHA-HELIX? Carsten Baldauf, Franziska Schubert, Kevin Pagel, Stephan Warnke, Mariana Rossi, Mario Salwiczek, Beate Koksch, Gert von Helden, Volker Blum

3309-Pos  Board #B37  NOVEL COMPUTATIONAL METHODS TO DESIGN PROTEIN-PROTEIN INTERACTIONS. Alice Qinhu Zhang, Corey S. O’Hern, Lynne Regan

3310-Pos  Board #B38  FROM AMINOMUTASES TO AMMONIA LYASES: A PROTEIN ENGINEERING STUDY. Marcelo F. Masman, Matthew M. Heerling, Dick B. Janssen

3311-Pos  Board #B39  SIMPLE RULES IMPOSED ON A PRIMITIVE CUBIC LATTICE ROBUSTLY GENERATE STRUCTURES THAT MIMIC FEATURES OF REAL PROTEINS. Denis Turgut, Osman B. Okan, Aravind Rammohan, Angel E. Garcia, Rahmi Ozisik

3312-Pos  Board #B40  INFERRING PROTEIN STRUCTURES FROM SPARSE AND AMBIGUOUS DATA. Justin L. MacCallum, Alberto Perez, Kenneth A. Dill

3313-Pos  Board #B41  SIMULATION STUDY OF SOLUBLE TOXIC Oligomeric STRUCTURES OF AMYLOID-BETA. Sukanya Saxmal, Timothy Balmore, K. Aurelia Ball, Teresa Head-Gordon

3314-Pos  Board #B42  COMPUTER SIMULATIONS FOR PREDICTING MEMBRANE PROTEIN STRUCTURES WITH THE REPLICA-EXCHANGE METHODS AND IMPLICIT MEMBRANE MODEL OF A RESTRICTED CONFIGURATIONAL SPACE. Ryo Urano, Yuko Okamoto

3315-Pos  Board #B43  TOWARD A GLOBAL VIEW OF THE CONFORMATIONAL LANDSCAPE OF THE HUMAN KINOME. Daniel L. Parton, Diwakar Shukla, Yutong Zhao, Vijay S. Pand, John D. Chodera

3316-Pos  Board #B44  DOCKING BENCHMARK SET OF PROTEIN MODELS. Ivan Anischanka, Petras J. Kundrotas, Alexander V. Tuzikov, Ilya A. Vakser

3317-Pos  Board #B45  STRUCTURAL SIMILARITY IN MODELING OF HOMODIMERS. Petras Kundrotas, Ilya Vakser, Joel Janin


3319-Pos  Board #B47  A MOLECULAR DYNAMICS SIMULATION STUDY OF OUTER MEMBRANE PHOSPHOLIPASE A (OMPLA) STRUCTURE AND DYNAMICS IN AN ASYMMETRIC LIPOPOLYSACCHARIDE MEMBRANE. Emilia L. Wu, Patrick J. Fleming, Jeffery B. Klauda, Karen G. Fleming, Wonpil Im

3320-Pos  Board #B48  MODULAR PLATFORM FOR BIOMOLECULAR MODELING AND SIMULATIONS. Dominik Gront

3321-Pos  Board #B49  A GLOBAL MACHINE LEARNING BASED SCORING FUNCTION FOR PROTEIN STRUCTURE PREDICTION. Eshel Faraggi, Andrzej Kloczkowski

3322-Pos  Board #B50  NEW INSIGHTS ON THE MECHANISM OF ACTION OF ICE-BINDING PROTEINS. Ran Drori, Yeliz Celik, Peter L. Davies, Ido Braslavsky

3323-Pos  Board #B51  CAN A PROTEIN’S EVOLUTIONARY FATE BE PREDICTED FROM ITS STRUCTURE? Amy I. Gilson, Eugene I. Shakhnovich

3324-Pos  Board #B52  PROBING AN ANCIENT PROTEIN’S DYNAMICS WITH NMR. Marc S. Hoemberger, Christopher G. Wilson, Dorothee Kern
Dynamics of Ligand Binding (Boards #B56–#B84)

3328-Pos  Board #B56  THIOL LABELING REVEALS PRESENCE OF CRYPTO BINDING SITES IN BETA-LACTAMASE. Eric Bolin, Brendan Maguire, Gregory Bowman, Susan Marqusee

3329-Pos  Board #B57  STRUCTURAL DYNAMICS STUDIES OF FATTY ACID BINDING PROTEIN-4 BY SOLUTION NMR SPECTROSCOPY. Adedolapo Ojoawo, Choua Xiong, Kim N. Ha

3330-Pos  Board #B58  MINORITY AFFAIRS TRAVEL Awardee INSIGHTS INTO THE CYCLIC NUCLEOTIDE SELECTIVITY MECHANISM OF CYCLIC GMP DEPENDENT PROTEIN KINASE II. James Campbell, Gilbert Huang, Albert Reger, Todd Link, John Ladbury, Cheol Kim

3331-Pos  Board #B59  EFFECTS OF LIGAND BINDING ON THE RIGIDITY AND MOBILITY OF PROTEINS: AN EXPERIMENTAL AND COMPUTATIONAL APPROACH. Jack Heal, Claudia Blindauer, Robert B. Freedman, Rudolf Roemer

3332-Pos  Board #B60  BRIDGING SIMULATIONS AND CALORIMETRY: COMPUTATIONAL STUDIES OF BINDING THERMODYNAMICS AND ENTROPY-ENTHALPY TRANSDUCTION. Michael K. Gilson, Andrew T. Fenley, Hari Muddana

3333-Pos  Board #B61  DIFFERENTIAL RESPONSES OF MSH2/6 AND DAMAGED DNA PROBED BY MOLECULAR DYNAMICS. Freddie R. Salsbury, Jr, Lacramioara Negureanu

3334-Pos  Board #B62  ATOMIC RESOLUTION MECHANISM OF CD44-HYALURONAN PROTEIN-CARBOHYDRATE BINDING. Christina E. Faller, Amanda J. Favreau, Olgun Guvench

3335-Pos  Board #B63  A MOLECULAR DYNAMICS INVESTIGATION OF THE BACTERIAL CIS-PRENYL TRANSFERASES: PERSPECTIVES ON CONFORMATIONAL FLEXIBILITY AND CHAIN ELONGATION MECHANISMS. Meekyum O. Kim, Ferran Feixas-Gerones, Eric Oldfield, J. Andrew McCammon

3336-Pos  Board #B64  STUDY OF THE DYNAMIC AND THERMODYNAMIC CALCIUM INDUCED TRANSITION IN THE DOWNSTREAM REGULATORY ELEMENT ANTAGONIST MODULATOR (DREAM) USING PHOTOTHERMAL BEAM DEFORMATION (PBD). Walter G. Gonzalez, Jaroslava Miloskova

3337-Pos  Board #B65  SOLID-STATE NMR CHARACTERIZATION OF S31N M2 TRANSMEMBRANE DOMAIN BOUND TO NOVEL ADAMANTANES WITH PERSISTENT IN VITRO EFFICACY. Anna K. Wright, Ivan Hung, Christina Tizitoglaki, Harris Ioannidis, David D. Busath, Antonios Kolocouris, Timothy A. Cross

3338-Pos  Board #B66  SINGLE MOLECULE FRET STUDIES OF THE NMDA RECEPTOR USING UNNATURAL AMINO ACIDS. Drew Dolino, David Cooper, Swarna Ramawamy, Christy Landes, Vasanthi Jayaraman

3339-Pos  Board #B67  HEME-TRANSFER MECHANISM OF STRUCTURALLY SIMILAR ISD NEAT DOMAINS OF STAPHYLOCOCCUS AUREUS EXHIBITING DIFFERENT AFFINITIES FOR HEME. Yoshitaka Moriwa, Tohru Terada, Jose M. M. Caeveiro, Yousuke Takaoka, Itaru Hamachi, Kouhei Tsumoto, Kentaro Shimizu

3340-Pos  Board #B68  EXPLORING HOW PHOSPHORYLATION INFLUENCES C-I INTERACTION AND CALCIUM SENSITIVITY OF TROPOGIN BY MOLECULAR DYNAMICS SIMULATIONS. Yuanhua Cheng, Steffen Lindert, Peter Keckens-Huskey, Vijay S. Rao, Paul R. Rosevear, J. Andrew McCammon, Andrew McCulloch, Michael Regnier

3341-Pos  Board #B69  A COMPLETE CONFIGURATIONAL ENSEMBLE APPROACH TO EXPAND LSD1/COREST DRUGGABILITY. James C. Robertson, Nate C. Hurley, Julie M. Kneller, Nadeem A. Vellore, Andrea Mattevi, Riccardo Baron

3342-Pos  Board #B70  THE ACIDIC RESIDUES OF THE IkbA PEPTIDE SEQUENCE ARE RESPONSIBLE FOR “STRIPPING” NFkB FROM DNA. Holly E. Dembinski, Elizabeth A. Komives

3343-Pos  Board #B71  STRUCTURAL BASIS FOR Ca2+ SELECTIVITY OF A VOLTAGE-GATED CALCIUM CHANNEL. Lin Tang, Tamer M. Gamal El-Din, Jian Payandeh, Gilbert Q. Martinez, Teresa M. Heard, Todd Scheuer, Ning Zheng, William A. Catterall

3344-Pos  Board #B72  STRUCTURAL AND DYNAMIC FEATURES UNDERLY THE SWITCH OF LIGAND BINDING SPECIFICITY IN A TIA1 PDZ DOMAIN MUTANT. Ernesto J. Fuentes, Xu Liu, David C. Speckhard, Tyson R. Shepherd

3345-Pos  Board #B73  INTERNATIONAL TRAVEL Awardee TRANSTHYRETIN INDUCED AMYLLOIDOSIS INTERACTIONS, MECHANISMS AND POTENT DRUGS DESIGN. Rafal Jakubowski, Piotr Skrzyniarz, Lukasz Peplowski, Wieslaw Nowak

3346-Pos  Board #B74  A TEMPERATURE JUMP RELAXATION STUDY OF DYNAMICS OF THERMOPHILIC LACTATE DEHYDROGENASE FROM TH. MARITIMA. Huo-Lei Peng, Hua Deng, Robert Callender

3347-Pos  Board #B75  STRUCTURAL AND FUNCTIONAL BASIS OF TOLLIP ASSOCIATION TO THE ENDSOMAL ADAPTOR PROTEIN TOM1. Mary K. Brannon, Shuyan Xiao, Geoffrey Armstrong, Kristen Fread, Carla V. Finkielstein, Daniel G. S. Capelluto

3348-Pos  Board #B76  MODELING AND EXPERIMENTAL STUDY OF NHERF1 PDZ DOMAIN SPECIFICITY. Tatiana Mannonova, Alessandro Bisello, Peter A. Friedman
Protein-Solvent Interactions: Water, Ions, Lipids, and Crowding (Boards #B85–#B114)

3357-Pos Board #B85
SOLUTE PERMEATION IN AQUAPORIN CHANNELS. Shreyas S. Kaptan, Bernd de Groot

3358-Pos Board #B86
THE DIPOLAR SOLVENT MODEL AND ITS APPLICATIONS TO THE STRUCTURAL ANALYSIS OF LOW-(SAXS) AND HIGH-(CRYSTALLOGRAPHY) RESOLUTION X-RAY DATA. Frederic Poitevin, Ludovic Sauguet, Samuel Murail, Marc Baaden, Pierre-Jean Corringer, Corinne Kochl, Henri Orland, Marc Delarue

3359-Pos Board #B87
CRUCIAL IMPORTANCE OF PROTEIN-SOLVENT MANY-BODY CORRELATION FOR SOLVENT-ENTROPY EFFECT IN STRUCTURAL STABILITY OF A PROTEIN. Hiraku Oshima, Masahiro Kinoshita

3360-Pos Board #B88
PROTEIN-WATER INTERFACIAL TENSION DRIVES HOFMEISTER EFFECTS. Ferenc Bogár, Zoltán Násztor, Ferenc Bartha, Balázs Leitgeb, László Fabián, Andras Der

3361-Pos Board #B89
MOBILITY OF WATER IN A CONFINED PROTEINACEOUS ENVIRONMENT. Andreas Horner, Florian Zocher, Nicole Ollinger, Johannes Preiner, Peter Pohl

3362-Pos Board #B90
MOLECULAR DYNAMICS SIMULATIONS OF DYNEIN MOTOR DOMAIN IN EXPLICIT WATER. Narutoshi Kamiya, Tadaki Mashimo, Yu Takano, Takahide Kon, Genji Kurisu, Haruki Nakamura

3363-Pos Board #B91
INTEGRATING EXPLICITLY TREATED SURFACE WATER PRODUCES BETTER ALIGNMENTS BETWEEN EXPERIMENTAL AND PREDICTED ANISOTROPIC B-FACTORS. Lei Zhou, Qinglan Liu

3364-Pos Board #B92
SOLVENT DEPENDENT SHIFT OF FLUORESCENCE PROPERTIES OF FLUORESCENT PROTEINS. Hideaki Konishi

3365-Pos Board #B93
EDUCATION TRAVEL Awardee INFLUENCE OF HOFMEISTER SALTS ON THE STRUCTURE, AGGREGATION, AND UNFOLDING OF RECA. Karen M. Corbett, Michael A. Metrick, Gina MacDonald

3366-Pos Board #B94

3367-Pos Board #B95
SPIN-LABEL ESR STUDY OF THE PROTEIN DOMAINT MOTION AND STABILITY IN THE PRESENCE OF CROWDING EFFECTS. Chia-Jung Tsai

3368-Pos Board #B96
THE EFFECT OF MOLECULAR CROWDING ON THE STABILITY OF PEPTIDES. Alan van Giessen, Barsha Dash

3369-Pos Board #B97
THE PH AND CONCENTRATION DEPENDENCE OF PROTEIN-PROTEIN INTERACTIONS, CONFORMATION, AND VISCOSITY IN CROWDED PROTEIN SOLUTIONS. Prasad Sarangapani, Ronald L. Jones, Steven Hudson, Jai A. Pathak

3370-Pos Board #B98
ALL-ATOM MOLECULAR DYNAMIC SIMULATIONS OF PULMONARY SURFACTANT PROTEIN SP-B-interacting WITH LIPID BILAYERS. Mohammad Hassan Khatami, Ivan Saika-Voivod, Valerie Booth

3371-Pos Board #B99
MEMBRANE PROPERTIES AFFECT OPENING BEHAVIORS OF THE BACTERIAL MECHANOSENSITIVE CHANNEL MSCL: MOLECULAR DYNAMICS STUDY. Hiroki Katsuta, Yasuyuki Sawada, Masahiro Sokabe

3372-Pos Board #B100
MOLECULAR DYNAMICS ANALYSIS ON THE ROLE OF THE N-TERMINAL DOMAIN IN MECHANOEATING OF E-COLI MECHANOSENSITIVE CHANNEL MSCL. Yasuyuki Sawada, Masahiro Sokabe

3373-Pos Board #B101
CONTINUUM ELECTROSTATIC APPROACH FOR EVALUATING MEMBRANE PROTEIN POSITIONS IN MEMBRANE. Sunit Fuklang, Chirayut Supunyabut, Pornthep Sompornpisut

3374-Pos Board #B102
PROTEIN-PROTEIN AND PROTEIN-MEMBRANE INTERACTIONS REGARDING THE ERPB2/TRASTUZUMAB-FAB COMPLEXES. A COARSE-GRAINED MOLECULAR DYNAMICS DESCRIPTION. Juan F. Franco-Gonzalez, Victor Cruz, Javier Ramos, Javier Martinez-Salazar
Protein Folding and Chaperones II
(Boards #B115–#B142)
Enzyme Function and Regulation (Boards #B143–#B171)

3415-Pos  Board #B145  STEERED MOLECULAR DYNAMICS SIMULATIONS OF NAD UNBINDING FROM GAPDH AND LDH. Tsveetan Aleksandrov, Igor V. Uporov, Rahul Nori, Kathryn A. Thomasson

3416-Pos  Board #B144  COMPUTATIONAL AND EXPERIMENTAL STUDY OF KOREDUCTASE ENANTIOSELECTIVITY. Elizabeth Noey, Jiyong Park, K.N. Houk

3417-Pos  Board #B145  IN SUPPORT OF NITRIC OXIDE DIOXYGENASE FUNCTION: ALGAL HEMOGLOBINS AND THEIR REDUCTION PARTNERS. Manish Shandilya, Amit Kumar, Sheetal Uppal, Suneel Kateriya, Suman Kundu

3418-Pos  Board #B146  EDUCATION TRAVEL Awardee  MAPPING THE SUBSTRATE BINDING SITES OF THE INTEGRAL MEMBRANE METHYLTRANSFERASE ICMT BY MUTATIONAL ANALYSIS. Melinda M. Diver, Stephen B. Long

3419-Pos  Board #B147  REGULATION OF CREATINE KINASE BY ASB9. Deepa Balasubramanian, Jamie Schiffer, Elizabeth Komives

3420-Pos  Board #B148  UNDERSTANDING FUNCTIONAL EVOLUTION IN THE ALKALINE PHOSPHATASE SUPERFAMILY. Alexandre H. Barrozo, Alexandra Pires Carvalho

3421-Pos  Board #B149  MINORITY AFFAIRS TRAVEL Awardee  DID CLASS 1 AND CLASS 2 AMINOACYL tRNA SYNTHETASES DESCEND FROM GENETICALLY COMPLEMENTARY, CATALYTICALLY ACTIVE ATP-BINDING MOTIFS? Mariel Jimenez, Tishan Williams, A. Katiria Gonzalez-Rivera, Li Li, Oezgun Erdogan, Charles W. Carter, Jr.

3422-Pos  Board #B150  ANALYSES OF THE INTERACTION BETWEEN LIPOCALIN-TYPE PROSTAGLANDIN D SYNTHASE AND SUBSTRATE OR PRODUCT. Yutaro Fukuda, Takahiro Maruno, Yuji Kobayashi, Tadayasu Ohkubo, Kosuke Ariake, Yoshihiro Uriade, Yuji Hidaka, Shigeru Shimamoto

3423-Pos  Board #B151  THE EVOLUTIONARY CONSTRAINTS IMPOSED ON TYROSINE HYDROXYLATION BY ITS BEGINNINGS AS A PHENYLALANINE HYDROXYLASE; STUDIES OF THE POLYPEPTIDE LOOP DETERMINING THE SUBSTRATE SPECIFICITY. Ewa Nowara

3424-Pos  Board #B152  STRUCTURAL AND FUNCTIONAL BASIS FOR SUBSTRATE SPECIFICITY AND CATALYSIS OF LEVAN FRUCTOTRANSFERASE. Sanghee Rhee, Jinseo Park

3425-Pos  Board #B153  CO RECOMBINATION IN HUMAN IDO AND TDO - A COMPARISON. Karin Niehaus, G. Ulrich Nienhaus

3426-Pos  Board #B154  MOLECULAR DYNAMICS SIMULATIONS OF THE PROTON TRANSFER REACTION BETWEEN THE CATALYTIC RESIDUES IN HTLV-I PROTEASE. Shuhua Ma, Natalie Petrillo, Kimberly Vogt
3427-Pos  Board #B155  EVIDENCE FOR FUNCTIONAL ROLE OF C-H...S HYDROGEN BOND IN ENZYME CATALYSIS AND SUBSTRATE SPECIFICITY: TYPE 1 METHIONINE AMINOPEPTIDASE. Anthony Addlagatta, Ravikumar Reddi

3428-Pos  Board #B156  MONITORING CONFORMATIONAL CHANGES THAT OCCUR TO BLOOD COAGULANT PROTHROMBIN AS IT IS ACTIVATED TO THROMBIN. Muriel Maurer, Marina Malovichko

3429-Pos  Board #B157  CHARACTERIZATION OF PROTEASES DERIVED FROM NEPHILA CLAVATA. Mitsutoshi Fujiwara, Mitsuhiro Miyazawa, Shigeru Shimamoto, Yuji Hidaka

3430-Pos  Board #B158  STRUCTURAL AND COMPUTATIONAL STUDIES OF THE STAPHYLOCOCCUS AUREUS SORLASE B-SUBSTRATE COMPLEX PROVIDE NEW INSIGHT INTO THE MECHANISM OF SORLASE TRANSPEPTIDASES. Alex W. Jacobitz, Jeff Wereszczyński, Sung Wook Yi, Brendan R. Amer, Grace L. Huang, Angelyn V. Nguyen, Michael R. Sawaya, Michael E. Jung, J Andrew McCammon, Robert T. Clubb

3431-Pos  Board #B159  THE ROLE OF CONFORMATIONAL COLLAPSE IN ENZYMIC CATALYSIS. Robert Callender, Huo-Lei Peng, Hua Deng, Brian Dyer

3432-Pos  Board #B160  THE ROLE OF SUBSTRATE UNBINDING IN MICHAELIS-MENTEN ENZYMIC REACTIONS. Shlomi Reuveni, Michael Urbakh, Joseph Klafter

3433-Pos  Board #B161  APPLYING OSMOTIC STRESS REVEALS TWO MODES OF ENZYME INHIBITION. Oksana Yavorska, John K. Chik

3434-Pos  Board #B162  PLACEHOLDER MECHANISM OF CATALYZED OXIDATIVE FOLDING IS CONSERVED ACROSS MULTIPLE DOMAINS OF LIFE. Thomas B. Kahn, Julio M. Fernandez, Raul Perez-Jimenez

3435-Pos  Board #B163  KINETICS OF SEQUENTIAL ENZYME REACTIONS AND ELECTROSTATIC CHANNELING. Changsun Eun, Peter M. Kekenes-Huskey, Vincent T. Metzger, J. Andrew McCammon

3436-Pos  Board #B164  SINGLE MOLECULE FORCE SPECTROSCOPY REVEALS FORCE-ENHANCED BINDING OF CALCIUM IONS BY GELSOLIN. Chunmei Lv, Xiang Gao, Wenfei Li, Robert Robinson, Meng Qin, Leslie Burtnick, Hao Zhou, Yi Cao, Wei Wang

3437-Pos  Board #B165  SYNAPTOTAGMIN LINKER: TUNING OF COOPERATIVITY IN CALCIUM ION BINDING. Troy A. Hendrickson, Jacob W. Gauer, Ryan Mahling, Komemba J. Lohese, Michael E. Fealey, R. Bryan Sutton, Anne Hinderliter

3438-Pos  Board #B166  MOLECULAR DYNAMICS-BASED PREDICTIONS OF THE STRUCTURAL AND FUNCTIONAL EFFECTS OF DISEASE-CAUSING CARDIAC TROPNONI MUTATIONS. Bairam Lotfalisalmasi, Charles M. Stevens, Glen F. Tibbits

3439-Pos  Board #B167  DETERMINANTS OF PREFERENTIAL BINDING OF APO CALMODULIN TO THE IQ MOTIF OF NEURONAL SODIUM CHANNEL NAV1.2. Liam Hovey, Mark S. Miller, Dagan C. Marx, Kristin M. Tefft, Elaine Kim, Jesse B. Yoder, Madeline A. Shea

3440-Pos  Board #B168  CALCIUM-MEDIATED REGULATION OF CALCINEURIN BY A DYNAMIC DUO OF EF-HAND PROTEINS. Madeline A. Shea, Sean A. Klein, Susan E. O’Donnell, Brett C. Wäite, Jesse B. Yoder

3441-Pos  Board #B169  FLUORESCENCE POLARIZATION AND FLUCTUATION ANALYSIS REVEALS COVERT CHANGES IN CAMKII HOLENZYME ORGANIZATION TRIGGERED BY CALMODULIN AND CAMKIINTIDE. Tuan A. Nguyen, Jithesh V. Veetil, Pabak Sarkar, Steven S. Vogel

3442-Pos  Board #B170  POSITIVE COOPERATIVITY AND T286 AUTO PHOSPHORYLATION IS OBSERVED IN A DIMERIC MUTANT OF CALCIUM-CALMODULIN DEPENDENT PROTEIN KINASE II (CAMKII). Pabak Sarkar, Kaitlin Davis, Henry L. Puhl III, Jithesh V. Veetil, Tuan A. Nguyen, Steven S. Vogel

3443-Pos  Board #B171  CHARACTERIZATION OF CALCIUM-CALMODULIN KINASE II INHIBITOR PROTEIN (CAMKIIN) BY FLUORESCENCE POLARIZATION AND FLUCTUATION ANALYSIS. Jithesh V. Veetil, Kaitlin Davis, Henry L. Puhl III, Tuan A. Nguyen, Pabak Sarkar, Steven S. Vogel

Assemblies and Aggregates II (Boards #B172–#B201)

3444-Pos  Board #B172  TWO-DIMENSIONAL INFRARED SPECTROSCOPY AND ELECTRON MICROSCOPY OF SEEDED AND NON-SEEDED AMYLOID β PEPTIDE FIBRILS. Jianqiang Ma, Hiroaki Komatsu, Paul H. Axelsen

3445-Pos  Board #B173  A NEW QUANTITATIVE BEAD AGGREGATION ASSAY FOR DETERMINING THE ASSOCIATION RATES OF PROTEIN-PROTEIN INTERACTIONS. Nagamani Vunnam, Natalie René Phongam, Ashton Walters, Nathan Hammer, Susan Pedigo

3446-Pos  Board #B174  STRUCTURAL AND HYDRATION PROPERTIES OF HUNTINGTIN AGGREGATES DETERMINED BY SMALL-ANGLE NEUTRON SCATTERING. Christopher B. Stanley, Tatiana Perevozchikova, Helen P. McWilliams-Koeppen, Valerie Berthelier

3447-Pos  Board #B175  ENHANCEMENT, EQUAL FLUORESCENCE EFFICIENCY, AND QUENCHING IN THE INTERPRETATION OF FLUORESCENCE ANISOTROPY DATA. Zahra Zolmajd-Haghighi, Quentin Hanley

3448-Pos  Board #B176  EDUCATION TRAVEL Awardee CHARGE CROWDING PROMOTES SELF-ASSEMBLY OF COLLAGEN HETROTRIMERS. Nida F. Hasan, Awanish S. Parmar, Mihir Joshi, Patrick Nosker, Vikas Nanda

3449-Pos  Board #B177  UREA, GUANIDINE HYDROCHLORIDE AND 2,2,2-TRIFLUOROETHANOL CAN CHANGE THE AMYLOID FIBRIL FORMATION OF MODEL PROTEINS: A SPECTROSCOPIC STUDY. Leandro R S Barbosa
3450-Pos  Board #B178  THE OLIGOMERIC STATE OF HUMAN ALPHA-DEFENSIN 1 IN SOLUTION. Grzegorz Piszczek

3451-Pos  Board #B179  AGGREGATION OF TRANSFORMING GROWTH FACTOR BETA INDUCED PROTEIN STUDIED BY PROTEIN-PROTEIN DOCKING. Ole J. Andersen, Heidi Koldso, Birgit Schiort

3452-Pos  Board #B180  STABLE AMYLOID Oligomers CAN SEED Fibril GROWTH NEAR PHYSIOLOGICAL CONDITIONS. Mentor Mulaj, Tatiana Miti, Joseph Foley, Martin Muschol

3453-Pos  Board #B181  PHASE BOUNDARIES FOR FIBRIL AND METASTABLE Oligomer FORMATION OF LYSOZYME. Tatiana Miti, Joseph Mulaj, Joseph Foley, Martin Muschol

3454-Pos  Board #B182  POLYGLUTAMINE FLANKING REGIONS IN HUNTINGTIN HIGHLIGHT KEY STRUCTURAL INTERMEDIATES RELEVANT FOR MOLECULAR CHAPERONE INTERACTION AND HUNTINGTON’S DISEASE PATHOGENESIS. Koning Shen, Barbara Calamini, Donald Lo, Judith Frydman

3455-Pos  Board #B183  KINETICS OF THE INTERCONVERSION BETWEEN TWO PHYSIOLOGICALLY IMPORTANT COPPER-BOUND AMYLOID-BETA SPECIES. Thomas Branch, Mauricio Barahona, Liming Ying

3456-Pos  Board #B184  INSIGHTS INTO THE INHIBITION MECHANISM OF BIOMOLECULAR SELF-ASSEMBLY FROM CHEMICAL KINETICS. Paolo Arosio, Michele Vendruscolo, Christopher M. Dobson, Tuomas P.J. Knowles

3457-Pos  Board #B185  FILAMENT ASSEMBLY BY PHOSPHOFRUCTOKINASE-1, THE GATEKEEPER OF GLYCOLYSIS. Bradley Webb, Larry Ackerman, Diane Barber

3458-Pos  Board #B186  AMYLOID β-PROTEIN: THE INFLUENCE OF INTRINSIC AND EXTRINSIC FACTORS ON FIBRIL FORMATION. Risto Cukalevski, Xiaoting Yang, Samuel Cohen, Barry Boland, Birgittra Frohm, Eva Thulin, Dominic Walsh, Tuomas Knowles, Sara Linse

3459-Pos  Board #B187  HIV-TAT PROTEIN ENHANCES AMYLOID BETA PEPTIDE AGGREGATION. Alina Popescu Hategan, Joseph Steiner, Emilios K. Dimitriadis, Avindra Nath

3460-Pos  Board #B188  THE AGGREGATION-PRONE MUTANT HUNTINGTIN PROTEIN IN A CELLULAR CONTEXT - APPROACHES BY SUPER-RESOLUTION IMAGING. Steffen J. Sahli, Willianne I M Vonk, Lucien E. Weiss, Lana Lau, Judith Frydman, W. E. Moerner

3461-Pos  Board #B189  CPow TRAVEL AWARDEE NANOscale ASSEMBLY OF PROTEINS INTO AMYLOID Oligomers, PORES AND FIBRILS. Mily Bhattacharya, Neha Jain, Priyanka Dogra, Vijit Dalal, Dominic Narang, Pushpender K. Sharma, Soumyadyuti Samai, Samrat Mukhopadhyay

3462-Pos  Board #B190  INTERNATIONAL TRAVEL AWARDee ATOMIC SIMULATIONS LEND MECHANISTIC INSIGHTS INTO PLAUSIBLE WAYS OF PERTURBING THE NUCLEATION THERMODYNAMICS OF THE FULL-LENGTH Aβ PEPTIDE. Asis K. Jana, Neelanjana Sengupta

3463-Pos  Board #B191  THE FORMATION OF HIGHER ORDER STRUCTURES BY THE NEURONAL PROTEIN ALPHASYNULCEN: SELF-ASSEMBLY OVER MULTIPLE LENGTH SCALES. Slav Semerdzhiev, Mireille Claessens, Vinod Subramaniam

3464-Pos  Board #B192  STRUCTURAL BASIS FOR THE PRION-LIKE MAVS FILAMENTS IN ANTIVIRAL INNATE IMMUNITY. Hui Xu, Xiaojing He, Hui Zheng, Lily Huang, Fajian Hou, Zhiheng Yu, Michael J. de la Cruz, Brian Borkowski, Xuewu Zhang, Zhijian J. Chen, Qiu-xing Jiang

3465-Pos  Board #B193  AMYLOIDS: CONNECTING FROM SINGLE FIBRIL MECHANICS TO MACROSCOPIC RHEOLOGY. Corianne C. van den Akker, Jeanette Nguyen, Michael Schleeger, Krassimir P. Velikov, Mischa Bonn, Gijsje H. Koenderink

3466-Pos  Board #B194  RECOGNITION OF AMYLOIDOGENIC SEGMENTS BASED ON SITE SPECIFIC AMINOACID PAIRWISE CORRELATIONS. Pawel Gasior, Malgorzata Kotulska

3467-Pos  Board #B195  ELONGATION OF MURINE PRION PROTEIN AMYLOID-LIKE FIBRILS: EFFECT OF TEMPERATURE AND DENATURANT CONCENTRATION. Katarzyna Milto, Ksenija Michailova, Vytautas Smirnovas

3468-Pos  Board #B196  PYROGLUTAMYLATED AMYLOID-BETA PEPTIDE REVERSES CROSS BETA-SHEETS BY A PRION-LIKE MECHANISM. Jason O. Matos, Greg Goldblatt, Suren A. Tatulian

3469-Pos  Board #B197  COLLAGEN SINGLE FIBRIL ELASTIC MODULUS MEASUREMENT TECHNIQUE. Pavel Dutov, Jay D. Schieber, Olga Antipova, Sameer Varma, Joseph Orgel

3470-Pos  Board #B198  EVOLUTIONARY EXCURSIONS IN QUATERNARY STRUCTURE SPACE. Joseph A. Marsh, Sebastian E. Ahnert, Sarah A. Teichmann

3471-Pos  Board #B199  DEFINING PROTEIN COMPLEXES THAT MEDIATE BACTERIAL CHEMOTAXIS BY PULSED DIPOLAR ESR SPECTROSCOPY. Brian R. Crane, Peter P. Borbat, Jack H. Freed

3472-Pos  Board #B200  INTERACTION OF BETA-SHEETS TO FORM AGGREGATES AND FIBRILS, THEORETICAL AND EXPERIMENTAL SPECTROSCOPIC STUDIES OF PEPTIDE IR AND VCD SPECTRA. Heng Chi, William R. Welch, Jan Kubelka, Jiri Kessler, Petr Bour, Timothy A. Keiderling

3473-Pos  Board #B201  DESTABILIZING AMYLOID FIBRILS BY SELECTIVE SEQUENCE MUTATIONS ENABLED BY COMPUTATIONAL ASSEMBLY OF POLYMORPHIC STRUCTURES. Mohamed R. Smaoui, Jerome Waldispühl
Intrinsically Disordered Proteins III
(Boards #B202–#B220)

3474-Pos **Board #B202**
MUltiple recOgnition Motifs provide rIgidity to StAbilize Lc8 cOMPlexes. Afua Nyarko, Yujuan Song, Elisar Barbar

3475-Pos **Board #B203**
ConFOrmational alloStery in nuclEar recePtor/coReguLator trAnscriptionAl cOMPlexes. Ian M. S. De Vera, Douglas J. Kojetin

3476-Pos **Board #B204**
ARE SPIDER SIlk prOteins A neW cLAss oF intrinSically DiSorDereD prOteins? Dian Xu, Jeffrey L. Yarger, Gregory P. Holland

3477-Pos **Board #B205**
IMPlicAtions oF OrDeR DiSorDer tRAnsiTions in the Androgen recePtor for the Onset AnD tRetAfMemt of late sTAge prOsTATe cancEr. Eva De Mol, Christopher Phang, Robert B. Fenwick, Marianela Masin, Anna Montaner, Carlos Bertoncini, Xavier Salvatella

3478-Pos **Board #B206**
The intrinSically DiSorDereD photoSysteM ii suBunit, psBo, is A sensor for the hyDrogen bonding NETwork in the oxyGen evoLvinG complex. Adam R. Offenbacher, Brandon C. Polander, Bridgette A. Barry, Tanja Mittag, Amanda Nourse

3479-Pos **Board #B207**
The intrinSically DiSorDereD cytoPlasmic doMain of the t-cell recePtor zeta suBunit does not FORM DiSorDereD diMeRs. Amanda Nourse, David D. Weis

3480-Pos **Board #B208**
MAPPING RESIDUAL STRUCTURE in DISORDERED prOtein enSEMBles wITH MiLLiSEcOND H/D exCHange mASS SPECTROMETRY. David D. Weis

3481-Pos **Board #B209**
strUctUre AnD interNAl DyNAmics oF cALCITONIN Family pEPTides: IMPlicAtions for AMYloid fORMAtion. Stephanie M. Cope, Sara M. Sizemore, Anindya Roy, Giovanna Ghirlanda, Sara M. Vaiana

3482-Pos **Board #B210**
ENANTIospecific recOgnition oF the intrinSically DiSorDereD c-Myc onCOProtein by SmAll moLecules. Kaitlyn P. Gerhart, Steven J. Metallo

3483-Pos **Board #B211**
CArACTerization oF the intrinSically DiSorDereD regIOn of the solUble guAnylate cYCLase alpha-I suBunit. Candice V. Benally, Parul Singh, Matthew J. Gage

3484-Pos **Board #B212**
The strUCtural AnD kINetic ensemble oF ASB9'S n-TERMINus AnD IT'S rOLE in SUBstrate recOgnition. Jamie Schiffer, Deepa Balasubramaniam, Jonathan Parnell

3485-Pos **Board #B213**
SEQUence AnAlYsis AnD biophysical cAracterization rEveals the prEsence oF A long DiSorDereD regIOn in the CApa MEMbrAnE prOtein fRom e. tuLArEnsis. Jose M. Martin, Debra T. Hansen, Andrey Loskutov, Mark D. Robida, Felicia M. Craciunescu, Kathryn Sykes, Rebekka M. Wächter, Petra Fromme, James P. Allen

3486-Pos **Board #B214**
Structural bAsis of multiple seQUential Lc8 sITES: insIGHTs FROM interACtions oF Lc8 with PaC11. Jing Jie, Elisar Barbar

3487-Pos **Board #B215**
COMBINING NMR AnD computer simuLAting sTo evaluate cDc25b prOtein fLEXibilitY. Raphael S. Sayegh, Fabio K. Tamaki, Sandro R. Marana, Roberto K. Salinas, Guillerme M. Arantes

3488-Pos **Board #B216**
How Electrostatics InfluenceS the ConFOrmational disorder AnD DyNaMics oF the Sic1 protein: A single-MoLeCule study. BaoXu Liu, Veronika Csizmok, Patrick Farber, Julie Forman-Kay, Claudiu C. Gradinaru

3489-Pos **Board #B217**
EntHALPY-ENTroPY cOMPenantion anD isoEquilibria Implicate solvAtion as the drivIng force for Amino ACid ConFOrmational pROpensity. Siobhan Toal, Daniel Verbaro, Reinhard Schweitzer-Stenner

3490-Pos **Board #B218**
NeArest neiGhbor interACtions attenuated intrinSic AMino ACid ConFOrmational pReFerences: A combined vibrAtional anD NMR.study. Siobhan Toal, Reinhard Schweitzer-Stenner, Karin Rybka, Harold Schwalbe

3491-Pos **Board #B219**
ElectROstatics-sDePenDent shape oF the intrinSically-diSorDereD prOtein sic1. Gregory W. Gomes, BaoXu Liu, Patrick Farber, Veronika Csizmok, Julie Forman-Kay, Claudiu C. Gradinaru

3492-Pos **Board #B220**
DEVeLOPment oF intrinSically-diSorDereD prOtein BRUshes As smArT biOMAterials. Nithya srinivasan, Maniraj Bhagawati, Badriprasad Ananthanarayanan, Sanjay Kumar

DNA Recombination and Repair
(Boards #B221–#B239)

3493-Pos **Board #B221**
A COMPUTATIONAL sTudy on the rOLE oF A METHOnine AT A DIscriminAtor sITE oF CYClobuTANE-PYrimiDIne-diMer PhoTOlyASE. Ryuma Sato, Hirotaka Kitoh-Nishioka, Tsutomu Kawatsu, Kei Yura, Koji Ando, Takahisa Yamato

3494-Pos **Board #B222**
strUCtural cAracterization oF heavy metal ToxIcItY in A hoMan DNA rEpAIR glycOlyASE. Trevor Gokey, Bo Hang, Anton Guliaev

3495-Pos **Board #B223**
MINority AffAIRs traVEL AwarDee SmAll moLecule INhibitors oF interACtion BETWEEN ERCC1 AnD xPa. LieZl E. Francisco, Dmytro Kovalsky, Nikolaos Biris, Zhonghua Wang, Alex Taylor, P. John Hart, Dmitri Ivanov
3496-Pos Board #B224
SINGLE-MOLECULE VISUALIZATION OF RUVB ORIGEMER FOR CHARACTERIZING A AAA+ CLASS HEXAMERIC ATPASE WITH ZERO-MODE WAVEGUIDES. Takuma Iwasa, Yong-Woon Han, Hiroaki Yokota, Ryuji Yokokawa, Teruo Ono, Ryo Hiramatsu, Yoshide Harada

3497-Pos Board #B225
DYNAMICS OF DNA DAMAGE RECOGNITION BY NUCLEOTIDE EXCISION REPAIR PROTEIN XPC. Yogambigai Velmurugan, Xuejing Chen, Jung-Hyun Min, Anjum Ansari

3498-Pos Board #B226
ATOMISTIC STUDIES SUPPORT A DETAILED MODEL OF RECA MEDIATED HOMOLOGY RECOGNITION AND STRAND EXCHANGE. Darren Yang, Chantal Prevost, Mara Prentiss

3499-Pos Board #B227
INVESTIGATION OF THE DRUG LIKE MOLECULE BINDING TO DNA SINGLE STRAND BREAKS USING IMPROVED HYDROXYL RADICAL CLEAVAGE METHODOLOGY. Shu Zhang, Philip H. Bolton

3500-Pos Board #B228
GLOBAL AND LOCAL CONFORMATION OF MISMATCHED DUPLEX DNA UPON MSH2-MSH6 BINDING STUDIED BY STEADY-STATE AND TIME-RESOLVED FLUORESCENCE. Yan Li, Manju Hingorani, Ishita Mukerji

3501-Pos Board #B229
STRUCTURALLY DISTINCT COMPLEXES OF UBQUITIN AND SUMO-MODIFIED PCNA LEAD TO DISTINCT DNA DAMAGE RESPONSE PATHWAYS. Susan Tsutakawa, Chunli Yan, Xiaojun Xu, Breet Freudenthal, Christopher Weinacht, Zhihao Zhuang, Todd Washington, Ivaylo Ivanov

3502-Pos Board #B230
INVESTIGATING CRE-RECOMBINATION-MEDIATED DNA LOOPING USING FRET. Massa J. Shoura, Stephen D. Levene

3503-Pos Board #B231
DNA BENDING AND DISCRIMINATION OF MISMATCHES BY MUTS AND HUMAN HOMOLOGS. Michael Feig, Monika Sharma, Alexander Predeus, Shayanhangi Mukherjee, Nicholas Kovacs

3504-Pos Board #B232
SINGLE MOLECULE DYNAMICS GOVERNING THE INITIATION OF V(DJ) RECOMBINATION. Geoffrey Lovely, Martin Linden, Pradeep Ramesh, David Scharz, David Baltimore, Rob Phillips

3505-Pos Board #B233
SUBSTRATE INTERACTIONS OF A HUMAN DNA ALKYLTRANSFERASE. Michael G. Fried, Manana Melikishvili, Lance M. Hellman

3506-Pos Board #B234
WATCHING AID SCANNING SINGLE STRANDED AND TRANSCRIBED DNA WITH SINGLE MOLECULE RESOLUTION. Gayan Senavirathne, Jeff Bertram, Malgorza Jaszczur, Phuong Pham, Chi Mak, Myron F. Goodman, David Rueda

3507-Pos Board #B235

3508-Pos Board #B236
USING NANOFLUIDIC CHANNELS TO PROBE THE DYNAMICS OF RAD51-DNA FILAMENT. Louise Helena Fornander, Fredrik Persson, Joachim Fritzche, Joshua Araya, Philip Nevin, Penny Beuning, Mauro Modesti, Karolin Frykholm, Fredrik Westerlund

3509-Pos Board #B237
A SINGLE-STRAND ANNEALING PROTEIN CLAMPS DNA TO DETECT HOMOLOGY. Marcel Ander, Sivaramam Subramaniam, Karim Fahmy, A. Francis Stewart, Erik Schäffer

3510-Pos Board #B238
KINETIC ANALYSIS OF INTERACTIONS BETWEEN MUTS, MTHL AND DNA DURING INITIATION OF DNA MISMATCH REPAIR. Anushi Sharma, Manju Hingorani

3511-Pos Board #B239
BUILDING A BETTER ENGINE: STIMULATION OF SINGLE MOLECULES OF SGSI BY RPA AND TOP3-RMII. Jason C. Bell, Cezka Petr, Kowalczykowski C. Stephen

DNA Structure and Dynamics III
(Boards #B240–#B250)

3512-Pos Board #B240
CONSTRUCTION AND CHARACTERIZATION OF CY5- OR CY5-CONJUGATED HAIRPIN PYRROLE/IMIDAZOLE POLYAMIDES BINDING TO DNA IN THE NUCLEOSOME. Yong-Woon Han, Tomoko Matsumoto, Hiroaki Yokota, Yasuo Tsunaka, Gengo Kashiwazaki, Hironobu Morinaga, Kaori Hashiya, Yoshikazu Bando, Hiroshi Sugiyama, Yoshide Harada

3513-Pos Board #B241
EXTRACTION OF CONVENTIONAL TWO-STATE MELTING TEMPERATURE FROM DNA OLIGOMERS WITH SIGNIFICANT PREMELTING BEHAVIOR. Eric W. Hall, Gregory W. Faris

3514-Pos Board #B242
TARGETING OF A DNA PSEUDOKNOT IS HINDERED DUE TO FORMATION OF BASE-TRIPLET STACKS. Calliste Reiling, Luis A. Marky

3515-Pos Board #B243
SINGLE-MOLECULE FRET DETECTS INTERMEDIATES AND FAST DYNAMICS OF DNA HOLLIDAY JUNCTIONS. Alessandro Valeri, Suren Felekyan, Stanislav Kalinin, Markus Richert, Stefan Marawske, Alexander Predeus, Shayanhangi Mukherjee, Nicholas Kovacs

3516-Pos Board #B244
FLUORESCENCE APPROACH TO STUDY BASE FLIPPING IN THE DNA REPAIR MECHANISM OF T4 ENDONUCLEASE V. Matthew R. Vander-Schuur, Ricardo Martin, Elvin A. Aleman

3517-Pos Board #B245
‘AT’ CONTENT AS A DETERMINANT OF THE CHROMOSOME STRUCTURE. Hajin Kim, Jejoong Yoo, Aleksi Aksimentiev, Taekjip Ha

3518-Pos Board #B246
CONFORMATIONS OF P53 RESPONSE ELEMENTS IN SOLUTION DEDUCED USING SITE-DIRECTED SPIN LABELING AND MONTE CARLO SAMPLING. Xiaojun Zhang, Ana Carolina Dantas Machado, Remo Rohs, Peter Qin

3519-Pos Board #B247
UNIVERSAL BEHAVIOR OF DNA ESCAPE, DRIFT, AND DIFFUSION IN NANOPORES. David P. Hoogerheide, Jene A. Golovchenko
PROTEIN-NUCLEIC ACID INTERACTIONS III
(BOARDS #B251–#B273)

3520-POS BOARD #B248
SYNCHRONOUS OPTICAL AND ELECTRICAL MEASUREMENTS OF SINGLE DNA MOLECULES TRANSLOCATING THROUGH A SOLID STATE NANOPORE. Jose A. Bustamante, Nick Yelle, Tabard-Cossa Vincent

3521-POS BOARD #B249
DNA DENATURATION-SUPERCOILING TRANSITION AT THERMOPHILIC TEMPERATURES. Eric Galbur, Eric Tomko, Tom Stump, Ana Ruiz Manzano

3522-POS BOARD #B250
IN SITU STRUCTURE AND DYNAMICS OF DNA ORIGAMI DETERMINED THROUGH MOLECULAR DYNAMICS SIMULATIONS. Jejoong Yoo, Aleksei Aksimentiev

Protein-Nucleic Acid Interactions III
(Boards #B251–#B273)

3523-POS BOARD #B251
TARGET RECOGNITION AND DEGRADATION BY AN ADAPTIVE BACTERIAL IMMUNE SYSTEM. Megan L. Hochstrasser, David W. Taylor, Prashant Bhat, Chantal K. Guegler, Jennifer A. Doudna

3524-POS BOARD #B252

3525-POS BOARD #B253
STRUCTURAL BASIS FOR FOREIGN DNA INTEGRATION IN CRISPR ADAPTIVE IMMUNITY. James K. Nunez, Jennifer A. Doudna

3526-POS BOARD #B254 EDUCATION TRAVEL Awardee A BIOPHYSICAL STUDY OF THE G-QUADRUPLEX-INSULIN INTERACTION. Nicole L. Michmerhuizen, Margaret A. Van Winkle, Kumar Srinivas

3527-POS BOARD #B255
ADAR2: TOWARDS A STRUCTURAL AND KINETIC UNDERSTANDING OF RNA EDITING. Andrew D. Kehr, Mark R. Macheth, Gordon S. Rule

3528-POS BOARD #B256
ACTIVATION OF PKR BY STEM-LOOP RNAs WITH FLANKING SSRNA TAILS. Christopher B. Mayo, C. Jason Wong, James L. Cole

3529-POS BOARD #B257
DOUBLE-STRAND RNA BINDING PROTEIN PROFILING. Xinlei Wang

3530-POS BOARD #B258
THERMODYNAMIC AND STRUCTURAL STUDIES OF PDX1 BINDING TO ELEMENTS FROM NATURAL PROMOTERS AND NEAR-CONSENSUS SITES. Monique Bastidas, Scott A. Showalter

3531-POS BOARD #B259
ANALYSIS OF PKR DIMERIZATION BY RESONANCE ENERGY TRANSFER. Bushra Husain, Michael Bruno, James L. Cole

3532-POS BOARD #B260
MECHANISMS OF TRF1/TRF2 BINDING PROPERTIES AND DNA SEQUENCE RECOGNITION AS STUDIED BY MOLECULAR DYNAMICS. Milosz Wieczor, Pawel Wityk, Adrian Tobiszewski, Jacek Czub

3533-POS BOARD #B261
STATISTICAL THERMODYNAMICS FOR BINDING OF AN RNA APTAMER AND A PARTIAL PEPTIDE OF A PRION PROTEIN. Tomohiko Hayashi, Hiraku Oshima, Tsukasa Mashima, Takashi Nagata, Masato Katashira, Masahiro Kinoshita

3534-POS BOARD #B262
HOT-SPOTS DETECTION - APPLICATION TO A VARIETY OF DIFFERENT PROTEIN-BASED SYSTEMS. Rui Ramos, Joao Martins, Antonio Pimenta, Irina Moreira

3535-POS BOARD #B263
STRUCTURAL DESIGN AND VALIDATION OF LINKERS FOR ZINC FINGER PROTEINS. Priya Anand, Alexander Schug, Wolfgang Wenzel

3536-POS BOARD #B264
THE INCREASED AFFINITY AND DECREASED SELECTIVITY OF THE HPV6 E2 ALL MUTANT STEMS FROM A DECREASE IN DNA BENDING IN THE MUTANT COMPLEX. Geoffrey M. Gray, Arjan van der Vaart

3537-POS BOARD #B265
SINGLE-MOLECULE VIEW ON THE DUALITY OF MIRCORNA URIDYLIATION. Luuk Leoff, Minju Ha, Boseon Kim, Kyu-Hyeon Yeom, Dhirendra K. Simanshu, Dinshaw J. Patel, Narry V. Kim, Chirlmin Joo

3538-POS BOARD #B266
SINGLE MOLECULE DNA STRETCHING STUDIES OF DNA INTERCALATION. Ioulia Rouzina

3539-POS BOARD #B267
NUCLEIC ACID BINDING KINETICS OF HIV-1 NUCLEOCAPSID PROTEINS FROM SINGLE MOLECULE DNA STRETCHING. Jialin Li, Robert Gorelick, Ioulia Rouzina, Mark Williams

3540-POS BOARD #B268
PARTIAL UNWRAPPING OF SSB FROM SSDNA FACILITATES RECA FILAMENT FORMATION. Sukrit Suksombat, Alexander G. Kozlov, Timothy M. Lohman, Yann R. Chemla

3541-POS BOARD #B269
THE FORCE DEPENDENT PROTEIN-DNA STRUCTURE OF H-NS. Samuel Yoshua, Haowei Wang, Nanak Singh, Josh Milstein

3542-POS BOARD #B270
ENZYMATIC REACTIONS IN NANO-CONFINED DNA MONOLAYERS. Pietro Parise, Chiara Rotella, Jasmin Debra, Matteo Castronovo, Giacinto Scoles, Loredana Casalis

3543-POS BOARD #B271
SNAP: SOFTWARE FOR ANALYZING STRUCTURES OF NUCLEIC ACID-PROTEIN COMPLEXES. Xiang-Jun Lu, Wilma K. Olson, Harmen J. Bussemaker

3544-POS BOARD #B272
A PROTEIN-RNA KNOWLEDGE-BASED POTENTIAL FOR SCORING AND REFINEMENT. Adeline YL Sim, Adrien Guillo-Gaudeffroy, Chandra Verma, Peter Minar, Julie Bernauer

3545-POS BOARD #B273
ON-CHIP ANALYSIS OF INTERMITTENT MOLECULAR ENCOUNTERS IN NUCLEASE DIGESTION OF SPECIFIC DNA SEQUENCE. Daisuke Onoshima, Noritada Kaji, Manabu Tokeshi, Yoshinobu Baba

Biophysical Society 58th Annual Meeting, San Francisco, California
Membrane Physical Chemistry III (Boards #B274–#B290)

3546-Pos Board #B274
RAPID DETERMINATION OF GEOMETRY AND ELASTIC CONSTANTS OF LIQUID NANOTUBES. Pavel Bashkirov, Anna Shnyrova, Ksenia Chekashkina, Eva Rodriguez Hortalano, Petr Kuzmin, Vadim Frolov

3547-Pos Board #B275
INTERACTION OF DIGITONIN AND CHOLATE WITH COMPLEX MEMBRANES. Helen Y. Fan, Dar’ya S. Redka, Heiko Heerklotz

3548-Pos Board #B276
MEMBRANE LEAKAGE AND ANTIMICROBIAL ACTION OF POLYMERS AND SURFACANTS. Sara G. Havakenian, Runhui Liu, Samuel H. Gellman, Heiko Heerklotz

3549-Pos Board #B277
INFLUENCE OF CHOLESTEROL MICROSTRUCTURES ON FLUCTUATION SPIKES IN NYSTATIN CHANNEL CURRENTS IN PHOSPHOLIPID/CHOLESTEROL BILAYERS. Carl S. Helrich, Dennis R. Chavez

3550-Pos Board #B278
OPTIMIZING DRUG RELEASE: BILAYER TO INVERTED HEXAGONAL PHASE TRANSITION OF CATIONIC XTC2 AND ANIONIC DSPS LIPID SYSTEM IS INFLUENCED BY PH, TEMPERATURE, AND SALT CONCENTRATION. Siyun (Linda) Wang, Ismail M. Hafez, Jason Wang, Mo Ashtari, D. Peter Tieleman, Pieter R. Cullis, Jenifer L. Thewalt

3551-Pos Board #B279
MODELLING OF THE INTERACTION BETWEEN CATIONIC LIPID DLIN-KC2-DMA (XTC2) AND ANIONIC LIPID DISTEARYLPHOSPHATIDYL SERINE (DSPS). Mohammad Ashastari, D. Peter Tieleman, Linda Wang, Jenifer Thewalt, Peter R. Cullis

3552-Pos Board #B280
INTERACTION OF MEFLOQUINE HYDROCHLORIDE WITH CELL MEMBRANES MODELS STUDIED WITH TENSOMETRY AND VIBRATIONAL SPECTROSCOPY. Thiago Eichi Goto, Luciano Caseli

3553-Pos Board #B281
EFFECT OF PHOSPHOLIPID CHARGES AND SPACING ON KINETICS OF LAURDAN AND PATMAN EQUILIBRATION WITH PHOSPHOLIPID MEMBRANES. Morgan Schwab, Elizabeth Gibbons, Michael Murri, Amy Gravner, John D. Bell

3554-Pos Board #B282
INTERACTION OF SEMIFlexible FILAMENTOUS VIRUS PARTICLES WITH FREESTANDING LIPID MEMBRANES. Anastasiia B. Artemieva, Petra Schwille, Eugene P. Petrov

3555-Pos Board #B283
DIFFUSION AND FREEZING TRANSITION OF ROD-LIKE DNA ORIGAMI ON FREESTANDING LIPID MEMBRANES. Eugene P. Petrov, Aleksander Czogalla, Dominik J. Kauert, Ralf Seidel, Petra Schwille

3556-Pos Board #B284
STRUCTURE AND DYNAMICS OF LENS LIPID MEMBRANES DERIVED FROM A SINGLE PORCINE DONOR: HIGH FIELD EPR STUDY. Laxman Mainali, Jason W. Sidabras, Theodore G. Camenisch, Marija Raguz, James S. Hyde, Witold Subczynski

Membrane Dynamics II (Boards #B291–#B309)

3557-Pos Board #B285
PHOSPHOLIPID-CHOLESTEROL BILAYERS, CHOLESTEROL BILAYER DOMAINS, AND CHOLESTEROL CRYSTALS WERE DETECTED IN LIPID DISPERSION PREPARED FROM LIPIDS EXTRACTED FROM LENS NUCLEUS OF OLD HUMAN DONORS. Laxman Mainali, Marija Raguz, William J. O’Brien, Witold K. Subczynski

3558-Pos Board #B286
BE CAREFUL WHEN CHOOSING YOUR DYE LABEL: COMMERCIAL, WATER-SOLUBLE FLUOROPHORES OFTEN INTERACT WITH LIPID BILAYERS. Robert J. Rawle, Laura D. Hughes, Steven G. Boxer

3559-Pos Board #B287
HYDRATION AND TEMPERATURE-INDUCED PHOSPHOLIPID PHASE TRANSITIONS AND THEIR INFLUENCE ON DESICCATION TOLERANCE OF THE NEMATODE CAENORHABDITIS ELEGANS. Sawsan E. Abusharkh, Cihan Erkut, Teymur Kurzchal, Karim Fahmy

3560-Pos Board #B288
PHYSICAL ASPECTS OF THE CUT-OFF EFFECT OF N-ALCOHOLS IN PURE LIPID MEMBRANES. Francisco J. Sierra-Valdez, J. C. Ruiz-Suárez

3561-Pos Board #B289
INTERACTION OF NOVOBIOCIN WITH SALMONELLA SP OUTER MEMBRANE. Thatyane M. Nobre, Michael Martynowycz, Tonya Kuhl, David Gidalevitz, Hiroshi Nikaido

3562-Pos Board #B290
SIZE, MORPHOLOGY, AND MIRNA ABUNDANCE OF CELL-SECRETED MICROVESICLES. Michael E. Paulaitis, Kitty Agarwal

3563-Pos Board #B291
COMPOSITIONAL INTERFACE DYNAMICS WITHIN SYMMETRIC AND ASYMMETRIC PLANAR LIPID BILAYER MEMBRANES. Tao Han, Mikko P. Haataja

3564-Pos Board #B292
DYNAMIC IMPLICIT SOLVENT COARSE GRAINED MODELS OF LIPID BILAYER MEMBRANES: FLUCTUATING HYDRODYNAMICS THERMOSTATS. Paul J. Atzberger

3565-Pos Board #B293
DISSECTING THE ROLES OF MEMBRANE CURVATURE, LIPID RAFT FORMATION AND PROTEIN-LIPID INTERACTIONS IN THE CLUSTERING OF RAS. Philip W. Fowler, Mark S P Sansom

3566-Pos Board #B294
MOLECULAR DYNAMICS SIMULATIONS OF LIPID-LINKED OLIGOSACCHARIDES IN LIPID BILAYERS. Nathan R. Kern, Emilia L. Wu, Sunhwan Jo, Kenno Vanommeslaeghe, Wonpil Im

3567-Pos Board #B295
POTENTIAL OF MEAN FORCE CALCULATIONS FOR NILE RED IN LIPID BILAYERS. Gurpreet Singh, D. Peter Tieleman

3568-Pos Board #B296
SURFACE-TENSION REPLICA-EXCHANGE MOLECULAR DYNAMICS METHOD FOR EFFICIENT CONFORMATIONAL SAMPLING OF BIOLOGICAL MEMBRANE SYSTEMS. Takaharu Mori, Jaewoon Jung, Yuji Sugita
WHAT HAPPENS FOR STEROL DYNAMICS WHEN CHOLESTEROL IS ENZYMATICALLY OXIDIZED?

Mouitsu Manna, Sini Mokkila, Matti Javanainen, Tomasz Rog, Maarit Neuvonen, Elina Ikonen, Ilpo Vattulainen

DEVELOPMENT OF COARSE-GRAINED MARTINI MODEL FOR NUCLEIC ACID STRUCTURES. Parisa Akhtshi, Jaakko Uusitalo, Helgi Ingolfsson, Siewert-Jan Marrink, D. Peter Tieleman

LYSOLIPID CONCENTRATION EFFECT ON THE PROPERTIES OF A MEMBRANE USING MOLECULAR DYNAMICS.
J. David Orjuela, Chad Leidy, Günther H. Peters, Gilles P. Pieffet

THE ABUNDANCE OF ERGOSTEROL IN CANDIDA SPECIES DOES NOT INFLUENCE FLUCONAZOLE SENSITIVITY.
Gayatri Suresh Kumar

ARE LOCAL ANESTHETICS AND GENERAL ANESTHETICS DIFFERENT? Henrike Sasse-Middelhoff, Karis Zecchi, Thomas Heimburg

BIOPHYSICAL STUDY OF BABESIA INFECTED RED BLOOD CELL USING DIFFRACTION PHASE MICROSCOPY. HyunJoo Park, YongKeun Park

ACTIVE REGULATION OF CELLULAR MEMBRANE TENSION. Jiaxiang Tao, Sean X. Sun

KINETIC MECHANISM OF PHASE SEPARATION IN STRATUM CORNEUM MODELS BY IR SPECTROSCOPY.
Richard Mendelsohn, Ibrahim Selevany, Guangru Mao, M. Catherine Mack Correa, Russel M. Walters, David J. Moore, Carol R. Flach

FLIP-FLOPS OF LIPIDS IN THE ABSENCE OF ATP: ROLE OF MEMBRANE PROTEINS. Tuomo Nieminen, Matti Javanainen, Reinis Danne, Tomasz Rog, Andrei A. Gurtovenko, Ilpo Vattulainen

ACTIN FILAMENTS ATTACHMENT TO THE PLASMA MEMBRANE CAUSE THE FORMATION OF ORDERED LIPID DOMAINS IN LIVE CELLS. Parham Ashrafzadeh, Jelena Dinic, Ingela Parmryd

STUDY OF PROTEIN DIFFUSION IN DEFECTIVE ERYTHROCYTE MEMBRANE. He Li, George Lykotrafitis

DYNAMIC BEHAVIOR OF THE ACTIVE AND INACTIVE STATE OF ADENOSINE A2A RECEPTORS. Sangbae Lee, Supriyo Bhattacharya, Nagarajan Vaidhehi

PROTEIN-INDUCED MEMBRANE SHAPE INSTABILITY: DYNAMICS AND MEMBRANE TENSION DEPENDENCE.
Zheng Shi, Tobias Baumgart

INSIGHTS INTO THE LATERAL ORGANIZATION AND MOLECULAR ORDER OF LIPID MIXTURES THAT MIMIC THE HIV-1 MEMBRANE BY MULTIPHOTON FLUORESCENCE MICROSCOPY. Nerea Huarte, Pablo Carravilla, José L. Nieva, Jose Requejo-Isidro

CELL-CELL FUSION MEDIATED BY THE FUSION PROTEIN OF EBOLA VIRUS. Ruben M. Markosyan, Shan Lu Liu, Fredric S. Cohen

INVESTIGATION OF CALCEIN FOR REPORTING CONTENT MIXING DURING VIRAL MEMBRANE FUSION EXPERIMENTS. Laura Wessels, Keith Weninger

MECHANISM OF ACTION OF FLUPRIVITIDE, A PEPTIDE INHIBITOR OF INFLUENZA VIRUS INFECTION. Hussain Badani, Robert F. Garry, Thomas G. Voss, Russell B. Wilson, William C. Wimley

INFLUENZA FUSION PEPTIDE AND TRANSMEMBRANE DOMAIN INTERACTION INDUCES DISTINCT DOMAINS IN LIPID BILAYERS. Alex Liqi Lai, Jack H. Freed

INFLUENZA MEMBRANE FUSION AS VIEWED FROM THE STRUCTURE AND DYNAMICS OF THE FULL-LENGTH HEMAGGLUTININ FUSION DOMAIN. Justin L. Lorieux, John M. Louis, Charles D. Schwieters, Ad Bax

BIPHYSICAL STUDY OF THE DEPENDENCE OF FUSION OF DENGUE VIRUS WITH HOST MEMBRANES ON LIPID COMPOSITION. Briana C. Vernon, Sadie La Bave, David M. Rogers, Bryan Carson, Cathryn M. Siegrist, Edward Mozydowski, Frank Heinrich, Bulent Akgun, Sushil Satija, Aihua Zheng, Margaret C. Kielian, Michael S. Kent

THE VIRAL RESTRICTION FACTOR IFITM3 PROMOTES HEMIFUSION BUT BLOCKS FULL FUSION OF INFLUENZA VIRUS. Tanay M. Desai, Mariana Marin, Christopher R. Chin, George Savidis, Abraham L. Brass, Gregory B. Melikyan

NEW BROAD-SPECTRUM VIRAL FUSION INHIBITORS ACT BY DELETERIOUS EFFECT ON THE VIRAL MEMBRANE THROUGH THE PRODUCTION SINGLET OXYGEN MOLECULES. Axel Hollmann, Marcelo T. Augusto, Sonia Gonçalves, Frederic Vigant, Miguel A.R.B. Castanho, Benhur Lee, Nuno C. Santos

GP41 ECODOMAIN DISSOCIATES AND FORMS A STABLE MONOMER ON PHOSPHOLIPID VESICLES AND DETERGENT MICELLES: IMPLICATION FOR THE HIV-1 ENV-MEDIATED MEMBRANE FUSION. Julien Roche, John M. Louis, Ad Bax

SINGLE-MOLECULE MANIPULATION OF GP41 FOLDING INVOLVED IN HIV INFECTION AND DRUG RESISTANCE. Junyi Jiao, Yongli Zhang
Protein-Lipid Interactions IV (Boards #B332–#B361)

3604-Pos Board #B332 INTERNATIONAL TRAVEL Awardee TO BE OR NOT TO BE IN MEMBRANE DOMAINS: TRANSBILAYER ASYMMETRY AND SPHINGOMYELIN-DEPENDENT PREFERENTIAL PARTITIONING OF THE ACETYLCHOLINE RECEPTOR. Vanessa L. Perillo, D. Alejandro Peñalva, Marta I. Aveldaño, Francisco J. Barrantes, Silvia S. Antollini

3605-Pos Board #B333 FORMATION OF GIANT UNILAMELLAR VESICLES CONTAINING ACTIVE PROTEINS. Isabelle Motta, Vladimir Adrien, Andrea Gohlke, Pincet Frederic

3606-Pos Board #B334 INFLUENCE OF A CENTRAL TRYPTOPHAN AND OF CHOLESTEROL ON THE PROPERTIES OF DEFINED TRANSMEMBRANE HELICAL PEPTIDES. Vasupradha Suresh Kumar, Bethany P. Doss, Denise V. Greathouse, Roger E. Koeppe II

3607-Pos Board #B335 REGULATION OF K-RAS MEMBRANE ASSOCIATION: CALMODULIN VERSUS PDE6. Katrin Weise, Benjamin Sperlich, Shubhna Kapoor, Gemma Triola, Herbert Waldmann, Roland Winter

3608-Pos Board #B336 INFLUENCE OF GLUTAMIC ACID RESIDUES ON THE PROPERTIES OF MODEL MEMBRANE-SPANNING HELICES. Venkatesan Rajagopalan, Denise V. Greathouse, Roger E. Koeppe II

3609-Pos Board #B337 INFLUENCE OF PH AND HISTIDINE RESIDUES ON MEMBRANE-SPANNING HELICAL PEPTIDES. Ashley N. Martfeld, Denise V. Greathouse, Roger E. Koeppe II

3610-Pos Board #B338 MOLECULAR INSIGHT FOR THE EFFECT OF LIPID RAFT ON THROMBOSPONDIN-1 AND CALRECEUTICIN INTERACTIONS. Lingyun Wang, Joanne Murphy-Ullrich, Yuhua Song

3611-Pos Board #B339 EDUCATION TRAVEL Awardee ANALYSIS OF THE MOLECULAR ORGANIZATION OF LIPOPROTEIN-ASSOCIATED APOLIPROTEIN E, AN ANTI-ATHEROGENIC PROTEIN. Shweta Kothari, Sea H. Kim, Arri B. Patel, John K. Biedlicki, Vasanth Narayanawami

3612-Pos Board #B340 DUAL-COLOR FLUORESCENCE CROSS-CORRELATION SPECTROSCOPY OF RECONSTITUTED PROTEIN-MEMBRANE SYSTEMS. Daniela Kruger, Stefan Werner, Sebastian Daum, Jan Auerswald, Peter Simeonov, Caroline Haupt, Mikio Tanabe, Kirsten Bacia

3613-Pos Board #B341 Divalent Cation- and Cholesterol-Induced Perturbation in Lipid Lateral Organizations and Polyphosphoinositide-Protein Interactions. Yu-Hsiu Wang, Paul A. Janmey

3614-Pos Board #B342 DYNAMIC ASSOCIATION AND DISSOCIATION OF THE TUMOR SUPPRESSOR PTEN TO MODEL MEMBRANES. Brittany M. Neumann, Rakesh K. Harishchandra, Michelangela A. Yisif, Mathias Losche, Alonzo H. Ross, Arne Gericke

Membrane Structure III (Boards #B322–#B331)

3594-Pos Board #B322 CRITICAL STRETCHING AND PORES IN BOLALIPID MEMBRANE FROM FLEXIBLE STRING MODEL. Sergei I. Mukhin, Boris B. Kheyfets

3595-Pos Board #B323 LIPID MEMBRANES AS NON-LINEAR CAPACITORS. Lars D. Mosgaard, Karis A. Zecchi, Thomas Heimburg

3596-Pos Board #B324 MONOLAYER-BILAYER TRANSFORMATIONS WITH PHASE COEXISTENCE. Svetlana Baoukina, Dmitri Rozmanov, Eduardo Mendez-Villuendas, D. Peter Tieleman

3597-Pos Board #B325 BUCKLING GEL-PHASE MEMBRANES IS A WAY TO MEASURE THEIR MEAN BENDING REGIDITY. Patrick M. Diggins, Mingyang Hu, Markus Deserno

3598-Pos Board #B326 CHARACTERISATION OF COEXISTING LIQUID PHASES IN MIXTURES OF DIPALMITOYLPHOSPHATIDYLCHOLINE AND CHOLESTEROL. Matti Javanainen, Hector Martinez-Seara, Ilpo Vattulainen

3599-Pos Board #B327 EXTRACTING STRUCTURAL AND MECHANICAL PROPERTIES OF LIPID VESICLES FROM MOLECULAR DYNAMICS SIMULATIONS. Anthony R. Braun, Jonathan N. Sachs

3600-Pos Board #B328 MOLECULAR DYNAMIC STUDIES ON ORGANELLE-SPECIFIC YEAST MEMBRANE MODELS AND AMPHIPATHIC LIPID PACKING SENSOR MOTIF BINDING MECHANISM. Viviana Monk-Galvan, Jeffery B. Klauda

3601-Pos Board #B329 MOLECULAR DYNAMICS SIMULATIONS OF 4-COMPONENT MEMBRANES WITH NOVEL CATIONIC LIPIDS YIELD INSIGHT INTO APOE BINDING. Bradley P. Feuston, Steven Collerti, Christopher Cullherson, Marian Gindy, Kenneth Koepflinger, Mathew Stanton

3602-Pos Board #B330 WHAT DID WE LEARN FROM MODEL MEMBRANE STUDIES ON BIOLOGICAL MEMBRANES. Dov A. Lichtenberg

3603-Pos Board #B331 MOLECULAR-LEVEL ORGANIZATION OF THE TEAR FILM LIPID LAYER: A MOLECULAR DYNAMICS SIMULATION STUDY. Alicja Wizert, D. Robert Iskander, Pavel Jungwirth, Lukasz Cwiklik
A TALE OF TWO DOMAINS: DIFFERENT ROLES OF C1A AND C1B DOMAINS IN PKC INTERACTIONS WITH MEMBRANES.
Jianing Li

DEFINING THE ROLES OF VARIOUS LYSINES AND ARGININES IN AMOT LIPID BINDING.
LeCelia Hall

HOW MEMBRANE CURVATURE DRIVES THE UP-CONCENTRATION OF N-RAS PROTEINS TO ORDERED LIPID DOMAINS: CORRELATION OF IN VIVO AND IN VITRO EXPERIMENTS WITH MEAN FIELD THEORY CALCULATIONS AND COARSE GRAIN SIMULATIONS.

SENSING AND STIFFENING OF TUBULAR MEMBRANES BY THE SYNDAPIN 1 FBAR.
Pradeep Ramesh, Younes F. Baroji, Nader S. Reihani, Dimitrios Stamou, Lene B. Oddershede, Poul M. Bendix

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Osman Kahraman, Peter D. Koch, William S. Klug, Christoph A. Haselwandter

REGULATION OF NEUROGENIN BRANCHING BY THE INTERACTION OF NEUROLIGIN C-TERMINUS DOMAIN WITH PIP2.
Qinyu Zhang, Victor Didier Perez-Meza, John Hawkins, Mayte Pisabarro, Sophie Pautot

EFFECT OF PROTEIN-INDUCED SPONTANEOUS CURVATURE ON MEMBRANE SURFACE TENSION.
Padmini Rangamani, Kranthi K. Mandadapu, George Oster

OLIGOMERIZATION OF H-RAS ON MEMBRANE SURFACES.
Wan-Chen Lin, Lars Iversen, Hsiung-Lin Tu, Sune M. Christensen, Scott D. Hansen, William Y. C. Hwang, Jay T. Groves

CHOLESTEROL-GPCR (B2AR) INTERACTION IN LIPIDIC CUBIC PHASE: INSIGHT FROM 13C NMR.
Deborah L. Gater, Olivier Saurel, Iordan Iordanov, Wei Liu, Vadim Cherevaz, Alain Milon

QUANTITATIVE ANALYSIS OF LIGAND-INDUCED SUPRAMOLECULAR CLUSTERING OF DEATH RECEPTOR 5 IN JURKAT CELLS.
Andrew K. Lewis, Christopher C. Valley, Anthony R. Braun, Jonathan N. Sachs

STRUCTURAL DETERMINANTS OF PROTEIN ASSOCIATION WITH MEMBRANE RAFTS AND CONSEQUENCES OF RAFT MISLOCALIZATION.
Ilya Levental, Kandice Levental, Blanca B. Diaz-Aguilar

RHODOPSIN CROWDING IN MODEL LIPID BILAYERS - FUNCTIONAL IMPLICATIONS.
Olivier Soubias, John K. Northup, Kirk G. Hines, Walter E. Teague, Klaus Gawrisch

INVESTIGATION OF LIPID BILAYER EFFECTS ON RHODOPSIN ACTIVATION USING UV-VISIBLE AND FTIR SPECTROSCOPY.
Udeep Chawla, Blake Mertz, Eglof Ritter, Franz Barrl, Michael F. Brown

REVEALING TRANSIENT INTERACTIONS BETWEEN PHOSPHATIDYLINOSITOL-SPECIFIC PHOSPHOLIPASE C AND PHOSPHATIDYLCHOLINE-RICH LIPID VESICLES.
Boqian Yang, Mary F. Roberts, Anne Gershenson

INTERPLAY OF MEMBRANE LIPIDS DIFFERENTIALLY AFFECTS LIPID BINDING OF PHOSPHATIDIC ACID EFFECTORS.
Priya Putta, Johanna M. Rankenberg, Christa Testerink, Edgar E. Kooijman

THE PROTEIN THAT HELD BACK THE DYE: ANNEXIN’S EFFECT ON MEMBRANE PERMEABILITY.
Anika M. Rannikko, Katie Dunleavy, Anne Rice, Ryan Mahling, Michael Fealey, Samantha Jaworski, Anne Hinderliter

MEMBRANE INSERTION PATHWAY OF THE APOPTOTIC REPRESSOR BCL-XL: HOW (DIS)SIMILAR IS IT TO THAT OF DIPHTHERIA TOXIN T-DOMAIN?
Mauricio Vargas-Uribé, Alexey S. Ladokhin

DO ACIDIC RESIDUES IN TH8-TH9 PLAY A ROLE IN TRANSMEMBRANE INSERTION OF THE DIPHTHERIA TOXIN T-DOMAIN?
Chiranjib Ghatak, Mykola V. Rodnin, Karin Öjemalm, Aurora Holgado, Mauricio Vargas-Uribé, IngMarie Nilsson, Gunnar von Heijne, Alexey S. Ladokhin

CRUCIAL ROLE OF H322 IN THE FOLDING OF DIPHTHERIA TOXIN T-DOMAIN INTO THE OPEN-CHANNEL STATE.
Mauricio Vargas-Uribé, Mykola V. Rodnin, Paul Kienker, Alan Finkelstein, Alexey S. Ladokhin

Membrane Receptors and Signal Transduction IV (Boards #B362–#B374)

ACTIVATION OF INHIBITORY G PROTEIN CATALYZED BY GPCR: MOLECULAR DYNAMICS SIMULATIONS OF THE ACTIVATED CANNABINOID CB2 RECEPTOR / Ga1β1γ2 PROTEIN COMPLEX.
Jagjeet Singh, Diane Lynch, Alan Grossfield, Nicholas Lleo, Michael Pitman, Patricia Reggio

RESOLVIN D1, A TRIHYDROXYLATED DHA DERIVATIVE, DISPLAYS ANTI-HYPERREACTIVE EFFECTS ON HUMAN PULMONARY ARTERIES.
Roddy Hiram, Edmond Rizcallah, Chantal Sirois, Caroline Morin, Eric Rousseau

QUANTITATIVE ANALYSIS OF RECEPTORS AND SECOND MESSAGERS INTERACTIONS IN PANCREATIC BETA CELL.
Leonid E. Fridlyand, Louis H. Philipson

ROLE OF AKAPs IN BCAM/LU RECEPTOR ACTIVATION ON NORMAL AND SICKLE ERYTHROCYTES.
Jamie Maciaszek, Rohit Andemariam, George Lykotrafitis
PHOSPHORYLATION OF CARDIAC TROPONIN I AT TYROSINE 26 DECREASES THIN FILAMENT CALCIUM SENSITIVITY.
Hussam Salhi

EFFECT OF AMINO ACID CHANGES IN A TROPONIN I FH HOTSPOT ON PROTEIN:PROTEIN BINDING AND CALCIUM SENSITIVITY OF FORCE DEVELOPMENT. Ziyou Cui, Jennifer Gilda, Gaya Gomes, Aldrin V. Gomes

IN VIVO ANALYSIS OF TROPONIN C KNOCK-IN (A8V) MICE: EVIDENCE THAT TNNC1 IS A HYPERTROPHIC CARDIOMYOPATHY SUSCEPTIBILITY GENE.
Adriano S. Martins, Michelle S. Parvatiyar, Radjeep Turna, Crystal Dawn Badger, Brittany Griffin, Diego Zorio, Milica Vukmirovic, Marcos A. Sanchez-Gonzalez, David Dweck, Edda L. Ruiz, Jingsheng Liang, Yincai Wang, J. M. Overton, Jose Renato Pinto, Aldrin V. Gomes, Jian-Ping Jin, Han-Zong Feng, Jian-Ping Jin

TROPOPHINITON I SER-150 PHOSPHORYLATION SUSTAINS TROPONIN CA2+ SENSITIVITY IN AN ACIDIC ENVIRONMENT.
Benjamin R. Nixon, Shane D. Walton, Jonathan P. Davis, Brandon J. Biesiadecki

DEFICIENCY OF SLOW SKELETAL MUSCLE TROPONIN T CAUSES ATROPHY OF TYPE I SLOW FIBERS AND DECREASES TOLERANCE TO FATIGUE.
Bin Wei, Yingru Lu, J.P. Jin

ATTENUATING THE DEPRESSIVE EFFECT OF ACIDOSIS WITH MUTATIONS IN TROPONIN AND WITH 2-DEOXY-ATP.
Thomas J. Longyear, Matthew A. Turner, Brandon J. Biesiadecki, Joseph Lopez, Jonathan P. Davis, Edward P. Debold

THE EFFECT OF TRUNCATED TROPONIN COMPONENTS ON ACTIVATION OF LETHOCERUS FLIGHT MUSCLE.
Belinda Bullard, Bogos Agianian, Gian-Felice de Nicola, Annalis Pastore, Kevin Leonard

CHANGES IN THE ORIENTATION OF THE MYOSIN LIGHT CHAIN DOMAIN (LCD) ASSOCIATED WITH THICK FILAMENT-BASED REGULATION OF SKELETAL MUSCLE.
Luca Fusi, Zhe Huang, Malcolm Irving

PHOSPHOLEMMAN-DEPENDENT REGULATION OF NA/K-ATPASE MODULATES CONSTRUCTION AND RELAXATION IN AORTIC SMOOTH MUSCLE.
Andrii Boguslavskyi, William Fuller, Michael J. Shattock

CARBONIC ANHYDRASE III CONTRIBUTES TO FATIGUE TOLERANCE AND RECOVERY OF SKELETAL MUSCLE.
Han-Zhong Feng, Jian-Ping Jin

PROTEIN-PROTEIN INTERACTIONS IN SKELETAL MUSCLE CALCIUM TRANSPORT REGULATION.
Joseph M. Autry, Michael D. Schaid, Kurt C. Peterson, David D. Thomas

FLUORESCENCE COMES OF AGE: MEASURING ANGSTROM-LEVEL DISTANCE CHANGES WITHIN SINGLE FILAMENTS OF REGULATED ACTIN.
John M. Robinson, Maria E. Moutsoglou, Christopher Solis Ocampo, Gi-Ho Kim

ROLE OF THE ESSENTIAL LIGHT CHAIN IN THE ACTIVATION OF SMOOTH MUSCLE MYOSIN BY REGULATORY LIGHT CHAIN PHOSPHORYLATION.
Kenneth A. Taylor, Michael Feig, Charles L. Brooks, III, Patricia M. Fagnant, Susan Lowey, Kathleen M. Trybus

DEPENDENCE OF THE RATE OF PHOSPHATE DISSOCIATION FROM ACTOMYOSIN-ADP.PI UPON THE ALKALI LIGHT CHAINS IN SKELETAL MUSCLE MYOSIN.
David H. Hecey, Betty Belknap, Howard D. White

THE MECHANISM OF HCM-RELATED MUTATION R21C ON THE MODULATION OF C-I INTERACTIONS AND CONTRACTILE KINETICS.
Yuanhua Cheng, Vijay S. Rao, Maria V. Razumova, An-yue Tu, Leping Xie, Xiaoqiang (Charles) Luo, J. Andrew McCammon, Andrew Mc Culloch, Michael Regnier

ACTIN-ACTIVATED ATPASE AND ACTIN SLIDING VELOCITIES ARE SIMILARLY INFLUENCED BY ACTIN-MYOSIN BINDING KINETICS.
Travis J. Stewart, Samuel P. Dugan, Andrew Manfra, Steven Bonzell, Christine R. Cremo, Josh E. Baker

EFFECTS OF EMD57033 AND EGCG ON MODULATION OF CA2+-SENSITIVITY BY PKA PHOSPHORYLATION.
Andrew E. Messer, Mary Papadaki, Steven B. Marston

OPTOGENETIC STIMULATION OF SKELETAL MUSCLES.
Tobias Brügmann, Tobias van Bremen, Thorsten Send, Frank Holst, Andreas Schröck, Philipp Sasse

TARGETING NRF2 ACTIVATION MODULATES X-ROS SIGNALING IN DYSTROPHIC SKELETAL MUSCLE.
Christopher W. Ward, Jaclyn M. Kerr, Ponvijay Kombairaju, Thomas E. Sussan, Stephen J. P. Pratt, Richard M. Lowering, Ramzi Khairallah, Shyam Biswal

MICROTUBULE NETWORK DENSITY TUNES BOTH STRETCH AND CONTRACTION ACTIVATED X-ROS.

NIFEDIPINE TREATMENT IMPROVES MUSCLE FUNCTION IN MDX MICE.
Francisco Altamirano, Denise Valladares, Carlos Henriquez-Olguin, Mariana Casas, Jose R. Lopez, Paul D. Allen, Enrique Jaimovich
Excitation-Contraction Coupling II (Boards #B411–#B433)

3683-Pos  Board #B411  TRIC-A PREVENTS STORE-OVERLOAD INDUCED CALCIUM RELEASE THROUGH INTERACTION WITH THE CARDIAC RYANODINE RECEPTOR. Xinyu Zhou, Ki Ho Park, Pei-hui Lin, Mingzhi Sun, Zai Pan, Miyuki Nishi, S.R. Wayne Chen, Hiroshi Takeshima

3684-Pos  Board #B412  NADPH OXIDASE-INDUCED OXIDATIVE STRESS IMPAIRS AUTOPHAGY IN DYSTROPHIC SKELETAL MUSCLE. Rituraj Pal, James A. Loehr, Shumin Li, Michela Palmieri, Marco Sardiello, George G. Rodney

3685-Pos  Board #B413  INTERNATIONAL TRAVEL AWARDEE LOCAL REDOX MODIFICATIONS IN SKELETAL MUSCLE DIFFERENTIALLY AFFECT SARCOPLOASMIC RETICULUM CALCIUM RELEASE AND MUSCLE FORCE GENERATION. Arthur J. Cheng, Joseph D. Bruton, Håkan Westerblad, Johanna T. Lanner

3686-Pos  Board #B414  STRETCH-DEPENDENT SUB-CELLULAR CA++ SIGNALING IN ATRIAL MYOCYTES. Maura Greiser, Benjamin L. Prosser, Ramzi Khairallah, Chris W. Ward, W. Jon Lederer

3687-Pos  Board #B415  AMELIORATION OF ISCHEMIA-REPERFUSION INDUCED MUSCLE INJURY BY THE RECOMBINANT HUMAN MG53 PROTEIN. Hua Zhu, Janet L. Roe, Ki Ho Park, Tao Tan, Pei-hui Lin, Jianjie Ma, Thomas J. Walters

3688-Pos  Board #B416  THE CATHEPSIN-L INHIBITOR CAA0225 IMPROVES CARDIAC FUNCTION DURING ISCHEMIA-REPERFUSION. Weihong He, Douglas McCarroll, Elspeth B. Elliott, Christopher M. Loughrey

3689-Pos  Board #B417  ALTERED CA HOMEOSTASIS AND CA ALTERNANS IN LEFT ATRIAL MYOCYTES OF SPONTANEOUSLY HYPERTENSIVE RATS. Cornelia F. Pluteanu, Judit Preisenberger, Johannes Heß, Yulia Nikonova, Jelena Plackic, Jens Kocks-kämper

3690-Pos  Board #B418  ALTERATED INTRACELLULAR CALCIUM ION REGULATION PLAYS IMPORTANT ROLE IN HIGH CARBOHYDRATE INTAKE INDUCED MYOCARDIAL REMODELING. Esma N. Okaran, Aysegul Toy, Belma Turan

3691-Pos  Board #B419  NOS-DEFICIENT LUMBRICULAR MUSCLES EXHIBIT NORMAL FATIGUE RESISTANCE AND CALCIUM HANDLING. Wallace G. Kerrick, Justin M. Percival

3692-Pos  Board #B420  CARDIAC SELECTIVE MODULATOR OF HUMAN MYOSIN FOR THE TREATMENT OF GENETIC HYPERTROPHIC CARDIOMYOPATHY. Haben T. Ghremazien, Yonghong Song, Christopher P. Willits, Arbinder S. Stan, Robert L. Anderson, Hector M. Rodriguez, Johan Oslob

3693-Pos  Board #B421  NOD-1 STIMULATION INDUCES CARDIAC DYSFUNCTION AND CALCIUM HANDLING IMPAIRMENT IN A MICE MODEL. María Fernandez Velasco

3694-Pos  Board #B422  ANGIOPOETIN 1 ENHANCES THE PROLIFERATION AND DIFFERENTIATION OF SKELETAL MYOBLASTS. Eun Hui Lee, Jin Seok Woo, Ji-Hye Hwang, Jae-Hyong Park, Chung-Hyun Cho

3695-Pos  Board #B423  CYTOSOLIC CA BUFFERING OF HUMAN INDUCED PLURIPOTENT STEM CELL-DERIVED CARDIOMYOCYTES AND ADULT RABBIT VENTRICULAR CARDIOMYOCYTES. Dmytro Krysthalt, Hyun Seok Hwang, Verónica Sánchez-Freire, Joseph C. Wu, Björn C. Knollmann

3696-Pos  Board #B424  DIRECT CONTACT BETWEEN HUMAN CARDIAC FIBROBLASTS AND HUMAN INDUCED PLURIPOTENT STEM CELL-DERIVED CARDIOMYOCYTES COUNTERACTS CHANGES IN CALCIUM CYCLING INDUCED BY SOLUBLE MEDIATORS. Christopher Kane, Nicola Hellen, Tatiana Trantidou, Patrizia Camellitti, Cesare Terracciano

3697-Pos  Board #B425  A NOVEL COMPUTATIONAL MODEL OF MOUSE MYOCYTE ELECTROPHYSIOLOGY TO ASSESS THE SYNERGY BETWEEN NA LOADING AND CAMKII. Stefano Morotti, Andrew G. Edwards, Andrew D. McCulloch, Donald M. Ber, Eleonora Grandi

3698-Pos  Board #B426  INTERNATIONAL TRAVEL AWARDSEE CONTRIBUTION OF THE MECHANICAL LOADS TO SUSCEPTIBILITY TO ARRHYTHMIA IN SUBENDOCARDIAL AND SUBEPICARDIAL VENTRICULAR MYOCYTES. Anastasia Vasilyeva, Olga Soloyova, Vladimir Semenovich Markhasin

3699-Pos  Board #B427  INTRA-MYOCARDIAL SLOW FORCE RESPONSE IN HETEROGENEOUS MYOCARDIUM. Olga Soloyova, Pavel Konovalov, Elena Lobova, Vladimir S. Markhasin

3700-Pos  Board #B428  NEW METHOD FOR DETERMINING THE TOTAL CALCIUM CONTENT OF TISSUE APPLIED TO WHOLE SKELETAL MUSCLES FROM MICE WITH AND WITHOUT CALSEQUESTRIN KNOCKED OUT. Sandrine A. Kake-Guena, Cedric R.H. Lamboley, Patrice Bouchard, Jerome Frenette, Eric Rousseau, Robert T. Dirksen, Feliciano Protasi, Paul C. Pape

3701-Pos  Board #B429  OPTOGENETIC CONTROL OF SKELETAL MUSCLE EXCITABILITY. Marino Di Franco, Marbella Quiñonez, Julio Vergara

3702-Pos  Board #B430  IMPEDANCE ANALYSIS OF STEM CELL-DERIVED CARDIOMYOCYTES FOR SAFETY SCREENING AND DRUG DISCOVERY. Sonja Stoelzel-Feix, David Guinot, Matthias Beckler, Tobias Schwarzengerl, Ulrich Thomas, Leo Doer, Peter Prinzen, Johannes Stiehler, Andrea Bruggemann, Michael George, Niels Fertig

3703-Pos  Board #B431  IMPROVED TECHNOLOGY FOR FOCUSED-ION-BEAM THINNING OF TISSUE FOR CRYO-ELECTRON TOMOGRAPHY. APPLICATION TO TRIAD JUNCTIONS. Terence Wagenknecht, Chyong-ere Hsieh, Gregory Kischenko, Clara Franzini-Armstrong, Michael Marko

3704-Pos  Board #B432  CRUDE OIL IMPAIRS CARDIAC EXCITATION-CONTRACTION COUPLING IN FISH. Fabien Brette, Caroline Cros, Ben Machado, John F. Incardona, Nathaniel L. Scholz, Barbara A. Block
**Biopolymers in Vivo** (Boards #B434–#B453)

**3706-Pos**  **BOARD #B434**
A FAST, HIGH-THROUGHPUT, AND HIGHLY SENSITIVE ANALYSIS OF BACTERIAL CELL WALLS USING ULTRA PERFORMANCE LIQUID CHROMATOGRAPHY. **Samantha Desmarais**, Miguel de Pedro, Kerwyn Casey Huang

**3707-Pos**  **BOARD #B435**
A CONFORMATIONAL LANDSCAPE FOR ALGINATE SECRETION ACROSS THE OUTER MEMBRANE OF PSEUDOMONAS AERUGINOSA. **Sarah L. Rouse**, Martin Caffrey, Mark S.P. Sansom

**3708-Pos**  **BOARD #B436**
SINGLE MICROBE TRAP AND RELEASE USING SUB-MICROFLUIDICS: METHODS AND APPLICATIONS IN BIOPOLYMER TRAFFICKING. **Andreas E. Vasdekis**, Gregory N. Stephanopoulos

**3709-Pos**  **BOARD #B437**
A SEA-CUCUMBER DERIVED NOVEL PROTEIN THAT SOFTENS THE CELL-DISRUPTED CATCH CONNECTIVE TISSUE THROUGH INHIBITING THE INTERACTION BETWEEN COLLAGEN FIBRILS. **Yasuhiro Takehana**, Akira Yamada, Masaki Tamori, Tatsuo Motokawa

**3710-Pos**  **BOARD #B438**
CONNECTIVE TISSUES IN ECHINODERM ANIMALS THAT CAN REVERSIBLY CHANGE THEIR STIFFNESS AND THEIR STIFFENING PROTEIN FACTORS. **Akira Yamada**, Yasuhiro Takehana, Masaki Tamori, Tatsuo Motokawa

**3711-Pos**  **BOARD #B439**
DIFFUSION DISCREPANCY BETWEEN STROMA OF TUMOR AND NORMAL TISSUES. **Yun Chen**, Michael A. Tangrea, Avi Z. Rosenberg, Qiang Du, Michael A. Emmert-Buck

**3712-Pos**  **BOARD #B440**
EFFECT OF OLIGOSACCHARIDE MODIFIED MATERIAL X ON VIABILITY OF HUMAN CANCER CELL LINES. **Gyu Suk O**, Yong Hun Go, Jeong Gyun Kim, Jae Kweon Park, You Jin Hwang

**3713-Pos**  **BOARD #B441**
CYTOTOXIC EFFECTS OF SUBSTANCE A OBTAINED FROM OLIGOSACCHARIDES ON HUMAN LUNG CANCER CELL LINE, A549. **Jeong Gyun Kim**, Gyu Suk O, Yong Hun Go, Jae Kweon Park, You Jin Hwang

**3714-Pos**  **BOARD #B442**
IN VIVO STUDIES OF ACTIVE PROCESSES IN THE ESCHERICHIA COLI NUCLEOID. **Rudra P. Kafle**, Jens-Christian Meiners, Thaige Gompa

**3715-Pos**  **BOARD #B443**
THE ENERGETIC CONTRIBUTION OF WATER IN THE BINDING OF RIBONUCLEASE A AND UMP. **Jennifer M. Le**, Daryl K. Eggers

**3716-Pos**  **BOARD #B444**
SIZE, STOICHIOMETRY, AND ORGANIZATION OF SOLUBLE LC3-ASSOCIATED COMPLEXES. **Lewis J. Kraft**, Tuan A. Nguyen, Steven S. Vogel, Anne K. Kenworthy

**3717-Pos**  **BOARD #B445**
HOMEOSTASIS OF THE CELLULAR ACTIN CORTEX. **Marco Fritzschke**, Christoph Erlenkämper, Guillaume T. Charras, Karsten Kruse, Christian Eggeling

**3718-Pos**  **BOARD #B446**
STRUCTURAL TRANSITIONS OF MEMBRANE-BOUND CHIRAL BIOPOLYMERS. **David A. Quint**, Greg M. Grason, Ajay Gopinathan

**3719-Pos**  **BOARD #B447**
IN VIVO ORIENTATION OF SINGLE MYOSINS IN A ZEBRAFISH EMBRYO. Xiaojing Sun, Stephen C. Ekker, Eric A. Shelden, Naoko Takubo, Yihua Wang, **Thomas P. Burghardt**

**3720-Pos**  **BOARD #B448**
PROTEIN RECOGNITION AND SELECTION THROUGH CONFORMATIONAL AND MUTUALLY INDUCED FIT. **Margaret Cheung**, Qian Wang, Penghe Zhang, Laurel Hoffman, Dirar Homouz, Yin Liu, M Neal Waxham

**3721-Pos**  **BOARD #B449**
PROTEIN FOLDING AND AGGREGATION - FROM CROWDED ENVIRONMENTS INTO THE CELL. **Simon Ebbinghaus**

**3722-Pos**  **BOARD #B450**
WHAT KIND OF MICROVISCOITY DOES A MOLECULE EXPERIENCE DURING ITS ROTATIONAL AND TRANSLATIONAL DIFFUSION IN CROWDED ENVIRONMENTS? Chang Thao, Randi Timerman, Robb Welty, Dhanushka Wickramasinghe, Ahmed Heikal

**3723-Pos**  **BOARD #B451**
MACROMOLECULAR CROWDING EFFECTS ON THE MULTISCALE DIFFUSION OF SINGLE MOLECULES. **Erin D. Sheets**, Robb Welty, Ahmed A. Heikal

**3724-Pos**  **BOARD #B452**
PROTEIN STABILITY IN LIVING CELLS. **William B. Monteith**, Gary J. Pielak

**3725-Pos**  **BOARD #B453**
AUC IN SERUM USING THE AVIV-FDS AND SEDANAL GLOBAL DIRECT BOUNDARY FITTING. **John J. Correia**, Daniel F. Lyons, Walter Stafford, Peter Sherwood

**3726-Pos**  **BOARD #B454**
SCREENING OF NOVEL MODULATORS FOR BKCA CHANNEL BY THE CELL-BASED ASSAY PLATFORM EMPLOYING A HYPERACTIVE MUTANT CHANNEL. **Byoung-Cheol Lee**, Sojung Lee, Chul-Seung Park

**3727-Pos**  **BOARD #B455**

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**Voltage-gated K Channels III** (Boards #B454–#B475)
3728-Pos  Board #B456
THE MOLECULAR BASIS OF KCNH CHANNEL REGULATION BY THE EAG DOMAIN. **Yoni Haitin**, Anne E. Carlson, William N. Zagotta

3729-Pos  Board #B457
ROSETTA STRUCTURAL MODELING OF TARANTULA TOXIN BINDING TO VOLTAGE SENSORS. **Drew C. Tilley**, Rayan Kaakati, Vladimir Yarov-Yarovoy, Jon T. Sack

3730-Pos  Board #B458
COMMON INTERACTION SURFACES FOR TARANTULA TOXINS TARGETING KV AND ASIC CHANNELS. Maryam Zamani, Chanhyung Bae, Drew Tilley, **Kanchan Gupta**, Jon Sack, Vladimir Yarov-Yarovoy, Jae Il Kim, Kenton Swartz

3731-Pos  Board #B459
BINDING STRUCTURE & DYNAMICS FOR TOXINS MODIFYING THE GATING MECHANISM OF KV CHANNELS. **Anders Gabrielson**, Sara Liin, Fredrik Elinder, Erik Lindahl

3732-Pos  Board #B460
EXPRESSION OF DIFFERENT SUBUNITS OF THE CALCIUM-REGULATED BK CHANNEL IN RAT BRAIN AND ITS PUTATIVE CYTOTOXIC PROPERTIES. **Bartlomiej S. Augustyniak**, Anna Kajma-Olszewska, Wolfram S. Kunz, Adam Szewczyk

3733-Pos  Board #B461
CALCULATED DEPENDENCE STOICHIOMETRIES OF AN SK2 INTRACELLULAR DOMAIN/CALMODULIN COMPLEX. **David B. Halling**, Sophia A. Kenrick, Richard W. Aldrich

3734-Pos  Board #B462
EXAMINING PROTEIN, LIPID AND WATER DISTRIBUTION IN LIPID MEMBRANES WITH POTASSIUM CHANNEL KCAS. **Ella Mihailescu**, Joseph Blasich, David Worcester

3735-Pos  Board #B463
INFLUENCE OF LIPID BILAYER THICKNESS ON ION CHANNELS USING SINGLE-CHANNEL VOLTAGE-CLAMP FLUORESCENCE IMAGING. **Hugo McGuire**, Rikard Blunck

3736-Pos  Board #B464
MOLECULAR CHARACTERIZATION OF THE BINDING OF POLYUNSATURATED FATTY ACIDS TO A VOLTAGE-GATED POTASSIUM CHANNEL. **Sammy Yazdi**, Magnus Andersson, Fredrik Elinder, Matthias Stein, Erik Lindahl

3737-Pos  Board #B465

3738-Pos  Board #B466
KV1.3-BLOCKING PEPTIDES FROM PARASITIC WORMS EXHIBIT IMMUNOMODULATORY FUNCTION. **Hai M. Nguyen**, Sandeep Chhabra, Shih Chieh Chang, Redwan U. Huq, Mark R. Tanner, Luz M. Londono, Mariel Gindin, Peter J. Hotze, Biswarajan Mohanty, Shawn P. Iadonato, George A. Gutman, Christine Beeton, Michael W. Pennington, Raymond S. Norton, K. George Chandy

3739-Pos  Board #B467
BIOPHYSICAL CHARACTERIZATION OF THE POTASSIUM CHANNEL KV1.3 IN B CELLS FROM PATIENTS AFFECTED BY CHRONIC LYMPHOCYTIC LEUKEMIA. **Luigi Leanza**, Federica Frezzato, Livio Trentin, Gianpietro Semenzato, Mario Zoratti, Ildikó Szabó

3740-Pos  Board #B468
INTERNATIONAL TRAVEL AWARD EE THE SH3-BINDING DOMAIN OF KV1.3 CHANNELS IS REQUIRED FOR THEIR CONTRACTIN-CONVEYED COUPLING TO ACTIN. **Orsolya Szilágyi**, Geoffrey V. Martin, Peter Hajdu, Ameet Chinte, Koichi Takimoto, Laura Conforti

3741-Pos  Board #B469
ROLE OF KV1.3 POTASSIUM CHANNELS IN AUDITORY FUNCTION. **Lynda El-Hassar**, Lei Song, Vali R. Gazula, Dashakumar Navaratnam, Joseph Santos-Sacchi, Learnard Kaczmarek

3742-Pos  Board #B470
EXPLORING THE EFFECT OF GAMBIEROL ON THE GATING MACHINERY OF KV3.1 CHANNELS. **Ivan Kopjar**, Alessandro Grottesi, Jon D. Rainier, Jan Tytgat, Alain J. Labro, Dirk J. Snyders

3743-Pos  Board #B471
REGULATION OF K_1.5 CHANNEL DENSITY IN THE RAT ATRIA. **Elise Balse**, Camille S.M. Barbier, Catherine A. Eichel, Catherine Rucker-Martin, Hannah E. Boycott, Florent Louault, Alain Coulombre, Stephane N. Hatem

3744-Pos  Board #B472
HAMPSON ENERGY SHIFTS REVEAL SEQUENCE OF CONFORMATIONAL CHANGES IN N- AND C-TYPE INACTIVATION OF KV1.4. Hong Guo, Agnieszka Lis, Glenna CL Bett, **Randall L. Rasmusson**

3745-Pos  Board #B473
MODELING EXCITABILITY IN MECHANOSENSORY NEURONS WITH MS CATION AND MS KV CHANNELS. **Catherine E. Morris**, Bela Joos

3746-Pos  Board #B474
SHEAR-STRESS TRIGGERED VOLTAGE-GATED KV1.5 CHANNELS EXOCYTOSIS IS ALTERED IN OVERLOADED ATRIA. **Hannah E. Boycott**, Camille S.M. Barbier, Catherine A. Eichel, Florent Louault, Gilles Dilanian, Alain Coulombre, Stephane N. Hatem

3747-Pos  Board #B475
KCND2 MUTATION ASSOCIATED WITH AUTISM AND EPILEPSY IMPAIRS INACTIVATION GATING IN KV4.2 CHANNELS. **Meng-chin A. Lin**, Hane Lee, Harley I. Korinblum, Stanley F. Nelson, Diane M. Papazian

Mechanisms of Voltage Sensing and Gating (Boards #B476–#B504)

3748-Pos  Board #B476
GENERALIZED INTERACTION ENERGY ANALYSIS OF INTERSUBUNIT LINKAGE IN SHAKER POTASSIUM CHANNELS. Sandipan Chowdhury, **Benjamin M. Haehnel**, Baron Chanda

3749-Pos  Board #B477
3750-Pos  Board #B478
PROBING MECHANISMS THROUGH WHICH DRUGS AFFECT VOLTAGE-SENSITIVE GATING. Zachary Beller, Mark Zaydman, Jianmin Cui

3751-Pos  Board #B479
SINGLE MOLECULE FLUORESCENCE OF AN S4-BASED VOLTAGE SENSOR. Jeremy S. Treger, Michael F. Priest, Tomoya Kubota, Ludivine Frezza, Francisco Bezanilla

3752-Pos  Board #B480
EFFECTS OF DECREASED HYDROPHOBICITY ABOVE R1 IN S4-BASED VOLTAGE SENSORS. João L. Carvalho-de-Souza, Jerome J. Lacroix, Francisco Bezanilla

3753-Pos  Board #B481
GENETICALLY-ENCODED FLUORESCENT VOLTAGE SENSORS CAPABLE OF RESOLVING A 6MV DEPOLARIZATION. Arong Jung

3754-Pos  Board #B482
THE EFFECT OF INTERHELICAL LOOP LENGTH AND COMPOSITION ON THE ELECTROSTATIC INTERACTIONS OF THE VOLTAGE SENSOR DOMAIN OF JSHAK1. Nazlee Sharmin, Matthias Ostermaier, Warren J. Gallin

3755-Pos  Board #B483

3756-Pos  Board #B484
NETWORKS OF COEVOVOLVING RESIDUES IN VOLTAGE SENSOR DOMAINS. Vincenzo Carnevale, Eugene Palovcak, Lucie Delemotte, Michael Klein

3757-Pos  Board #B485
A STRUCTURE BASED COURSE-GRAINING PHYSICAL MODELING OF THE VOLTAGE ACTIVATED KV1.2 CHANNEL - SIMULATING AND ANALYZING THE FAST GATING CURRENT. Ilsoo Kim, Arieh Warshel

3758-Pos  Board #B486
ROLE OF CHARGED RESIDUES IN THE REGULATION OF VOLTAGE SENSOR MOVEMENT IN HERG K+ CHANNELS. Yue Wu, Ying Dou, David Fedida

3759-Pos  Board #B487
THE N-TERMINUS OF AUXILIARY BETA SUBUNIT IS INVOLVED IN THE MODULATION OF VOLTAGE SENSOR BK PORE-FORMING ALPHA SUBUNIT. Karen Castillo

3760-Pos  Board #B488
WHOLE-CELL GATING-CHARGE MEASUREMENTS FOR ANALYSIS OF ALLOSTERIC DOMAIN COUPLING IN HSO1 BK CHANNELS. Guido Gessner, Katharina Held, Toshinori Hoshi, Stefan H. Heinemann

3761-Pos  Board #B489
PROBING THE VOLTAGE GATED PROTON CHANNEL HV1 WITH FRET. Victor De la Rosa, Gisela E. Rangel-Yescas, Ernesto Ladrón-de-Guevara, Leon D. Islas

3762-Pos  Board #B490
THE ACTIVATION KINETICS OF THE VOLTAGE-GATED PROTON CHANNEL IS DRASTICALLY ACCELERATED BY UNSATURATED FATTY ACIDS. Akira Kawanabe, Yasushi Okamura

3763-Pos  Board #B491
ELECTROSTATIC INTERACTIONS IN THE CLOSED AND OPEN STATES OF VOLTAGE-GATED PROTON CHANNELS. Feng Qiu, Adam Chamberlin, Sergei Noskov, H. Peter Larsson

3764-Pos  Board #B492
ON THE LOCATION OF BINDING SITES OF 2-GUANIDINOBENZIMIDAZOLE IN THE VOLTAGE-GATED PROTON CHANNEL. Adam C. Chamberlin, Feng Qui, Sergei Noskov, Peter Larsson

3765-Pos  Board #B493
INHIBITION OF VOLTAGE-GATED HV1 CHANNEL BY GUANIDINE DERIVATIVES. Liang Hong, Iris Kim, Francesco Tombola

3766-Pos  Board #B494
EXPLORING CONFORMATIONAL REARRANGEMENTS IN A NOVEL VOLTAGE-SENSING PROTEIN. Ferenc Papp, Erika Babikow, Jaime Smith, Tsg-Hui Chang, Kenton J. Swartz

3767-Pos  Board #B495
THE RESTING STATE OF HUMAN PROTON CHANNEL FROM FUNCTIONAL AND STRUCTURAL DETERMINATIONS. Qifei Li, Sherry Wandering, Eduardo Perozo

3768-Pos  Board #B496
ELECTROMECHANICAL COUPLING IN GATING OF THE HV1 VOLTAGE SENSOR IS REVEALED BY RESTING-STATE CURRENTS IN AN S4 ARG TO HIS MUTATION (R205H). I. Scott Ramsey, Aaron L. Randolph

3769-Pos  Board #B497
LONG ALPHA-HELICES PROJECTING FROM THE MEMBRANE AS THE DIMER INTERFACE IN THE VOLTAGE-GATED H+ CHANNEL. Yuichiro Fujitwara, Tatsuki Kurokawa, Yasushi Okamura

3770-Pos  Board #B498
PH SENSITIVITY OF VOLTAGE SENSING DOMAIN RELAXATION. Carlos A. Villalba-Galea

3771-Pos  Board #B499
GATING-COUPLED CLUSTERING-DISPERSION DYNAMICS OF THE KCaA POTASSIUM CHANNEL IN A LIPID MEMBRANE. Ayumi Sumino, Daisuke Yamamoto, Masayuki Iwamoto, Takehisa Dewa, Shigetoshi Oik

3772-Pos  Board #B500
TOWARDS THE INCORPORATION OF FUNCTIONAL ION CHANNEL PROTEINS IN TETHERED MEMBRANES. David P. Hoogerheide, Amit Vaish, Tatiana Rostovtseva, Adam Kuszak, Sergey Bezrukov, Susan Krueger, Hirsh Nanda

3773-Pos  Board #B501
A NOVEL MECHANISM OF VOLTAGE SENSING AND GATING IN K2P POTASSIUM CHANNELS. Marcus Scheue, Markus Rapeditus, Ehsan Nemati-Ardestani, Thomas Linke, Klaus Benndorf, Stephen J. Tucker, Thomas Baukrowitz

3774-Pos  Board #B502
SHIFTING THE GATING EQUILIBRIUM OF A POTASSIUM CHANNEL VIA HYDROPHOBIC MISMATCH. Dylan O. Burdette, Adrian Gross

3775-Pos  Board #B503
CORRELATED SINGLE-MOLECULE SPECTROSCOPY AND PATCH-CLAMP STUDIES OF VOLTAGE GATED ION CHANNEL ACTIVATION DYNAMICS IN LIVING CELLS. Dibyendu Sasmal, H. Peter Lu
Ion Channel Regulatory Mechanisms (Boards #B505–#B534)

VOLTAGE GATED LIPID ION CHANNELS. Andreas Blicher, Thomas Heimburg

A POINT MUTATION THAT IMPAIRS THE OMEGA-3 FATTY ACID SENSITIVITY OF HUMAN SLO1 BK CHANNELS. Toshinori Hoshi, Rong Xu, Shangwei Hou, Stefan H. Heinemann, Yutao Tian

CALCium AND PiP2 INTERPLAY REGulates BK CHANNEL ACTIVITY VIA THE RCK1 GATING RING. Qiong-Yao Tang, Zhe Zhang, Xuan-Yu Meng, Meng Cui, Diomedes E. Logothetis

PIP2-CHANNEL INTERACTION AS A CRITICAL ELEMENT IN REGULATION OF SK CHANNEL ACTIVITY. Miao Zhang, Meng Cui, Xuan-Yu Meng, Ji-Fang Zhang, Diomedes E. Logothetis

DYNAMIC PiP2-IKS INTERACTIONS MEDIATE CARDiAC RATE ADAPTATION. Mark A. Zaydman, Yang Li, Zachary Beller, Dick Wu, Haoyang Rong, Jonathan R. Silva, Kelli Delaloye, Jingyi Shi, Ira Cohen, Jianmin Cui

ANGIOTENsIN II MODULATES Iks BY MULTIPLE MECHANISMS WITH VARYING OUTCOMES. Yuhong Wang, Min Jiang, Mei Zhang, Dona Occhipinti, Tseng Gea-Ny

NOVEL ROLE FOR KCnQP2 AS A TRANSCRIPTIONAL REGULATOR OF CARDiAC GENes. Drew M. NassaI, Haiyan Liu, Xiaoping Wan, Eckhard Ficker, Isabelle Deschenes

BIOCHEMICAL ASSAYS OF cAM AND PiP2 INTERACTIONS WITH KCnQ CHANNEL DOMAINS. Crystal R. Archer, Pamela A. Reed, Mark S. Shapiro

USE OF A VOLTAGE-SENSITIVE PHOSPHATASE HIGHLIGHTS TWO PiP2-BINDING SITES IN THE C-TERMiNUS OF KCnQ3 CHANNELS. Frank S. Choveau, Mark S. Shapiro

PHOSPHOiNOSITIDE REGULATION OF THE MECHANOSENSITIVE PIEZO CHANNELs. Istvan Borbory, Doreen Badhoka, Tibor Rohacs

LINOLENIC AND LINOLEIC ACID INDUCE THE OPENING OF CONNEXIN 43, 46 AND 50 HEMICHANNEL IN hUMAN HELA CELLS. Vania A. Figueroa, Mauricio A. Retamal

ENHANCING THE ATPASE ACTIVITY OF THE CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR CFtR IN LIVE CELLS REDUCEs CHLORIDE FLUX. Anna Seelig, Matthias Zwick

MECHANISM OF CLCA1-MEDIATED CACC ACTIVATION IN CHRONiC LUNG DISEASES. Zeynep Yurtsever, Monica Sala-Rabanal, Colin G. Nichols, Tom J. Brett

THE MAGUK SCAFFOLDING PROTEIN CASK REGULATES TMEM16A CHANNEL FUNCTION BY PHOSPHORYLATION. Kuai Yu, Jinqiu Zhu, Yuanyuan Cui, H. Criss Hartzell
TRP Channels II (Boards #B535–#B557)

3807-Pos Board #B535
ROLE OF POLYPHOSPHATE IN CANCER CELL PROLIFERATION. Lusine Demirkhanyan, Pia Elustondo, Evgeny Pavlov, Eleonora Zakharian

3808-Pos Board #B536
UPEREGULATION OF TRPM7-LIKE CURRENT IN ISCHEMIA DAMAGED HUMAN ATRIAL CARDIOMYOCYTES. Mante Almanaitiene, Irma Matrisiene, Vida Gendviliene, Regina Macianskiene

3809-Pos Board #B537
DEVELOPMENT OF TRPC ASSAYS ON AUTOMATED ELECTROPHYSIOLOGY PLATFORMS. Mark J. McPate, Gurdeep Bhalay, Sian Fairbrother, Martin Gosling, Paul J. Groot-Kormelink, Rebecca Lane, Toby Kent, Michel Van Diepen, J. Martin Verkuyl, Pamela Tranter

3810-Pos Board #B538
A NEW CLASS OF ANALGESICS EXERTS A DUAL MODULATION ON TRPA1 AND TRPV1 CHANNELS. Roberta Gualdani, Oscar Francesconi, Barbara Richichi, Maria Rosa Moncelli

3811-Pos Board #B539
TRPM3 - A PROMISING TARGET FOR ANALGESIC TREATMENT. Katharina Held, Silvia Joao Pinto, Sara Kerselaers, Katrien De Clercq, Patrick Chatlin, Thomas Voets, Joris Vriens

3812-Pos Board #B540
EXTRACELLULAR LOOPS ARE ESSENTIAL FOR THE ASSEMBLY AND FUNCTION OF TRPP/PKD COMPLEXES. Zahra Salehi-Najafabadi, Clarissa Lam, G M Mahmud Arif Pavel, Parul Kashyap, Yong Yu

3813-Pos Board #B541
NICOTINIC ACID ACTIVATES THE CAPSAICIN RECEPTOR TRPV1 - A POTENTIAL MECHANISM FOR CUTANEOUS FLUSHING. Linlin Mo, Bo Hyun Lee, Rongrong Mao, Anping Cai, Yunfang Jia, Heather Clifton, Saul Schaefer, Lin Xu, Jie Zheng

3814-Pos Board #B542
EFFECTS OF TRPM7 INHIBITORS ON PHYSIOLOGICAL MG2+-INFLUX IN RAT VENTRICULAR MYOCYTES. Michiko Tashiro, Hana Inoue, Masato Konishi

3815-Pos Board #B543
LOCALIZATION AND ROLE OF TRANSIENT RECEPTOR POTENTIAL CATIOn CHANNELS IN RABBIT VENTRICULAR MYOCYTES. Qinghua Hu, Mcnary G. Thomas, Frank B. Sachse

3816-Pos Board #B544
SINGLE MOLECULE OPTICAL RECORDINGS OF TRPV1 MOBILITY AND ACTIVITY. Eric Senning, Sharon E. Gordon

3817-Pos Board #B545
TRPC3 MODULATES ASSOCIATION OF OAR1 WITH IMMUNOPHILIN FKBP12 AND OAR1-MEDIATED CA2+-TRANSCRIPTION COUPLING IN MAST CELLS. Michael Poteser, Bernhard Doleschal, Michaela Schernthaner, Hannes Schleifer, Katrin Tieber, Irene Frischlauf, Christoph Romanin, Klaus Groschner

3818-Pos Board #B546
CA2+ FACILITATES TRPC4 ACTIVATION BY GI/O SIGNALING IN BOTH CALMODULIN DEPENDENT AND INDEPENDENT MANNER. Dhananjay Thakur, Jie Zheng, KeWei Wang

3819-Pos Board #B547

3820-Pos Board #B548
ALLOSTERIC COUPLING AND THERMAL ACTIVATION IN TRP CHANNELS. Leon D. Islas, Andres Jara-Oseguera

3821-Pos Board #B549
TOWARD THE MECHANISM OF CAPSAICIN BINDING TO TRPV1 IN A LIPID BILAYER VIA ATOMIC SIMULATION. Sonya M. Hanson, Simon Newstead, Kenton J. Swartz, Mark S.P. Sansom

3822-Pos Board #B550
BIOPHYSICAL CHARACTERIZATION OF THE TRPM8 VOLTAGE-SENSING DOMAIN. Wade D. Van Horn, Parthasarathi Rath, Nicholas Sisco

3823-Pos Board #B551
CRYSTAL STRUCTURE OF THE N-TERMINAL ANKYRIN REPEAT DOMAIN OF TRPV3 REVEALS UNIQUE CONFORMATION OF FINGER 3 LOOP CRITICAL FOR CHANNEL FUNCTION. Di-Jing Shi, Sheng Ye, Xu Cao, Rongguang Zhang, KeWei Wang

3824-Pos Board #B552
A STRUCTURAL FRAMEWORK FOR THE POLYMODAL PAIN SENSOR TRPV1. Fan Yang, Vladimir Yarov-Yarovoy, Jie Zheng

3825-Pos Board #B553
CONFORMATIONAL PLASTICITY OF TRPV1 ANKYRIN REPEAT DOMAIN IN COMPLEX WITH CYSTEINE REACTIVE AGONIST ALLICIN. Ernesto Ladrón de Guevara, Jorge Romero-Estrada, Margarita Romero-Avila, Gisela Rangel, Leon D. Islas

3826-Pos Board #B554
MINORITY AFFAIRS TRAVEL AWARDEE REGULATION OF TRPV1 BY PHOSPHOINOSITIDES AND OTHER NEGATIVELY CHARGED LIPIDS. Jan-Michael Rives, Viktor Lukacs, Xiaohui Sun, Eleonora Zakharian, Tibor Rohacs
Cyclic Nucleotide-gated Channels
(Boards #B558–#B570)

3827-Pos Board #B555
STRUCTURAL CHARACTERIZATION OF DOUBLE-KNOT TOXIN, AN ACTIVATOR OF TRPV1 CHANNELS. Chanyoung Bae, Dmitriy V. Krepljik, Jeet Kalia, Jaehyun Kim, Jae Il Kim, Kenton J. Swartz

3828-Pos Board #B556
TRPV1 MEASURED IN LIPOID BILAYERS. Viksita Vijayvergiya, Shiv Acharya, Anthony Farina, Jason Poulos, Jacob Schmidt

3829-Pos Board #B557
STRUCTURAL INSIGHT INTO THE ASSEMBLY OF TRPV CHANNELS. Kevin Huynh, Matthew Cohen, Sudha Chakrapani, Heather Holdaway, Phoebe Stewart, Vera Moiseenkova-Bell

3830-Pos Board #B558
STATE DEPENDENT AND SITE DIRECTED PHOTODYNAMIC TRANSFORMATION OF HCN2 CHANNEL BY SINGLET OXYGEN. Weihua Gao, Zhuoqchung Su, Qinglian Liu, Lei Zhou

3831-Pos Board #B559
TWO SEPARATE SITES COMPETE FOR SINGLET OXYGEN IN THE PHOTODYNAMIC MODIFICATION OF HCN CHANNELS. Weihua Gao, Zhuoqchung Su, Qinglian Liu, Lei Zhou

3832-Pos Board #B560
DIFFERENT EFFECTS OF ALKALINE PHOSPHATASE ON HCN4 CHANNELS IN CHO VERSUS HEK CELLS. Julie Juchno, Joshua R. St. Clair, Cathy Proenza

3833-Pos Board #B561
THE AUXILIARY SUBUNIT TRIP8B INHIBITS THE BINDING OF CAMP TO HCN2 CHANNELS THROUGH AN ALLOSTERIC MECHANISM. Andrea C. Saponaro, Manolis Matzapetakis, Bina Santoro, Sofia R. Pauletta, Anna Moroni

3834-Pos Board #B562
MECHANISM OF IONIC PERMATION IN THE MIMICS OF CNG CHANNELS: A STRUCTURAL, FUNCTIONAL AND COMPUTATIONAL ANALYSIS. Luisa M. R. Napolitano, Ina Bisha, Manuel Arcangeletti, Arin Marchesi, Matteo De March, Silvia Onesti, Alessandro Laio, Vincent Torre

3835-Pos Board #B563
ARCHITECTURE OF THE HCN SELECTIVITY FILTER AND CONTROL OF CATION PERMATION. Vincenzo Macri, Damiano Angoli, Eric Accili

3836-Pos Board #B564
OPENING AND CLOSING OF THE HCN2 CHANNEL PORE IS VOLTAGE-INDEPENDENT. Leo Kim, Wai Wong, Li Yue-Xian, Eric Accili

3837-Pos Board #B565
ISOFORM-DEPENDENT CHOLESTEROL REGULATION OF HCN CHANNELS. Oliver Fürst, Michael Morin, Nazzareno D’Avanzo

3838-Pos Board #B566
IVABRADINE REDUCES ALPHA-SMOOTH MUSCLE ACTIN EXPRESSION, Proliferation and Collagen Production in Human Cardiac Fibroblasts. Priyanthi Dias, Manoraj Navaratnarajah, Samhla Alayoubi, Christopher Kane, Leanne E. Felkin, James E. Cartledge, Nirmitha Jayaratne, Najma Latif, Magdi H. Yacoub, Cesare M. Terracciano

3839-Pos Board #B567
DO ACIDIC RESIDUES IN THE TRI-ASP MOTIF OF THE CNGA3 S2 DOMAIN FORM REQUIRED PAIRINGS WITH POSITIVE RESIDUES OF THE S1-S4 BUNDLE? EVIDENCE FROM DAY-BLIND DOGS AND INSIGHTS FROM A MOLECULAR MODEL OF CNGA3 S1-S6 WITH MD SIMULATIONS. Naoto Tanaka, Lucie Delemotte, Michael L. Klein, András M. Komórányi, Jacqueline C. Tanaka

3840-Pos Board #B568
HYPERPOLARIZATION-ACTIVATED AND CYCLIC NUCLEOTIDE-GATED CHANNELS (HCN) ARE MODULATED BY NITRIC OXIDE IN MAGNOCELLULAR NEURONS OF THE SUPRAOPTIC NUCLEUS OF RATS. Melina P. Silva, Wamberto Antonio Varanda

3841-Pos Board #B569

3842-Pos Board #B570
A FAMILY OF HCN CHANNEL HOMOLOGS IN BACTERIA. Jana Kusch, Marijke Brans, Chris Ulen

Intracellular Channels
(Boards #B571–#B578)

3843-Pos Board #B571
FUNCTIONAL COUPLING OF THE MITOCHONDRIAL BKCa CHANNEL TO THE RESPIRATORY CHAIN. Piotr Bednarczyk, Deitel Siemen, Adam Szweczyk

3844-Pos Board #B572
ELECTROPHYSIOLOGICAL CHARACTERIZATION OF THE ACTIVITY AND REGULATION OF THE MITOCHONDRIAL CALCIUM UNIPORTER. Vanessa Checchetto, Enrico Tardaro, Diego De Stefani, Maria Patron, Anna Raffaello, Ildikó Szabó, Rosario Rizzuto

3845-Pos Board #B573
THE OPEN STATE OF HUMAN VDAC ISOFOMS COMPARED THROUGH MD SIMULATIONS. Giuseppe F. Amodeo, Mariano A. Scorciapino, Vito De Pinto, Matteo Ceccarelli

3846-Pos Board #B574
MARKOV CHAIN MONTE CARLO MODEL ANALYSIS OF CARDIAC MITOCHONDRIAL VDAC1 KINETICS. Shivendra G. Tewari, Bradley J. Otto, Qunli Cheng, YiFan Zhou, Ranjan K. Dash, Wai-Meng Kwok

3847-Pos Board #B575
A LYSOSOMAL ATP-SENSITIVE SODIUM CHANNEL AND ITS REGULATION BY METABOLISM. Chunlei Cang, Dejian Ren

3848-Pos Board #B576
A THYLAKOID-LOCATED TWO-PORE K+ CHANNEL CONTROLS PHOTOSYNTHETIC LIGHT UTILIZATION IN PLANTS. Enrico Tardaro

3849-Pos Board #B577
PURIFIED FUNCTIONAL HUMAN CONNEXIN 26 HEMICHOannels EXPRESSED IN E. COLI. Mariana Fiori, Marien D. Cortes, Mauricio A. Retamal, Shriniwas Krishnan, Luis Reuss, Guillermo A. Altenberg, Luis G. Cuello
Ion Channels and Disease II (Boards #B579–#B589)

PHOSPHOLAMIN IS A CATION SELECTIVE ION CHANNEL. Serena Smeazetto, Maria Rosa Moncelli, Gerhard Thiel

TRPM4 GENETIC VARIANTS IN PATIENTS WITH CONGENITAL ATRIO-VENTRICULAR BLOCK. Ninda Syam, Stephanie Chatel, Jean-Sebastien Rougier, Valentin Soritas, Alban Baruteau, Vincent Probst, Jean-Jacques Schott, Hugues Abriel

THE CONTRIBUTION OF STORE OPERATED AND STORE INDEPENDENT CALCIUM ENTRY TO MIGRATION IN A MODEL OF NEUROENDOCRINE CANCER. Priyodarshan Goswamee, Sukhit Kaur, David R. Giovannucci

INHIBITION OF MITOCHONDRIAL NA+/CA2+ EXCHANGER PREVENTS STRESS-INDUCED ARRHYTHMIA IN THE ISOLATED GUINEA PIG FAILING HEART. Ting Liu, Deepthanka Demazumder, Brian O’Rourke

Identification and Functional Role of Calpain Cleavage Site in Na+/Ca2+ Exchanger 1 (NCX1). Kjetil Hodne, Pimthanya Wanichawan, Tandekile L. Hafer, Jan M. Aronsen, Ida G. Lunde, Marianne Lunde, Heidi Kvaløy, Theis Tønnessen, Ivar Sjaastad, William E. Louch, Ole M. Sejersted, Cathrine R. Carlson

NA/K ATPase Function Declines Before Changes to Calcium Handling in a Guinea-Pig Model of Progressive Heart Failure. Hung-Yen Ke, Thomas P. Collins, Anita Alvarez-Laviada, Christina Rowlands, Kenneth T. MacLeod

IMPAIRED BONE FORMATION IN TRIC-B-KNOCKOUT MICE. Chengzhu Zhao, Daiju Yamazaki, Fumiyo Aoyama, Tsunuki Iida, Miyuki Nishi, Akira Sawaguchi, Hiroshi Takeshima

H+ inhibits TRIC-B CHANNELS DERIVED FROM MOUSE TRIC-A KNOCKOUT TISSUE. Fiona O’Brien, Elisa Vennuri, Elena Galfré, Antoni Martijaskiewicz, Daiju Yamazaki, Miyuki Nishi, Hiroshi Takeshima, Rebecca Sitasapan

ION CHANNELS CONTROLLING RESTING MEMBRANE POTENTIAL OF NOCICEPTIVE DRG NEURON SOMATA. Xiaona Du, Han Hao, Sylvain Gigout, Dongyang Huang, Yuehui Yang, Jinlong Qi, Li Li, Caixue Wang, Hailin Zhang, Nikita Gamper

CRITICAL BEHAVIOR IN THE PANCREATIC ISLET DEPENDS ON THE BALANCE BETWEEN CELLULAR EXCITABILITY AND ELECTRICAL COUPLING. Thomas H. Hraha, Matthew J. Westacott, Marina Pozzoli, Richard KP Benninger

QUBE - HIGH THROUGHPUT SCREENING WITH GENUINE ELECTROPHYSIOLOGY. Anders Lindqvist, Soren Friis, Rasmus B. Jacobsen, Emma Olander, Hervor L. Olsen, Kristina M. Christensen, Mette T. Christensen, Peder Skafe-Pedersen, Lasse Homann, Anders Hyldgård, Mads PG Korsgaard, Morten R. Sunesen

CURRENT CLAMP OF STEM CELL DERIVED CARDIOMYOCYTES ON QPATCH. Soren Friis, Emma Olander, Kristina Christensen, Richard Kondo, Morten Sunesen

Muscle: Fiber and Molecular Mechanics and Structure II (Boards #B590–#B621)

AN EXAMINATION OF SARCOMERE LENGTH NON-UNIFORMITIES IN ACTIVELY STRETCHED MUSCLE MYOFIBRILS. Kaleena R. Johnston, Azim Jinha, Walter Herzog

DOES CALCIUM SENSITIVITY INCREASE AFTER ACTIVE STRETCH IN SKINNED MUSCLE FIBRES? Venus Joumaa, Walter Herzog

THIXOTROPY OF MUSCLE FIBERS PROBED WITH SINUSOIDAL OSCILLATIONS. David Altman, Fabio C. Minozzo, Dilson E. Rassier

ACTIVE AND PASSIVE FAILURE OF PERMEABILIZED MUSCLE FIBRES FROM THE RABBIT PSOAS. Brandon Hisey, Venus Joumaa, Walter Herzog

MEMBRANE-SEALANT COPOLYMERS CONFER PROTECTION TO DYSTROPHIC SKELETAL MUSCLE IN VITRO AND IN VIVO. Evelyne M. Houang, Karen Haman, Frank Bates, Dawn A. Lowe, Joseph M. Metzger

ENZYMATIC DISSOCIATION MAKES SKELETAL MUSCLE FIBERS SUSCEPTIBLE TO OSMOTIC STRESS AND MORE PRONE TO MITOCHONDRIAL CALCIUM UPTAKE. Håkan Westerblad, Andres Hernández, Arthur J. Cheng, Joseph D. Bruton

HUMAN DIAPHRAGM SINGLE FIBER FUNCTION AFTER UNILATERAL PHRENIC NERVE STIMULATION DURING MECHANICAL VENTILATION. Bumsoo Ahn, Daniel Martin, Tomas Martin, Tom Beaver, Barbara Smith, Shaeel Ahmed, Leonardo E. Ferreira

RANDOM MYOSIN LOSS ALONG THICK-FILAMENTS INCREASES MYOSIN ATTACHMENT TIME AND THE PROPORTION OF BOUND MYOSIN HEADS TO MITIGATE FORCE DECLINE IN SKELETAL MUSCLE. Bertrand CW Tanner, Mark McNabb, Bradley M. Palmer, Michael J. Toth, Mark S. Miller

MOLECULAR CHAPERONE MEDIATED INHIBITION OF THE MYOSIN POWER STROKE MAY BE CRITICAL FOR SARCOMERE ASSEMBLY. Paul Nicholls, Paul Bujalowski, Darren Boehning, Jose Barral, Andres Oberhauser

LOCALIZATION AND BINDING PARTNERS OF SESTD1 IN SKELETAL MUSCLES. Akira Hanashima, Sumiko Kimura, Takashi Murayama

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THE ROLE OF MYOPALLADIN IN SKELETAL MUSCLE. Marco Caremani, Daniel L. Yamamoto, Vincenzo Nigro, Vincenzo Lombardi, Marie Louise Bang, Marco Linari

TRIADIN FUNCTION IN SARCOPLASMIC RETICULUM STRUCTURE. Alexis Oseni, Oriana Sarrault, Julien Fauré, Anne Fouriet-Lieuvin, Isabelle Marty

IN VITRO SMOOTH MUSCLE HYPERCONTRACTILITY INDUCED BY CD4+ T CELLS IS TRANSIENT. Oleg S. Matusovskiy, Emily M. Nakada, Linda Kachmar, Elizabeth D. Fixman, Anne-Marie Lauzon

THE INTERACTION OF AMP-ACTIVATED PROTEIN KINASE AND ITS UPSTREAM ACTIVATOR, LKB1/MO25/STRAD, MODIFIES CONTRACTILE FUNCTION IN RAT CARDIAC TRABECULAE. Samantha Behunin, John P. Konhilas

LKB1 AND MO25 DEMONSTRATE SIGNIFICANT INTERACTION WITH MYOFILAMENT PROTEINS. Marissa A. Lopez-Pier, John P. Konhilas, Samantha M. Behunin

A MOLECULAR SIMULATION STUDY TO INVESTIGATE ACTIN FILAMENT ELONGATION MECHANISM. Nobuhiko Wakai, Yasutaka Nishihara, Kazuhiro Takemura, Takashi Fujii, Keichi Namba, Akio Kitao

X-RAY DIFFRACTION PATTERN OF NON-UNIFORMLY STRETCHED ACTIN FILAMENT. Momcilo Prodanovic, Thomas C. Irving, Robert McCown, Srboljub M. Mijailovich

ADJUSTING TO CROSS-BRIDGE MUSCLE MODELS. Sam Walcott

THE STRUCTURAL DYNAMICS OF ALPHA-TROPOMYSOIN ON F-ACTIN SHAPE THE OVERLAP COMPLEX BETWEEN ADJACENT TROPOMYSOIN MOLECULES. William Lehman, Xiaochuan Li, Marek Orzechowski, Stefan Fischer

MYOSIN BINDING TO HUMAN CARDIAC THIN FILAMENTS CONTAINING TROPOMYSOIN CARRYING DCM & HCM MUTATIONS; FITTING OF COMPLEX BINDING TRANSIENTS. Marina Svinec, Srboljub M. Mijailovich, Miro Janco, Michael A. Geeves

MG2+ DEPENDENT MODULATION OF STRIATED MUSCLE MYOSIN ATPASE BY THIN FILAMENT COMPONENTS. Minea Kobayashi, Ben Ramirez

KINETIC AND STRUCTURAL CHARACTERIZATION OF CALCIUM SENSITIZER ACTION ON THIN FILAMENT FUNCTION USING FRET. William D. Schlecht, Wenji Dong, King Lun Li

MONITORING CARDIAC TROPOinin STRUCTURAL CHANGES USING IN-SITU TIME-RESOLVED FRET: IMPLICATIONS ON THE REGULATORY ROLES OF CROSS-BRIDGES AND SARCOMERE LENGTH. King-Lun Li, Daniel C. Rieck, R. John Solaro, Wen-Ji Dong

CA2+-REGULATORY FUNCTION OF THE INHIBITORY PEPTIDE REGION OF CARDIAC TROPONIN I IS AIDED BY THE C-TERMINUS OF CARDIAC TROPONIN T: EFFECTS OF HFC MUTATIONS CTNI R145G AND CTNT R278C, ALONE AND IN COMBINATION, ON FILAMENT SLIDING. Brenda Schoffstall, Nicolas M. Brunet, Goran Mihajlovic, P. Bryant Chase

IMPACT OF TROPONIN-I PHOSPHORYLATION ON HUMAN CARDIAC MYOFILAMENT FUNCTION. Karen H. Hsu, Menjic Zhang, Namship Wityavanitkul, Thomas C. Irving, Pieter P. de Tombe

THE R144W MUTATION IN MOUSE CARDIAC TROPONIN T ATTENUATES CROSSBRIDGE RECRUITMENT AND DETACHMENT KINETICS. Sampath K. Gollapudi, Murali Chandra

PROLONGED RELAXATION KINETICS IN DISTAL ARTHROGRYPOSIS SKELLETAL MUSCLE MYOFIBRILS WITH A MYH3 R672C MUTATION. Alice Ward Racca, Anita E. Beck, Michael J. Bamshad, Michael Regnier

FUNCTIONAL EFFECTS OF THE β-MYOSIN MUTATION ARG453CYs IN FAMILIAL HYPERTROPHIC CARDIOMYOPATHY. Theresia Kraft, Judith Montag, Julia Rose, Dejan List, William J. McKenna, Bernhard Brenner

THE STRUCTURE-FUNCTION ANALYSIS OF MYOSIN PSEUDOPHOSPHORYLATION IN MOUSE MODEL OF FHC. Chen-Ching Yuan, Priya Muthu, Rosemeire Kanashiro-Takeuchi, Jingsheng Liang, Ana I. Rojas, Katarzyna Kazmierczak, Joshua M. Hare, Thomas Irving, Danuta Szczesna-Cordary

ANALYSIS OF THE INNER AND OUTER ENVIRONMENT OF SARCOLEMMAL IN CARDIAC MUSCLE CELLS. Zuzana Nichtigová, Marta Novotová, Ivan Zahradnik

BRIDGING INTEGRATOR 1 (BIN1)-INDUCED T-TUBULE FORMATION IN CARDIOMYOCYTES. David B. Lipsett, Neha Singh, Michael Frisk, Jan Magnus Aromsen, Ole M. Sejersted, Ivar Sjastad, J. Andrew Wasserstrom, Geir Christensen, William E. Louch

BIN-1 EXPRESSION IN NORMAL RAT CARDIAC MYOCYTES AND IN MYOCYTES WITH REDUCED T-TUBULE DENSITY DUE TO CELL CULTURE OR HEART FAILURE. Hannah M. Kirton, Matthew Hardy, Edward White, Derek Steele

Cardiac Muscle III

Analysis of the inner and outer environment of sarcosome in cardiac muscle cells. Zuzana Nichtigová, Marta Novotová, Ivan Zahradnik

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3921-Pos

Board #B649

VINCULIN-MEDIATED CYTOSKELETAL REMODELING MODULATES CARDIAC MORPHOLOGY AND CONTRACTILE FUNCTION DURING AGEING. Gaurav Kaushik, Alice Spelhauer, Ayla Sessions, Danielle Pohl, Adriana Trujillo, Sanford I. Bernstein, Rolf Bodmer, Anthony Cammarato, Adam J. Engler

3922-Pos

Board #B650

NOVEL LOCATIONS; FAMILIAR FUNCTIONS: OBSCURIN AT THE CARDIAC INTERCALATED DISC. Maegen A. Ackermann, Nicole A. Perry, Aktarerti Kontrogianni-Konstantopoulos

3923-Pos

Board #B651

ACETYLATION AND PHOSPHORYLATION POST-TRANSLATIONAL MODIFICATIONS OF THE CAPZ BETA1 SUBUNIT REGULATE FRAP DYNAMICS LEADING TO MYOCYTE HYPER-TROPHY. Ying-Hsi Lin, Chad M. Warren, Brenda Russell

3924-Pos

Board #B652

ACTIN CARBONYLATION IS HIGHER IN HUMAN HYPERTROPHIC CARDIOMYOPATHY DUE TO MYH7 MUTATIONS. Rosalie Witjas-Paalberends, Marcella Canton, Michelle Michels, Carolyn Ho, Corrado Poggesi, Fabio di Lisa, Jolanda van der Velden

Microtubules, Their Motors, and Associated Proteins II (Boards #B653–#B682)

3925-Pos

Board #B653

STRUCTURAL KINETICS OF THE MITOTIC KINESIN EG5. Joseph Muretta, William Behnke Parks, Karl Petersen, Adeline Goulet, Carolyn Moores, David D. Thomas, Steven Rosenfeld

3926-Pos

Board #B654

STRUCTURAL BASIS FOR THE ASSEMBLY OF KINESIN-5 INTO BIPOLAR ANTI-PARALLEL TETRAMERS. Jessica Scholey, Stanley Nithianantham, Jonathan M. Scholey, Jawdar Al-Bassam

3927-Pos

Board #B655

KINESIN-5 MOTILITY IS REGULATED BY THE RESIDUE CHEMISTRY OF LOOP-5. Rebecca S. Buckley, Victoria Dauphin, Thomas M. Huckaba, Sunyoung Kim

3928-Pos

Board #B656

A CHIMERIC KINESIN-5 MOTOR TRACKS PLUS-ENDS OF MICROTUBULES. Yali Chen, William O. Hancock

3929-Pos

Board #B657

CUT7-DRIVEN MICROTUBULE SLIDING REVERSES DIRECTION DEPENDING ON MOTOR DENSITY. Mishan Britto, Kanwal Zehra, Adeline Goulet, Carolyn Moores, Robert A. Cross

3930-Pos

Board #B658

SRC PHOSPHORYLATION REGULATES THE HUMAN KINESIN-5, EG5, AND DISRUPTS THE BINDING OF EG5 INHIBITORS. Kathleen M. Gifford, Joshua S. Witzman, Taylor A. Poor, Barbara Mann, Melissa C. Gonzalez, Pat Wadsworth, Sarah E. Rice

3931-Pos

Board #B659

ALLOSTERIC L5-DIRECTED INHIBITORS OF KINESIN-5 CAN CONTROL DIFFERENT BIOCHEMICAL INTERMEDIATES. Minmin Luo, Sunyoung Kim

3932-Pos

Board #B660

PHOTO-REVERSIBLE INHIBITION OF MITOTIC KINESIN EG5 BY PHOTOCROMIC STLC ANALOGUES COMPOSED OF AZOBENZENE. Kanako Tohyama, Kumiko Ishikawa, Shinsaku Maruta

3933-Pos

Board #B661

PHOTO-REGULATION OF KINESIN EG5 ATPASE AND MOTOR ACTIVITY USING NOVEL PHOTOCROMIC INHIBITOR COMPOSED OF SPIROPYRAN AND CYSTEINE. Kei Sadakane, Kumiko Ishikawa, Kanako Tohyama, Banri Yamanoha, Shinsaku Maruta

3934-Pos

Board #B662

TRANSUDER RESIDUES ARE THERMODYNAMICALLY COUPLED IN THE KINESIN-5 MOTOR DOMAIN. Jessica Richard, Hoang Nguyen, Elizabeth Kim, Sunyoung Kim

3935-Pos

Board #B663

PHOTO-REGULATION OF MITOSIS KINESIN KIF18A USING PHOTOCROMIC INHIBITOR. Seo Hideo, Kumiko Ishikawa, Shinsaku Maruta

3936-Pos

Board #B664

PHOTOCONTROL OF MITOTIC KINESIN EG5 BY INCORPORATING OF PHOTOCROMIC MOLECULE INTO THE FUNCTIONAL LOOP L5. Kumiko Ishikawa, Yuhki Tamura, Shinsaku Maruta

3937-Pos

Board #B665

THE KINESIN-1 GATING MECHANISM STUDIED BY PRE-STeadY STATE KINETICS. Erik Jonsson, Ronald D. Vale

3938-Pos

Board #B666

ENHANCED TRANSVERSE MOTION OF MULTIPLE KINESIN MOTOR CONFIGURATIONS VIA A DIFFUSE WEAKLY BOUND STATE. David Ando, Jing Xu, Ajay Gopinathan

3939-Pos

Board #B667

KINESIN-2’S NECK-LINKER IS CRITICAL TO NAVIGATING OBSTACLES ON THE MICROTUBULE SURFACE MORE EFFICIENTLY THAN KINESIN-1. Christopher L. Berger, Gregory J. Hoeprich, Andrew R. Thompson, William O. Hancock

3940-Pos

Board #B668

STRAIN-BASED MECHANISM OF KINESIN ATPASE. Wonnuk Hwang, Matthew J. Lang, Martin Karplus

3941-Pos

Board #B669

DEVELOPMENT OF MOLECULAR SHUTTLE REGULATED BY EXTERNAL STIMULATION UTILIZING KINESIN ATP DRIVEN MOTOR. Naoumi Numata, Kazunori Kondo, Shinsaku Maruta

3942-Pos

Board #B670

COLLECTIVE MOTIONS AND DYNAMICAL COUPLINGS IN THE KINESIN MOTOR DOMAIN. Guido Scarabelli, Barry J. Grant

3943-Pos

Board #B671

INTRODUCING A KINESIN-INSPIRED NANO-MOTOR CONCEPT. Martin J. Zuckermann, Elizabeth H.C. Bromley, Christopher N. Angstmann, Gerhard A. Blab, Nancy R. Forde, Heiner Linke, Paul M.G. Curmi

3944-Pos

Board #B672

SIMULATIONS OF NECK-LINKER MODIFIED AND ONE HEAD LOADED KINESINS. Norbert Orgován, Imre Derényi

3945-Pos

Board #B673

STRAIN-DEPENDENT REGULATION OF THE KINESIN-1’S CATALYTIC ACTIVITY AS STUDIED BY DISULFIDE-CROSSLINKING OF THE NECK LINKER. Yamato Niitani, Erik Jonsson, Ronald D. Vale, Michio Tomishige

3946-Pos

Board #B674

KINESIN MOTILITY ON MICROTUBULE BUNDLES. Leslie Conway, Jennifer L. Ross
Cell Mechanics and Motility IV (Boards #B683–#B709)

3947-Pos  Board #B675
THE MECHANISM OF DETERMINING THE DIRECTIONALITY OF NCD. Masahiko Yamagishi, Yoko Toyoshima, Junichiro Yajima

3948-Pos  Board #B676
AUTOMATED, LONG-DISTANCE MICROTUBULE TRACKING IN GLIDING ASSAYS. Amber C. Berzold, Ashley R. Coenen, Daniel T. Thoresen, Douglas S. Martin

3949-Pos  Board #B677
COOPERATIVE EFFECTS IN TRANSPORT SYSTEMS DRIVEN BY DIFFUSIVELY ANCHORED MOTORS. Rahul Grover

3950-Pos  Board #B678
SINGLE MOTOR RANDOM WALKS ON MICROTUBULE BUNDLES. Michael W. Gramlich, L. Conway, S.M. Ali Tabei, Jennifer L. Ross

3951-Pos  Board #B679
KINESIN MOTION IN THE PRESENCE OF OBSTACLES ON MICROTUBULES. Woochul Nam, Bogdan I. Epureanu

3952-Pos  Board #B680
EXPERIMENTAL AND COMPUTATIONAL INVESTIGATIONS INTO COOPERATIVE CARGO TRANSPORT BY MIXTURES OF KINESINS FROM DIFFERENT FAMILIES. Göker Arpağ, Shankar Shastry, William O. Hancock, Erkan Tuzel

3953-Pos  Board #B681
THE RICE KINESIN OSKCH1 IS A DYNAMIC CROSS-LINKER OF ACTIN FILAMENTS AND MICROTUBULES. Wilhelm J. Walter, Fereshteh Rafieian, Stefan Diez

3954-Pos  Board #B682
MEASUREMENTS OF SINGLE FLUORESCENT MOTOR PROTEINS: THE RIGHT WAY. Felix Ruhnow, Linda Kloß, Stefan Diez

3955-Pos  Board #B683
BLEB FORMATION IN A HELA CELL INDUCED BY TEMPERATURE GRADIENT. Tomomi Arai, Akira Isaka, Kotaro Oyama, Hideki Itoh, Yusuke Seto, Madoka Suzuki, Shinn’ichi Ishiwa

3956-Pos  Board #B684
ACTIN BUNDLE STABILIZATION DURING CELL SPREADING ON MICROPATTERNED SUBSTRATES. Jean-Jacques Meister, Josiane Smith-Clerc, Benoit Vianay

3957-Pos  Board #B685
EVALUATING TENSION IN ACTOMYSIN BUNDLES AT THE CELL PERIPHERY. Jean-Jacques Meister, Céline Labouesse, Niccolò Placentini, Benoit Vianay

3958-Pos  Board #B686
‘HUM’-CORRECTED COMPARISON OF VISCOELASTIC PROPERTIES OF NORMAL, TUMORIGENIC, AND METASTATIC BREAST CELLS. Amanda M. Smelser, Adam P. O’Dell, Scott Smyre, Jed C. Macosko, George Polwarth

3959-Pos  Board #B687
REGULATION FOR PHOSPHATIDYLINOSONITOL LIPIDS SIGNALING SYSTEM BY TALIN. Shinichi Yamazaki, Satomi Matsuoka, Masatsune Tsujikia, Masahiro Ueda

3960-Pos  Board #B688
MECHANICAL PROPERTIES OF VIMENTIN INTERMEDIATE FILAMENT NETWORKS. Huayin Wu, Mikkel Jensen, Ming Guo, David A. Weitz

3961-Pos  Board #B689
B CELL RECEPTOR CLUSTERING AND SIGNALING ACTIVATION ARE MODULATED BY PHYSICAL PARAMETERS OF THE SURFACE. Christina M. Ketchum, Heather Miller, Wenxia Song, Xiaoyu Sun, John Fourkas, Arpita Upadhyaya

3962-Pos  Board #B690
THE ACTIN CROSSLINKING PROTEIN PALLADIN MODULATES FORCE GENERATION AND MECHANICAL SENSING OF TUMOR ASSOCIATED FIBROBLASTS. Mikhail Azatov, Silvia Goicoechea, Carol Orey, Rosa Hwang, Arpita Upadhyaya

3963-Pos  Board #B691
MECHANICAL STRESS IN ACTININ AND ACTIN IN STEM CELLS. Fanjie Meng, Jun Guo, Frederick Sachs

3964-Pos  Board #B692
SINGLE MOLECULE MECHANO-MEMORY. Isaac T.S. Li, Tackjip Ha, Yann R. Chemla

3965-Pos  Board #B693
DNA-BASED “DIGITAL” TENSION PROBES WITH PN SENSITIVITY REVEAL EARLY CELL ADHESION MECHANICS AT THE SINGLE MOLECULE LEVEL. Yun Zhang, Khalid Salaita

3966-Pos  Board #B694
BUCKLING OF A PHYSICALLY-CONSTRAINED GROWING EPITHELIUM. Anastasiya Trushko, Aurélien Roux

3967-Pos  Board #B695
MITOTIC CELL SHAPE - RNA INTERFERENCE SCREENING FOR GENES INVOLVED IN MECHANICS USING ATOMIC FORCE MICROSCOPY. Cédric J. Cattin, Martin P. Stewart, Yusuke Toyoda, Ina Poser, Frank Buchholz, Anthony A. Hyman, Daniel J. Müller

3968-Pos  Board #B696
MEASURING ACTOMYSIN FUNCTION IN A LIVING ARASITE USING A LASER TRAP. Rachel V. Stadler, Lauren A. White, Brian P. Helmke, Ke Hu, William H. Guilford

3969-Pos  Board #B697
PROBING FORCES ON NEWLY GENERATED SPINDLE MICROTUBULE MINUS-ENDS. Christina L. Hueschen, Mary W. Eling, Dylan B. Udy, Sophie Dumont

3970-Pos  Board #B698
CHANGES IN MECHANICAL PROPERTIES OF ACTIN FILAMENTS OF ASTROCYTES AFTER INVASION BY TRYPANOSOMA CRUZI. Gerson F. Cote-Flórez, Juan Camilo Vargas-Zambrano, John Mario González, Manu Forero-Shelton

3971-Pos  Board #B699
SINGLE CELL MEASUREMENTS OF INTRACELLULAR SIGNALING, AND MOTILITY IN MACROPHAGE CELLS SENSING A BACTERIAL INFECTION. Eugenia Cammarota, Jiro Sakai, Clare Bryant, Pietro Cicuta

3972-Pos  Board #B700
TRACTION STRESS DYNAMICS DURING CHEMOTACTIC AMOEBOID CELL MIGRATION. Effie Bastounis, Reudi Meili, Begoña Álvarez-González, Juan Carlos del Álamo, Juan Lasheras, Richard Firtel
Membrane Pumps, Transporters, and Exchangers III (Boards #B710–#B721)

3973-Pos Board #B701
OPTIMAL COOPERATIVE SEARCHING USING PURELY REPULSIVE INTERACTIONS. Noriyuki Tani, David Quint, Ajay Gopinathan

3974-Pos Board #B702
ELASTIC MODULI OF CELLS UNDERGOING NEOPLASTIC TRANSFORMATION. Xinyi Guo, Martin Guthold, Keith Bonin

3975-Pos Board #B703
MAPPING LOCAL NANOSCALE CHANGES IN CELL TENSION AND STIFFNESS BY COMBINATORIAL MICROSCOPES. Amy M. Won, Liang Zhang, Nelly Pante, Christopher M. Yip

3976-Pos Board #B704
MECHANICAL GATING PROPERTIES OF MSCL IN MAMMALIAN CELLS. Johanna Heureaux, Victoria Murray, Di Chen, Cheri X. Deng, Allen P. Liu

3977-Pos Board #B705
COHERENT CELL ROTATION IN CONFLUENT MONOLAYER SHEETS. Bo Li, Sean Sun

3978-Pos Board #B706
CHARACTERISTICS OF MECHANICALLY-CONDITIONED, SUBstrate-FREE CARDIAC CELL SHEETS. Qi Wei, Hayden Huang

3979-Pos Board #B707
NANOINDENTATION DERIVED MECHANICAL PROPERTIES OF THE CORNEASCERAL RIM OF THE HUMAN EYE. Philipp Eberwein, Jiri Nohava, Guenther Schlunck, Michael Swain

3980-Pos Board #B708
LIGHT-MODULATED CELL ADHESION TO CONTROL CELL AND TISSUE MORPHOGENESIS. Jeffrey van Haren, Torsten Wirtmann

3981-Pos Board #B709
NEUTROPHIL ROLLING ON PATCHES OF SELECTIN. Alex C. Sztatmary

Intracellular Interactions (Boards #B722–#B725)

3982-Pos Board #B710
CHARACTERIZING CONFORMATIONAL ENSEMBLE AND FREE ENERGY LANDSCAPE OF ABC EXPORTERS USING A NOVEL SYSTEM-SPECIFIC SAMPLING APPROACH. Mahmoud Moradi, Emad Tajkhorshid

3983-Pos Board #B711
INVESTIGATING THE DOMAINS’ MOTIONS OF AN ASYMMETRIC ABC TRANSPORTER. Valentina Corradi, Gurpreet Singh, Markus Seeger, D. Peter Tieleman

3984-Pos Board #B712
MULTIPLE MEMBRANE-COMPATIBLE CONFORMATIONS OF AN SUBstrate-BINDING COMPONENT OF ECF TRANSPORTERS. Po-Chao Wen, Emad Tajkhorshid

3985-Pos Board #B713
EPR SPECTROSCOPY OF MOLbC,-A REVEALS MECHANISM OF TRANSPORT FOR A TYPE II MOlybDATE IMPORTER. Austin J. Rice, Frances J.D. Alvarez, Amy L. Davidson, Heather W. Pinkett

3986-Pos Board #B714
COMBINING IN VITRO WITH IN SILICO STUDIES TO OBTAIN INSIGHTS INTO SUBSTRATE RELEASING STATE OF THE MULTIDRUG RESISTANCE PROTEIN P-GLYCOPROTEIN. Thomas Stockner, Yaprak Doenmez Cakil, Chiba Peter

3987-Pos Board #B715
REFINED STRUCTURES OF MOUSE P-GLYCOPROTEIN. Stephen G. Aller, Jingzhi Li, Kimberly Jaimes

3988-Pos Board #B716
PROBING DRUG-BINDING PATHWAYS IN P-GLYCOPROTEIN WITH ENSEMBLE DOCKING. Sundarapandian Thangapandian, Emad Tajkhorshid

3989-Pos Board #B717
FUNCTIONAL ASSAY FOR CHARACTERIZING HUMAN P-GLYCOPROTEIN TRANSPORT USING THE PORE FORMING PEPTIDE GRAMICIDIN A. Haiyan Liu, David Sept, Khyati Kapoor, Suresh V. Ambudkar, Michael Mayer

3990-Pos Board #B718
SYSTEMS LEVEL STUDY OF BACTERIAL MULTI-DRUG RESISTANCE FROM EFFLUX MACHINERY. Joshua L. Phillips, Kumkum Ganguly, Melinda Wren, Michael E. Wall, S Gnanakaran

3991-Pos Board #B719
PLANT VDAC SELECTIVITY AND VOLTAGE-DEPENDENCE ARE UNCOUPLED. Hayet SAIDANI, Eva-Maria KRAMMER, Martine Prevost, Fabrice Homble

3992-Pos Board #B720
VDAC3 INTERACTOMIC ANALYSIS. Angela Messina, Francesca Guarino, Simona Reina, Andrea Magri, Claudia Fichera, Loredana Leggio, Vito De Pinto

3993-Pos Board #B721
CHEMICAL STRUCTURES AND TRANSIT KINETICS OF CARBAPENEMS TRANSLocATING THROUGH E. COli OMPc. Que-Tien Tran, Robert Pearlstein, Sarah Williams, John Reilly, Thomas Krucker, Gul Erdemli

3994-Pos Board #B722
NOVEL VIABILITY LOSS PROCESS INDUCED BY ELECTRIC FIELDS IS OBSERVED IN THE EXTREMOPHILIC DEINOCOCCUS RADIODURANS EXPOSED TO GAMMA RADIATION. Joao DT Arruda-Neto

3995-Pos Board #B723
MINORITY AFFAIRS TRAVEL Awardee UNRAVELLING THE IMPACT OF OBSTACLES IN DIFFUSION AND KINETICS OF AN ENZYME CATALYSED REACTION. Marcio Duarte Albasini Mourao, Doree Kreitman, Santiago Schnell

3996-Pos Board #B724
GROWTH AND MOTILITY OF GUT COMMENSAL ESCHERICHA COLI IN HEALTH AND DISEASE. Astghik Z. Pepoyan, Marine H. Balayan, Anahit M. Manvelyan, Vardan V. Tsaturyans.

3997-Pos Board #B725
INFORMATION TRANSMISSION THROUGH PANCREATIC BETA CELL SIGNALING PATHWAYS. Amicia D. Elliott, Tomasz S. Tkaczyk, David W. Piston
Neuronal Systems and Modeling
(Boards #B726–#B741)

3998-Pos  Board #B726
INDOCYANINE GREEN IS A VOLTAGE-SENSITIVE FLUORESCENT DYE. Jeremy S. Treger, Michael F. Priest, Raymond Lezzi, Francisco Bezanilla

3999-Pos  Board #B727
TARGETING SINGLE CELL NETWORKS FOR GENE EXPRESSION USING MECHANICAL STAMPING. Rajib Schubert

4000-Pos  Board #B728
OPTICAL SENSING OF ACTION POTENTIALS IN SEMICONDUCTOR MICROTUBES USING (Al)GaAs QUANTUM WELLS. Aune Koitmae, Jann Harberts, Gabriele Loers, Cornelius S. Bausch, Daniel Diedrich, David Sonnenberg, Christian Heyn, Wolfgang Hansen, Robert H. Blick

4001-Pos  Board #B729
A NEW ASSAY TO QUANTIFY THE CONNECTABILITY OF NEURONS AND THE NEURITE EXTENSIONS. Alessia Petrelli, Davide De Pietri Tonelli, Luca Berdondini, Silvia Dante

4002-Pos  Board #B730
THE NEUROCHIP: A NEW MULTITELEDECTRODE DEVICE FOR STIMULATING AND RECORDING FROM CULTURED NEURONS. Khawaja Moeen Haroon

4003-Pos  Board #B731
OLFATORY SEARCHES WITH LIMITED SPACE PERCEPTION. Jean-Baptiste Masson

4004-Pos  Board #B732
THE COMPLEXITY OF LARVAL CLASS IV SENSORY NEURONS IN DROSOPHILA IS ACCOUNTED FOR BY A SET OF STATISTICAL BRANCHING RULES. Hugo Bowne-Anderson, Sujoy Ganguly, Xin Liang, Romain Pszczolinski, Ozlem Demir, Jonathan Howard

4005-Pos  Board #B733
STATISTICAL CONSTRAINTS ON DENDRITIC BRANCHING MORPHOLOGY IN DROSOPHILA CLASS IV SENSORY NEURONS. Xin Liang, Romain Pszczolinski, Sujoy Ganguly, Hugo Bowne-Anderson, Ozlem Demir, Jonathan Howard

4006-Pos  Board #B734
INTERNATIONAL TRAVEL AWADEE MISMATCH BETWEEN THE RESTING MEMBRANE POTENTIAL AND THE VOLTAGE AT MAXIMUM AMPLIFICATION IN OUTER HAIR CELLS (OHCs) OF MAMMALIAN COCHLEA. Varun K. A. Sreenivasan, Christian Corbitt, Federica Farinelli, William E. Brownell, Brenda Farrell

4007-Pos  Board #B735
REMODELING OF THE POSTSYNAPTIC DENSITY: A MACROMOLECULAR SIGNALING COMPLEX. Madeline M. Farley, M Neal Waxham

4008-Pos  Board #B736
ACTION POTENTIAL COLLISION IN NERVES. Rima Budvytyte, Alfredo Gonzalez-Perez, Lars Mosgaard, Thomas Heimburg

4009-Pos  Board #B737
MODELING AND SIMULATIONS OF BIOMECHANICAL SYMPTOMS OF PARKINSON’S DISEASE. B Manasa, Jesus Dolores, Sachin Goyal, Harish Palanthandalam-Madapusi

4010-Pos  Board #B738
MEMRISTOR NEURAL MODEL FOR ALZHEIMER DISEASE. Mauro Poggio, Luke P. Lee

4011-Pos  Board #B739
DEVELOPMENT OF MODULARITY IN THE NEURAL ACTIVITY OF CHILDREN’S BRAINS. Man Chen, Michael W. Deem

4012-Pos  Board #B740
FEATURE DETECTION AND ORIENTATION TUNING IN THE DROSOPHILA CENTRAL BRAIN. Johannes D. Seelig, Vivek Jayaraman

Optical Microscopy and Super Resolution Imaging IV (Boards #B742–#B748)

4014-Pos  Board #B742
MEASUREMENT OF THE POINT- AND LINE-SPREAD FUNCTIONS ENABLES DECONVOLUTION IN BRIGHT FIELD LIGHT MICROSCOPY. Carmen N. Hernandez Candia, Braulio Gutierrez Medina

4015-Pos  Board #B743

4016-Pos  Board #B744
DEVELOPMENT OF A SLOW-SWITCHING DRONPA VARIANT FOR 2-COLOR SUPER RESOLUTION IMAGING OF DRP1 DURING MITOCHONDRIAL FISSION. Sang-Hyuk Lee, Alyssa Rosenbloom, JaeYen Shin, Carlos Bustamante

4017-Pos  Board #B745
WIDE-FIELD BACKGROUND FREE IMAGING BY MAGNETIC MODULATION OF NANODIAMOND FLUORESCENCE. Ambika Bumb, Susanta K. Sarkar, Xufeng Wu, Kem A. Sochacki, Peter Kellman, Martin W. Brechbiel, Keir C. Neuman

4018-Pos  Board #B746
A SPECTRAL PHASOR PERSPECTIVE IN ZEBRAFISH MUSCLE DEVELOPMENT. Francesco Cutrale, Vikas Trivedi, Le Trinh, Thai Truong, Scott Fraser

4019-Pos  Board #B747
QUANTIFYING PROTEIN CONFORMATION HETEROGENEITY IN LIVE CELLS BY FOURIER LIFETIME EXCITATION-EMISSION MATRIX SPECTROSCOPY. Yu Li, Ming Zhao, Xiaoyang Wan, Weibin Zhou, Leilei Peng

4020-Pos  Board #B748
FUNDAMENTAL AND PRACTICAL LIMITS FOR THE LOCALIZATION PRECISION IN THE PRESENCE OF SHOT NOISE FROM OTHER EMITTERS. Ingrid Schoen, Viola Vogel

Scanning Probe Microscopy
(Boards #B749–#B765)

4021-Pos  Board #B749
BREAKING THE SINGLE-MOLECULE LIMIT IN BIOLOGICAL IMAGING. Duckhoe Kim, Ozgur Sahin
Biophysical Society 58th Annual Meeting, San Francisco, California
Angel e. Garcia
ionic-Mediated calculations of ssRNA. Study. Ioannis Beis, Matti Weckström, André Juffer, Marja Hyvönen

Matthew Davenport, Sonia E. Letant, Joseph W. tringe
Calculations. GPcR Ligands using absolute binding free energy calculations. Hui Sun Lee, Wonpil Im

Kendall n. Houk, todd o. Yeates

Daniele Di Marino, Anna tramontano, Mauro chinappi
ALL-AtomS MD simulation of protein translocation simulations of DNA. Beum Chung Kim, Young Min rhee Systems. nonadiabatic Dynamics in Photosynthetic electron transfer reactions from a Mixed Quantum-Classical Liouville perspective. Pooja Shrestha, Jeff Wereszczynski

Hyun Woo Kim, Young Min rhee SortaSE a Enzyme. Pooja Shrestha, Jeff Wereszczynski

Jean-Marc Victor
Maria Barbi, Chromatin Fibres with GAME engines. Pascal Carrivain, Maria Barbi, Jean-Marc Victor

A Novel coarse-grained model for molecular Dynamics simulations of DNA. Aleksandra Karolak, Arjan van der Vaart

Investigating the folding Dynamics of RNA pseudoknot Structural motif via Massively parallel Molecular Dynamics. Amethyst Radcliffe, Samantha Cao, Benjamin Pham, Phuc La, Richard Wang, Eric Sorin

Hierarchical folding of the RNA in the early Assembly of the e. coli Ribosomal small subunit. Jonathan Lai, ke Chen, hajin Kim, TaejkiP Ha, Zaida Luthey-Schulten

Computational methods II
(Boards #B785–#B816)

igand binding pathways and transitions in a glutamate receptor. Alvin Yu, Albert Lau

A thermodynamic discrimination of efficacy of GPCR ligands using absolute binding free energy calculations. Hui Sun Lee, Wonpil Im

Simulating current-voltage relationships for a simple ion channel with all-atom resolution using the weighted ensemble method. Joshua L. Adelman, Michael Grabe

Principal component analysis of glutamate receptor ligand binding domains. John Belcher, Yongneng Yao, Anthony J. Berger, Mark L. Mayer, Albert Lai

Quantitative characterization of membrane protein-lipid interactions. Soohyung Park, Wonpil Im

Effect of serotonin on membranes properties studied by molecular dynamics simulations. Hubert Santuz, Slim Azouzi, Pascal Amireault, Catherine Etchebest

International travel awardee. Begum Alaybeyoglu, Elif Ozkirimli

A software platform for finite element simulation of ion Permeation in ion channel systems. BenZhuo Lu

Heterogeneity of threadlike shape of DNA-stabilized silver fluorescent clusters. Ruslan R. Ramazanov, Alexei I. Kononov

In silico single-molecule Manipulation of Chromatin fibres with game engines. Pascal Carrivain, Maria Barbi, Jean-Marc Victor

Interpolation of potential energy surfaces for Nonadiabatic simulations of biological systems. Jae Woo Park, Young Min Rhee

Mixed quantun-classical study of the Nonadiabatic Dynamics in Photosynthetic systems. Hyun Woo Kim, Young Min Rhee

Computational studies of the Catalytic Mechanism of the Staphylococcus aureus SORtase a Enzyme. Pooja Shrestha, Jeff Wereszczynski

Investigations of model proton-coupled electron Transfer reactions from a Mixed quantum-classical Liouville perspective. Farnaz Shabik, Gabriel Hanna

Biophysical Society 58th Annual Meeting, San Francisco, California
NEW INSIGHTS ON INTERACTIONS OF A QUANTUM VIBRATION WITH AN ENVIRONMENT OF HYDROGEN-BONDED GROUPS FROM THE MIXED QUANTUM-CLASSICAL LIOUVILLE APPROACH. Holly Freedman, Gabriel Hanna

PHOSPHORYL TRANSFER TRANSITION STATE COMPUTATIONALLY MODELED BY MGF3(-) IN THE ONCOGENETICALLY INDICATED GTPASE PROTEIN RHOA AND IT'S ACTIVATING PROTEIN RHOA.GAP. Whitney F. Kellett, Nigel G J Richards

QUANTITATIVE INTERPRETATION OF CHEMICAL SHIFTS ENABLES MAPPING PROTEINS CONFORMATIONAL LANDSCAPE. Alessandro Cembran, Gianluigi Veglia

ELECTRONIC STRUCTURE STUDY OF CERTAIN RHIZOFERRIN ANALOGS AND IT'S FERRIC-ION COMPLEXES. Archana Dubey, Olle Heinonen

A QUANTITATIVE METHOD TO TRACK PROTEIN TRANSLATION BETWEEN INTRACELLULAR COMPARTMENTS IN REAL-TIME IN LIVE CELLS USING WEIGHTED LOCAL VARIANCE IMAGE ANALYSIS. Guillaume Calmettes, James N. Weiss

EXTRACTING FUNCTIONAL INFORMATION FROM SINGLE PARTICLE TRAJECTORIES. Benjamin Regner, Daniel Tartakovsky, Terrence Sejnowski

TRACKING INHOMOGENEously DISTRIBUTED PARTICLES. Javier Mazaferri, Stephane Lefrancois, Santiago Costantino

DYNAMIC QUANTIFICATION OF ANTIGEN MOLECULES ON CELLS WITH FLOW CYTOMETRY. Darya Yu. Orlova, Aaron B. Kantor, Andrei V. Chernyshev, David R. Parks, Wayne A. Moore, Leonore A. Herzenberg

BRIDGING THE GAP BETWEEN PALM AND QDots SINGLE PARTICLE TRACKING USING BAYESIAN INFERENCE AND THE GILLESPIE SCHEME. Jean-Baptiste Masson, Mohamed el Beheiry, Charlotte Salvatico, Marianne Renner, Christian G. Specht, Antoine Triller, Maxime Dahan

HIGH DENSITY SINGLE PARTICLE TRACKING WITH VARIOUS PROBES. Peter K. Relich, Keith A. Lidke

CELL ADHESION SENSITIVITY TO CELL SIZE AND SURFACE RECEPTOR DENSITIES. Srikanth Raghavan, Shripad Joshi, Alexander Dawson-Eli, Aravind R. Rammohan, Matthew E. McKenzie, Ramakrishnan Natesan, Ravi Radhakrishnan

GAME ON, SCIENCE - HOW VIDEO GAME TECHNOLOGY MAY HELP BIOPHYSICISTS TACKLE VISUALIZATION CHALLENGES. Alexandre Kouyoumdjian, Erwan Ortic, Alex Tek, Aurélien Pluot, Eric Henon, Matthieu Chavent, Marc Baaden

LOOS: A TOOL FOR MAKING NEW TOOLS FOR ANALYZING MOLECULAR SIMULATIONS. Tod D. Romo, Alan Grossfield

CHARMM-GUI PACE CG BUILDER FOR SOLUTION, MICELLE, BILAYER AND VESICLE SIMULATIONS. Yifei Qi, Xi Cheng, Wei Han, Sunhwan Jo, Benoît Roux, Klaus Schulten, Wonpil Im

CALCULATOR FOR MUTUAL INFORMATION BETWEEN A DISCRETE AND A CONTINUOUS DATA SET. Brian Ross

REAL VALUED SEQUENCE ALIGNMENT USING ADAPTED SMITH WATERMAN ALGORITHMS. Henry Brinkerhoff, Brian Ross, Ian M. Derrington, Andrew H. Laszlo, Jens H. Gundlach

SINCE THE DNA MOLECULE RETURNS FROM THE TRANSCRIPTIONAL PROCESS EXACTLY AS IT WAS BEFORE THE PROCESS, THE DNA>PROTEIN PRODUCTION CAN BE SEEN AS A SERIES OF EIGENVALUE PROBLEMS. Svetlana Aroutiounian

Biosensors II (Boards #B817–#B821)

FROM ONE, MANY: MODIFIED FLUOREOGENS INTERACT WITH A FLUOREOGEN ACTIVATING PROTEIN FOR MULTICOLOR CELL LABELING. Jianjun He, Christopher Pratt, Marcel P. Bruchez

MUTE-KARS: SILENT KINASE ACTIVITY REPORTERS USEFUL FOR CO-IMAGING. Gary Mo, Jin Zhang

DESIGNING A THERMOSTABLE SWITCH-BASED BIOSENSOR. Teraya Donaldson, Jonathan D. Dattelbaum

THE TWO-PHOTON BAZOOKA: A NEW WAY OF OPTICALLY SCREENING RANDOMLY MUTAGENIZED LIBRARIES OF FLUORESCENT PROTEINS. Lauren M. Barnett, Caleb Stolzfus, Geoffrey Wicks, Mikhail Drobitshev, Alexander Mikhailov, Aleksander Rebane, Thomas E. Hughes

MODULAR DESIGN OF A TANDEM DYE TUNES THE PHOTO-PHYSICAL PROPERTIES OF A BIOSENSOR. Matharishwan Naganbabu, Saumya Saurabh, Marcel Bruchez

Micro- and Nanotechnology III (Boards #B822–#B830)

CHEMICAL CELL TO CELL COMMUNICATION ON BIOMINERALIZED NANOPORE SUBSTRATES FOR SINGLE CELL ANALYSIS. Abhishek J. Dharan, Kai-chun Lin, Patti Senechal-Willis, Laimonas Kelbauskas, Deirdre Meldrum, Brian Ross

HIGH-THROUGHPUT SCREENING OF T CELL CYTOTOXIC EVENTS BY BIOMASS PROFILING. Thomas A. Zangle, Daina Burnes, Colleen Mathis, Owen N. Witte, Michael A. Teitel

Biophysical Society 58th Annual Meeting, San Francisco, California
4096-Pos  Board #B824
PARALLEL MAGNETIC TWEEZERS FOR PULLING CNS AXONS TOWARDS A SOURCE OF REPELLENT FACTORS. Gil Lee, Devrim Kilinc, Agata Blasiak

4097-Pos  Board #B825
BIOLOGICAL COMPATIBILITY OF ELECTROMANIPULATION MEDIA. Anthony J. Asmar, Ahmet C. Sabuncu, Mark A. Levenstein, Michael W. Stacey, Ali Beskok

4098-Pos  Board #B826
INHERENTLY FLUORESCENT NANOWIRES FOR CELLULAR MECHANOSENSING. Karl Adolfsson, Henrik Persson, Zhen Li, Stina Oredsson, Udo Häcker, Magnus T. Borgström, Christelle N. Prinz

4099-Pos  Board #B827
CMOS ELECTROCHEMICAL SENSING PLATFORM FOR SPATIALLY RESOLVED DETECTION OF REDOX-ACTIVE METABOLITES RELEASED BY MULTICELLULAR FILMS. Daniel L. Bellin, Hassan Sakhtah, Jacob K. Rosenstein, Peter M. Levine, Jordan Thimot, Kevin Emmett, Lars E. P. Dietrich, Kenneth L. Shepard

4100-Pos  Board #B828

4101-Pos  Board #B829
HIGH-THROUGHPUT SINGLE-CELL ANALYSIS DEVICE FOR FOLLOWING SIMULTANEOUS INTRACELLULAR SIGNALING EVENTS. Amin A. Banaeyan, Doryaneh Ahmadpour, Caroline B. Adiels, Mattias Goksör

4102-Pos  Board #B830
BIOPHYSICS OF ELECTROCHEMICAL CELL LYSIS OF MALARIA PARASITE. Brian N. Kim, Luke P. Lee
Exhibit Dates and Times

Sunday, February 16, 10:00 AM–5:00 PM
Monday, February 17, 10:00 AM–5:00 PM
Tuesday, February 18, 10:00 AM–5:00 PM

Coffee Served Daily 10:15 AM–11:00 AM
Afternoon Snack Served Daily 1:45 PM–3:00 PM

EXHIBIT RAFFLE

Enter to win an Apple iPad Air in the Exhibit Hall. Visit with exhibitors to pick up raffle tickets for your chance to win. The more booths you visit, the greater your chances of winning. Drop off your raffle tickets at the Society Booth, outside the Exhibit Hall by 3:00 PM on Tuesday, February 18. The drawing will take place on Tuesday, February 18 at 3:00 PM and announced in the Exhibit Hall—you must be present at the Meeting to win!

Exhibitor Presentations

Exhibitor Presentations will take place in Room 123 of the Moscone Center.
(See pages 214–217 for detailed abstracts.)

Sunday, February 16
8:00 AM–8:45 AM
FEI Company
9:00 AM–10:30 AM
ForteBio, A Division of Pall Life Sciences
11:00 AM–12:30 PM
Molecular Devices, LLC
1:00 PM–2:30 PM
KinTek
3:00 PM–4:30 PM
Nanosurf, Inc.
5:00 PM–6:30 PM
Asylum Research, an Oxford Instruments Company
7:00 PM–8:30 PM
FEI Company

Monday, February 17
8:00 AM–8:45 AM
FEI Company
9:00 AM–10:30 AM
Park Systems, Inc.
11:00 AM–12:30 PM
Nanion Technologies
1:00 PM–2:30 PM
World Precision Instruments, Inc.
3:00 PM–4:30 PM
Bruker Nano Surfaces
5:00 PM–6:30 PM
HEKA Elektronik

Tuesday, February 18
9:00 AM–10:30 AM
Wyatt Technology Corporation
11:00 AM–12:30 PM
Nanion Technologies
1:00 PM–2:30 PM
Molecular Devices, LLC
3:00 PM–4:30 PM
GE Healthcare

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Park Systems, Inc.
Photon Technology International, Inc.
Sutter Instrument
World Precision Instruments, Inc.
Wyatt Technology Corporation

*As of December 10, 2013
Sunday, February 16

8:00 AM–8:45 AM
FEI Company
High End Microscope Platform for Multimodal Live Cell Imaging
See page 13 for session description.

Presenters
Meike Pedersen, Product Marketing Manager, FEI Munich GmbH
Tilmann Franke, Product Marketing Manager, FEI Munich GmbH
Gregor Heiss, Product Marketing Engineer, FEI Munich GmbH

9:00 AM–10:30 AM
Forte Bio, A Division of Pall Life Sciences
Developing Assays for Kinetic Characterization on the BLItz System
See page 16 for session description.

11:00 AM–12:30 PM
Molecular Devices, LLC
Investigating Use-Dependent Inhibition of Ion Channels on Automated Electrophysiology Systems including the IonWorks Barracuda® Instrument and the IonFlux™ Benchtop Reader
Use-dependent inhibition of ion channels by potential drug candidates is an important aspect to investigate for many drug classes. Use-dependent drugs specifically target ion channels in cells that are more electrically active. For example, a drug targeting pain that is more potent to Na⁺ channels in neurons actively firing action potentials is a better drug candidate. Data will be presented to demonstrate the ability of automated electrophysiology systems to study the use-dependence block of Na⁺ channel targets. Tetracaine, lidocaine, and TTX exhibit very different behavior in terms of their use-dependent blockage. We will demonstrate the ability of the instrumentation to deliver complex voltage protocols and generate long assay windows which are required for these studies. Pulse trains delivered at 10Hz are used to measure the blockade of current. Data from a separate study will also be presented that demonstrate blockade and enhancement of NaV1.5 currents by various peptide toxins. Both sets of experiments demonstrate stable assay windows with uniform currents for 30 minutes and longer during the delivery of periodic pulse trains.

Presenter
James Costantin, Product Marketing Manager, Automated Electrophysiology, Molecular Devices, LLC

1:00 PM–2:30 PM
KinTek
New Advances in Fitting Kinetic and Equilibrium Data by Simulation
Fitting kinetic data based upon numerical integration of rate equations offers many advantages over conventional fitting of data based upon equations derived from simple models. Fitting by simulation is the most rigorous and eliminates the need to derive equations; however, it also requires an understanding of the kinetics and critical thought to avoid overly complex models.

In this presentation, Dr. Johnson will show how global fitting of kinetic data can be accomplished with ease using the fast, dynamic simulation in KinTek Explorer software, overcoming the all-to-common errors in conventional fitting. Moreover, data are fit to derive rate constants directly defining steps in a model. New advances in the software allow fitting kinetic data from single molecule experiments and families of curves can be fit simultaneously to define voltage-dependent rate constants or data from Temperature-jump or Pressure-jump experiments. In addition, equilibrium titration data can be fit using a unique endpoint simulation method, and time-resolved spectra can be fit using singular value decomposition (SVD). Moreover, all experiments can be fit simultaneously.

Presenters
Kenneth A. Johnson, President, KinTek Corporation
Roger Williams, Professor of Biochemistry, University of Texas at Austin

3:00 PM–4:30 PM
Nanosurf, Inc.
Development of Automation and Nanofluidics to Extend Applications of Atomic Force Microscopy
In an effort to extend the range of atomic force microscope (AFM) applications, we have developed automation routines for nanomechanical analysis of large uneven samples and incorporated nanofluidics for nanomanipulation experiments.

We will present details of a method that has been developed to compensate for the Z-range limitation and to automate the data collection over large sample areas. To compensate for large surface corrugations on biologically relevant samples, customized hardware and software algorithms for automated leveling have been developed and implemented. This method consists of a patented vertical alignment system, which is activated whenever the Z piezo reaches its limit (i.e., max. extension or max. retraction). This method allows for AFM investigation to proceed uninterrupted and error-free over corrugated surfaces.

FluidFM combines the positional accuracy and force sensitivity of AFM with the unique possibilities of nanofluidics to provide a whole new level of control and possibilities in nanomanipulations and analysis. The FluidFM system includes a fully integrated AFM, pressure controller and hollow microfabricated cantilevers. The integrative nature of its touchscreen-based control software brings together optical, force, pressure, and position control in one place. The entire system is easy to use and allows objects and experimental settings to be manipulated via on-screen interactions. Moving a sample or indicating measurement positions has never been more intuitive. Details of several different applications of FluidFM in cell biology will be presented including pick and place of single cells, single cell force spectroscopy, cellular injection and micropatterning under liquids.

Presenters
Saju Nettikadan, General Manager, Nanosurf, Inc.
Brent Lapointe, Research Associate, Biozentrum and the Swiss Nanoscience Institute, University of Basel
Here, we will illustrate the historical context of these technologies with respect to one another and show how latest developments have reached the critical requirements to fully unleash the power of structural biology in not just answering fundamental questions, but actually contribute to curing diseases and improving health. Also, we will discuss the future of structural biology based on the latest developments of the FEI workflow and its components.

**Monday, February 17**

**A Fully Automated Imaging System for Correlative Light and Electron Microscopy**

See page 66 for session description.

**Presenters**

Marc Storms, Marketing Manager, Life Sciences, FEI Company

Jeff Lengyl, Product Marketing Manager, FEI Company

Eric Hnath, Product Marketing Manager, Structural Biology, FEI Company

Thomas Wohlfarth, Director, Structural Biology Businesses, FEI Company

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**Cryo-TEM: A New Era for 3D Structural Analysis of Protein Complexes**

A new frontier exists in unraveling interactive biological and biochemical processes and pathways at the macromolecular level. Of critical importance is the three-dimensional visualization of macromolecular structures and molecular machines in their native functional state. Three techniques play a major role in orchestrating this.

Nuclear magnetic resonance (NMR) has the capability to study specific protein domains or fragments and their functional role in protein folding and dynamics and in ligand binding whereas X-Ray crystallography (XRD) allows visualizing high-resolution but more static 3D structures of apo and liganded proteins, mainly in a monomeric or dimeric state after crystallization. To unravel more physiologically relevant situations however, it is essential to visualize multimeric complexes in their tertiary and quaternary state and their interaction with other complexes. By performing typical cryo-TEM applications like single particle analysis or tomography, this can be achieved. In this so-called translational methodology, cryo-TEM thus provides complementary information to NMR and XRD that can be crucial for drug discovery, e.g. in terms of a better understanding of the mechanism of action inferred from the EM structure of the physiologically relevant complex. This will eventually contribute to answer real biologically as well as medically relevant questions.

Latest developments in the cryo-TEM workflow have brought the three major structural biology technologies closer together. Now, finally, a continuum has been reached on all important aspects with regards to resolution and macromolecular scales which allows for the full deployment of the combination of these technologies.
These advances of convergence in instrumentation will be utilized in various kinds of biomedical research and become a new driving force for biophysics and nanobioscience.

**Presenter**
Sangjoon Cho, Senior Director of Research & Development, Park Systems, Inc.

**11:00 AM–12:30 PM**
**Nanion Technologies**

**Workshop on Automated Patch Clamp: From Single Channels, Primary Cells, Action Potentials to 384 giga-seal Recordings in a Parallel HTS Format**

The Port-a-Patch recently turned 10 years old, and is going stronger than ever. It’s still the smallest patch clamp rig in the world, and makes patch clamp recordings accessible to anyone spending a couple of hours with it. Giga-seal recordings and the excellent voltage-clamp of the cellular membrane ensure high quality data, and the Port-a-Patch add-ons allow unprecedented experimental freedom, including temperature control, internal perfusion, automated action potential recordings, and recordings from primary and stem cell-derived cells. Recently, the Port-a-Patch technology was scaled up to eight simultaneous recordings (Patchliner), maintaining the same data quality and experimental possibilities, and now we did it again: 384 Port-a-Patches have been shrunken to fit inside a shoebox – called the Patch Engine (PE). Two Patch Engines can be integrated per SyncroPatch 384PE platform, allowing for patch clamp-based ion channel HTS from up to 768 cells in parallel, and we will tell you more about it during this workshop.

Another topic for the workshop is the bilayer-reconstitution of ion channels and nanopores, efficiently investigated using the Orbit 16, a parallel device for formation of and recordings for up to 16 artificial bilayers at once. Using Micro Electrode Cavity Array (MECA, Ionera), a 4 x 4 array of circular micro-cavities in a highly inert polymer, the bilayer is automatically formed by remotely actuated painting (Ionera-SPREAD).

Welcome to our workshop and learn from live, hands-on experiments on the Port-a-Patch and Orbit 16, and let us show you how to scale up your ion channel screening project to HTS-standards!

**Presenters**
Niels Fertig, CEO, Nanion Technologies
Andrea Brüggemann, CSO, Nanion Technologies
Gerhard Baiken, Ionera

**3:00 PM–4:30 PM**
**Bruker Nano Surfaces**

**Atomic Force Microscopy for Biological Research**

Physical properties including structures such as shape/size and mechanics such as strength/stiffness/interaction forces play crucial roles in biological processes. Quantification of this at various length scales is necessary because of the heterogeneous/complex nature of biologics. Atomic force microscopy (AFM) is a unique research tool because of its abilities to perform measurements with both high spatial and force resolution in fluid under physiological conditions. In this tutorial, Bruker will present theories behind AFM, bio-applications in high-speed AFM, and practical guides to quantitative mechanical measurements and analysis of biological samples ranging from a single membrane protein to a single cell. While the key experiments presented will encompass research in microbiology/pain mediation/cancer, the methodology has also been employed in other disciplines including pathogenesis/stem cell differentiation/cell signaling and more.

**Presenter**
Senli Guo, Application Scientist, Bruker Nano Surfaces

**5:00 PM–6:30 PM**
**HEKA Elektronik**

**HEKA Electrophysiology Update**

For over 40 years, HEKA Elektronik has provided innovative products, expert tech support and unmatched service to their customers. HEKA’s commitment to technological innovation is reflected by consistent updating of both hardware and software. While yesterday’s gold standards try to keep pace with the latest research techniques, HEKA takes the lead.

By popular demand, HEKA is hosting a series of user meetings with tutorial presentations. On one hand, some of the new products will be showcased to the experienced user and, on the other hand, step-by-step guidance is provided to the researcher who is new to the field. Registration is available online through the HEKA Events Page (http://server.hekahome.de/scripts/events.php), or by email to events@heka.com. The number of available spaces, food and drink are limited, and registrations are accepted on a first-come-first-served basis.

**Presenters**
Hubert Affolter, Senior Software Architect, HEKA Elektronik
Jan Dolzer, Vice President Sales & Marketing, HEKA Elektronik
Telly Galiatsatos, General Manager, HEKA Instruments
Tuesday, February 18

9:00 AM–10:30 AM
Wyatt Technology Corporation

Essential Biophysical Characterization™: Molar Mass, Size, Charge and Interactions—The Light Scattering Toolbox for Biomolecules and Nanoparticles

Wyatt Technology provides the essential tools for characterization of biomacromolecules in solution, including peptides, proteins and oligonucleotides as well as bionanoparticles such as exosomes and VLPs. This presentation describes the light scattering instrumentation and techniques used in these analyses: coupled to liquid chromatographic separations for absolute molar mass and size distributions (SEC/FFF-MALS); microtiter plate-based, high throughput screening of size, aggregation and interactions (DLS); and the label-free, immobilization-free analysis of biomolecular interactions for affinity and absolute molecular stoichiometry (CG-MALS). A variety of examples illustrate the unique capabilities of these light scattering measurements in biophysics.

Presenters
Chris Broomell, Applications Scientist
Sophia Kenrick, Application Scientist, Wyatt Technology Corporation

11:00 AM–12:30 PM
Nanion Technologies

SURFE2R—Catch the Wave for Transporters

Precise Measurements of Membrane Transporter Protein Activity

Ion transporters and pumps play an important role within general metabolism and information processing of organisms. Dysfunction and -regulation of transporter proteins are related to diseases like obesity, diabetes, hypertension, and CNS disorders such as epilepsy and depression. Hence, ion transporters have become potential targets within the drug development treating disease-related abnormalities. At present, labeling technologies and conventional patch clamp are commonly used for ion transporter screening. However, radioactive and fluorescence-based assays have limited sensitivity, and because of the limited molecule turnover per seconds of transporters and pumps compared to ion channels, the direct electrophysiological measurement of protein transporters and pumps activity is extremely challenging.

The SURFE2R N1 which we will present at the workshop is a small footprint, fully automated device recording from membrane preparations, with proven success using native tissue, mammalian and insect cell lines, bacteria, organelles, and proteoliposomes. Come to our workshop and learn from LIVE-experiments how to make measurements of transporter-protein functionality efficient and reliable!

Presenters:
Andrea Brüggemann, CSO, Nanion Technologies
Maria Barthmes, Nanion Technologies

1:00 PM–2:30 PM
Molecular Devices, LLC

Axon Electrophysiology Symposium: Getting the Most out of pCLAMP Software

pCLAMP™ is a powerful data acquisition and analysis software and is widely used for a variety of electrophysiological recordings. In the first tutorial of this workshop, Jeffrey Tang will highlight a few features used to create a customized acquisition protocol in Clampex. In the second tutorial, Burt Maertz will share tips in single-channel analysis using Clampfit. These include burst analysis, latency analysis and P(open) analysis.

Presenters
Jeffrey Tang, Product Marketing Manager, Axon Conventional Electrophysiology, Molecular Devices, LLC.
Burt Maertz, Technical Support Specialist, Axon Conventional Electrophysiology, Molecular Devices, LLC.

3:00 PM–4:30 PM
GE Healthcare

The Devil is in the Detail: the Importance of Accurate Stability and Concentration Determination in Biomolecular Interaction Analysis

See Addendum for session description.

2014 Thematic Meetings

Modeling of Biomolecular Systems Interactions, Dynamics, and Allostery
Istanbul, Turkey
September 10–14, 2014
Abstract Deadline: May 5

Significance of Knotted Structures for Function of Proteins and Nucleic Acids
Warsaw, Poland
September 17–21, 2014
Abstract Deadline: May 12

Disordered Motifs and Domains in Cell Control
Dublin, Ireland
October 11–15, 2014
Abstract Deadline: June 2
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<td>develops, manufactures and markets bioanalytical reagents and assay kits for life science research and drug discovery. We specialize in absorption, fluorescence and luminescence technologies. Our products include the outstanding Fluo-8®, Cal-520®, FLIPR calcium assay kits, fluorescent ion indicators, fluorescent labeling reagents, cell and in vivo imaging probes.</td>
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<td>Need career advice?</td>
<td>Learn what the Career Center has to offer on page XII.</td>
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New Exhibitors:

**Anasys Instruments**
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www.anasysinstruments.com

Anasys builds products that measure nanoscale material properties. We pioneered the fields of nanoscale IR, thermal and mechanical spectroscopy. In Oct 2013, we introduced the nanoIR2™ with top-side illumination, the second generation of our AFM based spectroscopy platform which expands nanoscale IR to a broad variety of real world samples.

**Anatrace**
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Anatrace is a specialty chemical manufacturing company focusing on high purity detergents and synthetic lipids for membrane protein structural biology work and for solubilizing/stabilizing macromolecules.

**Andor Technology**
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Andor Technology is a global leader in the manufacturing of high performance scientific imaging cameras, spectroscopy solutions, and microscopy systems for research and OEM markets. Andor has been innovating for over 20 years for high performance light measuring solutions that allow consumers to perform light measurements previously considered impossible.

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Applied Scientific Instrumentation, Inc. (ASI) manufactures top-of-the-line products for submicron positioning & Microscopy, including DC servomotor stages, stages with integrated piezos that provide high-speed nano meter resolution, LED based feedback systems for maintaining focus stability over time & also while scanning. ASI offers individual components, as well as complete turnkey motion control & microscopy systems. Our new Dual Inverted Selective Plane Microscopy system (diSPIM) offers several advantages over confocal & other microscopy systems including:

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**Asylum Research, an Oxford Instruments Company**
6310 Hollister Avenue  
Santa Barbara, CA 93117  
www.asylumresearch.com

The AFM technology leader will feature new blueDrive™ Photothermal Excitation, an option exclusively available on Cypher®, the highest resolution fast scanning AFM. blueDrive significantly enhances the performance of tapping mode imaging with more simple, stable and quantitative operation, providing extremely clean tunes in both air and water. blueDrive will be scanning on the Cypher ES Environmental AFM. Cypher ES offers unmatched performance in any environment including buffers, solvents, inert gases, strong acids and bases, with continuous liquid flow, heating, and cooling capabilities. It utilizes all standard imaging modes, and many advanced modes for the highest resolution imaging of proteins, lipids and nucleic acids, as well as force measurements and nanomechanics. Also featured is the MFP-3D-BIO™ AFM for uncompromised AFM integrated with optical microscopy. The MFP-3D-BIO excels at live cell imaging, combined AFM and optical measurements, force spectroscopy, and has the widest variety of accessories for biophysics applications and multi-disciplinary research.

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Company Name    Booth Number

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Your new AutoMated physiology rig is here: Axon Instruments amplifiers, pullers and manipulators, air tables, brain slice chambers, Hum Bug noise eliminator, multi-electrode array with our own perfusion systems, temperature control and SmartSquirt micro-perfusion. Visit AutoMate’s booth or on the web at www.autom8.com for more information.

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Avalanche Biotech AB is high-tech company producing and developing research instruments for biotechnology, chemistry and medicine. Our main product is the Multifunctional Pipette—a targeted microfluidics based solution delivery tool for single-cell studies.

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Aviv Biomedical, Inc.  831
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Aviv Biomedical, Inc. manufactures scientific and clinical instruments. Products include a fluorescence accessory (AU-FDS) for the Beckman Analytical Ultracentrifuge, model XLA/XLI. Sales, service and support of Aviv Spectrometers, Aviv Spectrophotometers and Aviv Fluorometers. Booth 831.

NEW Azure Biosystems  209
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Pleasant, CA 94568
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Azure Biosystems is focused on the development and commercialization of state-of-the-art technologies to support research in the life science community. Founded in Pleasant, California, Azure Biosystems is developing a series of instruments for image capture and analysis.

NEW BaySpec, Inc.  829
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San Jose, CA 95131
www.bayspec.com

BaySpec, Inc., founded in 1999 with 100% manufacturing in the USA (San Jose, CA), designs, manufactures and markets advanced spectral instruments, including UV-VIS-NIR spectrometers, NIR and Raman analyzers, hyperspectral imagers and confocal Raman microscopes, for the R&D, biomedical, pharmaceuticals, chemical, food, semiconductor, homeland security, and optical telecommunications industries.

Biochemical Journal  909
Charles Darwin House
London, WC1N 2JU
United Kingdom
www.biochemj.org

The Biochemical Journal (Impact Factor 4.654) is one of the world’s leading bioscience journals, publishing high-quality scientific research in biochemistry, cellular and molecular biology. The journal publishes high-impact reviews, original research papers and expert commentaries within each of its nine Knowledge Environments, and is owned by the Biochemical Society.

NEW Bio-Logic USA  604
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Knoxville, TN 37923
www.bio-logic.us

Bio-Logic USA is the leading manufacturer of stopped flow, quench flow, and freeze quench mixers for examining reaction kinetics in biochemistry, molecular biology, and biophysics. The SFM-4000 series of mixers deliver dead times approaching 200us, with asymmetrical mixing, modular design, and unsurpassed performance. They can be connected to spectrometers, x-ray and neutron lines, and EPR systems. The MOS-500 spectro-polarimeter delivers auto-optimized performance from near IR to UV in CD, LD, absorbance, fluorescence, and anisotropy modes. Sample handling options include cuvette, powder, peltier temperature control, and more. The MOS-500 can be used standalone or with the SFM-4000 series stopped flow mixers.

Bitplane, Inc.  320
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South Windsor, CT 06074
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Bitplane is the world’s leading interactive microscopy image analysis software company and was founded in 1992. Through their constant innovation and a clear focus on 3D and 4D image visualization and analysis, Bitplane actively shapes the way scientists process multi-dimensional microscopic images.

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Agents for Becker & Hickl GmbH and for id Quantique SA. We deliver and install photon counting solutions for FLIM (Fluorescence Lifetime Imaging) and SMD (Single Molecule Detection). TCSPC is our specialty.

**Students!**

**Stop by the Graduate & Postdoc Institution Fair on Monday in the Exhibit Hall from 1:00-3:00 PM to learn about universities with biophysics programs.**
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<td>BRANDEL is pleased to exhibit its Density Gradient Fractionation System that produces a continuous absorbance profile as the gradient is displaced. The system incorporates Syringe Pump, UA-6, Optical Unit, Fraction Collector, and Tube Piercer. Optional Data Acquisition Software provides capability to store multiple projects, generate graphic files, create Excel files, etc.</td>
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<td>For over 50 years, Bruker has been driven by one idea: to provide the best technological solution for each analytical task. Being one of the world’s leading analytical instrumentation companies, Bruker is strongly committed to further fully meet its customers’ needs as well as to continue to develop state-of-the-art technologies and innovative solutions for today’s analytical questions.</td>
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<td>Bruker offers world-leading atomic force microscopes (AFMs) for bioscience research, including the BioScope Catalyst for combined AFM/light microscopy and nanomechanics studies, and the FastScan Bio for high-speed imaging of dynamic biological events. Bruker also provides a suite of advanced fluorescence microscopy systems. The Ultima two-photon microscope enables advanced brain slice and intra-vital studies deep into tissues, and the new Opterra swept field multipoint scanning confocal fluorescence microscope enables high-speed, live cell imaging. Whatever your life science application, Bruker has a high-performance solution that can expand your research.</td>
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<td>Cambridge’s publishing in books and journals combine state-of-the-art content with the highest standards of scholarship, writing and production. Visit our stand to browse new titles, available at a 20% discount, and to pick up sample issues of our journals. Visit our website to see everything we do: <a href="http://www.cambridge.org/us/">www.cambridge.org/us/</a>.</td>
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<td>Carl Zeiss Microscopy, LLC</td>
<td>301</td>
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<tr>
<td>One Zeiss Drive</td>
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<tr>
<td>Thornwood, NY 10594</td>
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<td><a href="http://www.zeiss.com/microscopy">www.zeiss.com/microscopy</a></td>
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<td>As the world’s only manufacturer of light, X-ray and electron microscopes, ZEISS offers tailor-made microscope systems for 3D imaging in biomedical research, life sciences and healthcare. A well-trained sales force, an extensive support infrastructure and a responsive service team enable customers to use their ZEIJS microscopes to their full potential.</td>
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<td>CEDARLANE</td>
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<td>1210 Turrentine Street</td>
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<td>Burlington, NC 27215</td>
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<td><a href="http://www.cedarlanelabs.com">www.cedarlanelabs.com</a></td>
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<td>Providing today’s researchers with the newest products of the highest quality, CEDARLANE is a vital resource to the Life Science industry. Cedarlane’s customers take advantage of access to over 1,000 top global suppliers. Open six days a week, we strive to save you money through consolidation and timely, affordable delivery.</td>
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<tr>
<td>Cell MicroControls</td>
<td>529</td>
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<tr>
<td>PO Box 11387</td>
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<tr>
<td>Norfolk, VA 23517</td>
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<td><a href="http://www.cellmc.com">www.cellmc.com</a></td>
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<td>Cell MicroControls develops temperature controllers, fluid switching devices, and miniature accessories for electrophysiology research. Temp Control Systems, 2/3 analog (TC2BIP), 2ch digital controller (mTCII). Fluid switching system (CF8PKGH), Accessories: thin (&lt;0.2mm) transparent heaters (HI-xx), miniature pre-heater (HPRE2), 8 tube for superfusion (1-2ul dead-space), tissue chambers, thermistor probes, reusable culture chambers, etc.</td>
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<tr>
<td>Cell Press</td>
<td>1001</td>
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<tr>
<td>600 Technology Square</td>
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<td>Cambridge, MA 02139</td>
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<td><a href="http://www.cell.com">www.cell.com</a></td>
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<td>On behalf of the Biophysical Society, Cell Press publishes the Biophysical Journal, the leading international journal for original biophysics research focused on emerging biophysical technologies, channels, protein clusters &amp; membranes, and more. Visit booth 1001 to learn about this exciting partnership and Biophysical Society member discounts on journals.</td>
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<td>ChanTest Corporation</td>
<td>835</td>
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<tr>
<td>14656 Neo Parkway</td>
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<tr>
<td>Cleveland, OH 44128</td>
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<td><a href="http://www.chantest.com">www.chantest.com</a></td>
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<td>ChanTest offers the largest collection of Ion Channel and GPCR services and products for screening and profiling. The company is also the leading provider of preclinical cardiac safety testing and consultation services, and has been recognized as “the most trusted and most used ion channel services company” in independent surveys.</td>
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<td>Chroma Technology</td>
<td>410</td>
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<tr>
<td>10 Imtec Lane</td>
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<td>Bellows Falls, VT 05101</td>
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<td><a href="http://www.chroma.com">www.chroma.com</a></td>
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<td>Chroma specializes in the design and manufacture of precision optical filters and coatings. We provide the greatest accuracy in color separation, optical quality and signal purity for applications such as low-light fluorescence microscopy and cytometry; spectrographic imaging in optical microscopy; laser-based confocal and multi-photon instrumentation; and Raman spectroscopy.</td>
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<td>Cobalt AB</td>
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<td>Vretenvägen 13</td>
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<td>Solna, Sverige 17154</td>
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<td>Sweden</td>
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<td><a href="http://www.cobolt.se">www.cobolt.se</a></td>
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<td>Cobalt has, since the year 2000, been committed to supplying high performance lasers that meet or exceed the market’s expectations concerning performance, quality and robustness. Through continuous technology development, customer orientation and an ISO-certified quality management system, Cobalt has become a preferred supplier to major instrument manufacturers and leading research labs.</td>
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MicroLine cooled CCD cameras and High Speed Filter Wheels under MicroManager / ImageJ software control. The compact deep-cooled MicroLine is a favorite for both OEM and Research Labs for low-light applications. The MicroLine supports over 40 different CCDs including Sony ICX285 (1.3MP), Sony ICX694 (6MP) and Truesense KAI-8050 (8MP).

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<td><strong>NEW</strong> Fondazione Istituto</td>
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<td>Italian di Tecnologia</td>
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<tr>
<td>Via Morego 30, Genova 16163, Italy</td>
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<td><a href="http://www.iit.it">www.iit.it</a></td>
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<td>The Fondazione Istituto Italiano di Tecnologia - IIT - was founded with the objective of promoting the country's technological development and further education in science and technology. IIT's scientific program has a strong multidisciplinary character, merging expertise from different platforms from neuroscience to drug discovery, from nanotechnologies to computation.</td>
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| **NEW** ForteBio, A Division of Pall Life Sciences | 405          |
|                                                   |              |
| 1360 Willow Road, Suite 201, Menlo Park, CA 94025 |              |
| www.fortebio.com                                 |              |
| ForteBio, a Division of Pall Life Sciences markets the Octet, BL.Itr platforms for label-free, high-throughput and micro-volume analysis. The platforms include instruments, 15 biosensor chemistries, and software to measure affinity, kinetics, and concentration in crude or purified samples. These real-time, “dip and read” methods allow simpler, faster and cost-effective workflows. |

| **NEW** Garland Science                 | 920          |
|                                        |              |
| 711 Third Avenue, 8th floor, New York, NY 10017 |              |
| www.garlandscience.com                 |              |
| Garland Science is proud to exhibit the Second Edition of Physical Biology of the Cell by Phillips, Kondev, Therior, and Garcia. Visit our booth and browse this and our other books including The Molecules of Life by Kurtian et al, Introduction to Cell Mechanics and Mechanobiology by Jacobs et al, and the award-winning Molecular Driving Forces by Dill and Bromberg. All of our titles on display are discounted 30% off. |

| **NEW** GenScript USA, Inc.             | 119          |
|                                        |              |
| 860 Centennial Avenue, Piscataway, NJ 08854 |              |
| www.genscript.com                       |              |
| GenScript is the world's leading biology CRO. The service portfolio includes custom gene synthesis and cloning, peptide synthesis, protein expression, antibody production, protein engineering, in vitro and in vivo pharmacology and drug Discovery biology studies. With headquarters in the USA, GenScript has 1,300+ employees worldwide with subsidiaries in Europe, Japan and China. |

| **NEW** GE Healthcare                   | 109          |
|                                        |              |
| 800 Centennial Avenue, PO Box 1327, Piscataway, NJ 08854 |              |
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| GE Healthcare provides tools for drug discovery, biopharmaceutical manufacturing and cellular technologies so that scientists worldwide can be more productive, effective, and creative. Our vision is to be the start-to-finish bioprocessing solution provider, the partner of choice in cell and protein research, and the leader in life sciences services. |

| **NEW** HEKA Elektronik                | 129          |
|                                        |              |
| 2128 Bellmore Avenue, Bellmore, NY 11710 |              |
| www.heka.com                           |              |
| For over 45 years, HEKA has been among the market leaders in patch clamp systems and a major player in electrochemistry equipment. Throughout these years there have been many changes in research, instrumentation and software. HEKA’s goal has always been to drive this progress and shape those changes, while remaining committed to our most important business partner, our customer. Recent product launches include the Imaging Extension Software, the EProScan Advanced Scanning Electrochemistry Microscopes, and the iTEV 90 Computerized Two-electrode Clamp Amplifier. HEKA’s established portfolio of patch clamp and electrochemistry systems interfaces and software enjoys increasing popularity in the scientific community. |

| **NEW** Hellma USA                     | 319          |
|                                        |              |
| 80 Skyline Drive, Plainview, NY 11803 |              |
| www.hellmausa.com                      |              |
| Hellma products include the unique Fiberoptic TrayCell and Fluorescence TrayCell for measuring nanoliter samples in any commercial spectrophotometer or spectrofluorometer. Designed for nucleic acid analysis, fluorescent dye labels, protein analysis and other analyses from 190-1100nm. Also Cuvettes, Calibration Standards, Quartz Microplates, Heraeus Lamps, Zeiss Spectrometers. Customization is available for all products. |

| **NEW** Human Frontier Science Program (HFSP) | 1021          |
|                                               |              |
| 12 quai Saint-Jean, Strasbourg 67080, France |              |
| www.hfsp.org                                  |              |
| HFSP funds basic frontier research in the life sciences that is innovative and requires international collaboration. Frontier research requires quantitative approaches from chemistry, physics, computer science, engineering and mathematics. HFSP supports frontier projects in biology across continental boundaries and scientific disciplines with a focus on complex mechanisms of living organisms. |

**NEW** New 2014 Exhibitor
IonOptix manufactures high-performance fluorescence and contractility data acquisition systems. For 2014, we’ve added a revolutionary force transducer to our MyoStretcher precision instrument. With the highest resolution and response frequency available, this optical force transducer enables the most precise, most accurate single myocyte force measurements available today.

Ionovation—the bilayer company—represents a wealth of experience in the development and application of modern electrophysiological and neuroscience instrumentation for bio-membrane research. This wealth of experience and the feedback from scientists from all over the world are the basis of the high engineering standards and manufacturing quality of Luigs & Neumann. This wealth of experience and the feedback from scientists from all over the world are the basis of the high engineering standards and manufacturing quality of Luigs & Neumann.

ISS manufactures research-grade fluorescence instrumentation for time-resolved and steady-state measurements, and biomedical instrumentation for the measurements of oxygen saturation in tissue (brain and muscle) as well as functional brain imaging. An extensive line of modular components complements the instrumentation: laser diodes, LEDs, high pressure cell and fiber optic sensors amongst an extensive line of accessories; data acquisition cards for FCS and FLIM, laser launchers, galvo-scanning mirrors and detector units. Applications include Fluorescence Resonance Energy Transfer (FRET), Fluorescence Lifetime Imaging (FLIM), Fluorescence Fluctuation Spectroscopy (FCS, FCCS, PCH), tissue oxygenation, and Optical Topography (NIRS).

JASCO is a leader in Circular Dichroism Spectroscopy with over 50 years of advanced developing and design capabilities, JASCO’s new J-1000 Series is a real workhorse offering unparalleled sensitivity, with reach from the vacuum UV to the NIR wavelengths. Also, introducing Simultaneous Multi-Probe Spectroscopy (SMP) which consists of three modes (CD, LD and Absorbance) running concurrently with the option to run Fluorescence, Anisotropy, ORD, Temperature, Kinetics and more! Please stop by Booth 718 for a demonstration.

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Journal of General Physiology 1004
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Biological Scientific develops and provides analytical instrumentation for the nanoscale analysis of interactions and reactions occurring at surfaces, thin films, materials and interfaces. Biological Scientific consists of the following brands: Q-Sense, KSV NIMA and Attension, that provide expertise in Quartz Crystal Microbalance, Langmuir Blodgett and Contact Angle technologies and instrumentation.

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The Laboratory for Fluorescence Dynamics (LFD) is a national research resource center for biomedical fluorescence spectroscopy, supported by the National Center for Research Resources (NCRR, 5P41RR003155) and the National Institute of General Medical Sciences (NIGMS, 8P41GM103540) divisions of the National Institutes of Health (NIH) and the University of California, Irvine.

Laboratory for Fluorescence Dynamics 712
3120 Natural Sciences II
Irvine, CA 92697-2715
www.lfd.uci.edu

Luigs & Neumann GmbH 321
Boschstrasse 19
Ratingen 40880
Germany
www.luigs-neumann.com

Since the early eighties Luigs & Neumann has established itself as well known developer and producer of electrophysiological workstations. This wealth of experience and the feedback from scientists from all over the world are the basis of the high engineering standards and manufacturing quality of Luigs & Neumann. Now Luigs & Neumann introduces a new Product line: Single molecule force-spectroscopy is an expanding field of research studying molecules under mechanical force. Atomic force microscopy (AFM) was especially successful in studying the mechanical properties of recombinant polyproteins, which are typically less than 50 nm in length. The technological improvements, the accumulated expertise in force clamp spectroscopy of Julio Fernandez and his group and the collaboration with Luigs & Neumann have crystallized in a new commercial setup, the LN-AFS Pico 1.
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<th>Company Name</th>
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<tr>
<td><strong>NEW</strong> Mightex Systems</td>
<td>811</td>
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<tr>
<td>2343 Brimley Road, Suite 868</td>
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<tr>
<td>Toronto, ON M1S3L6</td>
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<td>Canada</td>
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<td><a href="http://www.mightex.com">www.mightex.com</a></td>
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Mightex (www.mightex.com) has developed the most advanced optogenetics light delivery systems including Polygon400 patterned illuminators and high-power fiber-coupled LED sources. The Polygon400 enables spatial/temporal/spectral/intensity controls of light, making it a groundbreaking tool for optogenetics research. Single and multi-wavelength fiber-coupled LED’s—powerful tools for in vivo optogenetics, are also available.

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<th>Company Name</th>
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<td><strong>NEW</strong> Multi Channel Systems</td>
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<td>Reutlingen 72770</td>
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<tr>
<td>Germany</td>
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<td><a href="http://www.multichannelsystems.com">www.multichannelsystems.com</a></td>
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Multi Channel Systems focuses on the development of precision measuring equipment for electrophysiological research. We provide solutions for extracellular recordings with microelectrode arrays in vitro and in vivo as well as a system for automated PatchClamp. Moreover, we offer devices for automatic injection and intracellular recording of oocyte ion channels.

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<th>Company Name</th>
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<td><strong>NEW</strong> Nion Technologies</td>
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<td>675 US Highway One</td>
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<td>North Bruswick, NJ 08902</td>
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<td><a href="http://www.nanon.de">www.nanon.de</a></td>
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Nanion Technologies is one of the leading providers of automated patch clamp systems. Nanion’s products offer the entire experimental range from single channel recordings to HTS-compatible screening from up to 768 cells in parallel. Allowing 20,000 data points per day, the new product SyncroPatch 384PE is unrivalled for high throughput, high quality, ion channel recordings. Additionally, Nanion provides efficient platforms for transporter protein activity measurements, the SURFE2R, and impedance-recordings from intact cardiomyocyte networks, CardioExcyte 96. Visit us to learn more about our exciting product families, and to find out how to take your ion channel projects to the next level!

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<td><strong>NEW</strong> Nanosurf Systems</td>
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<td>300 Trade Center, Suite 5450</td>
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<td>Woburn, MA 01801</td>
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<td><a href="http://www.nanosurf.com">www.nanosurf.com</a></td>
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Nanosurf, a leading provider of easy-to-use atomic force microscopes (AFM), introduces two new products: an automated AFM for Nanomechanical analysis and an AFM that incorporates nanofluidic probes for fluid handling at picoliter volumes. Come by our booth to discuss our newest products including the LensAFM, FluidFM, and ARTIDIS system.

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Join BPS next year in Baltimore for the 59th Annual Meeting!

FEBRUARY 7-11, 2015

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Biophysical Society 58th Annual Meeting, San Francisco, California 225
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<td>NanoTemper Technologies, Inc.</td>
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<td>Neuroscience Tools</td>
<td>1650 Des Peres Road, Suite 135</td>
<td>NeuroScience Tools</td>
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<td>Narishige International USA, Inc.</td>
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<td>Rochester, NY 14623</td>
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<th>Company Name</th>
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<td>Optical Building Blocks</td>
<td>601</td>
<td>300 Birmingham Road, Birmingham, NJ 08011</td>
<td><a href="http://www.obbcorp.com">www.obbcorp.com</a></td>
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<td>Corporation</td>
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<td>Pacer Scientific</td>
<td>512</td>
<td>5649 Valley Oak Drive, Los Angeles, CA 90068-2556</td>
<td><a href="http://www.pacersci.com">www.pacersci.com</a></td>
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<td>Peptides International</td>
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<td>Park Systems, Inc.</td>
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<td>3040 Olcott Street, Santa Clara, CA 95054</td>
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<td>Photometrics</td>
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<td>Physics Today</td>
<td>903</td>
<td>One Physics Ellipse, College Park, MD 20740</td>
<td><a href="http://www.physicstoday.org">www.physicstoday.org</a></td>
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<td>PTI</td>
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<td>Photon Control, Inc.</td>
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<td>#200 8363 Lougheed Highway, Burnaby, BC V5A1X3</td>
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### Patch Clamp Instrumentation

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**Scientific CMOS Cameras**
- Andor Technology: 318
- Hamamatsu Corporation: 519
- Mightex Systems: 811
- Photometrics: 619
- QiMaging: 618
- Stanford Photonics, Inc: 421

**Scientific Software**
- Bitplane, Inc: 320
- Olympus America, Inc: 633
- Thomson Reuters EndNote: 1120

**Screening, High-Throughput**
- AAT Bioquest: 404
- Ecocyte Bioscience: 328
- GenScript USA, Inc: 119
- Mad City Labs, Inc: 609
- Multi Channel Systems: 818
- Naption Technologies: 628
- NanoTemper Technologies, Inc: 413
- Sysmex Corporation: 218

**Sensors**
- Andor Technology: 318
- Dynamic Biosensors: 305
- Hamamatsu Corporation: 519
- MicroSurfaces, Inc: 133
- Photon Control, Inc: 929
- Strain Measurement Devices, Inc: 810

**Shutters**
- Sutter Instrument Company: 501

**Solid State Lasers**
- Cobolt AB: 419

**Spectrofluorometers**
- BaySpec, Inc: 829
- ISS, Inc: 400
- JASCO: 718
- KinTeK: 500
- MicroSurfaces, Inc: 133
- OLI, Inc: 401
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- TgK Scientific Ltd: 435
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<td>GlaxoSmithKline</td>
<td>Research funded by industry grant</td>
<td>1616-Pos</td>
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<td>Wallas, E. Jayne</td>
<td>Oxford Nanopore Technologies</td>
<td>Employment (full or part-time) in funding company</td>
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<td>Wallace, Jayne</td>
<td>Oxford Nanopore Technologies</td>
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<td>Watkins, William J.</td>
<td>Gilead Science Inc.</td>
<td>Stock options or bond holdings in a for-profit corporation or self-directed pension plan</td>
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<td>Phasics</td>
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<td>Wilson, Russell B.</td>
<td>Autoimmune Technologies</td>
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<td>Wulff, Heike</td>
<td>H.W. is named as an inventor on a University of California patent claiming PAP-1 for immnosuppresion</td>
<td>Other</td>
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<td>Yu, Weifeng</td>
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<td>Employment (full or part-time) in funding company</td>
<td>318-Pos</td>
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</table>
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• Select “Special Issue: Focus on Quantitative Cell Biology” when uploading your submission.
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• Questions can be directed to the BJ Editorial Office at BJ@biophysics.org or (240) 290-5545.

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