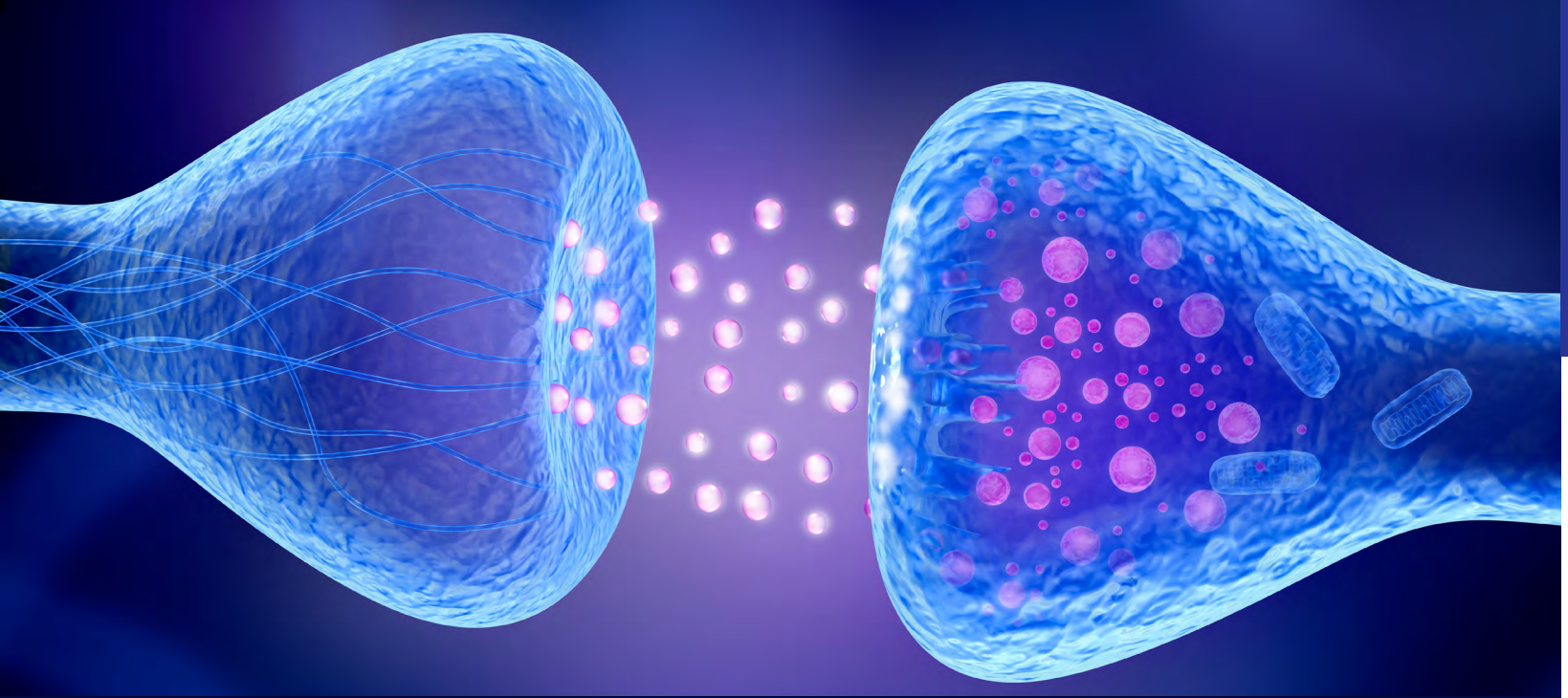
Biophysics in the Big Easy

Biophysical Society 61ST Annual Meeting

February 11–15, 2017 • New Orleans, Louisiana

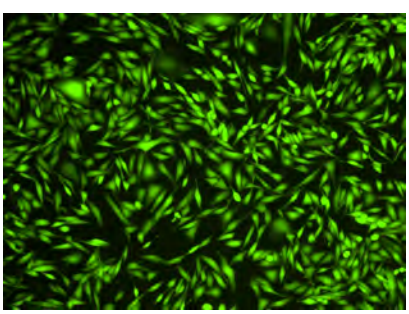
Program

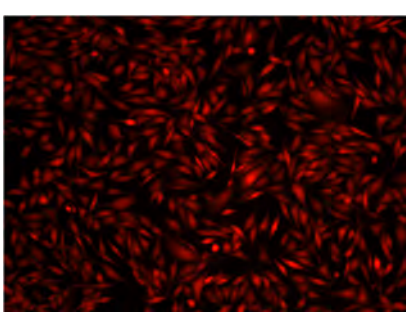
Biophysical Society



Complete Calcium Detection

When you work with calcium, work with the best.





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Continuous upgrade of traditional Ca^{2+} indicators. Lower background (instead of Fluo-4 use Cal-520®). Better calcium response (instead of Rhod-2 use Rhod-4™). Enhanced sensitivity (instead of Fura-2 use Fura-8™).

Figure 1. ATP-stimulated calcium response of endogenous P2Y receptor in CHO-K1 cells measured with Cal-520® (top) and Cal-630™ (bottom).

Visit us at booth 319

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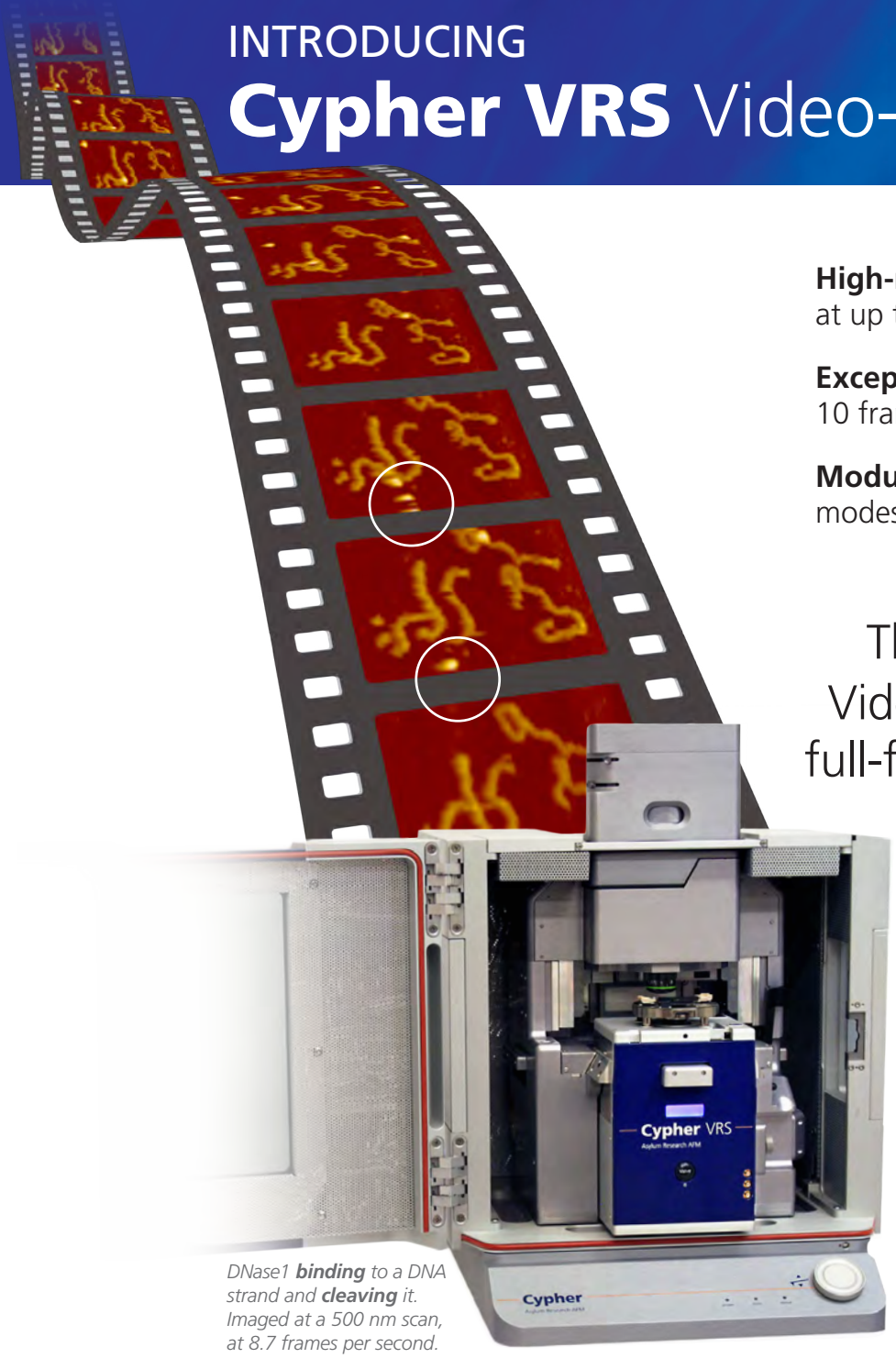
INTRODUCING

Cypher VRS Video-Rate AFM



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Biophysical Society

Thematic Meetings 2017

Single-Cell Biophysics: Measurement, Modulation, and Modeling

Taipei, Taiwan

June 17-20, 2017

Abstract Submission Deadline: March 1
Early Registration Deadline: March 24

Conformational Ensembles from Experimental Data and Computer Simulations

Berlin, Germany

August 25-29, 2017

Abstract Submission Deadline: April 3
Early Registration Deadline: May 1

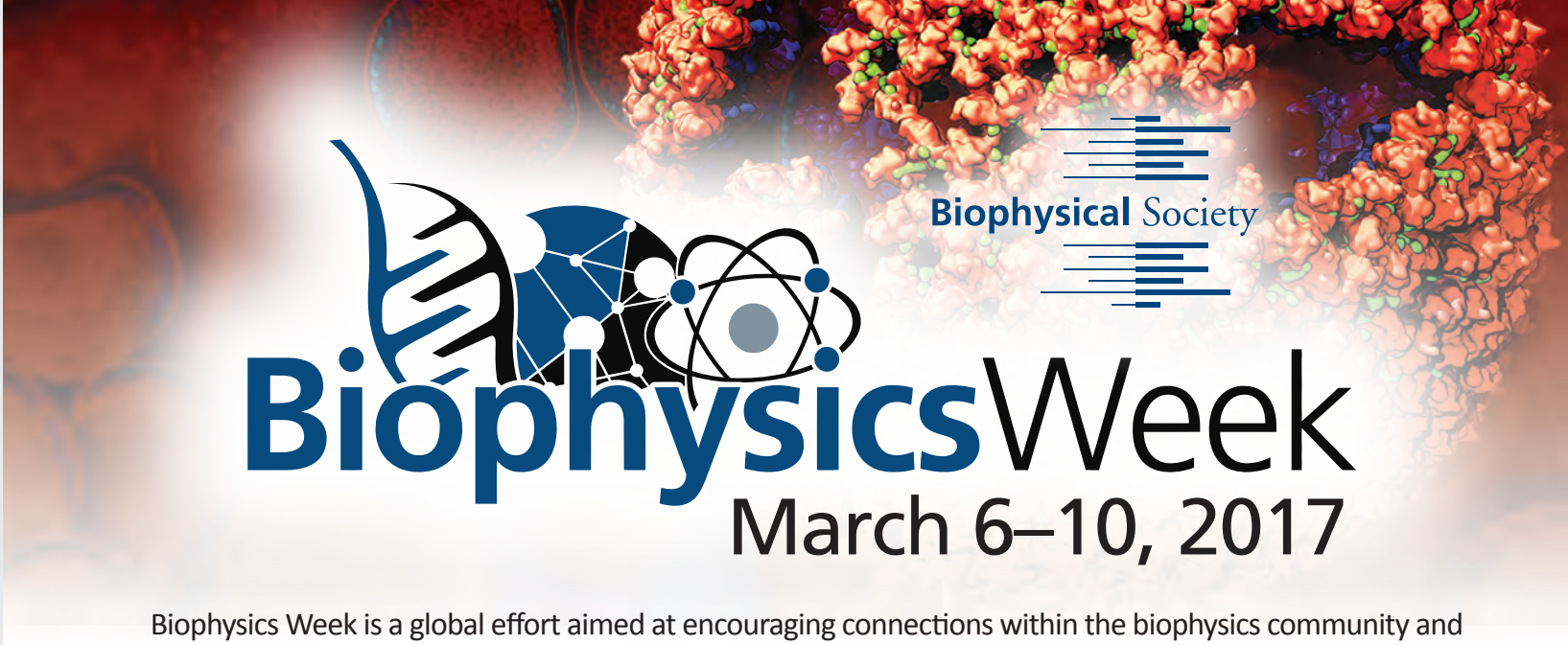
Emerging Concepts in Ion Channel Biophysics

Mexico City, Mexico

October 10-13, 2017

Abstract Submission Deadline: May 26
Early Registration Deadline: June 23

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



Biophysical Society

BiophysicsWeek

March 6–10, 2017

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

Monday, March 6

Part 1: How to Write a Biophysics Article Worthy of Publication

Tuesday, March 7

Capitol Hill Briefing: Nobel Laureate Peter Agre on Aquaporin Water Channels – From Basic Biophysics to Clinical Medicine

Wednesday, March 8

Helping Hands: Finding and Maintaining Mentorships within the Biophysical Community Webinar

Part 2: How to Write a Biophysics Article Worthy of Publication

Thursday, March 9

Webinar: Next Gen PhD: Where PhDs Land and What the Data Say

Friday, March 10

Part 3 and a Q&A Webinar: How to Write a Biophysics Article Worthy of Publication

Be a part of #BiophysicsWeek.

Celebrate this week with others around the globe!

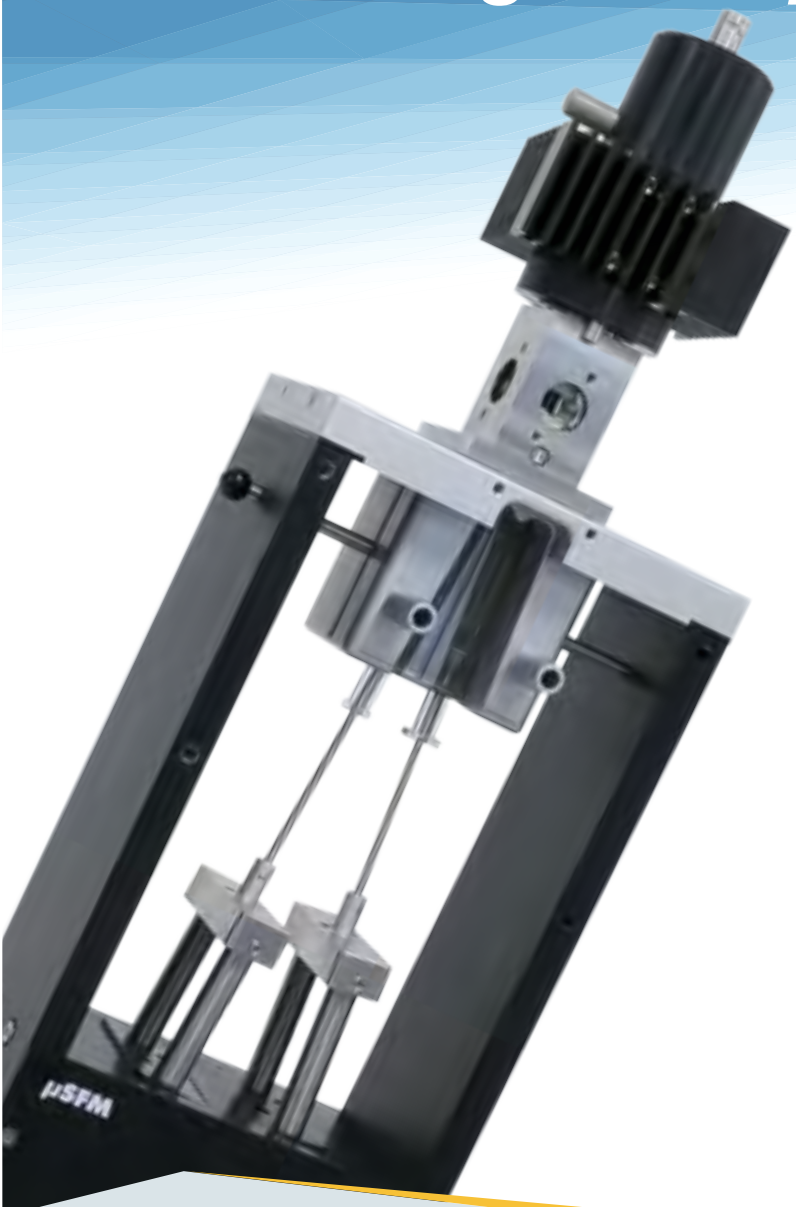
Visit biophysics.org/**BiophysicsWeek** for more information.

See it at Booth 421!

µSFM

Small Shot Size

Huge Sample Economy



- *100 µL Sample*
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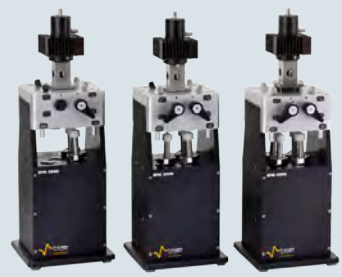

The family gets larger... The shot sizes get smaller!

Biophysical Society 61ST Annual Meeting

February 11–15, 2017 • New Orleans, Louisiana

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National Lecturer

Eric Betzig

Howard Hughes Medical Institute

Imaging Cellular Structure and Dynamics from Molecules to Organisms

Monday, February 13, 2017, 8:00 PM, Ernest N. Morial Convention Center

About the Molecule

The 2017 image featured on the cover shows a sparse subset of neurons in the brain of a developing zebrafish embryo. It was acquired with a scanning two-photon fluorescence excitation microscope that uses adaptive optics to recover diffraction-limited resolution deep through the aberrating tissue of the brain. Image credit: Kai Wang and Eric Betzig, Janelia Research Campus.

List of Advertisers in the 2017 Annual Meeting Program

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

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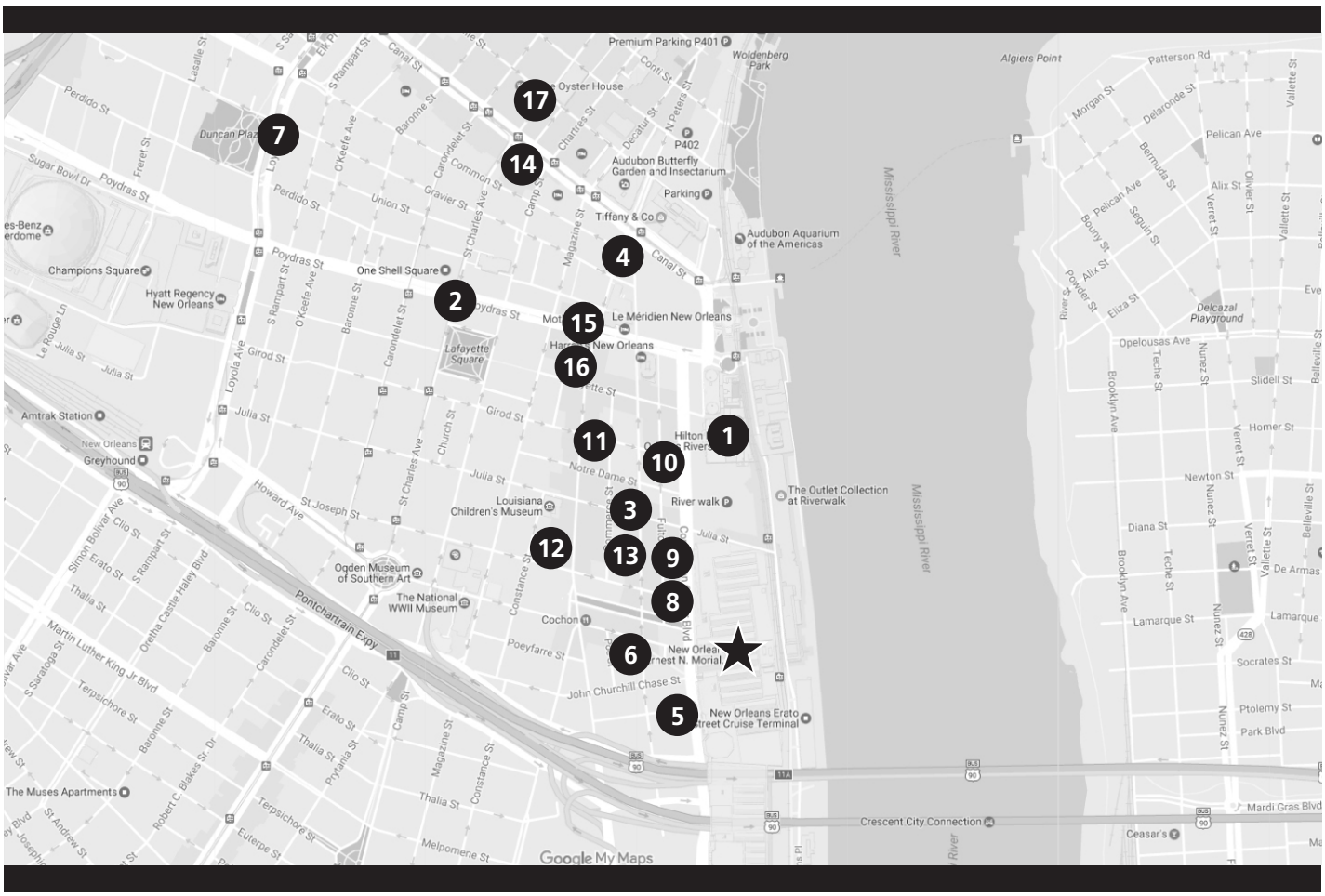
As of January 9, 2017

Hotel Map

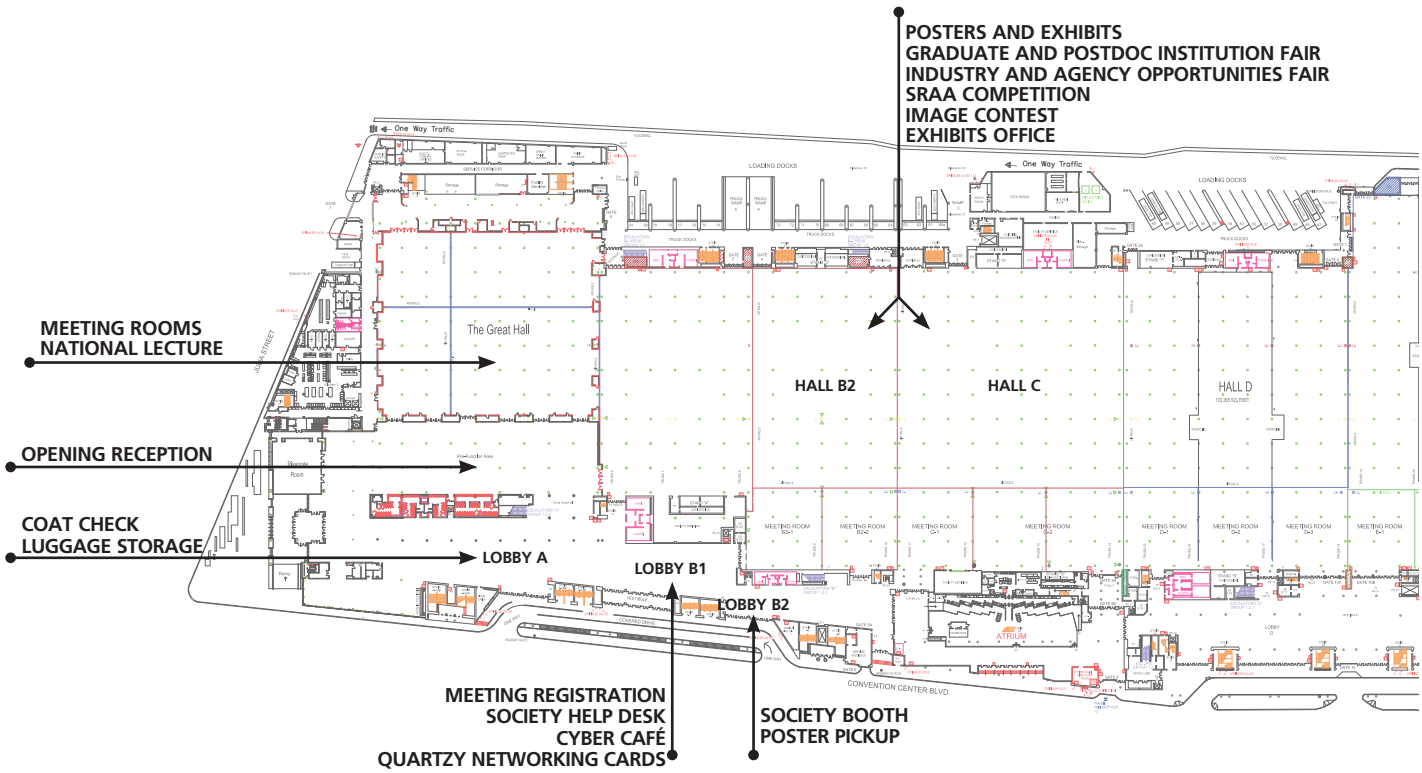


★ ERNEST N. MORIAL CONVENTION CENTER

1. HILTON NEW ORLEANS RIVERSIDE
   HEADQUARTERS HOTEL
2. BLAKE HOTEL
3. COURTYARD NEW ORLEANS DOWNTOWN/ CONVENTION CENTER
4. DOUBLETREE BY HILTON HOTEL NEW ORLEANS
5. HAMPTON INN & SUITES CONVENTION CENTER
6. HILTON GARDEN INN NEW ORLEANS CONVENTION CENTER
7. HOLIDAY INN NEW ORLEANS – DOWNTOWN SUPERDOME
8. HYATT PLACE NEW ORLEANS – CONVENTION CENTER
9. NEW ORLEANS DOWNTOWN MARRIOTT – CONVENTION CENTER
10. OMNI RIVERFRONT NEW ORLEANS
11. RENAISSANCE NEW ORLEANS ARTS HOTEL
12. RESIDENCE INN NEW ORLEANS DOWNTOWN HOTEL
13. SPRINGHILL SUITES BY MARRIOTT
14. ST. JAMES HOTEL
15. STAYBRIDGE SUITES HOTELS
16. THE OLD NO.77 HOTEL & CHANDLERY
17. WYNDHAM NEW ORLEANS FRENCH QUARTER

New Orleans Ernest N. Morial Convention Center

Level 1



New Orleans Ernest N. Morial Convention Center

Level 2

Biophysical Society Code of Conduct, Anti-Harassment Policy

Adopted by BPS Council November 2015

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

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

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

Definition of Harassment

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

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

Investigative Process

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

Investigative Procedure

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

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

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

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

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

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

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

Disciplinary Actions

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

BPS Management Responsibility

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

Biophysical Society

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Catherine A. Royer, Rensselaer Polytechnic Institute, Co-Chair
Olga Boudker, Weill Cornell Medical College
Samantha Harris, University of Arizona
Vasanthi Jayaraman, University of Texas
E. Michael Ostap, University of Pennsylvania
Jon Sack, University of California, Davis
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Lukas Tamm, President-Elect
Edward Egelman, Past President
Frances Separovic, Secretary
Paul Axelsen, Treasurer

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Kalina Hristova
Joseph D. Puglisi
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Term Ending 2018
Ruth Heidelberger
Robert Nakamoto
Gabriela Popescu
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Term Ending 2019
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Bertrand Garcia-Moreno
Arthur Palmer
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Brian Salzberg, Associate Editor
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Ray Wolfe, Creative Designer & Systems Engineer
Umi Zhou, Meetings Associate

General Information

All functions will be held in the *New Orleans Ernest N. Morial Convention Center*, unless otherwise noted.

Badges

Badges are required for admission to all scientific sessions, including Saturday subgroup symposia, poster areas, exhibits, and social functions. A guest badge for non-scientific guests can be purchased for $65 at the on-site Registration Counter located in Lobby B. 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 the Whitney Bank-Morgan State, 430 Chartres St, New Orleans, LA 70130.

Monday–Thursday	9:00 AM–4:30 PM
Friday	9:00 AM–6:00 PM
Saturday–Sunday	Closed

ATM is open 24 hours.

ATMs are also available in the New Orleans Ernest N. Morial Convention Center in Lobby B2.

Business Center, The UPS Store

The Ernest N. Morial Convention 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. The business center is located at 900 Convention Center Blvd, New Orleans, LA 70130. To contact the business center, call (504) 670-8941 or email store6216@theupsstore.com.

Saturday	9:00 AM–1:00 PM
Sunday	9:00 AM–3:00 PM
Monday–Friday	9:00 AM–5:30 PM

Career Development Center, Room 212/213

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

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

Certificates of Attendance

Certificates of Attendance may be obtained in person in the Society Meeting Office, in Room 201/202, or at the Society Help Desk located at registration in Lobby B.

Code of Conduct

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

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

Coat Check/Luggage Storage, Lobby A

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

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

Daily Meet-up

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

Exhibits, Hall B-2 and C

The Exhibit Hall features the most advanced equipment, products, services, and publications available. A list of exhibitors as of January 9, 2017 can be found beginning on page 157. Please see Addendum for those registered after January 2, 2017.

Sunday	10:00 AM–5:00 PM
Monday	10:00 AM–5:00 PM
Tuesday	10:00 AM–4:30 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 companies products and services.

Family Room, Room 216

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, Lobby B

In case of medical emergency, dial 504-528-3040 for the MCC Public Safety 24-Hour Base Station. For other minor medical needs, this room will be staffed with First Aid Administrators trained in First Aid Response during the hours below.

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

Hotel Telephone Numbers

Blake Hotel	504-522-9000
Courtyard New Orleans Downtown/Convention Center	504-598-9898
Doubletree by Hilton Hotel New Orleans	504-581-1300
Hampton Inn & Suites Convention Center	504-566-9990
Hilton Garden Inn New Orleans Convention Center	504-525-0044
*Hilton New Orleans Riverside	504-561-0500
Holiday Inn New Orleans - Downtown Superdome	504-581-1600
Hyatt Place New Orleans - Convention Center	504-524-1881
New Orleans Downtown Marriott - Convention Center	504-613-2888
Omni Riverfront New Orleans	504-524-8200
Renaissance New Orleans Arts Hotel	504-613-2330
Residence Inn New Orleans Downtown Hotel	504-522-1300
Springhill Suites by Marriott	504-522-3100
St. James Hotel	504-304-4000
Staybridge Suites Hotels	504-571-1818
The Old No.77 Hotel & Chandlery	504-527-5271
Wyndham New Orleans French Quarter	504-529-7211

*Headquarter Hotel

Individuals Requiring Assistance

Attendees requiring special assistance during the meeting should visit the Society Meeting Office in Room 201/202 of the Ernest N. Morial Convention Center. Society staff will do their best to accommodate requests; however, we cannot ensure that special needs will be met without prior notice.

Internet Access

Wireless Internet access is available free-of-charge throughout the Cafe areas of the Ernest N. Morial Convention Center.

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

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

Mobile App and Desktop Planner

The Biophysical Society's Official Mobile App is available for download in App Store and Google Play Store. iOS and Android Users can search for "bps events" to download the App. We do not support native apps for Windows Mobile and Blackberry at this time; however, we have a HTML 5 Mobile Site available for all other platforms. Please visit http://app.core-apps.com/bpsam2017 to access the Mobile Site. Using the Mobile App and Mobile Site, you can view/create schedules, view abstracts/authors/exhibitors, receive event alerts from BPS, share your moments in social media, find/interact virtually with other attendees, and sync itineraries that were created with the Desktop Planner.

Networking Cards for Poster and Platform Presenters

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

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

Parking

Ample parking is available at the Convention Center for a daily fee.

Photography

Registration for the meeting implies consent to having photographs taken and to their use by officials of the Biophysical Society, or their representatives, for editorial and promotional purposes, on the Society website, social media outlets, and publications. To respect the willingness of presenters to share data at the meeting, as well as their publication opportunities, recordings of any kind (audio, video, camera, or cell phone) in the session rooms, Exhibit Hall, and poster areas are strictly prohibited. Any individual seen taking photographs of any session or presentation will be escorted out by security.

Poster Pickup

Posters ordered in advance through Tray Printing will be available for pick up at the Ernest N. Morial Convention Center in the Lobby B2 near the Exhibit Hall during the following hours:

Saturday	4:00 PM–7:00 PM
Sunday–Tuesday	9:00 AM–11:00 AM and 1:00 PM–4:00 PM
Wednesday	8:00 AM–9:00 AM

Poster Sessions, Hall B-2 and C

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 PM–2:45 PM (10:30 AM–11:30 AM on Wednesday); even-numbered posters should present from 2:45 PM–3:45 PM, (11:30 AM–12:30 PM on Wednesday). Other hours, day or evening, may be posted by the authors as desired. Additionally, authors may leave notepaper so that visitors may request an appointment. Abstracts submitted after October 3, 2016, are scheduled each day, Sunday-Wednesday, during the regular poster sessions. These board assignments will begin with "LB."

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

Meditation Room, Room SO B211 and SO B212

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

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

Raffles

Exhibitor Raffle: Want to win a Samsung Galaxy Tablet? Earn raffle entries by visiting with exhibitors Sunday, February 12, through Tuesday, February 14, to collect tickets. The more booths you visit, the more chances to win. Drop the raffle tickets at the Society Booth, in Lobby B, by 2:30 PM Tuesday, February 14. The winner will be announced in the Exhibit Hall at 3:00 PM Tuesday afternoon. You must be present at the drawing to win. Good luck!

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

Registration Hours, Lobby B2

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

Social Media

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

Twitter:	@BiophysicalSoc, use hashtag #bps17
Facebook:	www.facebook.com/biophysicalsociety
Instagram:	@biophysicalsociety
Blog:	biophysicalsociety.wordpress.com

Society Meeting Office, Room 201/202

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

Speaker Ready Room, Room 217

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

Taxis will be available from Lobby B1 at the Ernest N. Morial Convention Center.

Checker Cab	504-207-7777
Liberty Bell	504-821-8222
Nawlins Cab	504-522-9059
United Taxi	504-522-9771
White Fleet	504-822-3800
Yellow Cab	504-207-7777

Undergraduate Student Lounge, Room 224

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

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

Mark Your Calendars!

Future BPS Annual Meetings

62nd Annual Meeting
February 17–21, 2018
San Francisco, California

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

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

Committee Meetings

All rooms are located in the *New Orleans Ernest N. Morial Convention Center* unless noted otherwise.

Friday, February 10

3:00 PM–4:30 PM
New Council Orientation
Hilton, Port Room

5:00 PM–9:00 PM
Joint Council Reception, Dinner, and Meeting
Hilton, Compass Room

Saturday, February 11

8:30 AM–11:00 AM
Joint Council Meeting (continued)
Hilton, Compass Room

Sunday, February 12

8:30 AM–10:30 AM
CPOW Committee Meeting
Room 203

10:30 AM–12:00 NOON
International Relations Committee Meeting
Room 204

12:15 PM–2:15 PM
Public Affairs Committee Meeting
Room 203

3:30 PM–5:00 PM
Early Careers Committee Meeting
Room 203

6:00 PM–10:00 PM
Biophysical Journal Editorial Board Dinner
Latrobe's on Royal

Monday, February 13

8:30 AM–10:30 AM
Committee for Inclusion and Diversity Meeting
Room 203

3:00 PM–5:00 PM
Membership Committee Meeting
Room 203

Tuesday, February 14

8:00 AM–9:00 AM
Biophysical Society Business Meeting
Room 205

9:00 AM–10:30 AM
Subgroup Chairs Meeting
Room 222

3:00 PM–5:00 PM
Education Committee Meeting
Room 203

6:00 PM–10:00 PM
Publications Committee Meeting
Hilton, Bridge Room

Wednesday, February 15

8:00 AM–11:00 AM
New Council Meeting
Room 222

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

Professional Development & Educational Sessions

The Society's committees have planned several professional development activities to take place during the Annual Meeting. Below is a schedule of all of those activities. Detailed descriptions of the sessions can be found in the daily program. In addition, a student lounge for undergraduates will be available Sunday, February 12, to Wednesday, February 15, in Room 224.

Sessions in italics will be held in Career Development Center Room 212/213.

Saturday, February 11, 2017

3:00 PM–4:00 PM	*Networking: Optimizing Your Time at BPS 2017*
4:00 PM–5:00 PM	Undergraduate Mixer and Poster Fest
7:30 PM–8:30 PM	All-In Networking Hour

One-on-One Resume and Career Counseling*
12:40 PM–1:40 PM and 2:00 PM–5:30 PM

Sunday, February 12, 2017

7:30 AM–8:30 AM	Postdoctoral Breakfast
8:00 AM–8:30 AM	*Career Q&A with Joe Tringali*
9:00 AM–10:00 AM	*Selling Yourself to the Life Sciences Industry*
10:30 AM–11:30 AM	*Looking Beyond Academia: Identifying Your Career Options Using MyIDP, LinkedIn & More*
11:30 AM–1:00 PM	Undergraduate Student Pizza "Breakfast"
11:30 AM–5:00 PM	Colleges in the Community Day
12:00 NOON–1:00 PM	*Networking: Optimizing Your Time at BPS 2017*
1:00 PM–2:30 PM	The World Outside the Lab: Many Ways to Use Your PhD Skills
1:00 PM–3:00 PM	Graduate & Postdoc Institution Fair
2:00 PM–3:30 PM	Teaching Science Like We Do Science
2:30 PM–3:30 PM	*Demystifying the Academic Job Search I: Understanding the Search Process from the Perspective of Search Committees and Decoding Job Announcements*
2:30 PM–4:00 PM	CRISPR from a Policy Perspective
4:00 PM–5:00 PM	*Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)*
5:00 PM–7:00 PM	PI to PI, a Wine & Cheese Mixer
7:00 PM–9:00 PM	Setting Standards for Data Sharing: Community by Community

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

Monday, February 13, 2017

7:30 AM–8:30 AM	Graduate Student Breakfast
8:00 AM–8:30 AM	*Career Q&A with Joe Tringali*
10:00 AM–11:00 AM	*Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)*
11:30 AM–12:30 PM	*Demystifying the Academic Job Search II: Preparing Your Written Application Materials: CV, Cover Letter, and Research Statement*
1:30 PM–3:00 PM	Biophysics 101: Cryo-electron Microscopy
1:30 PM–3:00 PM	Industry Panel: Breaking Into Industry
2:15 PM–3:45 PM	How to Get Your Scientific Paper Published
2:30 PM–3:30 PM	Speed Networking
2:30 PM–3:30 PM	*Beyond the Bench: Preparing for Your Career Transition in the Life Sciences*
2:30 PM–4:00 PM	A Driving Force for the Middle of the Journey: Funding Opportunities for Mid-career Researchers
4:00 PM–5:00 PM	*The Strategic Postdoc: How to Find & Leverage Your Postdoc Experience*

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

Tuesday, February 14, 2017

8:00 AM – 8:30 AM	*Career Q&A with Joe Tringali*
9:30 AM – 10:30 AM	*Demystifying the Academic Job Search II: Preparing Your Written Application Materials: CV, Cover Letter, and Research Statement*
11:30 AM–12:30 PM	*Selling Yourself to the Life Sciences Industry*
12:00 NOON–1:30 PM	Career Opportunities at PUIs: Finding a Job and Finding Success
12:00 NOON–2:00 PM	Postdoc to Faculty Q&A: Transitions Forum and Luncheon**
1:00 PM–2:15 PM	Bringing Mentees and Mentors Together in a National Network
1:00 PM–3:00 PM	Industry and Agency Opportunities Fair
1:00 PM–3:00 PM	NIH Grant Writing Workshop
2:30 PM–3:30 PM	*Looking Beyond Academia: Identifying Your Career Options Using MyIDP, LinkedIn & More*
2:30 PM–4:00 PM	Networking and Personal Branding: The Workshop

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

* Slots for the One-on-One Resume and Career Counseling Sessions are available on a first-come, first-served basis and fill up quickly. You may sign up for a slot beginning at 12:00 NOON on Saturday, February 11, in the Career Development Center, Room 212/213. Please come prepared with resumes, CVs, and other appropriate materials.

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

Career Development Center Information

Room 212/213

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

Joe Tringali is a seasoned contract recruiter who has developed overall recruitment strategies for his clients and subsequently worked with internal hiring organizations to meet their staffing requirements for more than two decades. He has provided onsite service to numerous biotechnology clients, including Biogen Idec, Millennium Pharmaceuticals, Ariad Pharmaceuticals, Creative Biomolecules/Stryker, TKY/Shire and Genetics Institute/Wyeth/Pfizer. He also operates a successful contingency recruiting firm that serves the Boston biotechnology community. He works with several clients to help them fill difficult staffing needs in the areas of Research/Development, Clinical Development, and Regulatory Affairs. In addition, Tringali is an invited speaker at several annual scientific conferences and research institutes where he conducts career workshops.

Job Postings

Employers

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

Job Applicants

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

Travel Grant Awardees

Student Travel Awards partially supported by *Biochemistry*, Institute for Biological Recognition and Catalysis Inc, PLOS, and The Rockefeller University Press

EDUCATION COMMITTEE

Sunday

Mouhanad Babi, McMaster University, Canada
708-Pos, B473
THE CHARACTERIZATION OF CELLULOSE NANOSTRUCTURE USING SUPER-RESOLUTION FLUORESCENCE MICROSCOPY.

Paola Bisignano, University of California, San Francisco
634-Pos, B399
STRUCTURAL INSIGHTS INTO SODIUM-DEPENDENT SUGAR TRANSPORTERS AND THEIR INHIBITION MECHANISM.

Tsung-Han Chou, Iowa State University
114-Plat
CRYSTAL STRUCTURE OF A LOW CO2-INDUCIBLE PROTEIN, LCI1 IN CHLAMYDOMONAS REINHARDTII.

Yavuz S. Dagdas, University of California, Berkeley
365-Pos, B130
CONFORMATIONAL DYNAMICS OF CAS9 DURING DNA BINDING.

Peter Dahl, University of Michigan
463-Pos, B228
A SUPPORTED TUBULATED BILAYER SYSTEM SHOWS EFFECTS OF SYNAPTOTAGMIN-7 ON MEMBRANE CURVATURE.

Andrew Dittmore, National Institutes of Health
361-Pos, B126
ENERGETIC CONTRIBUTIONS OF PLECTONEME TIPS AND TAILS.

Wolfgang Gross, University of Bayreuth, Germany
620-Pos, B385
MACROPHAGES ARE SENSITIVE TO SUBSTRATE ELASTICITY DURING PHAGOCYTOSIS.

Shubhasis Haldar, Columbia University
209-Plat
TRIGGER FACTOR BOOSTS THE WORK DONE BY PROTEIN FOLDING UNDER FORCE.

Kalli Kappel, Stanford University
370-Pos, B135
BLIND PREDICTIONS OF RNA/PROTEIN RELATIVE BINDING AFFINITIES.

Ying Lai, Stanford University
461-Pos, B226
MUNC13 AND MUNC18 COOPERATE TO PROPERLY ASSEMBLE SNARES FOR FAST NEUROTRANSMITTER RELEASE.

Soohyun K. Lee, University of Arizona
393-Pos, B158
HYDRATION-MEDIATED ELASTIC DEFORMATIONS IN BIOLOGICAL MEMBRANES.

Maureen Leninger, New York University
118-Plat
INVESTIGATING THE STRUCTURE OF THE DRUG TRANSPORTER EMRE.

Alyssa A. Lombardi, Temple University School of Medicine
487-Pos, B252
GENETIC ABLATION OF FIBROBLAST MITOCHONDRIAL CALCIUM UPTAKE INCREASES MYOFIBROBLAST TRANSDIFFERENTIATION AND EXACERBATES FIBROSIS IN MYOCARDIAL INFARCTION.

Mohammad Mehdi Maneshi, University at Buffalo
390-Pos, B155
SHEAR STRESS STIMULATED MSC ACTIVITIES: DIRECT CHANGES OF MEMBRANE TENSION OR CYTOSKELETAL STRESS?

Medeea C. Popescu, Wellesley College
544-Pos, B309
EXAMINING THE ROLE OF PHOSPHORYLATION ON INTERACTIONS BETWEEN THE CARDIAC POTASSIUM CHANNEL ALPHA-SUBUNITS HERG AND KVLQT1.

Dana N. Reinemann, Vanderbilt University
226-Plat
SINGLE MOLECULE CHARACTERIZATION OF MITOTIC KIF15 REVEALS CAPABILITY TO GENERATE FORCE IN ANTI-PARALLEL MICROTUBULES.

Kristin I. Schimert, University of Michigan
223-Plat
INTRACELLULAR CARGO TRANSPORT BY SINGLE-HEADED KINESIN MONOMERS.

Sienna Wong, Wayne State University
658-Pos, B423
ENGINEERING OF CHIMERIC PROTEINS TO ENHANCE IMMUNOGENICITY FOR THE PRODUCTION OF HIGH-AFFINITY SPECIFIC MONOCLONAL ANTIBODIES.

Fan Yang, University of California, Davis
566-Pos, B331
RATIONAL DESIGN AND VALIDATION OF A VANILLOID-SENSITIVE TRPV2 ION CHANNEL.

Monday

Breane G. Budaitis, University of Michigan
1288-Pos, B356
THE ROLE OF THE COVER-NECK BUNDLE IN MULTI-MOTOR TRANSPORT AGAINST LOAD IN CELLS.

Shirley Chen, University of Michigan
1290-Pos, B358
ENGINEERING INHIBITABLE KINESIN-3 MOTORS BY A NOVEL CHEMICAL-GENETIC APPROACH.

Alexander E. Chu, California Institute of Technology
932-Plat
TOWARDS A UNIVERSAL CHARACTERIZATION OF THE MEMBRANE PROTEIN EXPRESSION LANDSCAPE.

Melody Di Bona, Italian Institute of Technology
1071-Pos, B139
CHROMATIN ACCESSIBILITY STUDIED BY SLOW SCAN FCS IN THE EUKARYOTIC NUCLEUS.

Matthew Dragovich, Lehigh University
1325-Pos, B393
INVESTIGATION OF THE RELIABILITY OF AFM NANOINDENTATION-DERIVED MEASUREMENTS OF CELL MECHANICS.

Cristian A. Escobar, Florida State University
1019-Pos, B87
CONFORMATION PLASTICITY AND PEPTIDOGLYCAN CLEAVAGE BY THE N-TERMINAL INTRINSICALLY DISORDERED DOMAIN OF CHIZ.

Abir Kabbani, Wayne State University
1092-Pos, B160
NANOSCALE MEMBRANE BUDS INDUCED BY CTXB-GM1 IN ONE COMPONENT BILAYER DETECTED BY POLARIZED LOCALIZATION MICROSCOPY (PLM).

Christopher Lee, University of California, San Diego
1438-Pos, B506
INVESTIGATING TRANSPORT PROPERTIES WITH MULTI-SCALE COMPUTABLE MESH MODELS FROM HETEROGENEOUS STRUCTURAL DATASETS.

Alexander E. Marras, Ohio State University
1478-Pos, B546
FABRICATING AND ACTUATING DNA ORIGAMI MECHANISMS.

Dipak Maskey, Wayne State University
973-Pos, B41
DEGRADATION OF CALPONIN 2 IS REQUIRED FOR CYTOKINESIS.

Mahmoud L. Nasr, Harvard Medical School
1497-Pos, B565
COVALENTLY CIRCULARIZED NANODISCS: EM AND NMR APPLICATIONS.

Devon Richtsmeier, Boise State University
1124-Pos, B192
Cu^{2+} IONS MODULATE THE CONDUCTANCE HYSTERESIS OF LYSENIN CHANNELS.

Talant A. Ruzmetov, Kent State University
1026-Pos, B94
EXPLORING THE ROLE OF FLEXIBILITY IN BINDING KINETICS AND AFFINITY OF PKID-KIX THROUGH COARSE GRAINED SIMULATIONS.

Kyle P. Smith, Northwestern University
876-Plat
THE TWO GTPASE DOMAINS OF THE OUTER MITOCHONDRIAL MEMBRANE PROTEIN MIRO HAVE NOVEL ACTIVE SITE CONFORMATIONS AND DISTINCT BIOCHEMICAL PROPERTIES.

Coleman Swaim, James Madison University
1504-Pos, B572
BIOLOGICAL SEMICONDUCTORS: STRUCTURAL CONTROL OF HEME REDOX POTENTIALS IN PPCA, A 3-HEME CYTOCHROME.

Rebecca J. Zaunbrecher, University of Washington
811-Plat
GENETICALLY ENGINEERED HUMAN STEM CELL-DERIVED CARDIOMYOCYTES TO STUDY THE FUNCTIONALITY OF CRONOS TITIN.

Tuesday

Mihai L. Azoitei, University of North Carolina, Chapel Hill
2268-Pos, B588
NOVEL BIOSENSOR DESIGN REVEALS THE ROLE AND REGULATION OF GEF-H1 IN CELL MIGRATION.

Curtis Balusek, Georgia Institute of Technology
1762-Pos, B82
CONSTRUCTING AN IN SILICO MODEL OF THE GRAM-NEGATIVE CELLULAR ENVELOPE.

Saikat Chowdhury, The Scripps Research Institute
1640-Plat
USING CRYOEM TO UNDERSTAND HOW PHAGES EVADE BACTERIAL CRISPR DEFENSE SYSTEM.

Caitlin E. Cornell, University of Washington
1851-Pos, B171
DIRECT IMAGING OF LIQUID DOMAINS BY CRYOTEM IN SUBMICRON VESICLES.

Natasha Dudzinski, Yale University
1960-Pos, B280
EFFECTS OF MEMBRANE TENSION ON SNARE-MEDIATED SINGLE FUSION PORES.

Paige Engen, Hamline University
1917-Pos, B237
STRUCTURAL ANALYSIS OF TAU PEPTIDE INTERACTIONS WITH LIPID MEMBRANES USING FOURIER TRANSFORM INFRARED SPECTROSCOPY.

Emmet A. Francis, University of California, Davis
1974-Pos, B294
SINGLE-CELL INVESTIGATION OF THE ROLE OF CALCIUM BURSTS IN HUMAN IMMUNE CELLS.

Naoto Hori, University of Texas
1821-Pos, B141
MULTISTEP FOLDING KINETICS OF GROUP I INTRON RNA STUDIED BY Mg^{2+}-CONCENTRATION JUMP SIMULATIONS.

Jesse Howe, California State University, San Marcos
2278-Pos, B598
EXPANDING THE SCOPE OF SINGLE MOLECULE FRET SPECTROSCOPY TOWARDS PRIMARILY UNDERGRADUATE INSTITUTIONS.

Shachi Katira, University of California, Berkeley
1860-Pos, B180
PRE-TRANSITION EFFECTS MEDIATE FORCES OF ASSEMBLY BETWEEN TRANSMEMBRANE PROTEINS: RECENT RESULTS ON THE ORDERPHOBIC EFFECT.

Anna K. Koster, Stanford University
1662-Plat
DEVELOPING A NOVEL CLASS OF CLC CHLORIDE-CHANNEL INHIBITORS.

Isha D. Mehta, Texas Woman's University
1692-Pos, B12
PROTEIN ENERGY NETWORK MODELS TO CLASSIFY AND PREDICT FUNCTIONALLY LINKED INTERFACES OF PROTEINS FROM FUNCTIONALLY UNCORRELATED INTERFACES.

Paula Morales, University of North Carolina, Greensboro
1757-Pos, B77
CONSTRUCTION OF A GPR3 HOMOLOGY MODEL USING CONFORMATIONAL MEMORIES.

Kevin A. White, University of Central Florida
2269-Pos, B589
MULTIFUNCTIONAL HIGH-THROUGHPUT SINGLE-CELL ANALYSIS USING RECONFIGURABLE AMPLIFIER ARRAY.

Wednesday

Miranda Collier, University of Oxford, United Kingdom
2415-Pos, B22
EVIDENCE FOR CHAPERONE FUNCTION IN MECHANOSENSATION.

Roberto Covino, Max-Planck-Institute of Biophysics, Germany
2505-Pos, B112
A EUKARYOTIC SENSOR FOR MEMBRANE LIPID SATURATION.

Russell B. Davidson, Colorado State University
2446-Pos, B53
MOLECULAR ALLOSTERY IN DENGUE NS3 HELICASE ALONG THE ATP HYDROLYSIS CYCLE.

Gozde Eskici, University of Pennsylvania
2608-Pos, B215
MICROSECOND SIMULATIONS OF AMYLOID BETA FIBRIL NUCLEATION IN REVERSE MICELLES.

Ahmed Fuwad, Inha University, South Korea
2899-Pos, B506
AQUAPORIN BIOMIMETIC MEMBRANE FOR ENERGY CONSERVATIVE WATER DESALINATION.

Alice L. Herneisen, Swarthmore College
2461-Pos, B68
SITE-DIRECTED SPIN LABELING EPR SPECTROSCOPY OF THE CYTOPLASMIC TAIL OF INFLUENZA A M2.

Hema Chandra Kotamarthi, Massachusetts Institute of Technology
2314-Plat
SINGLE-MOLECULE DISSECTION OF THE ROLE OF DIRECTIONALITY IN PROTEIN DEGRADATION BY Clp PROTEOLYTIC MACHINES.

Sudipta Lahiri, Wesleyan University
2534-Pos, B141
ELUCIDATION OF THE STRUCTURE-FUNCTION RELATIONSHIP OF S. CEREVISIAE MUTS HOMOLOG MSH4 AND MSH5 WITH THE HOLLIDAY JUNCTION.

Victor Pui-Yan Ma, Emory University
2916-Pos, B523
RATIOMETRIC TENSION PROBES FOR MAPPING RECEPTOR FORCES AND CLUSTERING AT INTERMEMBRANE JUNCTIONS.

Amar D. Parvate, Purdue University
2824-Pos, B431
CRYOTOMOGRAPHY OF PLEOMORPHIC VIRUSES.

Samantha Piszkiewicz, University of North Carolina, Chapel Hill
2520-Pos, B127
TARDIGRADE INTRINSICALLY DISORDERED PROTEINS AS POTENTIAL EXCIPIENTS FOR BIOLOGICS.

Serzhan Sakipov, Carnegie Mellon University
2291-Plat
ION PERMEATION MECHANISM IN TRPV6 CA^{2+} CHANNEL.

Digvijay Singh, Johns Hopkins University School of Medicine
2321-Plat
INVESTIGATION OF DNA BINDING, NUCLEOLYSIS AND PRODUCT RELEASE SPECIFICITY OF RNA GUIDED ENDONUCLEASE CRISPR-CPF1 FAMILY REVEALS IMPORTANT DIFFERENCES FROM CAS9-RNA.

Tzu-Wei Tsao, University of Wisconsin, Madison
2736-Pos, B343
STRUCTURAL ELEMENTS GOVERNING GABA-A RECEPTOR CHANNEL ACTIVATION AND DRUG MODULATION.

Kevin Votaw, Colorado State University
2539-Pos, B146
INSIGHTS INTO DAMAGED BASE DETECTION BY DNA GLYCOSYLASES: A COMPUTATIONAL STUDY OF ALKD.

Andrew P. Wescott, University of Maryland Baltimore
2647-Pos, B254
CALCIUM REGULATION OF CARDIAC BIOENERGETICS.

Riley J. Workman, Duquesne University
2311-Plat
CHARACTERIZATION OF THE CONFORMATIONAL ENSEMBLE OF POLYGLUTAMINE PEPTIDES VIA METADYNAMICS MD SIMULATIONS AND UV RESONANCE RAMAN SPECTROSCOPY.

Goli Yamini, The Catholic University of America
2580-Pos, B187
IMPACT OF DENDRIMER SURFACE CHEMISTRY ON ANTHRAX TOXIN CHANNEL BLOCKAGE: A SINGLE MOLECULE STUDY.

Chen-Ching Yuan, University of Miami
2748-Pos, B355
DISTINCT LATTICE STRUCTURE ALTREATIONS IN DCM AND HCM MOUSE MODELS ASSOCIATED WITH MUTATIONS IN MYOSIN REGULATORY LIGHT CHAIN.

Zhenfu Zhang, University of Toronto, Canada
2510-Pos, B117
INTERPLAY AMONG BINDING, PHOSPHORYLATION AND DENATURATION IN DISORDERED 4E-BP2 AS PROBED BY SINGLE MOLECULE FLUORESCENCE.

Haiqing Zhao, University of Maryland
2416-Pos, B23
PROMISCUOUS HISTONE MIS-ASSEMBLY IS ACTIVELY PREVENTED BY CHAPERONES.

Yue Zhang, Mississippi State University
2366-Plat
MODELING THE EARLY STAGES OF AGGREGATION IN DISORDERED ELASTIN-LIKE PROTEINS.

Chi Zhao, University of Texas, Austin
2911-Pos, B518
PLASMA MEMBRANE VESICLES WITH ENGINEERED TRANSMEMBRANE PROTEIN LIGANDS FOR HIGH-AFFINITY CELL TARGETING.

COMMITTEE FOR INCLUSION AND DIVERSITY

Sunday

Matthew L. Ferguson, Boise State University
739-Pos, B504
IN VITRO BINDING OF 6S RNA MANGO TO RNA POLYMERASE BY TWO PHOTON FLUORESCENCE CROSS CORRELATION SPECTROSCOPY.

Joshua Francois, University of California, San Diego
618-Pos, B383
UNDERSTANDING THE MECHANICS OF NEUTROPHIL MIGRATION IN THREE- DIMENSIONAL EXTRACELLULAR MATRICES.

Sebastian Hendrickx-Rodriguez, New Mexico Institute of Mining and Technology
462-Pos, B227
EFFECTS OF OPSONIN DENSITY AND TYPE ON THE PHAGOCYTOSIS OF BEADS.

O'Jay Stewart, City University of New York, John Jay College
371-Pos, B136
BIOPHYSICAL STUDIES OF LIPOSOME ENCAPSULATED POKEWEED ANTIVIRAL PROTEIN AND ITS USE AS A HIV THERAPEUTIC.

Jessica R. Thomas, University of Iowa
536-Pos, B301
UNMASKING THE MOLECULAR DETERMINANTS IMPORTANT FOR CA^{2+}-DEPENDENT REGULATION OF CAV2.2.

Juan M. Vanegas, University of Vermont
681-Pos, B446
BEYOND LATERAL PRESSURE PROFILES: LOCAL STRESS AND THE TRACTION VECTOR IN MD SIMULATIONS.

Brittany Williams, University of Iowa
537-Pos, B302
C-TERMINAL SPLICE VARIATION REVEALS NEW INSIGHTS INTO CALMODULIN REGULATION OF CAv1.4 CHANNELS.

Wade Zeno, University of Texas at Austin
213-Plat
INDUCED MIXING OF PHASE-SEPARATED LIPID BILAYERS BY STERIC PRESSURE BETWEEN ADSORBED PROTEINS.

Monday

T.M. Ayodele Adesanya, The Ohio State University
1095-Pos, B163
MG53-MEDIATED PROTECTION IN HEART VALVE BIOLOGY.

Manal Ahmidouch, Wake Forest University
1052-Pos, B120
MD SIMULATIONS AND CD SPECTROSCOPIES OF (BENZ)ACRIDINE: RDNA G-QUADRUPLEX COMPLEXES.

David A. Price, Southern Illinois University
1065-Pos, B133
PREFERENTIAL LENGTH FOR G-QUADRUPLEX FORMATION REVEALED BY IR SPECTROSCOPY.

Lucero Sanchez, Indiana University
1489-Pos B557
HALF PEGYLATED PARTICLES EVADE MACROPHAGES AS EFFECTIVELY AS FULLY PEGYLATED ONES

Tuesday

George A. Cortina, University of Virginia
1557-Plat
PREDICTING RESIDUES THAT INCREASE ANTIBIOTIC RESISTANCE OF CTX-M9 ENZYMES USING MOLECULAR SIMULATION AND STATISTICAL LEARNING.

Dania M. Figueroa, Wellesley College
1875-Pos, B195
DEVELOPMENT OF CELL-WALL DEFICIENT BACTERIA FOR THE CHARACTERIZATION OF HISTONE-DERIVED ANTIMICROBIAL PEPTIDES THROUGH CONFOCAL MICROSCOPY.

Carla Perez, Wellesley College
2552-Pos, B159
INVESTIGATING BUFORIN II INTERACTIONS WITH NUCLEIC ACIDS UNDER CROWDED CONDITIONS

Nancy Wells, Case Western Reserve University
1810-Pos, B130
STRUCTURAL INSIGHTS TO THE 3' UTR OF GAIT ELEMENTS.

INTERNATIONAL RELATIONS

Sunday

Anais M. E. Cassaignau, University College London, United Kingdom
206-Plat
STRUCTURAL INVESTIGATION OF AN IMMUNOGLOBULIN DOMAIN ON THE RIBOSOME USING NMR SPECTROSCOPY.

Adam Cawte, Imperial College London, United Kingdom
353-Pos, B118
LIVE CELL IMAGING OF GENOMIC LOCI USING FLUORESCENT RNA APTAMERS.

Assaf Elazar, Weizmann Institute of Science, Israel
434-Pos, B199
DECIPHERING MEMBRANE PROTEIN ENERGETICS USING DEEP SEQUENCING; TOWARDS ROBUST DESIGN AND STRUCTURE PREDICTION OF MEMBRANE PROTEINS.

Manuela Gabriel, University of Buenos Aires, Argentina
722-Pos, B487
3D ORBITAL TRACKING OF SINGLE GOLD NANOPARTICLES: A NEW APPROACH TO STUDY VESICLE TRAFFICKING IN CHROMAFFIN CELLS.

Giulia Paci, European Molecular Biology Laboratory, Germany
107-Plat
FOLLOWING A GIANT'S FOOTSTEPS: SINGLE-PARTICLE AND SUPER-RESOLUTION APPROACHES TO DECIPHER THE NUCLEAR TRANSPORT OF HEPATITIS B VIRUS CAPSIDS.

Mohammed Mostafizur Rahman, Institute for Stem Cell Biology and Regenerative Medicine, India
665-Pos, B430
STRESS-INDUCED DIFFERENTIAL REGULATION LEADS TO DECOUPLING OF THE ACTIVITY BETWEEN MPFC AND AMYGDALA.

Li-av Segev-Zarko, Weizmann Institute of Science, Israel
121-Plat
CHARACTERIZATION OF ANTI-BIOFILM PEPTIDE ACTIVITY: A BIOPHYSICAL APPROACH.

Xin Shi, East China University of Science and Technology
357-Pos, B122
DIRECT OBSERVATION OF SINGLE BIOPOLYMER FOLDING AND UNFOLDING PROCESS BY SOLID-STATE NANOPORE.

Monday

Alvaro Alonso-Caballero, CIC NanoGune, Spain
1474-Pos, B542
A LEGO TOOLBOX FOR ENGINEERING PROTEINS FOR SINGLE MOLECULE FORCE SPECTROSCOPY.

Corey Butler, Interdisciplinary Institute for Neuroscience, France
1453-Pos, B521
MULTICOLOR 3D SINGLE PARTICLE TRACKING USING SPECTRALLY DISPLACED LOCALIZATION.

Felipe de Souza Leite, McGill University, Canada
898-Plat
SARCOMERE AND INTER-SARCOMERE DYNAMICS WITHIN SKELETAL MUSCLE MYOFIBRILS.

Ana F. Guedes, Institute of Molecular Medicine, Portugal
1490-Pos, B558
ATOMIC FORCE MICROSCOPY AS A TOOL TO EVALUATE THE RISK OF CARDIOVASCULAR DISEASES IN PATIENTS.

Farah Haque, National Centre for Biological Sciences, India
1294-Pos, B362
A NEW HUMANIZED MOUSE MODEL FOR STUDYING INHERITED CARDIOMYOPATHIC MUTATIONS IN THE MYH7 GENE.

Ivan Kadurin, University College London, United Kingdom
1201-Pos, B269
INVESTIGATION OF THE PROTEOLYTIC CLEAVAGE OF α2δ SUBUNITS: A MECHANISTIC SWITCH FROM NHIBITION TO ACTIVATION OF VOLTAGE-GATED CALCIUM CHANNELS?

Ilona Marszalek, Adamed Group, Poland
940-Pos, B8
BIOPHYSICAL STUDIES OF TRAIL_BASED ANTICANCER FUSION PROTEIN AD O51.4.

Elvis Pandzic, University of New South Wales, Australia
1455-Pos, B523
VELOCITY LANDSCAPES RESOLVE MULTIPLE DYNAMICAL POPULATIONS FROM FLUORESCENCE IMAGE TIME SERIES.

Marcin Wolny, University of Leeds, United Kingdom
935-Pos, B3
DESIGN AND CHARACTERIZATION OF LONG AND STABLE DE NOVO SINGLE α-HELIX DOMAINS.

Tuesday

Matthew Batchelor, University of Leeds, United Kingdom
1691-Pos, B11
STRUCTURAL DYNAMICS IN THE MYOSIN 7A SINGLE α-HELIX DOMAIN.

Swapna Bera, Bose Institute, India
1916-Pos, B236
BIOPHYSICAL INSIGHTS INTO THE MEMBRANE INTERACTION OF THE CORE AMYLOID-FORMING Aβ40 FRAGMENT K16-K28 AND ITS ROLE IN THE PATHOGENESIS OF ALZHEIMER'S DISEASE.

Chan Cao, East China University of Science and Technology
2261-Pos, B581
DIRECT IDENTIFICATION OF ADENINE, THYMINE, CYTOSINE AND GUANINE USING AEROLYSIN NANOPORE.

Bappaditya Chandra, Tata Institute of Fundamental Research, India
1782-Pos, B102
SECONDARY STRUCTURE FLIPPING CONNECTED TO SALT-BRIDGE FORMATION CONVERTS TOXIC AMYLOID-β40 OLIGOMERS TO FIBRILS.

Venkata Reddy Chirasani, Indian Institute of Technology Madras
1910-Pos, B230
LIPID TRANSFER MECHANISM OF CETP BETWEEN HDL AND LDL: A COARSE-GRAINED SIMULATION STUDY.

Claudia Crocini, LENS, Italy
2085-Pos, B405
OPTOGENETICS DESIGN OF MECHANISTICALLY-BASED STIMULATION PATTERNS FOR CARDIAC DEFIBRILLATION.

Shane E. Gordon, La Trobe Institute for Molecular Science, Australia
1726-Pos, B46
SHARK-DERIVED SINGLE DOMAIN ANTIBODIES TARGETING APOLIPOPROTEIN E.

Daniel Havelka, Czech Academy of Sciences
2246-Pos, B566
MICROVOLUME DIELECTRIC SPECTROSCOPY AND MOLECULAR DYNAMICS OF AMINO ACIDS.

Linlin Ma, University of Queensland, Australia
1630-Plat
NOVEL HUMAN EAG CHANNEL ANTAGONISTS FROM SPIDER VENOMS.

Olfat A. Malak, University of Nantes, France
1998-Pos, B318
HIV-TAT INDUCES A DECREASE IN IKR AND IKS VIA REDUCTION IN PHOSPHATIDYLINOSITOL-(4,5)-BISPHOSPHATE AVAILABILITY.

Ivana Malvacio, University of Cagliari, Italy
1649-Plat
MOLECULAR INSIGHTS ON THE RECOGNITION OF SUBSTRATES BY THE PROMISCUOUS EFFLUX PUMP ACRB.

Samsuzzoha Mondal, Tata Institute of Fundamental Research, India
2273-Pos, B593
OPTICAL PROBES FOR IMAGING SIGNAL MEDIATING PHOSPHOLIPIDS.

Gayathri Narasimhan, Cinvestav, Mexico
2087-Pos, B407
ANTIHYPERTROPHIC EFFECTS OF DIAZOXIDE INVOLVES CHANGES IN MIR-132 EXPRESSION IN ADULT RAT CARDIOMYCYTES.

Sabrina Sharmin, Shizuoka University, Japan
1873-Pos, B193
EFFECTS OF LIPID COMPOSITIONS ON THE ENTRY OF CELL PENETRATING PEPTIDE OLIGOARGININE INTO SINGLE VESICLES.

Bizhan R. Sharopov, National Academy of Sciences of Ukraine
2016-Pos, B336
DISSECTING LOCAL AND SYSTEMIC EFFECTS OF TRPV1 ON BLADDER CONTRACTILITY IN DIABETES.

Sven Warhaut, Goethe University Frankfurt, Germany
1811-Pos, B131
LIGAND-DIRECTED CONFORMATIONAL DYNAMICS OF THE ADENINE-SENSING RIBOSWITCH THERMOSTAT.

Wednesday

Omar Alijevic, University of Lausanne, Switzerland
2346-Plat
ANALYSIS OF GATING OF ACID-SENSING ION CHANNELS (ASICS) UNDER RAPID AND SLOW PH CHANGES.

Raquel Arroyo, University Complutense Madrid, Spain
2478-Pos, B85
STRUCTURAL CHARACTERIZATION OF HUMAN PULMONARY SURFACTANT PROTEIN SP-D BY ATOMIC FORCE MICROSCOPY.

Karishma Bhasne, Indian Institute of Science Education and Research (IISER) Mohali
2363-Plat
A TALE OF TWO AMYLOIDOGENIC INTRINSICALLY DISORDERED PROTEINS: INTERPLAY OF TAU AND α-SYNUCLEIN.

Pablo Chacon, Spanish National Research Council
2827-Pos, B434
TOWARDS A MULTICOMPONENT CRYO-EM DENSITY FLEXIBLE FITTING TOOL.

Stephanie A. Heusser, Stockholm University, Switzerland
2730-Pos, B337
STRUCTURAL AND FUNCTIONAL EVIDENCE FOR MULTI-SITE ALLOSTERY MEDIATED BY GENERAL ANESTHETICS IN A MODEL LIGAND-GATED ION CHANNEL.

Amir H. Irani, Massey University, New Zealand
2913-Pos, B520
HOMOGALACTURONANS ILLUMINATE THE ROLE OF COUNTERION CONDENSATION IN POLYELECTROLYTE TRANSPORT.

Cristina Moreno Vadillo, Cardiovascular Research Institute Maastricht, Netherlands
2693-Pos, B300
RESTORING DEFECTIVE CAMP-DEPENDENT UPREGULATION IN LONG-QT SYNDROME TYPE-1 THROUGH INTERVENTIONS THAT PROMOTE IKS CHANNEL OPENING.

Melanie Paillard, Claude Bernard University Lyon 1, France
2651-Pos, B258
TISSUE-SPECIFIC MITOCHONDRIAL DECODING OF CYTOPLASMIC CA2+ SIGNALS IS CONTROLLED BY THE STOICHIOMETRY OF MICU1/2 AND MCU.

Pradeep Sathyanarayana, Indian Institute of Science
2583-Pos, B190
STUDYING BINDING, CONFORMATIONAL TRANSITION AND ASSEMBLY OF E.COLI CYTOLYSIN A PORE FORMING TOXIN BY SINGLE MOLECULE FLUORESCENCE.

Luke Springall, University of Kent, United Kingdom
2540-Pos, B147
DIRECT SINGLE MOLECULE IMAGING REVEALS HETEROGENEITY IN NUCLEOTIDE EXCISION REPAIR.

Antonio Suma, SISSA, Italy
2334-Plat
PORE TRANSLOCATION OF DNA CHAINS WITH PHYSICAL KNOTS.

Chao Sun, East China Normal University
2811-Pos, B418
FUNCTION OF BACTERIORUBERIN IN ARCHAERHODOPSIN 4, FROM EXPRESSION TO CHARACTERIZATION.

PROFESSIONAL OPPORTUNITIES FOR WOMEN

Sunday

Sabina M. Maté, INIBIOLP-CONICET-UNLP, Argentina
421-Pos, B186
ORIENTATIONAL PROPERTIES OF DOPC/SM/CHOLESTEROL MIXTURES: A PM-IRRAS STUDY.

Hagit Peretz Soroka, University of Manitoba, Canada
619-Pos, B384
NOVEL MECHANISM FOR DRIVING AMOEBOID-LIKE MOTILITY OF HUMAN NEUTROPHILS UNDER AN ELECTRIC FIELD, BASED ON INTRACELLULAR PROTON CURRENTS AND CYTOPLASM STREAMING.

Monday

Teresa K. Aman, University of Washington
1227-Pos, B295
HCN CHANNEL GATING STUDIED WITH TMFRET AND A FLUORESCENT NONCANONICAL AMINO ACID.

Lusine Demirkhanyan, University of Illinois at Chicago
1230-Pos, B298
ASSESSMENT OF ENDOGENOUS AND EXOGENOUS MODULATORS OF THE TRPM7 CHANNEL IN PLANAR LIPID BILAYERS.

Shelli L. Frey, Gettysburg College
1137-Pos, B205
THE ROLE OF SPHINGOMYELIN AND GANGLIOSIDE GM1 IN THE INTERACTION OF POLYGLUTAMINE PEPTIDES WITH LIPID MEMBRANES.

Elsa Ronzier, University of Rochester
1245-Pos, B313
STATIN THERAPY IN LONG QT SYNDROME TYPE II.

Sarah L. Rouse, Imperial College London, United Kingdom
929-Plat
STRUCTURAL AND MECHANISTIC INSIGHTS INTO TRANSPORT OF FUNCTIONAL AMYLOID SUBUNITS ACROSS THE PSEUDOMONAS OUTER MEMBRANE.

Tuesday

Pooja Jadiya, Temple University
2186-Pos, B506
GENETIC RESCUE OF MITOCHONDRIAL CALCIUM EFFLUX IN ALZHEIMER'S DISEASE PRESERVES MITOCHONDRIAL FUNCTION AND PROTECTS AGAINST NEURONAL CELL DEATH.

Marthe Ludtmann, University College London, United Kingdom
2165-Pos, B485
DIRECT MODULATION OF THE MITOCHONDRIAL PERMEABILITY TRANSITION PORE BY OLIGOMERIC ALPHA-SYNUCLEIN CAUSES TOXICITY IN PD.

Siobhan Toal, University of Pennsylvania
1798-Pos, B118
DETERMINING THE ROLE OF N-TERMINAL ACETYLATION ON α-SYNUCLEIN FUNCTION.

Wednesday

Anna C. Blice-Baum, Sam Houston State University
2753-Pos, B360
CARDIAC-SPECIFIC EXPRESSION OF VCP/TER94 RNAI OR DISEASE ALLELES DISRUPTS DROSOPHILA HEART STRUCTURE AND IMPAIRS FUNCTION.

Maria Hoernke, Albert Ludwig University of Freiburg, Germany
2600-Pos, B207
GUV AND LUV LEAKAGE: HOW ALL-OR-NONE AND GRADED LEAKAGE SCALE WITH VESICLE SIZE.

Rebecca J. Howard, Stockholm University, Sweden
2728-Pos, B335
TRANSMEMBRANE STRUCTURAL DETERMINANTS OF ALCOHOL BINDING AND MODULATION IN A MODEL LIGAND-GATED ION CHANNEL.

Ekaterina M. Nestorovich, The Catholic University of America
2324-Plat
LIPID DYNAMICS AND THE ANTHRAX TOXIN INTRACELLULAR JOURNEY.

Yoo Jin Oh, Johannes Kepler University Linz, Austria
2894-Pos, B501
CURLI MEDIATE BACTERIAL ADHESION TO FIBRONECTIN VIA A TENSILE COLLECTIVE BINDING NETWORK.

Laura Orellana, Science for Life Laboratory, Sweden
2386-Plat
TRAPPING ON-PATHWAY INTERMEDIATES FOR LARGE SCALE CONFORMATIONAL CHANGES WITH COARSE-GRAINED SIMULATIONS.

Ancillary Meetings

Society of General Physiologists Council Meeting
Saturday, February 11, 9:00 AM–1:00 PM
Room 222

Korean Biophysicists Meeting
Sunday, February 12, 5:00 PM–6:00 PM
Room 210

Biophysics Austria Mixer
Sunday, February 12, 6:00 PM–7:00 PM
Rivergate Room, Lobby Level

SOBLA (The Society for Latinoamerican Biophysicists) Meeting
Tuesday, February 14, 8:00 PM–10:00 PM
Room 214

How to Navigate the BPS Annual Meeting

About the Meeting

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

Scientific Sessions

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

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

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

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

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

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

National Lecture
- One-hour presentation by a world-renowned biophysicist

Professional Development

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

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

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

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

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

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

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

Social and Networking Events

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

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

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

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

Friday, February 10, 2017

Daily Program Summary

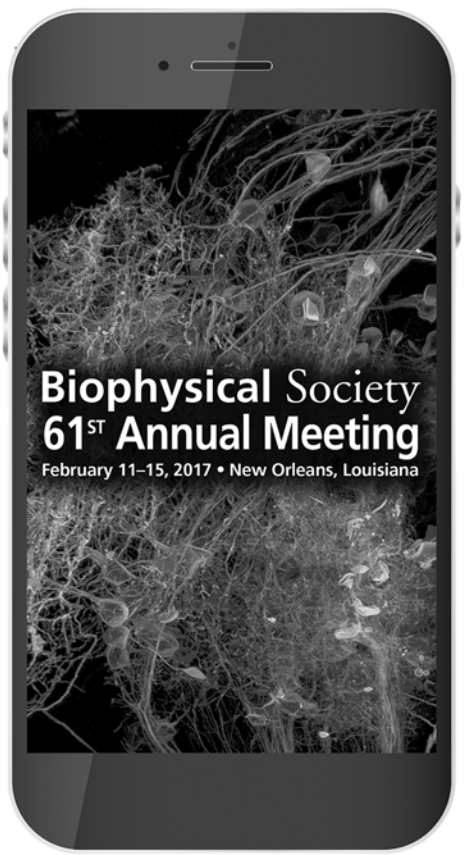
All rooms are located in the *Ernest N. Morial Convention Center* unless noted otherwise.

8:00 AM–5:00 PM	Exhibitor Registration	Lobby B
8:00 AM–5:00 PM	Drug Discovery Satellite Meeting	Room 210
3:00 PM–4:30 PM	New Council Orientation	Hilton, Port Room
3:00 PM–5:00 PM	Registration	Lobby B
5:00 PM–9:00 PM	Joint Council Reception, Dinner, and Meeting	Hilton, Compass Room

Navigate the Meeting

Meeting Mobile App:

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



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FRIDAY

Friday, February 10

Exhibitor Registration

8:00 AM–5:00 PM, Lobby B

Drug Discovery Satellite Meeting

8:00 AM–5:00 PM, Room 210

Sponsored by Sophion together with Biolin Scientific, Charles River, Icagen Inc, Molecular Devices LLC, Nanion Technologies GmbH

Ion channels are an important class of therapeutic drug targets, and mutations in ion channel genes are found to be responsible for an increasing number of diseases. While conventional electrophysiological techniques permit the most detailed and direct study of ion channel function, they are limited due to the manual nature of the method and their low throughput. Because of this, ion channels remain an underrepresented target class for drug discovery. But the advent of automated electrophysiological systems with higher throughput has begun to revolutionize ion channel drug discovery. This symposium focuses on the emerging technology of automated electrophysiology and how it is changing the face of ion channel drug discovery. Speakers from industry and academia will discuss the development and potential of these new technologies, present experimental results obtained using these systems and discuss the impact these technologies are having on ion channel drug discovery.

Co-Chairs
Richard Kondo, Sophion – Biolin Scientific
Andrew Baxter, Charles River
Chris Mathes, Icagen Inc
Jeff Webber, Molecular Devices LLC
Niels Fertig, Nanion Technologies GmbH

7:30 AM **REGISTRATION**

8:30 AM **WELCOME AND OPENING REMARKS**
Chris Mathes

8:45 AM
NEW INSIGHTS INTO K2P POTASSIUM CHANNEL BIOPHYSICS.
Keynote Speaker: Stephen Tucker

SESSION I: ANION CHANNELS
Chair, Chris Mathes

9:30 AM
STRATEGIES FOR DEVELOPING ISOFORM-SPECIFIC CLC CHLORIDE-CHANNEL INHIBITORS. **Merritt Maduke**

10:00 AM
STRUCTURAL AND FUNCTIONAL STUDIES OF ANION CHANNELS.
Tsung-Yu Chen

10:30 **BREAK**

SESSION II: NA CHANNELS & PAIN
Chair, Andrew Baxter

11:00 AM
OVERCOMING CHALLENGES OF TARGETING NAV1.9 FOR DEVELOPMENT OF NEW PAIN THERAPIES. **Neil Castle**

11:30 AM
DISCOVERY OF NOVEL NAV1.7 SCAFFOLDS. **Jun Chen**

12:00 PM
SELECTIVE INHIBITORS OF NAV1.7: FROM BINDING SITE TO IN-VIVO EFFICACY. **David Hackos**

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

SESSION III: ION CHANNELS AND DISEASE
Chair, Richard Kondo

1:30 PM
HIGH THROUGHPUT ELECTROPHYSIOLOGY TO ANNOTATE CHANNEL FUNCTIONS IN THE CONTEXT OF DISEASE GENETICS. **Jen Pan**

2:00 PM
DRUG DISCOVERY FOR CANCER THERAPY: A COMBINATION OF HIGH THROUGHPUT ELECTROPHYSIOLOGY AND LIVE CELL AND CALCIUM IMAGING. **Aamir Ahmed**

2:30 PM
GENERATING ION CHANNEL BLOCKING ANTIBODIES BY FUSING CYSTEINE-KNOT MINIPROTEINS INTO ANTIBODY CDR LOOPS. **John McCafferty**

3:00 PM **BREAK**

SESSION IV: REGULATION OF ION CHANNELS
Chair, Jeff Webber

3:30 PM
ALLOSTERIC MODULATORS OF CHANNEL-PIP2 INTERACTIONS.
Diomedes Logothetis

4:00 PM
ANTIDROMIC-RECTIFYING GAP JUNCTIONS AMPLIFY CHEMICAL TRANSMISSION FROM PREMOTOR INTERNEURONS TO MOTONEURONS.
Zhao-Wen Wang

4:30 PM
TMEM16A: HIGH-THROUGHPUT FUNCTIONAL SCREENING APPROACHES TO A NOVEL THERAPEUTIC TARGET. **Sarah Lilley**

5:00 PM **CLOSING REMARKS**
Niels Fertig

New Council Orientation

3:00 PM - 4:30 PM, Hilton, Port Room

Registration

3:00 PM–5:00 PM, Lobby B

Joint Council Reception, Dinner, and Meeting

5:00 PM–9:00 PM, Hilton, Compass Room

Saturday, February 11, 2017

Daily Program Summary

All rooms are located in the *Ernest N. Morial Convention Center* unless noted otherwise.

8:00 AM–6:30 PM	Registration/Exhibitor Registration	Lobby B
8:30 AM–11:00 AM	Joint Council Meeting	Hilton, Compass Room
9:00 AM–12:30 PM	Bioengineering Subgroup	Room 220
9:00 AM–1:00 PM	Society of General Physiologists Council Meeting	Room 222
9:00 AM–6:30 PM	Mechanobiology Subgroup	Room R08/09
9:00 AM–7:00 PM	Bioenergetics Subgroup	Room R01
10:00 AM–6:15 PM	Biopolymers in Vivo Subgroup	Room 218
10:30 AM–3:00 PM	Molecular Biophysics Subgroup	Great Hall B
12:30 PM–6:00 PM	Nanoscale Biophysics Subgroup	Room 208/209
1:00 PM–5:00 PM	Biological Fluorescence Subgroup	Room 214
1:00 PM–5:30 PM	Membrane Biophysics Subgroup	Room R02/03
1:00 PM–6:00 PM	Membrane Structure and Assembly Subgroup	Room R06/07
1:00 PM–6:00 PM	Motility and Cytoskeleton Subgroup	Room R04/05
1:00 PM–6:30 PM	Exocytosis & Endocytosis Subgroup	Room 210
1:00 PM–7:00 PM	Intrinsically Disordered Proteins Subgroup	Room 206/207
1:30 PM–4:50 PM	Permeation & Transport Subgroup	Room 219
3:00 PM–4:00 PM	Career Center Workshop Networking: Optimizing Your Time at BPS 2017	Room 212/213
4:00 PM–5:00 PM	Undergraduate Mixer and Poster Fest	Lobby A
5:00 PM–7:00 PM	Opening Mixer	Great Hall Pre-Function Area
5:00 PM–7:00 PM	First-Time Attendee Drop By	Mosaic Lounge, Lobby A
6:00 PM–10:00 PM	Poster Viewing	Hall B-2 & C
6:30 PM–7:30 PM	CID/Education/CPOW Travel Awardee Reception	Rivergate Room, Lobby Level
7:00 PM–10:00 PM	Cryo-EM Subgroup	Room 208/209
7:30 PM–8:30 PM	All-In Networking Hour	Rivergate Room, Lobby Level

Saturday, February 11

Registration/Exhibitor Registration

8:00 AM - 6:30 PM, LOBBY B

Joint Council Meeting

8:30 AM - 11:00 AM, HILTON, COMPASS ROOM

Bioengineering Subgroup

9:00 AM - 12:30 PM, ROOM 220

Subgroup Chairs
Isaac T.S. Li, University of British Columbia, Canada
Amir Farnoud, Ohio University

1-SUBG 9:00 AM
MAPPING CELL SURFACE ADHESION BY ROTATION TRACKING AND ADHESION FOOTPRINTING. **Isaac T.S. Li**,

2-SUBG 9:30 AM
INTERACTIONS OF ENGINEERED NANOMATERIALS WITH LIPID INTERFACES. **Amir Farnoud**

3-SUBG 10:00 AM
BIOMEMBRANE INSPIRED ENGINEERING. **Marjorie Longo**

10:30 AM BREAK

4-SUBG 10:40 AM
PHYSICAL ENGINEERING OF BEHAVIOUR AND FUNCTION AT THE CELL AND TISSUE LEVELS. **Andrew Pelling**

5-SUBG 11:10 AM
OPTICAL IMAGING OF PROTEIN AGGREGATION REACTIONS IN VITRO AND IN CELLS. **Clemens Kaminski**

NO ABSTRACT 11:40 AM
MECHANICS AND FLOW IN MICROBIAL BIOFILMS. **James N. Wilking**

12:10 PM CLOSING REMARKS

Society of General Physiologists Council Meeting

9:00 AM - 1:00 PM, ROOM 222

Mechanobiology Subgroup

9:00 AM - 6:30 PM, ROOM R08/09

Subgroup Chair
Ewa Paluch, University College London, United Kingdom

9:10 AM INTRODUCTION

6-SUBG 9:15 AM
MECHANICAL ASPECTS OF MITOCHONDRIAL ALTERATIONS IN APOPTOSIS. **Ana J. Garcia-Saez**

9:45 AM SHORT TALK

10:00 AM SHORT TALK

7-SUBG 10:15 AM
NON-EQUILIBRIUM PHASE TRANSITIONS IN ACTOMYOSIN CORTICES. **Nikta Fakhri**

10:45 AM COFFEE BREAK

11:15 AM SHORT TALK

8-SUBG 11:30 AM
MECHANICAL SIGNALING IN STEM CELLS: SELF-RENEWAL AND AGEING. **Kevin Chalut**

9-SUBG 12:00 PM
THE MECHANICAL CONTROL OF NERVOUS SYSTEM DEVELOPMENT. **Kristian Franze**

12:30 PM LUNCH

2:00 PM SHORT TALK

2:15 PM SHORT TALK

2:30 PM SHORT TALK

10-SUBG 2:45 PM
HOW DO SINGLE-CELL PROPERTIES INFLUENCE THE COLLECTIVE MECHANICAL BEHAVIOR OF CONFLUENT TISSUES? **Lisa Manning**

3:15 PM COFFEE BREAK

NO ABSTRACT 3:45 PM
MECHANICAL CONTROL OF TISSUE MORPHOGENESIS. **Otger Campas**

11-SUBG 4:15 PM
MECHANICAL STRETCH TRIGGERS RAPID EPITHELIAL CELL DIVISION THROUGH THE STRETCH-ACTIVATED CHANNEL PIEZO1. **Jody Rosenblatt**

4:45 PM SHORT TALK

5:00 PM SHORT TALK

5:15 PM BUSINESS MEETING

6:30 PM SPEAKER DINNER

Bioenergetics Subgroup

9:00 AM - 7:00 PM, ROOM R01

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

9:00 AM INTRODUCTION

HIGH RESOLUTION STRUCTURE, FUNCTION, AND DYNAMICS OF MITOCHONDRIAL PROTEINS

12-SUBG 9:10 AM
NEAR-NEIGHBOR RELATIONSHIPS OF THE ATYPICAL SUBUNITS THAT FORM THE PERIPHERAL STALK OF THE MITOCHONDRIAL ATP SYNTHASE IN CHLOROPHYCEAN ALGAE. **Diego Gonzalez-Halphen**

13-SUBG 9:40 AM
THE MECHANISM OF PROTON PUMPING BY RESPIRATORY COMPLEX I. **Ulrich Brandt**

14-SUBG 10:10 AM
MITOCHONDRIAL METABOLISM DETERMINES THE SPATIO-TEMPORAL ORGANIZATION OF SINGLE F_1F_O ATP SYNTHASE IN LIVE HUMAN CELLS. **Karin Busch**

10:40 AM COFFEE BREAK

15-SUBG 11:00 AM
THREE-DIMENSIONAL ANALYSIS OF HUMAN MITOCHONDRIAL REPLICATIVE HELICASE TWINKLE. **Maria Sola**

16-SUBG 11:30 AM
PROBING THE REGULATORY AND TRANSPORT MECHANISM OF MITOCHONDRIAL CARRIERS WITH THERMOSTABILITY SHIFT ASSAYS. **Edmund Kunji**

17-Subg **12:00 pm**
PORE ARCHITECTURE AND ION SELECTIVITY FILTER OF THE MITOCHONDRIAL CALCIUM UNIPORTER. **James J. Chou**

12:30 pm **LUNCH BREAK**

2:15 pm **PRESENTATION OF THE YOUNG BIOENERGETICS AWARD WINNER**

MITOCHONDRIAL REDOX REGULATION IN HEALTH AN DISEASE

18-Subg **2:30 pm**
REVERSING ELECTRON TRANSPORT IN ISCHEMIA AND BEYOND. **Paul Brookes**

No Abstract **3:00 pm**
SIGNALING BY CARDIOLIPINS: RE-LOCATION AND RE-DOXING IN MITOCHONDRIA. **Valerian E. Kagan**

3:30 pm **COFFEE BREAK**

19-Subg **3:50 pm**
REDOX REGULATION OF CYTOCHROME C OXIDASE ASSEMBLY. **Antoni Barrientos**

20-Subg **4:20 pm**
MITOCHONDRIAL PRODUCTION OF ROS: DEVIATIONS FROM THE "STANDARD MODEL." **Anatoly Starkov**

5:00 pm **GENERAL DISCUSSION**

6:00 pm **BUSINESS MEETING**

7:00 pm **SUBGROUP DINNER**

Biopolymers in Vivo Subgroup

10:00 am - 6:15 pm, Room 218

Subgroup Chair
Gary Pielak, University of North Carolina, Chapel Hill

10:00 am **BUSINESS MEETING**

11:30 am **BREAK**

21-Subg **1:00 pm**
ORGANIZATION OF NUCLEIC ACIDS AND PROTEINS BY LIPID MEMBRANES. **Sarah L. Keller**

22-Subg **1:45 pm**
FOLDING IN THE CELL - IONS, CROWDERS, OSMOLYTES. **Simon Ebbinghaus**

23-Subg **2:15 pm**
RNA-BASED CONTROL OF CELLULAR PHASE TRANSITIONS. **Amy S. Gladfelter**

2:45 pm **STUDENT SPEAKER**

24-Subg **3:00 pm**
VISUALIZING STRUCTURAL DETAILS OF DISORDERED DOMAIN PHASE SEPARATION ASSOCIATED WITH ALS AND CANCERS. **Nicolas Fawzi**

3:30 pm **BREAK**

No Abstract **4:00 pm**
PROTEINS- FOREVER AGING? **Jeremy Smith**

4:30 pm **POSTDOC SPEAKER**

25-Subg **4:45 pm**
HOW EVOLUTION TUNES STRESS-TRIGGERED PROTEIN PHASE SEPARATION TO PROMOTE CELL FITNESS DURING STRESS. **D. Allan Drummond**

26-Subg **5:15 pm**
PHASE BEHAVIOR AND SELF-ASSEMBLY OF A NEW FAMILY OF STIMULUS RESPONSIVE PEPTIDE POLYMERS. **Ashutosh Chilkoti**

6:00 pm **CLOSING REMARKS**

Molecular Biophysics Subgroup

10:30 am - 3:00 pm, Great Hall B

Subgroup Chair
Yann Chemla, University of Illinois at Urbana-Champaign

10:30 am **OPENING REMARKS**

27-Subg **10:40 am**
CONTROLLABLE MOLECULAR MOTORS ENGINEERED FROM MYOSIN AND RNA. **Zev Bryant**

28-Subg **11:10 am**
DYNEIN'S DIRECTION-DEPENDENT MICROTUBULE-BINDING STRENGTH IS CONTROLLED VIA A TENSION-INDUCED SLIDING OF DYNEIN'S STALK HELICES MEDIATED BY THE COILED-COIL STRUT. **Lu Rao**

29-Subg **11:35 am**
SINGLE-MOLECULE SORTING OF HUMAN DNA REPAIR ENZYMES. **Maria Spies**

12:05 pm **COFFEE BREAK AND BUSINESS MEETING**

30-Subg **12:35 pm**
HIGH THROUGHPUT SIMULATIONS REVEAL HOW SEQUENCE AND METHYLATION CONTROL DNA LOOPING AND SELF-ASSOCIATION. **Jejoong Yoo**

31-Subg **1:00 pm**
SINGLE MOLECULES IN FOCUS: FROM RNA SPLICING TO SILENCING. **Nils G. Walter**

32-Subg **1:30 pm**
RNA REMODELING ACTIVITY REVEALS RNP ASSEMBLY MECHANISM. **Sua Myong**

No Abstract **2:00 pm**
QUANTITATIVE CHARACTERIZATION OF THE BUILDING BLOCKS OF RNA TERTIARY STRUCTURE. **William J. Greenleaf**

2:30 pm **CLOSING REMARKS**

Nanoscale Biophysics Subgroup

12:30 pm - 6:00 pm, Room 208/209

Subgroup Chair
Julie Biteen, University of Michigan

33-Subg **12:30 pm**
SPECTRALLY RESOLVED SUPER-RESOLUTION MICROSCOPY. **Ke Xu**

34-Subg **1:00 pm**
SUPERTEMPORAL-RESOLVED MICROSCOPY (STREM) FOR MEASURING FAST INTERFACIAL DYNAMICS. **Christy F. Landes**

35-Subg **1:30 pm**
BRIGHT AND STABLE EXTERNAL FLUOROPHORES IN UNTRANSFORMED LIVING CELLS. **Ozgur Sahin**

36-Subg **2:00 pm**
SINGLE-MOLECULE STUDIES OF DNA REPLICATION: THE PLASTICITY OF MULTI-PROTEIN COMPLEXES. **Antoine M. van Oijen**

37-Subg **2:30 pm**
SINGLE MOLECULE FLUORESCENCE AND ATOMIC FORCE MICROSCOPY STUDIES OF DNA REPAIR. **Dorothy Erie**

3:00 PM **BREAK**

3:30 PM **STUDENT/ POSTDOC TALKS**

38-SUBG **4:15 PM**
DEVELOPING FLUORESCENT NANODIAMONDS FOR *IN VITRO* AND *IN VIVO* BIOLOGICAL IMAGING. **Keir C. Neuman**

39-SUBG **4:45 PM**
SPATIALLY RESOLVED MAPPING OF ENDOGENOUS PROTEINS AND RNA IN LIVING CELLS. **Alice Yen Ping Ting**

5:15 PM **BUSINESS MEETING**

6:00 PM **SUBGROUP DINNER**

Biological Fluorescence Subgroup

1:00 PM - 5:00 PM, ROOM 214

Subgroup Chair
G. Ulrich Nienhaus, Karlsruhe Institute of Technology (KIT), Germany

NO ABSTRACT **1:00 PM**
HIGH THROUGHPUT, HIGH CONTENT NEUROBIOLOGICAL IMAGING. **Peter T.C. So**

NO ABSTRACT **1:30 PM**
OBSERVING PROTEIN ASSOCIATION WITH CYTOPLASMIC VESICLES IN THE LIVING CELL. **Yan Chen**

40-SUBG **2:00 PM**
RESOLFT OPTICAL NANOSCOPY FOR THE LIFE SCIENCES. **Ilaria Testa**

41-SUBG **2:30 PM**
BRIGHT AND STABLE EXTERNAL FLUOROPHORES IN UNTRANSFORMED LIVING CELLS. **Paul R. Selvin**

3:00 PM **BREAK**

3:10 PM **BUSINESS MEETING**

42-SUBG **3:20 PM**
THE PHOTOPHYSICS OF PIFE AND OTHER PHOTOPHYSICAL PROCESS THAT AFFECT SINGLE-MOLECULE DYES. **Marcia Levitus**

43-SUBG **3:50 PM**
MULTI-PARAMETER FLUORESCENCE SPECTROSCOPY AND IMAGING FOR QUANTITATIVE FRET MEASUREMENTS. **Claus A.M. Seidel**

4:20 PM **YOUNG FLUORESCENCE INVESTIGATOR AWARD & LECTURE**

4:40 PM **GREGORIO WEBER AWARD & LECTURE**

5:00 PM **ADJOURNMENT**

Membrane Biophysics Subgroup

1:00 PM - 5:30 PM, ROOM R02/03

Subgroup Chair
Teresa Giraldez, La Laguna University, Spain

1:00 PM **OPENING REMARKS**

NO ABSTRACT **1:05 PM**
BIOPHYSICS OF INHIBITORY RHODOPSINS. **Peter Hegemann**

44-SUBG **1:35 PM**
PIEZO1 CHANNELS ARE INHERENTLY MECHANOSENSITIVE. **Ruhma Syeda**

45-SUBG **2:05 PM**
INTRA-MOLECULAR CONNECTIVITY IN SENSORY RECEPTORS OF THE TRP FAMILY. **Sebastian E. Brauchi**

46-SUBG **2:35 PM**
BK CHANNELS: SENSORS THAT SWITCH MEMBRANES BETWEEN DAY AND NIGHT STATES IN THE CIRCADIAN CLOCK. **Andrea Meredith**

3:05 PM **BUSINESS MEETING**

3:15 PM **COFFEE BREAK**

47-SUBG **3:40 PM**
STRUCTURAL MECHANISMS OF MECHANOSENSITIVITY IN THE TREK-2 K2P POTASSIUM CHANNEL. **Stephen J. Tucker**

48-SUBG **4:10 PM**
MEMBRANE MECHANOSENSORS RESPONSIBLE FOR TOUCH AND OTHER SENSES. **Miriam B. Goodman**

49-SUBG **4:40 PM**
VISUALIZING THE COMPETITION BETWEEN GS AND GISIGNALING AT THE MEMBRANE. **Thomas Hughes**

5:10 PM **CLOSING REMARKS**

Membrane Structure and Assembly Subgroup

1:00 PM - 6:00 PM, ROOM R06/07

Subgroup Chair
Rumiana Dimova, Max Planck Institute of Colloids and Interfaces, Germany

NO ABSTRACT **1:00 PM**
INVITED SATURDAY SUBGROUP SPEAKER. **Harvey McMahon**

NO ABSTRACT **1:35 PM**
MEMBRANE CURVATURE, A NON-STOCHASTIC REGULATOR OF PROTEIN LOCALIZATION, STRUCTURE ANDFUNCTION. **Dimitrios Stamou**

50-SUBG **2:10 PM**
PHASES AND FLUCTUATIONS IN BIOLOGICAL MEMBRANES. **Sarah Veatch**

2:45 PM **BREAK**

51-SUBG **3:10 PM**
THE ROLE OF CHOLESTEROL IN VIRAL SPIKE GLYCOPROTEIN-MEDIATED MEMBRANE FUSION. **Lukas K. Tamm**

52-SUBG **3:45 PM**
SELF-ORGANIZATION AND DYNAMICS OF THE ACTIN CORTEX-MEMBRANE INTERFACE. **Gijsje Koenderink**

NO ABSTRACT **4:20 PM**
INCREASING COMPLEXITY IN COMPUTER SIMULATIONS OF MEMBRANES. **D. Peter Tieleman**

5:00 PM **BUSINESS MEETING**

Motility and Cytoskeleton Subgroup

1:00 PM - 6:00 PM, ROOM R04/05

Subgroup Chairs
Erika Holzbaur, University of Pennsylvania
Joseph Muretta, University of Minnesota

1:00 PM **OPENING REMARKS**

NO ABSTRACT **1:05 PM**
MYTH4-FERM MYOSINS IN THE ASSEMBLY AND MAINTENANCE OFACTIN-BASED PROTRUSIONS. **Matthew Tyska**

53-Subg **1:30 PM**
SEQUENCE AND FUNCTIONAL DIVERSITY ACROSS THE KINESIN SUPERFAMILY. **Kristen Verhey**

1:55 PM **STUDENT TALK**

2:10 PM **STUDENT TALK**

2:25 PM **BREAK**

54-Subg **2:45 PM**
READOUT OF THE TUBULIN CODE BY CELLULAR EFFECTORS: GRADED CONTROL OF MICROTUBULE SEVERING BY TUBULIN GLUTAMYLATION. **Antonina Roll-Mecak**

55-Subg **3:10 PM**
DISSECTION OF MICROTUBULE MEDIATED MECHANICAL FORCES IN MITOSIS. **Melissa K. Gardner**

56-Subg **3:35 PM**
THE ROLE OF THE THICK FILAMENTS IN THE REGULATION OF MUSCLE CONTRACTION. **Malcolm Irving**

57-Subg **3:55 PM**
SINGLE MOLECULE IMAGING REVEALS THE MECHANISM OFACTIN.TN.TM ACTIVATION ANDDEACTIVATION. **Neil M. Kad**

4:25 PM **BUSINESS MEETING**

58-Subg **5:00 PM**
MOLECULAR CHARACTERIZATION OF A MEMBRANE-ASSOCIATED CYTOSKELETAL MOTOR FAMILY. **E. Michael Ostap**

Exocytosis & Endocytosis Subgroup

1:00 PM - 6:30 PM, Room 210

Subgroup Chair
Brian M. Salzberg, University of Pennsylvania School of Medicine

1:10 PM **STUDENT TALK**

1:15 PM **STUDENT TALK**

1:30 PM **STUDENT TALK**

No Abstract **1:45 PM**
CELLULAR DYNAMICS IMAGED IN REAL TIME AND IN 3D USING A LATTICE LIGHT SHEET MICROSCOPE. **Tomas Kirchhausen**

2:15 PM **COFFEE BREAK**

No Abstract **2:30 PM**
SUPERPRIMING:A SLOW PROCESS, WHICH ENHANCES THE RATE OF EXOCYTOSIS AND MAY MEDIATE SYNAPTICAUGMENTATION AND POSTTETANIC POTENTIATION. **Erwin Neher**

59-Subg **3:00 PM**
HOW VOLTAGE-GATED CAV1 L-TYPE CA^{2+} CHANNELS MEET THE NEEDS OF THE RIBBONSYNAPSE. **Amy Lee**

60-Subg **3:30 PM**
PRESYNAPTIC MEMBRANE TURNOVER AND TRANSMITTER RELEASE AT THE CALYX OF HELD. **Xuelin Lou**

4:00 PM **COFFEE BREAK**

61-Subg **4:15 PM**
THE LONG ROAD TO MICRO-DYNAMIC PRESYNAPTIC FRET MEASUREMENTS. **Robert Zucker**

5:30 PM **BUSINESS MEETING**

6:30 PM **SUBGROUP DINNER**

Intrinsically Disordered Proteins Subgroup

1:00 PM - 7:00 PM, Room 206/207

Subgroup Chair
Garagin Papoian, University of Maryland

1:00 PM **OPENING REMARKS**

1:05 PM **INTRODUCTION**

62-Subg **1:05 PM**
PKA: DYNAMIC ASSEMBLY AND REGULATION OF MACROMOLECULAR SIGNALING COMPLEXES. **Susan S. Taylor**

63-Subg **1:50 PM**
DISORDERED CDKSUBSTRATES ACT AS MULTI-INPUT SIGNAL PROCESSORS TO CONTROL THE KEY DECISION POINTS IN THE CELL CYCLE. **Mart Loog**

64-Subg **2:20 PM**
EXPLORATION OF PROTEIN REGIONS INVOLVED IN MAP KINASE MEDIATED SIGNALING. **Attila Remenyi**

2:50 PM **POSTDOC TALK**

65-Subg **3:10 PM**
CHOREOGRAPHY BY STRUCTURAL DISORDER IN MEMBRANE PROTEINS. **Birthe B. Kragelund**

3:40 PM **COFFEE BREAK**

66-Subg **4:00 PM**
INTRINSIC DISORDER IN THE HIGHLY-ORDERED CIRCADIAN CLOCK. **Jennifer M. Hurley**

67-Subg **4:30 PM**
ENTROPIC CLOCKS IN THE SERVICE OF ELECTRICAL SIGNALING. **Ofer Yifrach**

5:00 PM **POSTDOC TALK**

68-Subg **5:20 PM**
INVITED SATURDAY SUBGROUP SPEAKER. **Andrew Baldwin**

69-Subg **5:50 PM**
TWO DECADES OF IDPS; WHAT HAVE WE LEARNED? **Richard Kriwacki**

6:35 PM **CLOSING REMARKS**

Permeation & Transport Subgroup

1:30 PM - 4:50 PM, Room 219

Subgroup Chair
Olga Boudker, Weill Cornell Medical College

70-Subg **1:30 PM**
NOVEL MOLECULAR MECHANISM OF EXCITATORY NEUROTRANSMITTER TRANSPORT INHIBITION. **Nicolas Reyes**

71-Subg **2:00 PM**
INS AND OUTS OF THE NA,K-ATPASE. **Hanne Poulsen**

72-Subg **2:30 PM**
ATOMIC INSIGHTS INTO THE PH-INDUCED ACTIVATION OF CHANNELS AND TRANSPORTERS. **Jana Shen**

3:00 PM **STUDENT TALK**

3:20 PM **BREAK**

73-Subg **3:30 PM**
DYNAMICS OF GLUTAMATE RECEPTOR STUDIED WITH SINGLE MOLECULE FRET. **Vasanthi Jayaraman**

74-SUBG **4:00 PM**
UNCONVENTIONAL ION-PERMEATION PATHWAYS IN NAVAB AND CAVAB CHANNELS FROM MOLECULAR SIMULATIONS WITH POLARIZABLE FORCE-FIELDS. **Sergei Noskov**

4:30 PM **STUDENT TALK**

Career Center Workshop
Networking: Optimizing Your Time at BPS 2017

3:00 PM - 4:00 PM, ROOM 212/213

You surely have heard that networking is a key component of the successful job search. The term itself often conjures up negative thoughts and reactions to the uninitiated, sometimes to the point of paralysis. Professional conferences (such as BPS 2017) provide endless networking opportunities. If, however, your perception of networking means tackling someone at the coffee station while thrusting your CV in his/her hands, you may want to stop in on this session. The practice of networking has become so much easier with the advent of the internet. We will discuss what you hope to get out of your presence at the meeting, how to set objectives beforehand, and how to meet those objectives once you arrive (while minimizing anxiety).

Undergraduate Mixer and Poster Fest

4:00 PM - 5:00 PM, LOBBY A

Support contributed by APL Bioengineering

Opening Mixer

5:00 PM - 7:00 PM, GREAT HALL PRE-FUNCTION AREA

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

First-Time Attendee Drop By

5:00 PM - 7:00 PM, MOSAIC LOUNGE, LOBBY A

Learn to navigate the meeting! If this is your first time attending a BPS Annual Meeting, you may find it helpful to speak to Society staff and committee members who can help you get the most out of your time at the BPS 2017 New Orleans meeting.

Poster Viewing

6:00 PM - 10:00 PM, HALL B-2 & C

CID/Education/CPOW Travel Awardee Reception

6:30 PM - 7:30 PM, RIVERGATE ROOM, LOBBY LEVEL

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

Cryo-EM Subgroup

7:00 PM - 10:00 PM, ROOM 208/209

Subgroup Chair
David L. Stokes, New York University School of Medicine

75-SUBG **7:00 PM**
ARCHITECTURES OF LIPID TRANSPORT SYSTEMS FOR THE BACTERIAL OUTER MEMBRANE. **Gira Bhabha**

76-SUBG **7:25 PM**
KINASE REGULATION THROUGH DRAMATIC UNFOLDING, AS TOLD BY HSP90:CDC37:CDK4 ATOMIC CRYO-EM STRUCTURE. **Kliment A. Verba**

NO ABSTRACT **7:50 PM**
COMPLETE GATING MECHANISM OF THE GLYCINE RECEPTORELUCIDATED BY CRYO-EM. **Eric Gouaux**

8:15 PM **BUSINESS MEETING**

77-SUBG **8:30 PM**
MOLECULAR MECHANISMS EXPLAINED BY SINGLE PARTICLE CRYO-EM. **Stefan Raunser**

78-SUBG **8:55 PM**
THE CRYO-EM METHOD MICROED STRUCTURE DETERMINATION OF TYPE II DIABETES-RELATED PROTEIN SEGMENTS. **Pascal Krotee**

79-SUBG **9:20 PM**
LIGAND-DEPENDENT STRUCTURAL STATES OF A K^+CHANNEL ANALYZED BY CRYO-EM. **Roderick MacKinnon**

All-In Networking Hour

7:30 PM - 8:30 PM, RIVERGATE ROOM, LOBBY LEVEL

This networking event is open to students and scientists at all stages of their careers. Participants will have an opportunity to meet Biophysical Society Committee members, representatives from industry and government, and peers, to engage in fun and relaxed discussions over light refreshments. Ice breakers will be used to help spark conversation, providing participants with the chance to seek academic and career advice, or discover various resources and opportunities they may not know about.

Sunday, February 12, 2017

Daily Program Summary

All rooms are located in the *Ernest N. Morial Convention Center* unless noted otherwise.

7:00 AM–9:00 AM	**Editorial Board Orientation**	**Room 222**
7:30 AM–8:30 AM	**Postdoctoral Breakfast**	**Rivergate Room, Lobby Level**
7:30 AM–5:00 PM	**Registration/Exhibitor Registration**	**Lobby B**
8:00 AM–8:30 AM	**Career Center Workshop** **Career Q&A with Joe Tringali**	**Room 212/213**
8:00 AM–10:00 PM	**Poster Viewing**	**Hall B-2 & C**
8:15 AM–10:15 AM	**Symposium: Proteins in Vivo: From the Ribosome Through the Chaperone to the Native State** **Chair:** *Silvia Cavagnero, University of Wisconsin-Madison* CHANNELING NASCENT PROTEINS TOWARDS THE NATIVE STATE: ROLE OF THE RIBOSOME AND MOLECULAR CHAPERONES. *Silvia Cavagnero* RIBOSOMES IN MOTION: THE DYNAMICS OF NATURE'S PROTEIN SYNTHESIS MACHINERY. *Ruben L. Gonzalez, Jr.* PROTEIN AND RNA CHAPERONES OPTIMIZE THE RATE OF NATIVE STATE PRODUCTION BY AN ITERATIVE ANNEALING MECHANISM. *Dave Thirumalai* FROM NATIVE TO AMYLOID IN THE TEST TUBE AND IN CELLS: A JOURNEY OF MISBEHAVING ANTIBODIES. *Marina Ramirez-Alvarado*	**Great Hall A**
8:15 AM–10:15 AM	**Symposium: Biophysics of the Cytoskeletal-Membrane Interface** **Chair:** *Michael M. Kozlov, Tel Aviv University, Israel* MODELING MEMBRANE TUBULES WITH LIPID DROPLETS AND MIGRASOMES. *Michael M. Kozlov* MULTISCALE SIMULATION OF PROTEINS AT THE MEMBRANE-CYTOSKELETON INTERFACE. *Gregory A. Voth* HOW ACTIN CYTOSKELETON DYNAMICS INDUCE MEMBRANE TUBULATIONS. *Cécile Sykes* REDEFINING THE ROLE OF THE ARP2/3 COMPLEX: REGULATION OF MORPHOLOGY AT THE LEADING EDGE. *Dorit Hanein*	**Great Hall B**
8:15 AM–10:15 AM	**Platform: Membrane Pumps, Transporters, and Exchangers I**	**Room R02/03**
8:15 AM–10:15 AM	**Platform: Voltage-gated Na Channels**	**Room R04/05**
8:15 AM–10:15 AM	**Platform: Optical Microscopy and Super-Resolution Imaging: Novel Approaches and Analysis I**	**Room R06/07**
8:15 AM–10:15 AM	**Platform: Membrane Protein Structures I**	**Room R08/09**
8:15 AM–10:15 AM	**Platform: Membrane Active Peptides and Toxins I**	**Room 206/207**
8:15 AM–10:15 AM	**Platform: Micro- and Nanotechnology**	**Room 208/209**
8:30 AM–10:30 AM	**CPOW Committee Meeting**	**Room 203**
9:00 AM–10:00 AM	**Career Center Workshop** **Selling Yourself to the Life Sciences Industry**	**Room 212/213**
10:00 AM–5:00 PM	**Exhibits**	**Hall B-2 & C**
10:15 AM–11:00 AM	**Coffee Break**	**Hall B-2 & C**
10:30 AM–11:30 AM	**Career Center Workshop** **Looking Beyond Academia: Identifying Your Career Options Using MyIDP, LinkedIn, and More**	**Room 212/213**
10:30 AM–12:00 PM	**Exhibitor Presentation: Carl Zeiss Microscopy LLC** **ZEISS Live Cell Imaging Tools Allow New Levels of Throughput and Image Quality**	**Room 221**
10:30 AM–12:00 PM	**International Relations Committee Meeting**	**Room 204**

10:45 AM–12:45 PM	**Symposium: New and Notable** **Co-Chairs:** *David W. Piston, Washington University and Catherine A. Royer, Rensellaer Polytechnic Institute* DNA LOOPING MEDIATES NUCLEOSOME TRANSFER. *Lucy Brennan* ATOMIC STRUCTURE OF THE CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR. *Jue Chen* CONNECTING ATOMISTIC TO CELLULAR SCALES IN COMPUTER SIMULATIONS OF A BACTERIAL CYTOPLASM. *Michael Feig* SINGLE MOLECULE INSIGHTS INTO THE ASSEMBLY AND CATALYTIC ACTIVATION OF SPLICEOSOMES. *Aaron Hoskins* RESOLVING THE STRUCTURAL MECHANICS OF NCULEAR INTERMEDIATE FILAMENTS IN SITU USING A CORRELATIVE AFM AND CRYO-EM APPROACH. *Tanuj Sapra* A NEWLY-IDENTIFIED INTERACTION MOTIF ASSOCIATED WITH GATING IN VOLTAGE-GATED SODIUM CHANNELS. *Bonnie Wallace*	
10:45 AM–12:45 PM	**Symposium: RNA Structures and Dynamics** **Chair:** *Sarah Woodson, Johns Hopkins University* CLEAVING FAST AND SLOW: STRATEGIES FOR SELF-ASSEMBLY OF CATALYTIC RNA. *Sarah A. Woodson* RNA TERTIARY STRUCTURE AND THE REGULATION OF GENE EXPRESSION. *Anna Pyle* ADVENTURES WITH RNA GRAPHS. *Tamar Schlick* THE STRUCTURAL AND MECHANISTIC ORIGINS OF CATALYSIS IN NUCLEOLYTIC RIBOZYMES. *David M. Lilley*	**Great Hall B**
10:45 AM–12:45 PM	**Platform: Membrane Receptors and Signal Transduction I**	**Room R02/03**
10:45 AM–12:45 PM	**Platform: Cell Mechanics, Mechanosensing, and Motility I**	**Room R04/05**
10:45 AM–12:45 PM	**Platform: Protein Structure and Conformation I**	**Room R06/07**
10:45 AM–12:45 PM	**Platform: Protein Dynamics and Allostery I**	**Room R08/09**
10:45 AM–12:45 PM	**Platform: General Protein-Lipid Interactions I**	**Room 206/207**
10:45 AM–12:45 PM	**Platform: Cardiac, Smooth, and Skeletal Muscle Electrophysiology**	**Room 208/209**
11:30 AM–1:00 PM	**Undergraduate Student Pizza "Breakfast"**	**Room 205**
11:30 AM–5:00 PM	**Colleges in the Community Day**	**Room 205**
12:00 PM–1:00 PM	**International Travel Awardee Luncheon**	**Rivergate Room, Lobby Level**
12:00 PM–1:00 PM	**Career Center Workshop** **Networking: Optimizing Your Time at BPS 2017**	**Room 212/213**
12:15 PM–2:15 PM	**Public Affairs Committee Meeting**	**Room 203**
12:30 PM–2:00 PM	**Exhibitor Presentation: Bruker Corporation** **Super-Resolution Microscopy: Performing Quantitative Analysis at the Molecular Level**	**Room 221**
1:00 PM–2:30 PM	**The World Outside the Lab: Many Ways to Use Your PhD Skills**	**Room R01**
1:00 PM–3:00 PM	**Graduate & Postdoc Institution Fair**	**Hall B-2 & C**
1:45 PM–3:00 PM	**Snack Break**	**Hall B-2 & C**
1:45 PM–3:45 PM	**Poster Presentations and Late Posters**	**Hall B-2 & C**
2:00 PM–3:30 PM	**Teaching Science Like We Do Science**	**Rivergate Room, Lobby Level**
2:30 PM–3:30 PM	**Career Center Workshop** **Demystifying the Academic Job Search I: Understanding the Search Process from the Perspective of Search Committees and Decoding Job Announcements**	**Room 212/213**
2:30 PM–4:00 PM	**CRISPR from a Policy Perspective**	**Room 210**
3:30 PM–5:00 PM	**Early Careers Committee Meeting**	**Room 203**
4:00 PM–5:00 PM	**Career Center Workshop** **Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)**	**Room 212/213**

4:00 PM–6:00 PM	**Symposium: Single-Molecule Membrane Protein Dynamics** **Chair:** *Hugo Sanabria, Clemson University* SUBMILLISECOND DYNAMICS OF THE NMDA RECEPTOR. *Hugo Sanabria* MEASURING THE FREE ENERGY OF CLC-EC1 DIMERIZATION IN MEMBRANES USING SINGLE MOLECULE PHOTOBLEACHING ANALYSIS. *Janice L. Robertson* SINGLE MOLECULE DYNAMICS OF METABOTROPIC GLUTAMATERECEPTORS. *Ehud Isacoff* T CELL RECEPTOR CLUSTERING - A MECHANISM OF SIGNAL TRANSDUCTION. *Katharina Gaus*	**Great Hall A**
4:00 PM–6:00 PM	**Symposium: Mechanotransduction to Physiology** **Chair:** *Jorg Grandl, Duke University* THE MECHANISM OF ACTIVATION OF PIEZO ION CHANNELS. *Jorg Grandl* MECHANOSENSING AT THE SURFACE. *Ellen Lumpkin* ROLE OF PIEZO ION CHANNELS IN MECHANOSENSATION. *Ardem Patapoutian* MSCS-LIKE MECHANOSENSITIVE ION CHANNELS: MODULAR SENSORS AND REPORTERS OF MEMBRANE TENSION. *Elizabeth Haswell*	**Great Hall B**
4:00 PM–6:00 PM	**Symposium: Cancer Cell Biophysics** **Chair:** *Alissa Weaver, Vanderbilt University* AUTOCRINE ROLE OF EXOSOMES IN CELLULAR ADHESION, MIGRATION, AND INVASION. *Alissa Weaver* QUANTITATIVE SYSTEMS BIOLOGY STUDIES REVEAL A NESTED RELAY MECHANISM FOR TGF-BETA SIGNALING. *Jianhua Xing* MODELS FOR CANCER CELL MOTILITY: REGULATION AND SIGNALING. *Leah Edelstein-Keshet* PHYSICAL INTERACTIONS IN DUCTAL MICROINVASIONS: INTEGRATING HISTOLOGY WITH COMPUTATIONAL MODELING. *Katarzyna A. Rejniak*	**Room R02/03**
4:00 PM–6:00 PM	**Platform: Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating I**	**Room R04/05**
4:00 PM–6:00 PM	**Platform: Protein Stability, Folding, and Chaperones I**	**Room R06/07**
4:00 PM–6:00 PM	**Platform: Membrane Physical Chemistry I**	**Room R08/09**
4:00 PM–6:00 PM	**Platform: Kinesins and Dyneins**	**Room 206/207**
4:00 PM–6:00 PM	**Platform: Computational Methods and Bioinformatics**	**Room 208/209**
4:30 PM–6:00 PM	**Exhibitor Presentation: Oxford Nanoimaging Ltd** **Meet the Nanoimager: The Next Generation of Super-Resolution Microscope**	**Room 221**
5:00 PM–6:00 PM	**Korean Biophysicists Meeting**	**Room 210**
5:00 PM–7:00 PM	**PI to PI: A Wine & Cheese Mixer**	**Room 205**
6:00 PM–7:00 PM	**Biophysics Austria Mixer**	**Rivergate Room, Lobby Level**
6:00 PM–9:00 PM	**Student Research Achievement Award (SRAA) Poster Competition**	**Hall B-2 & C**
6:00 PM–10:00 PM	**Biophysical Journal Editorial Board Dinner**	**Latrobe's on Royal**
6:30 PM–8:00 PM	**Exhibitor Presentation: Molecular Devices LLC** **Getting the Most Out of Your Experiments with pCLAMP and HumSilencer Technology**	**Room 221**
7:00 PM–9:00 PM	**Setting Standards for Data Sharing: Community by Community**	**Room 214**

Sunday, February 12

Editorial Board Orientation

7:00 AM - 9:00 AM, ROOM 222

Postdoctoral Breakfast

7:30 AM - 8:30 AM, RIVERGATE ROOM, LOBBY LEVEL

Support contributed by the Burroughs Wellcome Fund

This breakfast presents an opportunity for postdoctoral Annual Meeting attendees to meet and discuss the issues they face in their current career stage. This year the breakfast features a panel focused on international relations and navigating scientific career paths outside one's country of origin. Limited to the first 100 attendees.

Speakers
Marina Ramirez-Alvarado, Mayo Clinic
Khalid Salaita, Emory University

Registration/Exhibitor Registration

7:30 AM - 5:00 PM, LOBBY B

Career Center Workshop
Career Q&A with Joe Tringali

8:00 AM - 8:30 AM, ROOM 212/213

Do you have a pressing question about your career in science? Attend this informal discussion with veteran career consultant Joe Tringali and get the answers you are looking for.

Poster Viewing

8:00 AM - 10:00 PM, HALL B-2 & C

Symposium
Proteins in Vivo: From the Ribosome Through the Chaperone to the Native State

8:15 AM - 10:15 AM, GREAT HALL A

Chair
Silvia Cavagnero, University of Wisconsin-Madison

80-Symp **8:15 AM**
CHANNELING NASCENT PROTEINS TOWARDS THE NATIVE STATE: ROLE OF THE RIBOSOME AND MOLECULAR CHAPERONES. **Silvia Cavagnero**, Rayna M. Addabbo, Matthew D. Dalphin, Yue Liu, Miranda F. Mecha

81-Symp **8:45 AM**
RIBOSOMES IN MOTION: THE DYNAMICS OF NATURE'S PROTEIN SYNTHESIS MACHINERY. **Ruben L. Gonzalez, Jr.**

No Abstract **9:15 AM**
PROTEIN AND RNA CHAPERONES OPTIMIZE THE RATE OF NATIVE STATE PRODUCTION BY AN ITERATIVE ANNEALING MECHANISM. **Dave Thirumalai**

82-Symp **9:45 AM**
FROM NATIVE TO AMYLOID IN THE TEST TUBE AND IN CELLS: A JOURNEY OF MISBEHAVING ANTIBODIES. **Marina Ramirez-Alvarado**, Marta Marin-Argany, Christopher J. Dick, Luis M. Blancas-Mejia, Pinaki Misra, Yi Lin, Angela Williams, Jonathan S. Wall

Symposium
Biophysics of the Cytoskeletal-Membrane Interface

8:15 AM - 10:15 AM, GREAT HALL B

Chair
Michael M. Kozlov, Tel Aviv University, Israel

83-Symp **8:15 AM**
MODELING MEMBRANE TUBULES WITH LIPID DROPLETS AND MIGRASOMES. **Michael M. Kozlov**

84-Symp **8:45 AM**
MULTISCALE SIMULATION OF PROTEINS AT THE MEMBRANE-CYTOSKELETON INTERFACE. **Gregory A. Voth**

85-Symp **9:15 AM**
HOW ACTIN CYTOSKELETON DYNAMICS INDUCE MEMBRANE TUBULATIONS. **Cécile Sykes**

86-Symp **9:45 AM**
REDEFINING THE ROLE OF THE ARP2/3 COMPLEX: REGULATION OF MORPHOLOGY AT THE LEADING EDGE. Karen L. Anderson, Christopher Page, Mark F. Swift, Praveen Suraneni, Mandy EW Janssen, Thomas D. Pollard, Rong Li, Niels Volkmann, **Dorit Hanein**

Platform
Membrane Pumps, Transporters, and Exchangers I

8:15 AM - 10:15 AM, ROOM R02/03

Co-Chairs
Joseph M. Autry, University of Minnesota
Balaji Selvam, University of Illinois

87-Plat **8:15 AM**
PSEUDOMONAS AERUGINOSA CDF TRANSPORTERS CZCD AND YIIP ARE INVOLVED IN ZN^{2+} EFFLUX, OUTER MEMBRANE PERMEABILITY AND ANTIBIOTIC RESISTANCE. Agostina Salusso, **Daniel Raimunda**

88-Plat **8:30 AM**
FUNCTIONAL CHARACTERIZATION OF THE UREA TRANSPORTER UREI FROM *HELICOBACTOR PYLORI*. **Andreas Horner**, Christine Siligan, Johannes Preiner, Sergey A. Akimov, Peter Pohl

89-Plat **8:45 AM**
UNDERSTANDING THE CONFORMATIONAL DIVERSITY OF PROTON-COUPLED OLIGOPEPTIDE TRANSPORTER (POT) FAMILY. **Balaji Selvam**, Diwakar Shukla

90-Plat **9:00 AM**
INSIGHTS INTO THE CATION SELECTIVITY AND COOPERATIVITY WITH SUGAR IN *SALMONELLA TYPHIMURIUM* MELIBIOSE PERMEASE. **Hariharan Parameswaran**, Lan Guan

91-Plat **9:15 AM**
MODULATION OF ENERGY CONVERSION THROUGH MANIPULATION OF THE RETINAL THERMAL EQUILIBRIUM BY AN AROMATIC RESIDUE IN THE SEVEN-TRANSMEMBRANE RECEPTOR BACTERIORHODOPSIN. Xiaoyan Ding, Yujiao Gao, Chao Sun, Haolin Cui, Juan Wang, Yanan Yang, Dinu Iuga, Fang Tian, Anthony Watts, **Xin Zhao**

92-Plat **9:30 AM**
DETERMINATION OF ION CHANNEL AND PUMP FLUXES FOR CHINESE HAMSTER OVARY CELLS USING RUBIDIUM UPTAKE MEASUREMENT. **Azita Fazelkhah**

93-Plat **9:45 AM**
FUNCTIONAL EFFECT OF HUMAN FXYD2, FXYD4, FXYD6, AND FXYD7 ON HUMAN ALPHA 1 BETA 1 SODIUM-POTASSIUM ATPASE. **Sharan Bijlani**, Natalia Armas Capote, Grace Shim, Dylan Meyer, Pablo Artigas

94-Plat **10:00 AM**
THE ENERGY-TRANSDUCTION DOMAIN OF THE SERCA CALCIUM PUMP IS A PRIME THERAPEUTIC TARGET IN HEART FAILURE AND OBESITY. **Joseph M. Autry**, Michel Espinoza-Fonseca, Bengt Svensson, Christine B. Karim, Stephanie J. Valberg, John K. Lee, David D. Thomas

Platform
Voltage-gated Na Channels
8:15 AM - 10:15 AM, Room R04/05

Co-Chairs
Shana L. Geffeney, Utah State University
Jesse B. Yoder, Johns Hopkins University

95-Plat **8:15 AM**
TETRODOTOXIN RESISTANCE: NATURAL EXPERIMENTS TO UNDERSTAND VOLTAGE-GATED SODIUM CHANNEL STRUCTURE AND FUNCTION. **Shana L. Geffeney**, Gabriela Toledo, Charles T. Hanifin

96-Plat **8:30 AM**
USING SPECIFIC BLOCKERS TO IDENTIFY TTX-S NA_V CHANNELS SUBTYPES IN RAT MUSCLE AFFERENT NEURONS. **Renuka Ramachandra**, Keith S. Elmslie

97-Plat **8:45 AM**
MULTIPLE MECHANISMS OF PROPOFOL INHIBITION OF THE VOLTAGE-GATED SODIUM CHANNEL NACHBAC: A ^{19}F NMR INVESTIGATION. **Yali Wang**, Marta M. Wells, William Dailey, Roderic Eckenhoff, Pei Tang, Yan Xu

98-Plat **9:00 AM**
THE COMPLETE CRYSTAL STRUCTURE OF AN OPEN ACTIVATED SODIUM CHANNEL. **Jennifer Booker**, Altin Sula, Claire E. Naylor, B.A. Wallace

99-Plat **9:15 AM**
THE CARDIAC CHANNEL $NA_V1.5$ INACTIVATION IS MODULATED BY ITS C-TERMINAL EF-HAND DOMAIN. **Bernd R. Gardill**, Ching-Chieh Tung, Ricardo E. Rivera-Acevedo, Filip Van Petegem

100-Plat **9:30 AM**
TRANSGENIC APPROACH TO EXPLORATION OF CALMODULIN'S ROLE ON SODIUM CHANNEL FUNCTION WITHIN CARDIOMYOCYTES. **Jeffrey Abrams**, Alexander Katchman, Lin Yang, Steven Marx

101-Plat **9:45 AM**
INVESTIGATING CA^{2+}-DEPENDENT REGULATION OF SODIUM CHANNELS VIA THERMODYNAMIC AND STRUCTURAL ANALYSIS OF NAV1.4 AND NAV1.5 CARBOXY TAIL INTERACTIONS WITH CALMODULIN. **Jesse B. Yoder**, Sandra B. Gabelli, L. Mario Amzel

102-Plat **10:00 AM**
TARGETING THE CARDIAC SODIUM CHANNEL TO INCREASE EXCITABILITY OF STEM-CELL DERIVED CARDIOMYOCYTES. **Valentin Sottas**, Cristian Mihnea Trache, Nina D. Ullrich

Platform
Optical Microscopy and Super-Resolution Imaging: Novel Approaches and Analysis I
8:15 AM - 10:15 AM, Room R06/07

Co-Chairs
Gerhard Schuetz, Vienna University of Technology, Austria
Elizabeth Hinde, University of New South Wales, Australia

103-Plat **8:15 AM**
SUPER-RESOLUTION IMAGING OF UNLABELED PROTEINS ON DNA. **Anna EC Meijering**, Andreas S. Biebricher, Erwin JG Peterman, Gijs JL Wuite, Iddo Heller

104-Plat **8:30 AM**
VARYING LABEL DENSITY TO PROBE MEMBRANE PROTEIN NANOCLUSTERS IN STORM/PALM. Florian Baumgart, Andreas Arnold, Konrad Leskovar, Kaj Staszek, Martin Foelser, Julian Weghuber, Hannes Stockinger, **Gerhard J. Schuetz**

105-Plat **8:45 AM**
TRACKING OLIGOMERIC TRANSCRIPTION FACTOR DYNAMICS BY PAIR CORRELATION OF MOLECULAR BRIGHTNESS (PCOMB). **Elizabeth Hinde**, Elvis Pandzic, Zhengmin Yang, Ivan Ng, Marie Bogoyevitch, David Jans, Enrico Gratton, Katharina Gaus

106-Plat **9:00 AM**
RECONSTRUCTING SPATIAL FEATURES OF NUCLEOCYTOPLASMIC TRANSPORT USING PROJECTED CARGO LOCALIZATIONS. Li-Chun Tu, **Maximiliaan Huisman**, Yu-Chieh Chung, Carlas Smith, David Grunwald

107-Plat **9:15 AM** **International Travel Awardee**
FOLLOWING A GIANT'S FOOTSTEPS: SINGLE-PARTICLE AND SUPER-RESOLUTION APPROACHES TO DECIPHER THE NUCLEAR TRANSPORT OF HEPATITIS B VIRUS CAPSIDS. **Giulia Paci**, Niccolò Banterle, Christine Koehler, Edward A. Lemke

108-Plat **9:30 AM**
DEVELOPMENT OF A SIMULTANEOUS SIX-COLOR FLUORESCENCE MICROSCOPE WITH SINGLE-MOLECULE SENSITIVITY. **Jingyu Wang**, Jamie Barnett, Luke Springall, Neil M. Kad

109-Plat **9:45 AM**
INTRACELLULAR DELIVERY OF MEMBRANE IMPERMEABLE PHOTOSTABLE FLUORESCENT PROBES INTO LIVING CELLS FOR SUPER-RESOLUTION MICROSCOPY. **Yuji Ishitsuka**, Kai Wen Teng, Pin Ren, Yeoan Youn, Xiang Deng, Pinghua Ge, Andrew Belmont, Paul R. Selvin

110-Plat **10:00 AM**
BRIGHT AND PHOTOSTABLE FLUOROPHORES FOR ADVANCED FLUORESCENCE MICROSCOPY. **Qinsi Zheng**, Jonathan B. Grimm, Anand K. Muthusamy, Robert H. Singer, Luke D. Lavis

Platform
Membrane Protein Structures I
8:15 AM - 10:15 AM, Room R08/09

Co-Chairs
Robert Stroud, University of California, San Francisco
Nathaniel Traaseth, New York University

111-Plat **8:15 AM**
STRUCTURE INHIBITION AND REGULATION OF A TWO-PORE CHANNEL TPC1. **Alexander F. Kintzer**, Robert M. Stroud

112-Plat **8:30 AM**
NOVEL MECHANISM OF GATING IN THE TRKH-TRKA COMPLEX. **Hanzhi Zhang**, Zhao Wang, Mingqiang Rong, Yaping Pan, Wah Chiu, Ming Zhou

113-Plat **8:45 AM**
STRUCTURAL AND FUNCTIONAL CHARACTERIZATION OF A CALCIUM-ACTIVATED CATION CHANNEL FROM *TSUKAMURELLA PAUROMETABOLA*. Bala Dhakshnamoorthy, **Ahmed Rohaim**, Huan Rui, Lydia Blachowicz, Benoit Roux

114-Plat **9:00 AM** **Education Travel Awardee**
CRYSTAL STRUCTURE OF A LOW CO_2-INDUCIBLE PROTEIN, LCI1 IN *CHLAMYDOMONAS REINHARDTII*. **Tsung-Han Chou**

115-Plat **9:15 AM**
STRUCTURAL ROLE OF ABCG5/ABCG8 IN STEROL TRANSPORT. **Jyh-Yeuan (Eric) Lee**, Daniel Rosenbaum, Helen Hobbs

116-Plat **9:30 AM**
STRUCTURAL AND MECHANISTIC BASIS OF PROTON-COUPLED METAL ION TRANSPORT IN THE SLC11/NRAMP FAMILY. **Cristina Manatschal**, Ines A. Ehrnstorfer, Raimund Dutzler

117-Plat **9:45 AM**
STRUCTURAL BASIS OF CONCENTRATIVE NUCLEOSIDE TRANSPORT. **Marsha M. Hirschi**, Zachary L. Johnson, Seok-Yong Lee

118-Plat **10:00 AM** **EDUCATION TRAVEL AWARDEE**
INVESTIGATING THE STRUCTURE OF THE DRUG TRANSPORTER EMRE. **Maureen Leninger**, James R. Banigan, Geliana Abramov, Nathaniel J. Traaseth

Platform
Membrane Active Peptides and Toxins I

8:15 AM - 10:15 AM, ROOM 206/207

Co-Chairs
Maria Hoernke, Albert-Ludwigs-Universität Freiburg, Germany
Bradley S. Perrin, NHLBI/NIH

119-Plat **8:15 AM**
AN IN-CELL SOLID-STATE NMR PORTRAYAL OF THE ACTION MECHANISM OF ANTIMICROBIAL PEPTIDES WITH INTACT BACTERIA. Marwa Laadhari, Alexandre A. Arnold, Andrée E. Gravel, Frances Separovic, **Isabelle Marcotte**

120-Plat **8:30 AM**
ACTION OF ANTIMICROBIAL PEPTIDES ON BACTERIAL AND LIPID MEMBRANES: A DIRECT COMPARISON. **Joseph E. Faust**, Pei-Yin Yang, Huey W. Huang

121-Plat **8:45 AM** **INTERNATIONAL TRAVEL AWARDEE**
CHARACTERIZATION OF ANTI-BIOFILM
PEPTIDE ACTIVITY: A BIOPHYSICAL APPROACH. **Li-av T. Segev-Zarko**, Ron Saar-Dover, Vlad Brumfeld, Maria Luisa Mangoni, Yechiel Shai

122-Plat **9:00 AM**
EFFECTS OF LIPID COMPOSITION, PEPTIDE CHARGE, AND MOLECULARITY ON THE STRUCTURE OF ANTIMICROBIAL PEPTIDE TRANSMEMBRANE PORES. **Almudena Pino Angeles**, Themis Lazaridis

123-Plat **9:15 AM**
SPONTANEOUS FORMATION OF AN ENSEMBLE OF STRUCTURALLY DIVERSE MEMBRANE CHANNEL ARCHITECTURES FROM A SINGLE ANTIMICROBIAL PEPTIDE MACULATIN. **Yukun Wang**, Charles Chen, Dan Hu, Jakob Ulmschneider, Martin Ulmschneider

124-Plat **9:30 AM**
AN EXACT MODEL OF DAPTOMYCIN BINDING TO LIPID BILAYERS. **Antje Pokorny**, Tala O. Khatib

125-Plat **9:45 AM**
THE METALLOPEPTIDES PISCIDIN 1 AND PISCIDIN 3 EMPLOY MEMBRANE AND NUCLEASE ACTIVITY TO ERADICATE PLANKTONIC, BIOFILM, AND PERSISTER CELLS. **Myriam L. Cotten**, M. Daben J. Libardo, Ali Adem Bahar, Riqiang Fu, Vitalii I. Silin, Dacheng Ren, Mihaela Mihailescu, Alfredo Angeles-Boza

126-Plat **10:00 AM**
20+ YEARS AND NO END IN SIGHT: HISTIDINE-RICH DESIGNER PEPTIDES WITH PH-DEPENDENT MEMBRANE TOPOLOGY AND WITH MULTIFACET BIOMEDICAL POTENTIAL. Christopher Aisenbrey, Philippe Bertani, David Fenard, Anne Galy, Elise Glattard, Martin Gotthardt, Antoine Kichler, Nan Liu, Arnaud Marquette, Regine Süss, Louic Vermeer, Dennis Wilkins-Juhl, Justine Wolf, **Burkhard Bechinger**

Platform
Micro- and Nanotechnology

8:15 AM - 10:15 AM, ROOM 208/209

Co-Chairs
Michael Mayer, University of Michigan
Marta d'Amora, Istituto Italiano di Tecnologia, Italy

127-Plat **8:15 AM**
IMPROVING THE TEMPORAL RESOLUTION OF NANOPORE RECORDINGS. **Siddharth Shekar**, Chen-Chi Chien, David Niedzwiecki, Marija Drndić, Kenneth Shepard

128-Plat **8:30 AM**
IDENTIFICATION OF SINGLE NUCLEOTIDES IN SIN NANOPORE. **Haojie Yang**, Zhongwu Li, Yunfei Chen, Wei Si

129-Plat **8:45 AM**
FORMATION OF SYNTHETIC NANOPORES WITH DIAMETERS FROM 20-50 NM BY LASER-ASSISTED DIELECTRIC BREAKDOWN. **Cuifeng Ying**, Jared Houghtaling, Bodo Wilts, Michael Mayer

130-Plat **9:00 AM**
SALT REJECTION USING CONICALLY SHAPED PORES WITH PATTERNED SURFACE CHARGES. **Crystal Yang**, James Boyd, Yinghua Qiu, Zuzanna S. Siwy

131-Plat **9:15 AM**
GENETICALLY ENCODED DNA-PROTEIN HYBRID ORIGAMI. **Florian Praetorius**, Hendrik Dietz

132-Plat **9:30 AM**
DNA NANOPARTICLES PROGRAMMED FROM THE TOP DOWN WITH VARIABLE DESIGN MOTIFS. **Sakul Ratanalert**, Remi Veneziano, Mark Bathe

133-Plat **9:45 AM**
PH-RESPONSIVE REVERSIBLE REGULATION OF ENZYME ACTIVITY BY DNA-BASED NANOSTRUCTURE. **Seong Ho Kim**, So Yeon Kim

134-Plat **10:00 AM**
ECO-FRIENDLY PROCESSING FOR ENGINEERING BIO-SAFE QUANTUM DOTS AND THEIR INTERACTION WITH BIOLOGICAL SYSTEMS. **Marta d'Amora**, Marina Rodio, Alberto Diaspro, Romuald Intartaglia

CPOW Committee Meeting

8:30 AM - 10:30 AM, ROOM 203

Career Center Workshop
Selling Yourself to the Life Sciences Industry

9:00 AM - 10:00 AM, ROOM 212/213

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.

Exhibits

10:00 AM - 5:00 PM, HALL B-2 & C

Coffee Break

10:15 AM - 11:00 AM, HALL B-2 & C

Career Center Workshop
Looking Beyond Academia: Identifying Your Career Options Using MyIDP, LinkedIn, and More

10:30 AM - 11:30 AM, ROOM 212/213

Not sure where your professional future lies or how to approach the process in an organized and strategic manner? This presentation provides a framework and resources for moving forward with confidence towards the next step in your professional future. In addition, it will provide specific examples of how to build out your knowledge of a new potential career field and forge valuable connections that can facilitate a successful transition.

Exhibitor Presentation
Carl Zeiss Microscopy LLC

10:30 AM - 12:00 PM, ROOM 221

ZEISS Live Cell Imaging Tools Allow New Levels of Throughput and Image Quality

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

ZEISS has introduced a completely automated inverted platform, the Celldiscoverer 7, which simplifies every aspect of experimental setup and gives every live cell experiment the best chance for success. At the heart of the Celldiscoverer 7 is a completely unique optical concept with record setting optical resolution and light throughput. Paired with gentle LED illumination and image detectors designed for low magnification the Celldiscoverer 7 achieves new levels of imaging throughput. Complicated tasks of microscope configuration and optimization are completely automated and designed to make the most of any sample type. Automated control of cellular environment allows imaging stability to be maintained over long time course experiments. The system can be expanded with a robotic plate loading system to allow high throughput imaging from plate and slide based samples.

The ZEISS LSM 880 confocal with Airyscan and FAST technology offers a unique optical design that counters the typical loss of sample light experienced when using a confocal pinhole. The Airyscan detector allows higher resolution and lower laser illumination while acquiring with higher SNR than typically possible. The result is superresolution imaging and the needed speed to follow live cells and record fast live cell events.

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

Speaker
Scott Olenych, Academia Business Development Manager, Carl Zeiss Microscopy, LLC

International Relations Committee Meeting

10:30 AM - 12:00 PM, ROOM 204

Symposium
New and Notable

10:45 AM - 12:45 PM, GREAT HALL A

Co-Chairs
David W. Piston, Washington University and
Catherine A. Royer, Rensellaer Polytechnic Institute

NO ABSTRACT **10:45 AM**
DNA LOOPING MEDIATES NUCLEOSOME TRANSFER. **Lucy Brennan**

NO ABSTRACT **11:05 AM**
ATOMIC STRUCTURE OF THE CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR. **Jue Chen**

NO ABSTRACT **11:25 AM**
CONNECTING ATOMISTIC TO CELLULAR SCALES IN COMPUTER SIMULATIONS OF A BACTERIAL CYTOPLASM. **Michael Feig**

NO ABSTRACT **11:45 AM**
SINGLE MOLECULE INSIGHTS INTO THE ASSEMBLY AND CATALYTIC ACTIVATION OF SPLICEOSOMES. **Aaron Hoskins**

NO ABSTRACT **12:05 PM**
RESOLVING THE STRUCTURAL MECHANICS OF NUCLEAR INTERMEDIATE FILAMENTS IN SITU USING A CORRELATIVE AFM AND CRYO-EM APPROACH. **Tanuj Sapra**

NO ABSTRACT **12:25 PM**
A NEWLY-IDENTIFIED INTERACTION MOTIF ASSOCIATED WITH GATING IN VOLTAGE-GATED SODIUM CHANNELS. **Bonnie Wallace**

Symposium
RNA Structures and Dynamics

10:45 AM - 12:45 PM, GREAT HALL B

Chair
Sarah Woodson, Johns Hopkins University

135-Symp **10:45 AM**
CLEAVING FAST AND SLOW: STRATEGIES FOR SELF-ASSEMBLY OF CATALYTIC RNA. **Sarah A. Woodson**, Subrata Panja, Boyang Hua, Krishnarjun Sarkar, Taekjip Ha

No Abstract **11:15 AM**
RNA TERTIARY STRUCTURE AND THE REGULATION OF GENE EXPRESSION. **Anna Pyle**

136-Symp **11:45 AM**
ADVENTURES WITH RNA GRAPHS. **Tamar Schlick**

137-Symp **12:15 PM**
THE STRUCTURAL AND MECHANISTIC ORIGINS OF CATALYSIS IN NUCLEOLYTIC RIBOZYMES. **David M. Lilley**, Timothy J. Wilson, Yijin Liu

Platform
Membrane Receptors and Signal Transduction I

10:45 AM - 12:45 PM, ROOM R02/03

Co-Chairs
Sarah A. Shelby, Cornell University
Davide Provasi, Mount Sinai School of Medicine

138-Plat **10:45 AM**
OLIGOMERIZATION OF THE EPIDERMAL GROWTH FACTOR RECEPTOR ORGANIZES KINASE-ACTIVE DIMERS INTO COMPETENT SIGNALING PLATFORMS. **Sarah R. Needham**, Laura C. Zanetti-Domigues, Anton Arkhipov, Venkatesh P. Mysore, Dimitrios Korovesis, Selene K. Roberts, Christopher J. Tynan, Daniel J. Rolfe, Michael Hirsch, Alireza Lajevardipour, Andrew H.A Clayton, Peter J. Parker, Yibing Shan, David E. Shaw, Marisa L. Martin-Fernandez

139-Plat **11:00 AM**
KINETICS OF G PROTEIN-COUPLED RECEPTOR DIMERIZATION FROM MARKOV STATE MODEL ANALYSIS OF COARSE-GRAINED SIMULATIONS. **Diego Prada-Gracia**, Kristen Marino, Davide Provasi, Marta Filizola

140-Plat **11:15 AM**
DNA NANOTECHNOLOGY FOR UNDERSTANDING EPHRIN RECEPTOR CLUSTERING. **Alessandro Bosco**, Erik Benson, Björn Högberg, Ana Teixeira

141-Plat **11:30 AM**
SAM DOMAIN INHIBITS OLIGOMERIZATION AND AUTO-ACTIVATION OF EPHA2 KINASE. **Xiaojun Shi**, Deanna M. Bowman, Vera M. Hapiak, Ryan W. Lingerak, Ji Zheng, Matthias Buck, Bingcheng Wang, Adam W. Smith

142-Plat **11:45 AM**
SINGLE-MOLECULE ANALYSIS OF THE SUPRAMOLECULAR ORGANIZATION OF THE M2 MUSCARINIC RECEPTOR AND THE GAI1 PROTEIN. **Claudiu Gradinaru**, Dennis D. Fernandes, Rabindra Shivnaraine, James Wells

143-Plat **12:00 PM**
LIVE CELL SUPER-RESOLUTION MICROSCOPY MEASURES MEMBRANE-DRIVEN SORTING OF B CELL RECEPTOR SIGNALING PARTNERS. **Sarah A. Shelby**, Sarah L. Veatch, Matthew B. Stone

144-Plat **12:15 PM**
MECHANISM OF CD36 SIGNAL TRANSDUCTION BY F-ACTIN AND LIPID NANODOMAINS. **Swai Mon Khaing**, Nicolas Touret

145-Plat **12:30 PM**
PLASMA MEMBRANE DIFFUSION MODES OF FCERI RECEPTOR FOR IMMUNOGLOBIN E MEASURED WITH IMAGING FLUORESCENCE CORRELATION SPECTROSCOPY. **Nirmalya Bag**, David Holowka, Barbara Baird

Platform
Cell Mechanics, Mechanosensing, and Motility I

10:45 AM - 12:45 PM, ROOM R04/05

Co-Chairs
Miriam Goodman, Stanford University
Rishita Changede, Mechanobiology Institute, Singapore

146-Plat **10:45 AM**
INTEGRIN CATCH BOND KINETICS MEDIATE MECHANOSENSING DURING CELL SPREADING. **Tamara C. Bidone**, Patrick W. Oakes, Yvonne Beckham, Margaret L. Gardel, Gregory A. Voth

147-Plat **11:00 AM**
MOLECULAR TENSION SENSORS REVEAL A MINIMALLY TENSIONED INTEGRIN STATE IN LIVING CELLS. **Steven J. Tan**, Chang C. Alice, Armen H. Mekhdjian, Alexander R. Dunn

148-Plat **11:15 AM**
NASCENT ADHESOINS THAT FORM ON ALL SUBSTRATES BY RECRUITING UNLIGANDED INTEGRINS AND ARE IMPORTANT FOR MECHANOTRANSDUCTION. **Rishita Changede**, Haogang Cai, Michael P. Sheetz

149-Plat **11:30 AM**
HIGH-RESOLUTION INTEGRIN MOLECULAR TENSION DYNAMICS DURING PLATELET ADHESION AND ACTIVATION. **Xuefeng Wang**, Yongliang Wang, Dana N. LeVine

150-Plat **11:45 AM**
RECEPTOR NUCLEATION AND CLUSTERING IN CELLULAR ADHESION AND MECHANICAL SIGNAL TRANSDUCTION. **Kabir H. Biswas**, Kevin L. Hartman, Ronen Zaidel-Bar, Jay T. Groves

151-Plat **12:00 PM**
TAU LIKE PROTEINS REDUCE TORQUE GENERATION IN MICROTUBULE BUNDLES. **Michael Krieg**, Jan Stuehmer, Juan G. Cueva, Richard Fetter, Kerri Spilker, Daniel Cremers, Kang Shen, Alex R. Dunn, Miriam B. Goodman

152-Plat **12:15 PM**
TORQUE GENERATION IN THE BACTERIAL FLAGELLAR MOTOR. **Jasmine A. Nirody**, Richard M. Berry, George Oster

153-Plat **12:30 PM**
FISSION YEAST CONTRACTILE RING TENSION INCREASES ~2-FOLD THROUGHOUT CONSTRICTION AND REGULATES SEPTUM CLOSURE BUT DOES NOT SET THE CONSTRICTION RATE. **Sathish Thiyagarajan**, Harvey Chin, Erdem Karatekin, Thomas D. Pollard, Ben O'Shaughnessy

Platform
Protein Structure and Conformation I

10:45 AM - 12:45 PM, ROOM R06/07

Co-Chairs
Jagannath Mondal, Columbia University
Marc Ruff, Institut Genetique Biologie Moleculaire Cellulaire, France

154-Plat **10:45 AM**
THE HIV-1 PRE-INTEGRATION COMPLEXES: STRUCTURES, FUNCTIONS AND DYNAMICS. Nicolas Levy, Karine Pradeau-aubreton, Sylvia Eiler, Julien Batisse, Oyindamola Oladosu, Benoit Maillot, **Marc Ruff**

155-Plat **11:00 AM**
MECHANISMS OF SEQUENCE DEPENDENT TRANSLATIONAL STALLING. Lars V. Bock, Paul PH Huter, Stefan Arenz, Michael Graf, Helmut Grubmueller, Daniel Wilson, **Andrea C. Vaiana**

156-Plat **11:15 AM**
QUANTITATIVE ANALYSIS AND MODELING OF TRANSLATION USING RIBOSOME PROFILING DATA: HOW BIOPHYSICAL PROPERTIES OF THE RIBOSOME EXIT TUNNEL AND THE NASCENT POLYPEPTIDE MODULATE THE ELONGATION RATE. **Khanh Dao Duc**, Zain H. Saleem, Yun S. Song

157-Plat **11:30 AM**
IS PROTEIN SINGLE MOLECULE DYNAMICS UNDER FORCE DESCRIBED BY TWO OR MORE STATES? **Jagannath Mondal**, Ronen Berkovich, Bruce Berne

Flash Talks **11:45 AM**

158-Plat **12:00 PM**
FINDING PROTEIN FOLDING FUNNELS IN RANDOM NETWORKS. **Macoto Kikuchi**

159-Plat **12:15 PM**
MECHANISTIC INSIGHTS INTO NSF MEDIATED SNARE COMPLEX DISASSEMBLY. **Minglei Zhao**, Ucheor Choi, Axel Brunger

160-Plat **12:30 PM**
CELL-FREE SYNTHESIS OF SITE-SPECIFICALLY DOUBLE-LABELED PROTEINS FOR MORE ACCURATE SINGLE-MOLECULE FRET STUDIES. **Mayuri Sadoine**, Michele Cerminara, Noemie Kempf, Alexandros Katranidis, Jörg Fitter

Platform
Protein Dynamics and Allostery I

10:45 AM - 12:45 PM, ROOM R08/09

Co-Chairs
Magnus Wolf-Watz, Universitry of Umeå, Sweden
Sonya M. Hanson, Memorial Sloan Kettering Cancer Center

161-Plat 10:45 AM
MOLECULAR SIMULATIONS TO UNRAVEL THE ALLOSTERIC INTERPLAY BETWEEN THE SH2 DOMAIN AND A-LOOP PLASTICITY IN PROTEIN KINASES. **Giuseppina La Sala**, Laura Riccardi, Roberto Gaspari, Andrea Cavalli, Oliver Hantschel, Matteo Dal Peraro, Marco De Vivo

162-Plat 11:00 AM
SUBUNIT EXCHANGE AND ACTIVATION OF HUMAN CAMKII VARIANTS. Ana P. Torres OCampo, Brendan Page, **Margaret Stratton**

163-Plat 11:15 AM
CAN WE AUTOMATICALLY DETECT BIOLOGICALLY RELEVANT ORDER PARAMETERS IN MOLECULAR SIMULATION? COMPARING LONG TIMESCALE SIMULATIONS OF MULTIPLE KINASES. **Sonya M. Hanson**, Joshua H. Fass, John D. Chodera

164-Plat 11:30 AM
EVOLUTION OF REGULATORY DIVERSITY IN THE KINASE SUPERFAMILY. Jai Pandey, Orna Resnekov, David Pincus, **Kimberly A. Reynolds**

165-Plat 11:45 AM
THE G41S VARIANT OF HUMAN CYTOCHROME C ENHANCES APOPTOSIS VIA INCREASED DYNAMICS. Andreas Ioannis Karsisiotis, Oliver M. Deacon, Michael T. Wilson, Colin Macdonald, **Tharin M. A. Blumenschein**, Geoffrey R. Moore, Jonathan A. R. Worrall

166-Plat 12:00 PM
GLOBAL DISORDERING IN STEREO-SPECIFIC PROTEIN ASSOCIATION. Arun Gupta, Ines Reinartz, Alessandro Spilotros, Venkateswara R. Jonna, Anders Hofer, Dmitri I. Svergun, Alexander Schug, **Magnus Wolf-Watz**

167-Plat 12:15 PM
ROLE OF CONFORMATIONAL ENTROPY IN EXTREMELY HIGH AFFINITY PROTEIN INTERACTIONS. **Jose A. Caro**

168-Plat 12:30 PM
PRESSURE EFFECTS ON DISSOCIATION OF CHEY-FLIM COMPLEX STUDIED BY MOLECULAR DYNAMICS SIMULATIONS. **Hiroaki Hata**, Yasutaka Nishihara, Masayoshi Nishiyama, Ikuro Kawagishi, Akio Kitao

Platform
General Protein-Lipid Interactions I

10:45 AM - 12:45 PM, ROOM 206/207

Co-Chairs
Katya Heldwein, Tufts University School of Medicine
Edward R. Lyman, University of Delaware

169-Plat 10:45 AM
PREDICTING CHOLESTEROL INTERACTION SITES ON GPCRS BY MOLECULAR SIMULATION. **Edward R. Lyman**, Clement Arnarez, Eric Rouviere

170-Plat 11:00 AM
MEMBRANE CHOLESTEROL AND THE ADENOSINE A_{2A} RECEPTOR. **Claire McGraw**, Anne S. Robinson

171-Plat 11:15 AM
PROBING CHOLESTEROL-DEPENDENCE OF INTEGRIN-UROKINASE RECEPTOR COMPLEX FORMATION USING CONFOCAL DUAL-COLOR FLUORESCENCE INTENSITY ANALYSIS. Yifan Ge, Jiayun Gao, Rainer Jordan, **Christoph A. Naumann**

172-Plat 11:30 AM
PARTITIONING OF Γ-SECRETASE AND ITS SUBSTRATES IN LIPID MICRODOMAINS. **Marilia Barros**, William Houlihan, Lane Gilchrist, Yueming Li

173-Plat 11:45 AM
LIPID/POLYDIACETYLENE VESICLE COMPOSITION ALTERS MUTANT BETA-AMYLOID PEPTIDE INTERACTION. **Elizabeth A. Yates**, Michael P. Dorsey, Brice M. Nguelifack

174-Plat 12:00 PM
SYNAPTOTAGMIN INTERACTIONS WITH MEMBRANES: MEASURING THE FORCE OF CALCIUM TRIGGERING OF NEUROTRANSMISSION. **Clemence Gruget**, Jeff Coleman, Shyam Krishankumar, James E. Rothman, Frédéric Pincet, Stephen Donaldson

175-Plat 12:15 PM
STUDY OF INSERTION OF DENGUE E INTO LIPID BILAYERS BY NEUTRON REFLECTIVITY AND MOLECULAR DYNAMICS SIMULATIONS. Juan M. Vanegas, Frank Heinrich, David M. Rogers, Bryan D. Carson, Sadie La Bauve, Brianna C. Vernon, Bulent Akgun, Sushil Satija, Aihua Zheng, Margaret Kielian[10], Susan B. Rempe, **Michael S. Kent**

176-Plat 12:30 PM
THE GREAT NUCLEAR ESCAPE: STRUCTURE-BASED MECHANISM OF MEMBRANE BUDDING DURING NUCLEAR EGRESS OF HERPESVIRUSES. **Ekaterina E. Heldwein**, Janna M. Bigalke

Platform
Cardiac, Smooth, and Skeletal Muscle Electrophysiology

10:45 AM - 12:45 PM, ROOM 208/209

Co-Chairs
Guiling Zhao, University of Maryland School of Medicine
Bernard Attali, Tel Aviv University, Israel

177-Plat 10:45 AM
ACTION POTENTIAL HETEROGENEITY IN MURINE SINOATRIAL NODE MYOCYTES. **Christian Rickert**, Catherine Proenza

178-Plat 11:00 AM
SK4 CA^{2+}-ACTIVATED K^+ CHANNELS REGULATE SINOATRIAL NODE FIRING RATE AND CARDIAC PACING *IN VIVO*. **Bernard Attali**, David Weisbrod, Hanna Bueno, Joachim Behar, Shiraz Haron-Khun, Dor Yadin, Asher Peretz, Michael Arad, Yael Yaniv

179-Plat 11:15 AM
CHARACTERISTICS OF IVABRADINE-SENSITIVE CURRENTS IN MOUSE SINOATRIAL NODE MYOCYTES. **Emily J. Sharpe**, Stephanie C. Gantz, Pin Liu, Bruce P. Bean, Catherine Proenza

180-Plat 11:30 AM
CALCIUM ACTIVATED CHLORIDE CURRENT IN MAMMALIAN VENTRICULAR MYOCYTES. **Janos Magyar**, Balázs Horváth, Krisztina Váczi, Bence Hegyi, Mónika Gönczi, Beatrix Dienes, Kornél Kistamás, Tamás Bányász, István Baczkó, András Varró, György Seprényi, László Csernoch, Péter P. Nánási, Norbert Szentandrássy

181-Plat 11:45 AM
PROPERTIES OF NEW VOLTAGE SENSITIVE DYES IN CARDIAC FIELD. **Ndeye Rokhaya Faye**, Sushmitha RAJA, Richard Walton, Phillipe Pasdois, Fabien Brette, Alan Urban, Alexandre Hentz, Gihad Dargazanli, Olivier Bernus

182-Plat 12:00 PM
DYNAMIC BLOOD FLOW CONTROL IN HEART. **Guiling Zhao**, Humberto Joca, W. Jonathan Lederer

183-Plat 12:15 PM
KCHIP2 SERVES MULTIPLE FUNCTIONS IN CARDIAC MYOCYTES IN SPLICE ISOFORM-DEPENDENT MANNER. Randolph Bettinger, Rostam Panjshiri, Drew M. Nassal, Isabelle Deschenes, Min Jiang, **Gea-Ny Tseng**

184-Plat 12:30 PM
EFFECT OF DRUGS ON REPOLARIZATION OF IPSCD-CARDIOMYOCYTES. Mark Nowak, Aidan Coon, Sanjot Singh, Shimin Wang, Randall Rasmusson, **G. Bett**

Undergraduate Student Pizza "Breakfast"

11:30 AM - 1:00 PM, ROOM 205

This "breakfast" for undergraduate students offers a valuable networking and social opportunity to meet other students, Biophysical Society Committee members, and other scientists to discuss academic goals and questions, and to develop a biophysics career path. A brief talk will be given followed by an audience Q&A session featuring a panel of biophysicists representing all levels of the field. In addition to registered undergraduate attendees, local undergraduates attending as part of the Colleges in the Community Day are invited to attend this event. Space for this session is limited to the first 100 attendees.

Colleges in the Community Day

11:30 AM - 5:00 PM, ROOM 205

This full day of activities for local college students and their instructors kicks off with an Undergraduate Student Pizza "Breakfast" where participants will have an opportunity to network with their peers and members of the Biophysical Society's Education Committee in a fun and relaxed environment. The Breakfast will include a panel discussion on academic and career paths in biophysics, with opportunities for questions and answers from the audience. Come prepared to find out about the course of study that aspiring biophysicists undertake, what it means to be a biophysicist, and how biophysicists make important discoveries. Next, students will have a chance to attend the Graduate & Postdoc Institution Fair to meet with representatives of, and learn about, programs from all over the country. Finally, students will have access to an exclusive tour of the exhibit hall where they will view special demonstrations featuring cutting edge instrumentation producing breakthroughs in structural biology and other areas.

International Travel Awardee Luncheon

12:00 PM - 1:00 PM, RIVERGATE ROOM, LOBBY LEVEL

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

Career Center Workshop
Networking: Optimizing Your Time at BPS 2017

12:00 PM - 1:00 PM, ROOM 212/213

You surely have heard that networking is a key component of the successful job search. The term itself often conjures up negative thoughts and reactions to the uninitiated, sometimes to the point of paralysis. Professional conferences (such as BPS 2017) provide endless networking opportunities. If, however, your perception of networking means tackling someone at the coffee station while thrusting your CV in his/her hands, you may want to stop in on this session. The practice of networking has become so much easier with the advent of the internet. We will discuss what you hope to get out of your presence at the meeting, how to set objectives beforehand, and how to meet those objective once you arrive (while minimizing anxiety).

Public Affairs Committee Meeting

12:15 PM - 2:15 PM, ROOM 203

Exhibitor Presentation
Bruker Corporation

12:30 PM – 2:00 PM, ROOM 221

Super-Resolution Microscopy: Performing Quantitative Analysis at the Molecular Level
Super-resolution (SML) microscopy optically resolves spatial features within the cellular environment an order of magnitude below the classical diffraction limit. Using the quantitative analysis functions on the Vutara 352 system questions can be answered in a data driven fashion. Its software offers numerous statistical analysis features to quantify the localization data into meaningful biological interpretations. These statistical features include spatial distribution tools, such as Ripley's K and pair correlation calculations, cluster, co-localization and resolution analysis, as well as live-cell tools, such as mean-squared displacement calculations and particle tracking.

In our exhibitor presentation, we will discuss SML super resolution, its combination with quantitative analysis, and how it offers new questions and analytics at the molecular level.

Furthermore, due to the nature of the method, localization microscopy is often lacking in the contextual information of the overall cellular environment. Utilizing optical correlation microscopy of the Vutara 352, it is possible to relate the large-scale cellular environment, obtained via swept-field confocal imaging, with more refined super-resolution localization data.

Speakers
Carl G. Ebeling, Worldwide Applications Scientist, Fluorescence Microscopy Unit, Bruker Corporation
Manasa V. Gudheti, Sales Applications Scientist, Fluorescence Microscopy Unit, Bruker Corporation

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

1:00 PM - 2:30 PM, ROOM R01

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

Speakers
Lesley Anson, Anson Scientific
Engin Serpersu, NSF
Stephanie DeLuca, 2016-2017 BPS Congressional Fellow

Graduate & Postdoc Institution Fair

1:00 PM - 3:00 PM, HALL B-2 & C

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

Snack Break

1:45 PM - 3:00 PM, HALL B-2 & C

Teaching Science Like We Do Science

2:00 PM - 3:30 PM, RIVERGATE ROOM, LOBBY LEVEL

This interactive workshop will provide participants with practical tools, tips, and Discipline-Based Education Research (DBER) recommendations for bringing biophysics topics in the lab and in the classroom to life for undergraduate and graduate students. Through collaborative group dis-

cussions attendees will design an interdisciplinary-focused classroom plan and receive feedback on implementation and assessment. Opportunities to share attendees' own classroom practices are encouraged.

Speakers
Linda Columbus, University of Virginia
Leslie Satin, University of Michigan
Sharyn Endow, Duke University & National University of Singapore
Vincent J. LiCata, Louisiana State University
Jurgen Bosch, Case Western Reserve University
Jef Wagner, Lawrence University

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

2:30 PM - 3:30 PM, ROOM 212/213

What do search committees look for? Are postdocs always essential? What is really going on behind that curtain, and how does is impact my candidacy? Answers to these and other questions presented by Andrew Green, a veteran of the academic job search and numerous search committees.

CRISPR from a Policy Perspective

2:30 PM - 4:00 PM, ROOM 210

As scientists interested in public outreach and policy, we must step back from the scientific discovery for a moment and think about possibilities raised by the ability to easily edit genes. The panelists will be discussing the ethical and policy issues raised by CRISPR-Cas9, what the role of government (national and international) should be in regulating the research, and if/how public opinion is part of the decision-making process.

Speakers
Henry Greely, Center for Law and Biosciences, Stanford University
Jessica Tucker, Office of the Director, NIH
Debra Mathews, Berman Institute of Bioethics, Johns Hopkins University

Early Careers Committee Meeting

3:30 PM - 5:00 PM, ROOM 203

Career Center Workshop
Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)

4:00 PM - 5:00 PM, ROOM 212/213

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.

Symposium
Single-Molecule Membrane Protein Dynamics

4:00 PM - 6:00 PM, GREAT HALL A

Chair
Hugo Sanabria, Clemson University

185-Symp **4:00 PM**
SUBMILLISECOND DYNAMICS OF THE NMDA RECEPTOR. **Hugo Sanabria**

186-Symp **4:30 PM**
MEASURING THE FREE ENERGY OF CLC-EC1 DIMERIZATION IN MEMBRANES USING SINGLE MOLECULE PHOTOBLEACHING ANALYSIS. **Janice L. Robertson**

No Abstract **5:00 PM**
SINGLE MOLECULE DYNAMICS OF METABOTROPIC GLUTAMATERECEPTORS. **Ehud Isacoff**

187-Symp **5:30 PM**
T CELL RECEPTOR CLUSTERING - A MECHANISM OF SIGNAL TRANSDUCTION. **Katharina Gaus**

Symposium
Mechanotransduction to Physiology

4:00 PM - 6:00 PM, GREAT HALL B

Chair
Jorg Grandl, Duke University

188-Symp **4:00 PM**
THE MECHANISM OF ACTIVATION OF PIEZO ION CHANNELS. **Jorg Grandl**

189-Symp **4:30 PM**
MECHANOSENSING AT THE SURFACE. **Ellen Lumpkin**

190-Symp **5:00 PM**
ROLE OF PIEZO ION CHANNELS IN MECHANOSENSATION. **Ardem Patapoutian**

191-Symp **5:30 PM**
MSCS-LIKE MECHANOSENSITIVE ION CHANNELS: MODULAR SENSORS AND REPORTERS OF MEMBRANE TENSION. **Elizabeth Haswell**, Debarati Basu, Eric S. Hamilton, Grigory Maksaev, Matthew Mixdorf, Ivan Radin, Ryan Richardson, Angela M. Schlegel, Eric Schultz, Yanbing Wang

Symposium
Cancer Cell Biophysics

4:00 PM - 6:00 PM, ROOM R02/03

Chair
Alissa Weaver, Vanderbilt University

192-Symp **4:00 PM**
AUTOCRINE ROLE OF EXOSOMES IN CELLULAR ADHESION, MIGRATION, AND INVASION. **Alissa Weaver**

193-Symp **4:30 PM**
QUANTITATIVE SYSTEMS BIOLOGY STUDIES REVEAL A NESTED RELAY MECHANISM FOR TGF-BETA SIGNALING. **Jianhua Xing**

194-Symp **5:00 PM**
MODELS FOR CANCER CELL MOTILITY: REGULATION AND SIGNALING. **Leah Edelstein-Keshet**

195-Symp **5:30 PM**
PHYSICAL INTERACTIONS IN DUCTAL MICROINVASIONS: INTEGRATING HISTOLOGY WITH COMPUTATIONAL MODELING. **Katarzyna A. Rejniak**

Platform
Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating I

4:00 PM - 6:00 PM, ROOM R04/05

Co-Chairs
Tinatin Brelidze, Georgetown University School of Medicine
Teresa Aman, University of Washington

196-Plat 4:00 PM
PROBING THE MOVEMENT OF THE BALL AND CHAIN DURING N-TYPE INACTIVATION IN KV CHANNELS. **Tanja Kalstrup**, Roshan Pandey, Rikard Blunck

197-Plat 4:15 PM
MOLECULAR MECHANISMS OF THE VOLTAGE-DEPENDENT POTENTIATION OF KCNH POTASSIUM CHANNELS. **Gucan Dai**, William Zagotta

198-Plat 4:30 PM
BK CHANNEL GATING-RING VOLTAGE DEPENDENCE MOTIONS. **Pablo Miranda**, Teresa Giraldez, Miguel Holmgren

199-Plat 4:45 PM
INHIBITION OF BK CHANNELS BY STRONG EXTRACELLULAR ACIDIFICATION. **Yu Zhou**, Xiaoming Xia, Christopher J. Lingle

200-Plat 5:00 PM
SINGLE-MOLECULE FLUORESCENCE IMAGING OF LOW AFFINITY BINDING INTERACTIONS IN PACEMAKER ION CHANNELS. **Marcel P. Goldschen-Ohm**, David S. White, Vadim A. Klenchin, Randall H. Goldsmith, Baron Chanda

201-Plat 5:15 PM
INVESTIGATING LIGAND BINDING TO HCN CHANNELS BY SURFACE PLASMON RESONANCE. Purushottam Tiwari, Aykut Üren, **Tinatin I. Brelidze**

202-Plat 5:30 PM
DRUG INTERACTION AT THE LIPID BILAYER-POTASSIUM CHANNEL INTERFACE. **Nina Ottosson**, Malin Silverå Ejneby, Xiongyu Wu, Samira Yazdi, Peter Konradsson, Erik Lindahl, Fredrik Elinder

203-Plat 5:45 PM
SPECTROSCOPIC STUDIES OF A BACTERIAL CYCLIC NUCLEOTIDE-GATED ION CHANNEL. **Zachary M. James**, Eric G. Evans, William N. Zagotta

Platform
Protein Stability, Folding, and Chaperones I

4:00 PM - 6:00 PM, ROOM R06/07

Co-Chairs
Patricia L. Clark, University of Notre Dame
Wolfgang A. Linke, Ruhr University Bochum, Germany

204-Plat 4:00 PM
INTEGRATED *IN VIVO* AND *IN SILICO* STUDIES OF COTRANSLATIONAL PROTEIN FOLDING AS A FUNCTION OF TRANSLATION RATE. Ian M. Walsh, Shuxiang Li, Adrian H. Elcock, **Patricia L. Clark**

205-Plat 4:15 PM
THE RIBOSOME ALTERS THE FOLDING OF A MULTIDOMAIN NASCENT PROTEIN. **Lisa Alexander**, Daniel Goldman, Ignacio Tinoco, Carlos J. Bustamante

206-Plat 4:30 PM INTERNATIONAL TRAVEL AWARDEE
STRUCTURAL INVESTIGATION OF AN IMMUNOGLOBULIN DOMAIN ON THE RIBOSOME USING NMR SPECTROSCOPY. **Anais M. E. Cassaignau**, Hélène M M Launay, Christopher A. Waudby, Tomasz Wlodarski, Maria-Evangelia Karyadi, Amy L. Robertson, Xiaolin Wang, Carlo Camilloni, Michele Vendruscolo, Cheryl A. Woolhead, Lisa Cabrita, John Christodoulou

207-Plat 4:45 PM
ACCURATE PREDICTION OF CELLULAR CO-TRANSLATIONAL FOLDING INDICATES PROTEINS CAN SWITCH FROM POST- TO CO-TRANSLATIONAL FOLDING. **Daniel A. Nissley**

208-Plat 5:00 PM
PROTEIN SCULPTING: PROBING THE INTERPLAY BETWEEN THE RIBOSOME AND MOLECULAR CHAPERONES IN PROTEIN FOLDING IN THE CELL. **Rayna M. Addabbo**, Matthew D. Dalphin, Yue Liu, Miranda F. Mecha, Silvia Cavagnero

209-Plat 5:15 PM EDUCATION TRAVEL AWARDEE
TRIGGER FACTOR BOOSTS THE WORK DONE BY PROTEIN FOLDING UNDER FORCE. **Shubhasis Haldar**, Rafael Tapia-Rojo, Julio M. Fernandez

210-Plat 5:30 PM
RESOLUTION OF THE TIME SEQUENCE OF FAST FOLDING TRANSITION BY THE "TRANSFER-QUENCH" METHOD. Gil Rahamim, Dan Amir, **Elisha Haas**

211-Plat 5:45 PM
MECHANICALLY UNFOLDED TITIN IMMUNOGLOBULIN DOMAINS REFOLD FASTER AND MORE ACCURATELY IN PRESENCE OF CHAPERONE ALPHA-B-CRYSTALLIN. Yong Li, **Wolfgang A. Linke**

Platform
Membrane Physical Chemistry I

4:00 PM - 6:00 PM, ROOM R08/09

Co-Chairs
Paulo F. Almeida, University North Carolina, Wilmington
Rumiana Dimova, Max Planck Institute of Colloids and Interfaces, Germany

212-Plat 4:00 PM
GM1 SOFTENS THE MEMBRANE, INDUCES DOMAINS AND CAUSES SPONTANEOUS TUBULATION IN GIANT VESICLES. **Rumiana Dimova**, Tripta Bhatia, Raktim Dasgupta, Nico Fricke, Jaime Agudo-Canalejo, Reinhard Lipowsky

213-Plat 4:15 PM CID TRAVEL AWARDEE
INDUCED MIXING OF PHASE-SEPARATED LIPID BILAYERS BY STERIC PRESSURE BETWEEN ADSORBED PROTEINS. **Wade Zeno**, Kaitlin E. Johnson, Darryl Y. Sasaki, Marjorie L. Longo

214-Plat 4:30 PM
UNIQUE MODIFICATION OF MEMBRANE STRUCTURE BY LITHIUM: A MOLECULAR DYNAMICS STUDY. James Kruczek, See-Wing Chiu, **Eric Jakobsson**, Sagar A. Pandit

215-Plat 4:45 PM
MEASURING LIPID MEMBRANE PROPERTIES USING A MECHANOSENSITIVE FLUORESCENCE PROBE. **Adai Colom Diego**, Marta Dal Molin, Saeideh Soleimanpour, Emmanuel Derivery, Marcos Gonzalez Gaitan, Stefan Matile, Aurélien Roux

216-Plat 5:00 PM
DPPC/CHOLESTEROL REVISITED: INTERACTION MODELS TO EXPLAIN THE EXCESS HEAT CAPACITY IN UNILAMELLAR VESICLES. **Paulo F. Almeida**, Emmanuel Tejada, Faith Carter, Antje Pokorny

217-Plat 5:15 PM
CHARACTERIZATION OF THE PHYSIOCHEMICAL INTERACTIONS BETWEEN LNPS AND THE ENDOSOMAL LIPIDS: A RATIONAL DESIGN OF GENE DELIVERY SYSTEMS. **Nandhitha Subramanian**, Yoav Atsmon-Raz, Peter D. Tieleman

218-Plat **5:30 PM**
TUNING MEMBRANE ASYMMETRY: CONTROLLED UPTAKE OF NEGATIVELY CHARGED LIPIDS INTO THE OUTER LEAFLET OF LIPOSOMES. Marie Markones, Carina Zorzin, Louma Kalie, **Sebastian Fiedler**, Heiko Heerklotz

219-Plat **5:45 PM**
INVESTIGATING THE EFFECTS OF THE MEMBRANE DIPOLE FIELD ON THE STRUCTURE AND FUNCTION OF A MODEL MEMBRANE PROTEIN. **Cari M. Anderson**, Lauren J. Webb

Platform
Kinesins and Dyneins

4:00 PM - 6:00 PM, ROOM 206/207

Co-Chairs
Scott Forth, Rockefeller University
Ryota Iino, Institute for Molecular Science, Japan

220-Plat **4:00 PM**
LIS1 HAS TWO DISTINCT MODES OF REGULATING DYNEIN'S MECHANOCHEMICAL CYCLE. **Michael A. Cianfrocco**, Morgan E. DeSantis, Zaw M. Htet, Phuoc T. Tran, Andres E. Leschziner, Samara L. Reck-Peterson

221-Plat **4:15 PM**
THE STRUCTURE OF COMPLETE HUMAN DYNEIN-1 AND ITS MECHANISM OF ACTIVATION. **Kai Zhang**, Helen Foster, Andrew Carter

222-Plat **4:30 PM**
THE POWER STROKE DISTANCE OF HUMAN CYTOPLASMIC DYNEIN. **Yoshimi Kinoshita**, Taketoshi Kambara, Kaori Nishikawa, Motoshi Kaya, Hideo Higuchi

223-Plat **4:45 PM** **EDUCATION TRAVEL AWARDEE**
INTRACELLULAR CARGO TRANSPORT BY SINGLE-HEADED KINESIN MONOMERS. **Kristin I. Schimert**, Breane G. Budaitis, Kristen J. Verhey

224-Plat **5:00 PM**
KINESIN-1 CARGO TRANSPORT THROUGH DENSE MICROTUBULE NETWORKS. **Joelle A. Labastide**, Reilly K. Curtin, Jennifer L. Ross

225-Plat **5:15 PM**
AN ALLOSTERIC GEAR SHIFT MECHANISM IN EG5 ENHANCES MECHANOCHEMICAL COUPLING AND SHIFTS THE FORCE-VELOCITY LANDSCAPE. **Joseph Muretta**, Babu J N Reddy, Guido Scarabelli, David D. Thomas, Barry Grant, Steven Gross, Steven Rosenfeld

226-Plat **5:30 PM** **EDUCATION TRAVEL AWARDEE**
SINGLE MOLECULE CHARACTERIZATION OF MITOTIC KIF15 REVEALS CAPABILITY TO GENERATE FORCE IN ANTI-PARALLEL MICROTUBULES. **Dana N. Reinemann**, Emma G. Sturgill, Dibyendu Kumar Das, Ryoma Ohi, Matthew J. Lang

227-Plat **5:45 PM**
MEASURING FORCES GENERATED BY ENSEMBLES OF KINESIN-5 CROSSLINKING TWO MICROTUBULES. **Scott Forth**, Yuta Shimamoto, Tarun Kapoor

Platform
Computational Methods and Bioinformatics

4:00 PM - 6:00 PM, ROOM 208/209

Co-Chairs
Antoniya A. Aleksandrova, NINDS, NIH
Aleksandra Karolak, University of South Florida

228-Plat **4:00 PM**
ELUCIDATING THE ROLE OF TUMOR MICROENVIRONMENTAL HETEROGENEITY WITH A COMPUTATIONAL MODEL OF 3D BREAST SPHEROIDS. **Aleksandra Karolak**, Branton Huffstutler, Dmitry A. Markov, Lisa J. McCawley, Katarzyna A. Rejniak

229-Plat **4:15 PM**
SPOTON: A MACHINE-LEARNING APPROACH FOR HOT-SPOT DETERMINATION. **Irina S. Moreira**, Panos Koukos, Rita Melo, Jose G. Almeida, Antonio J. Preto, Jorg Schaarschmidt, Mikael Trellet, Zeynep H. Gumus, Joaquim Costa, Alexandre M.J.J. Bonvin

230-Plat **4:30 PM**
MORPHODYNAMIC PROFILING OF CELL PROTRUSION BASED ON SPATIOTEMPORAL SPECTRUM DECOMPOSITION AND UNSUPERVISED CLUSTERING. **Xiao Ma**, Onur Dagliyan, Klaus Hahn, Gaudenz Danuser

231-Plat **4:45 PM**
MECHSTIFF: A NEW TOOL FOR EVALUATING STRESS-INDUCED DYNAMICS AND APPLICATION TO CELL ADHESION PROTEINS. **Karolina Mikulska-Ruminska**, Andrzej J. Kulik, Cihan Kaya, Carine BenAdiba, Giovanni Dietler, Wieslaw Nowak, Ivet Bahar

232-Plat **5:00 PM**
OPTIMAL TEMPERATURE SET FOR REPLICA EXCHANGE SAMPLING. **Dominik Gront**

233-Plat **5:15 PM**
MOLECULAR DESIGN OF A NANOPARTICLE-POLYMER CONJUGATED DRUG DELIVERY SYSTEM FOR PD-166793 IN CARDIOVASCULAR REPAIR. **Merina Jahan**, Stephen K. Roberts, Andrew B. Greytak, Mark J. Uline

234-Plat **5:30 PM**
SYSTEMATIC ANALYSIS OF SYMMETRY IN MEMBRANE PROTEINS. **Antoniya A. Aleksandrova**

235-Plat **5:45 PM**
MEMBRANE RECRUITMENT CAN INCREASE THE NUMBER OF PROTEIN ASSEMBLIES BY MANY FOLDS: INSIGHTS FROM THEORY AND REACTION-DIFFUSION SIMULATION. **Osman N. Yogurtcu**, Margaret E. Johnson

Exhibitor Presentation
Oxford Nanoimaging Ltd

4:30 PM – 6:00 PM, ROOM 221

Meet the Nanoimager: The Next Generation of Super-Resolution Microscope
Oxford Nanoimaging (ONI) have reinvented the single-molecule microscope to meet the needs of cutting edge research in the 21st century. The Nanoimager is a high-throughput, robust, single-molecule localisation based microscope that does not go out of alignment. A compact dSTORM, PALM and single-molecule FRET solution with a footprint smaller than an A4 piece of paper, the system offers the most stable platform on the market and can be run from a standard laboratory bench. High power 1W lasers and the most efficient light path of any commercial solution gives the Nanoimager excellent performance and sets a new standard in super-resolution imaging. The Nanoimager is a small microscope with a big personality: expert capabilities and top performance for both novice and experienced users. ONI have made single-molecule experiments easier, and have made instrument costs accessible to the majority. Come and learn more about the next generation of super-resolution microscopes: this presentation will not only introduce the newly released Nanoimager but will show the latest achievable data and the technical ability of this ground-breaking instrument. The Nanoimager needs to be seen to be believed. No alignment. No optical table. No compromise.

Speaker
Raphael Jorand, Applications Specialist, Oxford Nanoimaging Ltd

Korean Biophysicists Meeting

5:00 PM - 6:00 PM, ROOM 210

PI to PI
A Wine & Cheese Mixer

5:00 PM - 7:00 PM, ROOM 205

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

Biophysics Austria Mixer

6:00 PM - 7:00 PM, RIVERGATE ROOM, LOBBY LEVEL

Student Research Achievement Award (SRAA) Poster Competition

6:00 PM - 9:00 PM, HALL B2 & C

Support contributed by the Journal of Physical Chemistry

This session features students who are presenting posters at the Meeting and have pre-registered for the competition. During the SRAA competition, students will give a five-to-seven minute oral presentation of their poster to one or more judges. Winners will be recognized on Monday evening prior to the National Lecture.

Biophysical Journal Editorial Board Dinner

6:00 PM - 10:00 PM, LATROBE'S ON ROYAL

Exhibitor Presentation
Molecular Devices LLC

6:30 PM – 8:00 PM, ROOM 221

Getting the Most Out of Your Experiments with pCLAMP and HumSilencer Technology
The patch-clamp technique remains the best method for evaluating ion channel physiology, and since 1983 Axon Instruments has been the gold standard in patch-clamp equipment. Axon Instruments continues to push the envelope with new innovations with best-in-class systems and software.

Join this workshop to learn about our latest breakthrough, HumSilencer technology, built into the Digidata 1550B Data Acquision System. HumSilencer is a new and easy way to eliminate 50 or 60 Hz line synchronous noise and associated high frequency harmonics WITHOUT the use of a filter.

In addition to HumSilencer, pCLAMP remains the industry standard software package for electrophysiology because of its power, flexibility and ease of use. Are you getting the most out of your pCLAMP software? Join this workshop to learn more about how you can maximize what you can do with pCLAMP and learn something you may not know.

Speaker
Jeffrey Webber, Product Manager, Electrophysiology, Molecular Devices LLC

Setting Standards for Data Sharing Community by Community

7:00 PM - 9:00 PM, ROOM 214

Data management. Data sharing. Repositories. Sound familiar? There is growing demand to make the data used in research available to other scientists to accelerate the pace of discovery and allow for reproducibility. This sounds simple enough, but what data should be shared and how? This will vary depending on the particular field of research. To support research communities in developing and adopting data sharing guidelines that work for that them, the Society is hosting this workshop to bring together communities that are at various stages of that process so that they can share information and learn from each other. During this inaugural workshop, attendees will be discussing data sharing standards for modeling, small angle scattering, NMR, and EM.

Moderator
Helen Berman, Rutgers University

Panelists
Nigel Kirby, Australian Synchrotron
Cathy Lawson, Rutgers University
Guy Montelione, Rutgers University
Torsten Schwede, University of Basel

SUNDAY POSTER SESSIONS

1:45 PM–3:45 PM, HALL B-2 & C

Below is the list of poster presentations of abstracts submitted by October 3.
The list of abstracts submitted after October 3 and scheduled for Sunday is available in the Program Addendum; those posters can be viewed on boards beginning with L. All abstracts are available through the desktop planner and mobile app.

Posters should be mounted beginning at 6:00 PM on Saturday and removed by 5:30 PM on Sunday evening. Posters will be on view until 10:00 PM the night before presentation. Poster numbers 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

Board Numbers	Category
B1 – B28	Protein Structure and Conformation I
B29 – B46	Protein Structure, Prediction, and Design I
B47 – B63	Protein Stability
B64 – B76	Folding Pathways
B77 – B90	Protein Dynamics and Allostery I
B91 – B107	Enzyme Function, Cofactors, and Post-translational Modifications
B108 – B110	Ribosomes and Translation
B111 – B127	Nucleic Acid Structure and Dynamics I
B128 – B139	RNA Binding
B140 – B158	Membrane Dynamics I
B159 – B180	Membrane Fusion and Non-Bilayer Structures
B181 – B196	Membrane Structure I
B197 – B209	General Protein-Lipid Interactions I
B210 – B224	Membrane Receptors and Signal Transduction I
B225 – B241	Exocytosis and Endocytosis I
B242 – B255	Calcium Signaling I
B256 – B278	Excitation-Contraction Coupling
B279 – B298	Voltage-gated Na Channels I
B299 – B308	Voltage-gated Ca Channels I
B309 – B324	Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating I
B325 – B336	TRP Channels I
B337 – B354	Skeletal Muscle Mechanics, Structure, and Regulation
B355 – B369	Cardiac Muscle Mechanics and Structure I
B370 – B391	Cell Mechanics, Mechanosensing, and Motility I
B392 – B405	Transporters and Exchangers I
B406 – B420	Mitochondria in Cell Life and Death I
B421 – B428	Emerging Techniques and Synthetic Biology
B429 – B441	Neuroscience: General, Computational, and Experimental Approaches and Tools I
B442 – B454	Molecular Dynamics I
B455 – B478	Optical Microscopy and Super-Resolution Imaging: Novel Approaches and Analysis I
B479 – B501	Optical Microscopy and Super-Resolution Imaging: Applications to Cellular Molecules
B502 – B512	Single-Molecule Spectroscopy I
B513 – B541	Micro- and Nanotechnology I

It is the responsibility of the poster presenters to remove print materials from the board after their presentations. Please do not leave materials or belongings under poster boards or in the poster area. Posters will not be collected or stored for pick-up at a later time. The Biophysical Society is not responsible for any articles left in the poster area.

Protein Structure and Conformation I (Boards B1–B28)

236-Pos **Board B1**
A DISCRETE LOOP OF THE SERCA N-DOMAIN INTERACTS WITH PHOSPHOLAMBAN AND STABILIZES A COMPACT CONFORMATION OF THE SERCA CYTOSOLIC HEADPIECE. **Olga N. Raguimova**, Nikolai Smolin, Daniel Blackwell, Elisa Bovo, Aleksey Zima, Seth Robia

237-Pos **Board B2**
PREPARATION OF A OREXIN PRECURSOR PROTEIN BY CHEMICAL DIGESTION. **Natsumi Mitsuoka**, Shigeru Shimamoto, Yuji Hidaka

238-Pos **Board B3**
A SIMULATION BASED ANALYSIS OF THE OLIGOMERIC PLASTICITY OF SM PROTEIN ASSEMBLIES. **Charles E. McAnany**, Berk Ekmekci, Peter Randolph, Cameron Mura

239-Pos **Board B4**
AN NMR STUDY OF PIN1- HISTONE H1 INTERACTIONS. **Dinusha S. Jinasena**, Hawa Gyamfi, Nicholas C. Fitzkee

240-Pos **Board B5**
NANOMECHANICAL PROPERTIES OF POLYMORPHIC HUMAN ISLET AMYLOID POLYPEPTIDE PROTOFIBRILS IN THE MULTIPLE PHYSIOLOGICAL AND MECHANICAL CONDITIONS. **Myeongsang Lee**

241-Pos **Board B6**
PROTEIN STRUCTURE DETERMINATION BY HIGH-PRECISION FRET AND MOLECULAR MODELING. **Mykola Dimura**, Thomas Peulen, Holger Gohlke, Claus A. M. Seidel

242-Pos **Board B7**
APO- AND ANTAGONIST-BINDING STRUCTURES OF VITAMIN D RECEPTOR LIGAND-BINDING DOMAIN REVEALED BY A COMBINATION ANDLYSIS OF MD SIMULATIONS AND SAXS EXPERIMENTS. Yasuaki Anami, Nobutaka Shimizu, **Toru Ekimoto**, Daichi Egawa, Toshimasa Itoh, Mitsunori Ikeguchi, Keiko Yamamoto

243-Pos **Board B8**
CONFORMATIONAL FLUCTUATIONS AS AN INTRINSIC MECHANISM OF ACTION: THE LIPASE-SPECIFIC FOLDASE OF *PSEUDOMONAS AERUGINOSA* STUDIED BY HYBRID FLUORESCENCE SPECTROSCOPY AND MD SIMULATIONS. **Jakub Kubiak**, Neha Verma, Peter Dollinger, Filip Kovacic, Karl-Erich Jaeger, Holger Gohlke, Claus A.M. Seidel

244-Pos **Board B9**
DOES CAS9-CATALYZED DNA CLEAVAGE GENERATE BLUNT ENDS OR STAGGERED ENDS? INSIGHT FROM MOLECULAR DYNAMIC SIMULATIONS. **Zhicheng Z. Zuo**, Jin Liu

245-Pos **Board B10**
METHIONINE SULFOXIDE FORMATION BY CIGARETTE SMOKE IS ASSOCIATED WITH THE DEGRADATION OF PLASMA PROTEINS. **Abdullah Qassab**, Rohana Liyanage, Wesley Stites

246-Pos **Board B11**
DYNAMICS AND ENERGETICS OF ELONGATION FACTOR SELB IN THE TERNARY COMPLEX AND THE RIBOSOME. **Lars V. Bock**, Niels Fischer, Holger Stark, Holger Stark, Helmut Grubmüller

247-Pos **Board B12**
POLYETHYLENE GLYCOL CONJUGATION ENHANCES MOSQUITO-LARVICIDAL ACTIVITY OF *LYSINIBACILLUS SPHAERICUS* BINA PROTEIN. **Mahima Sharma**, Ramesh S. Hire, Ashok B. Hadapad, Gagan Deep Gupta, Vinay Kumar

248-Pos **Board B13**
A NOVEL ELECTROSTATIC REGULATORY MECHANISM IN A CALCIUM BINDING PROTEIN, L-PLASTIN. Jonn Keenan Fanning, **Van A. Ngo**, Hiroaki Ishida, Hans Vogel, Sergei Yu. Noskov

249-Pos **Board B14**
STRUCTURAL DESTABILIZATION OF TROPOMYOSIN INDUCED BY A CARDIOMYOPATHY-LINKED MUTATION. **Thu N. Ly**, Inna Krieger, Young-Ho Yoon, Dmitri Tolkatchev, Fadel A. Samatey, Alla S. Kostyukova

250-Pos **Board B15**
PROBING CONFORMATIONAL AND FUNCTIONAL SUBSTATES OF CALMODULIN BY HIGH-PRESSURE FTIR. **Nelli Erwin**, Satyajit Patra, Roland Winter

251-Pos **Board B16**
0BSCURIN ACTS AS A VARIABLE FORCE RESISTOR. **Nathan T. Wright**, Aidan M. Willey

252-Pos **Board B17**
STRUCTURAL AND FUNCTIONAL INSIGHT INTO RECOMBINANT LUNG SURFACTANT PROTEIN B (RSP-B). **Tadiwos G. Asrat**, Valerie Booth

253-Pos **Board B18**
REGULATION OF FOLDING OF *DE NOVO* DESIGNED PEPTIDES BY A-HELIX FORMATION. **Saya Nishihara**, Kosuke Toyama, Shigeru Shimamoto, Yuji Hidaka

254-Pos **Board B19**
CHARACTERIZATION OF PROTEIN KINASE A FREE ENERGY LANDSCAPE BY NMR-RESTRAINED METADYNAMICS. **Yingjie Wang**, Carlo Camilloni, Jonggul Kim, Michele Vendruscolo, Jiali Gao, Gianluigi Veglia

255-Pos **Board B20**
THERMAL RESPONSE OF INNER AND OUTER TRANSMEMBRANE SEGMENTS OF CORA PROTEIN BY A COARSE-GRAIN MONTE CARLO SIMULATION. **Ras Pandey**, Sunan Kitjaruwankul, Channarong Khrutto, Pornthep Sompornpisut, Barry Farmer

256-Pos **Board B21**
THE COMPETITION BETWEEN ELECTROSTATIC-STEERING AND CONFORMATIONAL DYNAMICS IN THE DIFFUSION-LIMITED ASSOCIATION OF CALCINEURIN AND CALMODULIN. **Peter M. Kekenes-Huskey**, Bin Sun, Eric C. Cook, Trevor P. Creamer

257-Pos **Board B22**
EQUILIBRIUM MOLECULAR DYNAMICS OF THE MONOMER AND DIMER UNITS OF *STREPTOCOCCUS PNUEMONAE* AND *CORYNEBACTERIUM DIPHTHERIAE* PILI. **Emmanuel Naziga**, Jeff Wereszczynski

258-Pos **Board B23**
BIOPHYSICAL AND STRUCTURAL CHARACTERIZATION OF ANTIBODY RESPONSES TO MALARIA ANTIGENS. Stephen Scally, Alexander Bosch, Brandon McLeod, Gianna Triller, Katharina Imkeller, Rajagopal Murugan, Sebastian Rämisch, Rick King, William Schief, Hedda Wardemann, **Jean-Philippe Julien**

259-Pos **Board B24**
STRUCTURAL ANALYSIS OF THE PRECURSOR PROTEIN OF ATRIAL NATRIURETIC PEPTIDE. **Sumika Futori**, Satomi Higashigawa, Shigeru Shimamoto, Yuji Hidaka

260-Pos **Board B25**
INHIBITION OF AGGREGATION IN B-SHEET MODEL PEPTIDE BY PPII HELIX CAPPING. **Heng Chi**, Min Zhou, Timothy A. Keiderling

261-Pos **Board B26**
PROTEIN FOLDING AS A RESONANCE PHENOMENON, WITH FOLDING FREE ENERGIES DETERMINED BY PROTEIN-HYDRATION SHELL INTERACTIONS. **Sungchul Ji**

262-Pos **Board B27**
RECONSTRUCTION OF PRIMORDIAL PLOOP NTPASE PRECURSORS. **Maria Luisa Romero-Romero**

263-Pos **Board B28**
PROBING PROTEIN FOLDING AND INTERACTION IN LIVE CELLS USING OSMOTIC PERTURBATIONS. **Shahar Sukenik**, Martin Gruebele

Protein Structure, Prediction, and Design I (Boards B29–B46)

264-Pos **Board B29**
UNDERSTANDING THE ROLE OF CHAIN FLEXIBILITY IN AMYLOID PROTEIN AGGREGATION THROUGH RATIONALLY DESIGNED PROTEIN SEQUENCES. **Steven Z. Vance**, Xavier Redmon, Rachel Hall, Colman Moore, Gram Booth, Christa Hestekin, Melissa Moss

265-Pos **Board B30**
PROBING INTERACTIONS BETWEEN THE CURLI ACCESSORY PROTEIN CSGE AND HUMAN ISLET AMYLOID POLYPEPTIDE. **Tanya J. Espino**, Sharon Patray, Isamar Aranda, Karen Guerrero, Sajith Jayasinghe

266-Pos **Board B31**
NON-STANDARD PROTEIN ENGINEERING AT THE BOUNDARY OF MOLECULAR MECHANICS AND QUANTUM CHEMISTRY: HALOGEN-BASED DESIGN OF INSULIN ANALOGS. **Michael A. Weiss**, Nelson F. Phillips, Faramarz Ismail-Beigi, Vijay Pandyarajan, Yanwu Yang, Yen-Shan Chen, Nalinda Wickramasinghe, Brian Smith, John G. Menting, Michael C. Lawrence, Krystel El-Hage, Markus Meuwly

267-Pos **Board B32**
SWEETER AND STRONGER: STRUCTURAL-DRIVEN MOLECULAR DESIGN TO ENHANCE SWEETNESS AND STABILITY OF THE SINGLE CHAIN MONELLIN MNEI. Serena Leone, Andrea Pica, Federica Donnarumma, Alessandro Emendato, Rocco Di Girolamo, Roberta Spadaccini, Piero A. Temussi, **Delia Picone**

268-Pos **Board B33**
MOLECULAR DETERMINANTS OF SPECIFICITY IN THE DPR-DIP INTERACTION NETWORK. **Aiman Sherani**, John M. Jumper, Engin Ozkan, Tobin R. Sosnick, Benoit Roux

269-Pos **Board B34**
PREDICTION OF PROTEIN AND RNA STRUCTURES BY CO-EVOLUTION: GOING BEYOND ANECDOTAL CASES TOWARDS LARGE-SCALE. Guido Uguzzoni, Shalini John Lovis, Francesco Oteri, Hendrik Szurmant, Weigt Martin, **Alexander Schug**

270-Pos **Board B35**
PROTEIN-PROTEIN COMPLEX STRUCTURE PREDICTION USING THE SOLUTION THEORY IN THE ENERGY REPRESENTATION. **Kazuhiro Takemura**, Akio Kitao, Nobuyuki Matubayasi

271-Pos **Board B36**
REFINEMENT OF PROTEIN DOCKING WITH ATOM-ATOM CONTACT POTENTIALS, BACKBONE FLEXIBILITY AND SIDE-CHAIN REPACKING. **Taras Dauzhenka**, Ivan Anishchenko, Petras J. Kundrotas, Ilya A. Vakser

272-Pos **Board B37**
PROTEIN FOLDING UPON BINDING REVEALED BY MOLECULAR DYNAMICS SIMULATION. **Chris Neale**, Régis Pomès, Rachel Sterne-Marr, Angel García

273-Pos **Board B38**
USING MOLECULAR DYNAMICS SIMULATIONS TO UNDERSTAND PATTERN FORMATION IN POLYMERS . **Anna Vernon**, Paul Fenimore, Charlie Strauss, Chang-Shung Tung, Daan Frenkel, Eugene Terentjev

274-Pos **Board B39**
MOLECULAR INTERACTIONS OF CANNABINOID RECEPTOR INTERACTING PROTEIN 1 A AND B WITH CANNABINOID RECEPTOR 1 . Pratishtha Singh, Anjali Ganjiwale, Allyn C. Howlett, **Sudha M. Cowsik**

275-Pos **Board B40**
POLARIZABLE AMOEBA FORCE FIELD METADYNAMICS WITH MINIMIZATION PREDICTS MISSING PROTEIN LOOPS. Armin Avdic, Mallory R. Tollefson, Nicole Tatro, Stephen D. LuCore, Jacob M. Litman, Timothy D. Fenn, **Michael J. Schnieders**

276-Pos **Board B41**
IMPROVING 3D STRUCTURE PREDICTION OF BETA-BARREL MEMBRANE PROTEINS. **Wei Tian**, Hammad Naveed, Jie Liang

277-Pos **Board B42**
DE NOVO PROTEIN STRUCTURE PREDICTION BY BIG DATA AND DEEP LEARNING. Sheng Wang, **Jinbo Xu**

278-Pos **Board B43**
NEXT GENERATION EVOLUTIONARY SAMPLING AND ENERGY FUNCTION GUIDED AB INITIO PROTEIN STRUCTURE PREDICTION. **Avdesh Mishra**, Md Tamjidul Hoque

279-Pos **Board B44**
A PREDICTED STRUCTURE OF THE ANGIOMOTIN LIPID BINDING DOMAIN. **Ann C. Kimble-Hill**, Cameron J. Peck, Piiamaria S. Virtanen

280-Pos **Board B45**
SELF-ASSOCIATION AND CONFORMATIONAL STABILITY OF NAMPT PROTEIN. **Trivikram R. Molugu**, Udeep Chawla, Annie Huang, Radu C. Oita, Ting Wang, Michael F. Brown, Joe G. N. Garcia

281-Pos **Board B46**
THE INTERVAL BRANCH-AND-PRUNE ALGORITHM FOR THE PROTEIN STRUCTURE DETERMINATION. **Thérèse E. Malliavin**, Bradley Worley, Benjamin Bardiaux, Guillaume Bouvier, Mohamed Machat, Andrea Cassioli, Carlile Lavor, Leo Liberti, Michael Nilges

Protein Stability (Boards B47–B63)

282-Pos **Board B47**
BIOLOGICAL ROLES OF PROTEIN HYPERSTABILITY: IMPLICATIONS FOR BIOTECHNOLOGY. **Wilfredo Colón**, Ke Xia, Jennifer Church, Jayeeta Sen, Jane Thibeault, Hannah S. Trasatti

283-Pos **Board B48**
VOLUMETRICALLY DERIVED THERMODYNAMIC PROFILE OF INTERACTIONS OF UREA WITH A NATIVE PROTEIN. **Ikbae Son**, Tigran Chalikian

284-Pos **Board B49**
SUB-STATE CONFORMATIONS OF THE MESOPHILIC AND PSYCHROPHILIC LACTATE DEHYDROGENASES PRECEDING IRREVERSIBLE THERMAL INACTIVATION. **Sergei Khrapunov**, Eric Chang, Robert Callender

285-Pos **Board B50**
DENATURED STATE LOOP FORMATION THERMODYNAMICS OF A HYBRID POLYPEPTIDE. **Moses Leavens**, Bruce E. Bowler

286-Pos **Board B51**
REGULATION OF PROTEIN FOLDING USING ORGANIC SOLVENTS AND IONIC LIQUIDS. **Yuji Hidaka**, Ryosuke Nishimura, Shigeru Shimamoto

287-Pos **Board B52**
GLYCINE BETAINE REVERSES OSMOTIC SHOCK INDUCED PROTEIN DESTABILIZATION IN LIVING CELLS. **Samantha S. Stadmiller**, Gary J. Pielak

288-Pos **Board B53**
FLUORESCENCE EVIDENCES FOR NON-HOMOGENEITY AND RESIDUAL STRUCTURE OF DENATURED STATES. **Katherina Hemmen**, Dmitro Rodnin, Igor Markovic, Thomas Otavio Peulen, Suren Felekyan, Ralf Kuehnemuth, Hugo Sanabria, Claus A M Seidel

289-Pos **Board B54**
SELECTION MAINTAINING PROTEIN STABILITY AT EQUILIBRIUM. **Sanzo Miyazawa**

290-Pos **Board B55**
EFFECTS OF FLANKING DISORDER ON THE BEHAVIOUR OF ORDERED DOMAINS. **Katie R. Kemplen**, Petur O. Heidarsson, Lasse Staby, Charlotte O'Shea, Karen Skriver, Birthe B. Kragelund

291-Pos **Board B56**
THE EFFECT OF POLYDISPERSE CROWDING ON PROTEIN STABILITY. **Alan van Giessen**, Anastasia Osti

292-Pos **Board B57**
PAPS-SYNTHASE: DISSECTING FOLDING OF A LARGE AND NATURALLY FRAGILE PROTEIN *IN VITRO* AND *IN CELLULO*. **Oliver Brylski**, Jonathan Wolf Mueller, Simon Ebbinghaus

293-Pos **Board B58**
EFFECTS OF SALT OR COSOLVENT ADDITION ON THERMAL STABILITY OF A PROTEIN: RELEVANCE TO THOSE ON SOLUBILITY OF A HYDROPHOBIC SOLUTE IN WATER. Shota Murakami, **Tomohiko Hayashi**, Masahiro Kinoshita

294-Pos **Board B59**
RESIDUAL STRUCTURE IN THE DENATURED STATE OF A THREE-HELIX BUNDLE PROTEIN. **Dustin Becht**, Klara Briknarova, Bruce Bowler

295-Pos **Board B60**
PHOSPHORYLATION INDUCED GLOBAL STRUCTURAL DESTABILIZATION OF A SMALL PROTEIN DOMAIN. **Ashleigh Bachman**, Radwan Ebna Noor, Dimitra Keramisanou, Ioannis Gelis

296-Pos **Board B61**
PROMISCUOUS CONTACTS AND HEIGHTENED DYNAMICS INCREASE THERMOSTABILITY IN AN ENGINEERED VARIANT OF THE ENGRAILED HOMEODOMAIN. **Michelle E. McCully**, Valerie Daggett

297-Pos **Board B62**
RATIONAL DESIGN OF A SYNTHETIC PEG-LIKE POLYMER FOR PROTEIN STABILIZATION. **Christopher DelRe**, Brian Panganiban, Tim Li, Charley Huang, Monica Olvera de la Cruz, Patrick Dennis, Ting Xu

298-Pos **Board B63**
STABILITY OF HSP60 FROM *HELICOBACTER PYLORI: EFFECT OF GTP BINDING*. **Karina Guadalupe**, Jose Mendoza

Folding Pathways (Boards B64–B76)

299-Pos **Board B64**
IN VITRO STUDIES OF THE FOLDING AND ASSEMBLY MECHANISM OF HEMOGLOBIN. **Premila P. Samuel**, William Ou, George N. Phillips, John S. Olson

300-Pos **Board B65**
AN EVOLUTIONARY TREND TOWARDS KINETIC STABILITY IN THE FOLDING TRAJECTORY OF RNASES H. **Shion An Lim**, Kathryn M. Hart, Michael J. Harms, Susan Marqusee

301-Pos **Board B66**
INTERPRETING PHI-VALUES USING PROTEIN FOLDING TRANSITION PATHS. **Robert Best**, Gerhard Hummer

302-Pos **Board B67**
RECONSTRUCTING THE FOLDING OF LUCIFERASE TO ELUCIDATE THE VECTORIAL FOLDING PATHWAYS OF LARGE, MULTIDOMAIN PROTEINS. **Zackary N. Scholl**, Weitao Yang, Piotr Marszalek

303-Pos **Board B68**
USING SINGLE MOLECULE FORCE SPECTROSCOPY TO DETECT HIGH-ENERGY INTERMEDIATES ON PROTEIN FOLDING PATHWAY. **Ha H. Truong**, Emily J. Guinn, Susan Marqusee

304-Pos **Board B69**
FOLDING PATHWAYS OF EVOLUTIONARILY RELATED PROTEINS PROBED BY HYDROGEN EXCHANGE MASS SPECTROMETRY. **Eric Bolin**, Shion An, Susan Marqusee

305-Pos **Board B70**
HOW HYDRODYNAMIC INTERACTIONS AFFECT THE FOLDING RATE OF PROTEINS. **Fabio C. Zegarra**, Dirar Homouz, Margaret S. Cheung

306-Pos **Board B71**
FOLDING MECHANISMS OF SMALL PROTEINS GB1 AND LB1. **Qianyi Cheng**, Insuk Joung, Keehyoung Joo, Kunihiro Kuwajima, Jooyoung Lee

307-Pos **Board B72**
A NOVEL TRP CAGE CONFORMER REVEALED BY COMBINING HIGH PRESSURE NMR AND MD SIMULATIONS. **Martin J. Fossat**, Soichiro Kitazawa, Scott McCallum, Angel Garcia, Catherine Royer

308-Pos **Board B73**
MICROFLUIDIC TURBULENT MIXERS, TIME RESOLVED SAXS AND FOLDING INTERMEDIATES OF CHEY. **Sagar V. Kathuria**, Osman Bilsel, Srinivas Chakravarthy, C. Robert Matthews

309-Pos **Board B74**
THERMAL AND CHEMICAL UNFOLDING OF CYTOCHROME C IN THE PRESENCE OF HOFMEISTER IONS. **Eric S. Peterson**, Collin A. O'Leary, Sean J. Steinke, Mikayla J. Freese

310-Pos **Board B75**
UNCOVERING CONFORMATIONAL SUBSTATES AND KINETIC CONSTANTS BY PRESSURE MODULATION. **Roland Winter**

311-Pos **Board B76**
INVESTIGATING COTRANSLATIONAL FOLDING IN MEMBRANE PROTEINS USING FRAGMENT-BASED STRUCTURE PREDICTION. **Eleanor C. Law**, Saulo H. P. de Oliveira, Sebastian Kelm, Jiye Shi, Charlotte M. Deane

Protein Dynamics and Allostery I (Boards B77–B90)

312-Pos **Board B77**
MOLECULAR DYNAMICS SIMULATIONS FOR UNDERSTANDING IR SPECTRA AND THE DISTRIBUTION OF ENVIRONMENTS AROUND THE PHOSPHOPANTETHEINE ARM OF ACYL CARRIER PROTEINS. **Michael R. Jordan**, Louise K. Charkoudian, Casey H. Londergan

313-Pos **Board B78**
CAUGHT IN THE ACT: TRAPPING AN ACYL CARRIER PROTEIN INTERACTING WITH A KETOSYNTHASE. **Grace A. Thiele**

314-Pos **Board B79**
ALLOSTERIC MODULATION OF A SERINE PROTEASE BY CONFORMATIONALLY SELECTIVE NANOBODIES. **Tobias Kromann-Hansen**

315-Pos **Board B80**
ALLOSTERIC TRANSMISSION ALONG A LOOSELY STRUCTURED BACKBONE ALLOWS A CARDIAC TROPONIN C MUTANT TO FUNCTION WITH ONLY ONE CA^{2+} ION. **Mayra A. Marques**, José R. Pinto, Adolfo H. Moraes, Anwar Iqbal, Mariana T. Q. de Magalhães, Jamila Monteiro, Murilo M. Pedrote, Martha M. Sorenson, Jerson L. Silva, Guilherme A. P. de Oliveira

316-Pos **Board B81**
DYNAMICS AND ASSEMBLY OF ASB-CONTAINING E3 UBIQUITIN LIGASES. **Ryan Lumpkin**, Alla Ahmad, Melinda Chan, Elizabeth Komives

317-Pos **Board B82**
NFKB AND IKBA ENGAGE IN AN 'I FOLD YOU, YOU FOLD ME' INTERACTION EXCLUDING DNA. **Kristen M. Ramsey**, Holly E. Dembinski, Yi Chen, Elizabeth A. Komives

318-Pos **Board B83**
HDXMS REVEALS DYNAMIC CHANGES IN THE ANTICOAGULANT W215A MUTANT OF THROMBIN. **Riley Peacock**, Jessie Davis, Sofia Zaragosa, Elizabeth Komives

319-Pos **Board B84**
INSIGHTS INTO DYNAMICS OF THROMBIN W215 MUTANTS USING SYNAPT G2SI WITH ION MOBILITY SEPARATION. **Jessie R. Davis**, Riley Peacock, Elizabeth Komives

320-Pos **Board B85**
THE EFFECTS OF PROTEIN DYNAMICS ON IMMUNE SYSTEM SIGNALING PATHWAYS. **Helen T. Hobbs**, Susan Marqusee, John Kuriyan

321-Pos **Board B86**
IMATINIB BINDING TO HUMAN C-SRC IS COUPLED TO INTER-DOMAIN ALLOSTERY AND SUGGEST A NOVEL KINASE INHIBITION STRATEGY. **Yuko Tsutsui**, Daniel Deredge, Patrick L. Wintrode, Franklin A. Hays

322-Pos **Board B87**
A PHOSPHO-INDUCED THEFT OF A SALT BRIDGE IN RKIP LINKS MAP KINASE AND G PROTEIN-MEDIATED SIGNALING. **Tobin R. Sosnick**, John J. Skinner, Sheng Wang, Jiyoung Lee, Ruth Sommese, Sivaraj Sivaramakrishnan, Wolfgang Kölmel, Maria Hirschbeck, Hermann Schindelin, Caroline Kisker, Kristina Lorenz, Marsha R. Rosner

323-Pos **Board B88**
CHARACTERIZATION OF DISEASE CAUSING MUTATIONS ASSOCIATED WITH FGF RECEPTOR TYROSINE KINASES USING NMR SPECTROSCOPY. **William M. Marsiglia**, Huaibin Chen, Min-kyu Cho, Moosa` Mohammadi, Nathaniel J. Traaseth

324-Pos **Board B89**
CONFORMATIONAL FLEXIBILITY OF HIV VIF IN COMPLEX WITH HOST PROTEINS. **K. Aurelia Ball**, John D. Gross, Matt P. Jacobson

325-Pos **Board B90**
BINDING-INTERFACE DYNAMICS BETWEEN CALMODULIN AND ITS TARGETS REVEALED USING NONPERTURBATIVE INFRARED PROBE GROUPS. **Casey H. Londergan**, Kristen L. Kelly

Enzyme Function, Cofactors, and Post-translational Modifications (Boards B91–B107)

326-Pos **Board B91**
NEDD4-2 IS A FUNCTIONAL OLIGOMER EXHIBITING COOPERATIVE ALLOSTERIC KINETICS. **Dustin R. Todaro**, Allison C. Augustus-Wallace, Jennifer M. Klein, Arthur L. Haas

327-Pos **Board B92**
UBIQUITINATION OF SUBSTRATES BY E6AP/UBE3A LIGASE. **Virginia Ronchi**, Arthur Haas

328-Pos **Board B93**
MECHANISTIC INSIGHTS INTO UBC13-CATALYZED UBIQUITINATION. **Isaiah Sumner**, R. Hunter Wilson, Walker M. Jones, Aaron G. Davis, Serban Zamfir

329-Pos **Board B94**
CHARACTERIZATION OF THE ESSENTIAL RESIDUES OF CYCLOOXYGENASE-1 AND -2 RESPONSIBLE FOR THEIR INTER-SUBUNIT COMMUNICATIONS UPON THEIR BINDING TO THE CORRESPONDING SUBSTRATES AND INHIBITORS. **Inseok Song**

330-Pos **Board B95**
A COMPUTATIONAL INVESTIGATION INTO THE MECHANISM OF THE HISTONE ACETYLTRANSFERASE, GCN5. **R. Hunter Wilson**, Isaiah Sumner

331-Pos **Board B96**
MOLECULAR SIMULATIONS OF BACTERIAL LIPOPROTEIN BIOGENESIS. **Phillip J. Stansfeld**

332-Pos **Board B97**
HEME TRAFFICKING BY THE CYTOCHROME *C* BIOGENESIS PATHWAYS. **Molly C. Sutherland**, Joel A. Rankin, Robert G. Kranz

333-Pos **Board B98**
DESIGNED ENZYMES AND THE DRIVING FORCES BEHIND INTERDOMAIN ELECTRON TRANSFER. **Mia C. Brown**, Kelly Greenland, Lei Zhang, Ronald L. Koder

334-Pos **Board B99**
FACTORS GOVERNING AUTOOXIDATION OF HUMAN HEMOGLOBIN. **Andres S. Benitez Cardenas**, John S. Olson

335-Pos **Board B100**
ASSESSING THE SPECTROSCOPIC PROPERTIES AND ENZYME ACTIVITY OF FLUORESCENT CASPASE SUBSTRATES. Gena Lenti, Nicholas Tassone, Srirajkumar Ranganathan, Caitlin Karver, **Cathrine A. Southern**

336-Pos **Board B101**
SINGLE MOLECULE ENZYMOLOGY WITH OUTER MEMBRANE PROTEIN G. **Bach G. Pham**

337-Pos **Board B102**
PROTEIN SEMI-SYNTHESIS TO CHARACTERIZE PHOSPHO-REGULATION OF HUMAN UNG2. **Brian P. Weiser**, James T. Stivers, Philip A. Cole

338-Pos **Board B103**
VOLTAGE DEPENDENT PHOSPHATASE ACTIVITY IS ENHANCED BY INTRACELLULAR ACIDIFICATION. Angeliki Mavrantoni, Kirstin Hobiger, Dominik Oliver, **Christian R. Halaszovich**

339-Pos **Board B104**
ELECTRIC FIELD EFFECTS IN THE ACTIVE SITE OF A THERMOPHILIC ENZYME AS OBSERVED BY FTIR AND 2DIR SPECTROSCOPY. **Tayler D. Hill**, Hannah H. Lepird, David A. Price, Sean D. Moran

340-Pos **Board B105**
INFRARED STRUCTURAL BIOLOGY: HOW TO DETECT PROTONATION STATES OF HISTIDINE SIDE CHAINS IN PROTEINS. **Aihua Xie**, Charle Liu, Matthew Cavener

341-Pos **Board B106**
ORIGIN OF CHAIN LENGTH SPECIFICITES OF STARCH BRANCHING ENZYME. **Hadi Nayebi Gavgani**, Remie Fawaz, Zahra Assar, Alireza Ghanbarpour, David Walls, Sarah McGovern, James H. Geiger

342-Pos **Board B107**
MODIFICATIONS OF ALPHA AND BETA CARBOXY-TERMINAL TAILS REGULATE MICROTUBULE SEVERING BY KATANIN. **Madison Tyler**, Corey Reed, Dan Sackett, Jennifer Ross

Ribosomes and Translation (Boards B108–B110)

343-Pos **Board B108**
PROTEIN SYNTHESIS TIMES SCALE WITH GENE LENGTH BECAUSE THE DETERMINANTS OF TRANSLATION SPEED ARE RANDOMLY DISTRIBUTED ACROSS GENES. **Edward P. O'Brien**, Ajeet Sharma

344-Pos **Board B109**
THE ROLE OF L11 STALK FLUCTUATIONS IN AA-TRNA ACCOMMODATION. **Huan Yang**, Paul Charles Whitford

345-Pos **Board B110**
SIMULATING MOVEMENT OF THE RIBOSOME HEAD DURING TRANSLOCATION. **Karissa Y. Sanbonmatsu**, Wataru Nishima

Nucleic Acid Structure and Dynamics I (Boards B111–B127)

346-Pos **Board B111**
EFFECTS OF 5-HYDROXYMETHYLCYTOSINE EPIGENETIC MODIFICATIONS WITHIN THE VEGF PROMOTER REGION ON G-QUADRUPLEX AND I-MOTIF DNA STRUCTURE AND STABILITY. **Michael M. Molnar**, Rhianna K. Morgan, Tracy A. Brooks, Randy M. Wadkins

347-Pos **Board B112**
TEMPERATURE DEPENDENCE OF L-PROLINE RNA DUPLEX DESTABILIZATION. **Jeffrey J. Schwinefus**, Kalpit Modi, Nadia Baka

348-Pos **Board B113**
ENGINEERING DNA LOOPING IN *E. COLI*. **Nicole A. Becker**, Tanya L. Schwab, Karl J. Clark, L. James Maher III

349-Pos **Board B114**
INVESTIGATING THE STABILITY OF DNA DUPLEX HAIRPINS USING OPTICAL TWEEZERS. **Leah Furman**, Micah McCauley, Catherine A. Dietrich, Mark C. Williams, Megan E. Nunez

350-Pos **Board B115**
UNTWISTING OF DOUBLE-STRANDED DNA AND RNA INVESTIGATED BY MOLECULAR DYNAMICS SIMULATIONS. **Korbinian Liebl**

351-Pos **Board B116**
TRANSLOCATION OF STRUCTURALLY DEFINED BRANCHED DNA THROUGH NANOPORES. **Philipp Karau**, Kyle Briggs, Vincent Tabard-Cossa

352-Pos **Board B117**
THERMODYNAMIC LINKAGE ANALYSIS OF PH-INDUCED FOLDING AND UNFOLDING TRANSITIONS OF I-MOTIFS. **Byul Kim**, Tigran Chalikian

353-Pos **Board B118** **International Travel Awardee**
LIVE CELL IMAGING OF GENOMIC LOCI USING FLUORESCENT RNA APTAMERS. **Adam Cawte**, Sunny Jeng, Peter Unrau, David Rueda

354-Pos **Board B119**
ELUCIDATING THE ROLE OF TRANSCRIPTION IN SHAPING THE 3D STRUCTURE OF THE BACTERIAL GENOME. **Hugo Brandao**, Xindan Wang, David Rudner, Leonid Mirny

355-Pos **Board B120**
INVESTIGATION OF THE MELTING THERMODYNAMICS OF A DNA 4-WAY JUNCTION: ONE BASE AT A TIME. Rachel E. Savage, Wujie Wang, Francis W. Starr, **Ishita Mukerji**

356-Pos **Board B121**
ROLE OF WATSON-CRICK-LIKE MISMATCHES IN DNA REPLICATION FIDELITY. **Eric S. Szymanski**, Isaac J. Kimsey, Hashim M. Al-Hashimi

357-Pos **Board B122** **International Travel Awardee**
DIRECT OBSERVATION OF SINGLE BIOPOLYMER FOLDING AND UNFOLDING PROCESS BY SOLID-STATE NANOPORE. **Xin Shi**, Rui Gao, Shao-Chuang Liu, Qiao Li, Yi-Tao Long

358-Pos **Board B123**
TUNING UP TETHERED PARTICLE MOTION. **Daniel T. Kovari**, Eric Weeks, David Dunlap, Laura Finzi

359-Pos **Board B124**
SMALL MOLECULE APTAMERS FOR BIOSENSING. **Gregory Wiedman**, Yunan Zhao, David Perlin

360-Pos **Board B125**
IMPROVED SAMPLING IN MOLECULAR DYNAMICSSTUDIESOF DNA AND THE B TO Z[WC] TO Z-DNA TRANSITION. **Lam T. Nguyen**, Ashutosh Rai, Micaela E. Bush, Alma Gracic, Ahsan A. Khoja, Jinhee Kim, Sunil Pun, Alexander K. Seewald, Benjamin L. Yee, Michael G. Lerner

361-Pos **Board B126** **Education Travel Awardee**
ENERGETIC CONTRIBUTIONS OF PLECTONEME TIPS AND TAILS. **Andrew Dittmore**, Keir C. Neuman

362-Pos **Board B127**
MULTI-SCALE STRUCTURE AND CONFORMATIONAL DYNAMICS OF SCAFFOLDED DNA ORIGAMI NANOPARTICLES. **William Bricker**, Keyao Pan, Mark Bathe

RNA Binding (Boards B128–B139)

363-Pos **Board B128**
SHEDDING LIGHT ON CAS9 TARGET SEARCH. **Viktorija Globyte**, Seung Hwan Lee, Luuk Loeff, Jin Soo Kim, Chirlmin Joo

364-Pos **Board B129**
TO CLEAVE OR NOT TO CLEAVE: PREDICTING THE TARGET SPECIFICITY OF CRISPR-CAS SYSTEMS THROUGH THEORETICAL MODELING. **Misha Klein**, Martin Depken

365-Pos **Board B130** **Education Travel Awardee**
CONFORMATIONAL DYNAMICS OF CAS9 DURING DNA BINDING. **Yavuz S. Dagdas**, Janice S. Chen, Samuel H. Sternberg, Jennifer A. Doudna, Ahmet Yildiz

366-Pos **Board B131**
REPETITIVE LOOP FORMATION BY THE CRISPR-CAS3 HELICASE. **Luuk Loeff**, Stan Brouns, Chirlmin Joo

367-Pos **Board B132**
THE IMPACT OF DNA TOPOLOGY ON TARGET SELECTION BY A CYTOSINE-SPECIFIC CAS9. **Tsz Kin Martin Tsui**, Travis H. Hand, Hong Li

368-Pos **Board B133**
CRISPR-CAS9: COMPUTATIONAL INSIGHTS TOWARD IMPROVED GENOME EDITING. **Giulia Palermo**, Yinglong Miao, Ross C. Walker, Martin Jinek, J. Andrew McCammon

369-Pos **Board B134**
STRUCTURAL INSIGHTS INTO G-TRACT RECOGNITION BY THE HNRNP H RNA RECOGNITION MOTIF. **Srinivasa R. Penumutchu**

370-Pos **Board B135** **Education Travel Awardee**
BLIND PREDICTIONS OF RNA/PROTEIN RELATIVE BINDING AFFINITIES. **Kalli Kappel**, Inga Jarmoskaite, Pavan P. Vaidyanathan, William J. Greenleaf, Daniel Herschlag, Rhiju Das

371-Pos **Board B136** **CID Travel Awardee**
BIOPHYSICAL STUDIES OF LIPOSOME ENCAPSULATED POKEWEED ANTIVIRAL PROTEIN AND ITS USE AS A HIV THERAPEUTIC. **O'Jay Stewart**, Artem Domashevskiy

372-Pos **Board B137**
A DEAD-BOX PROTEIN ACTS THROUGH RNA TO PROMOTE HIV-1 REV-RRE ASSEMBLY. **Rajan Lamichhane**, John A. Hammond, Raymond F. Pauszek, Ingemar Pedron, Edwin van der Schans, James R. Williamson, David P. Millar

373-Pos **Board B138**
DECIPHERING THE ACTION MECHANISM OF DDX3: AN RNA HELICASE IMPLICATED IN CANCER PROPAGATION AND PATHOGENIC VIRAL INFECTION. **Anthony F. Moore**, Aliana Lopez de Victoria, Eda Koculi

374-Pos **Board B139**
INTERACTION OF PKR WITH SINGLE STRANDED RNA. Christopher B. Mayo, **James L. Cole**

Membrane Dynamics I (Boards B140–B158)

375-Pos **Board B140**
SURFACTANT MICELLE SELF-ASSEMBLY WITH COARSE-GRAINED MARTINI STANDARD WATER AND POLARIZABLE WATER. **Eric Sefah**, Blake Mertz

376-Pos **Board B141**
SIMULATIONS OF GLYCEROL AND ITS EFFECT ON THE PHASE AND BEHAVIOUR OF DPPC MONOLAYERS. **Jemma L. Trick**, Wachirun Terakosolphan, Ben Forbes, Christian D. Lorenz

377-Pos **Board B142**
PROTOCOL AND VALIDATION OF CHARMM-GUI HEX PHASE BUILDER. **Andrew H. Beaven**, Alexander J. Sodt, Richard W. Pastor, Wonpil Im

378-Pos **Board B143**
REPRODUCTION OF A THREE-COMPONENT (DPPC/DOPC/CHOLESTEROL) PHASE DIAGRAM USING COARSE GRAINED MOLECULAR DYNAMICS. Cameron Montour, **Timothy S. Carpenter**, Felice C. Lightstone

379-Pos **Board B144**
MOLECULAR DYNAMICS SIMULATIONS OF 38 TYPES OF GANGLIOSIDE IN HOMOEGNEOUS MEMBRANE BILAYERS. **Steve Kim**, Wonpil Im

380-Pos **Board B145**
VITAMIN E DOES NOT PREFERENTIALLY BIND TO POLYUNSATURATED LIPIDS AS REVEALED BY UMBRELLA SAMPLING MD SIMULATIONS. **Xiaoling Leng**, Andres Cavazos, Bruce Ray, Mikel Ghelfi, Jeffrey Atkinson, Fangqiang Zhu, Stephen Wassall

381-Pos **Board B146**
RBL-2H3 PROLIFERATION IS MODULATED BY TREATMENTS THAT SHIFT TRANSITION TEMPERATURES IN ISOLATED PLASMA MEMBRANE VESICLES. **Rohan P. Desai**, Sarah Veatch

382-Pos **Board B147**
LIPID LATERAL ORDERING DEFINED BY HIGH-FIELD EPR. **Zahra Hayati**, Pavanjeet Kaur, Likai Song

383-Pos **Board B148**
AZOBENZENE-CHOLESTEROL AS A PHOTOACTIVATOR IN BIOMIMETIC MEMBRANES: 1. LIPID DYNAMICS. **Chen Shen**, Jacques Ollivier, Judith Peters, Jörg Pieper, Beate Klösgen

384-Pos **Board B149**
ANOMALOUS BEHAVIOR IN LIPID BILAYER MEMBRANES. **Matthew R. Cheetham**, Helena L. E. Coker, Mark I. Wallace

385-Pos **Board B150**
ALL-ATOM MOLECULAR DYNAMICS SIMULATION OF STEALTH LIPOSOMES. **Seyed Hamid Tabari**, Jeevapani Hettige, Mahmoud Moradi

386-Pos **Board B151**
LIPID DIFFUSION IN MEMBRANE JUNCTIONS MEASURED BY SINGLE-MOLECULE TRACKING. **Vivek Ramakrishna**, Mark I. Wallace

387-Pos **Board B152**
INFLUENZA BINDING AVIDITY GOVERNED BY STEROL-DEPENDENT GANGLIOSIDE DYNAMICS. **Isabel Goronzy**, Robert Rawle, Peter Kasson, Steven Boxer

388-Pos **Board B153**
SECRETS OF THE ENIGMATIC LIPID II REVEALED BY MOLECULAR DYNAMICS SIMULATIONS. **Syma Khalid**, Firdaus Samsudin, Timothy S. Carpenter, Sarah Witzke

389-Pos **Board B154**
EVALUATING BILAYER MECHANICAL PROPERTIES IN PROTEIN RECONSTITUTED GUVS. **Nestor Lopez Mora**, Heather Findlay, Paula Booth

390-Pos **Board B155** **Education Travel Awardee**
SHEAR STRESS STIMULATED MSC ACTIVITIES: DIRECT CHANGES OF MEMBRANE TENSION OR CYTOSKELETAL STRESS? **Mohammad Mehdi Maneshi**, Frederick Sachs, Susan Zonglu Hua

391-Pos **Board B156**
STRESS PROPAGATION THROUGH BIOLOGICAL LIPID-BILAYERS REVEALED BY ATOMISTIC AND COARSE-GRAINED SIMULATIONS. **Camilo Aponte-Santamaria**, Frauke Gräter

392-Pos **Board B157**
INTERDEPENDENCE BETWEEN COLLECTIVE THERMAL FLUCTUATIONS AND ELASTIC AND VISCOUS PROPERTIES IN MODEL LIPID BILAYERS. **Michihiro Nagao**, Elizabeth G. Kelley, Rana Ashkar, Robert Bradbury, Paul D. Butler

393-Pos **Board B158** **Education Travel Awardee**
HYDRATION-MEDIATED ELASTIC DEFORMATIONS IN BIOLOGICAL MEMBRANES. Trivikram R. Molugu, **Soohyun K. Lee**, Xiaolin Xu, Rami Mushafieh, K. J. Mallikarjunaiah, Constantin Job, Michael Brown

Membrane Fusion and Non-Bilayer Structures (Boards B159–B180)

394-Pos **Board B159**
INTERACTIONS OF CARBON NANOTUBES STABILIZED BY SELECTED GEMINI SURFACTANTS WITH MODEL BIOMEMBRANES. **Michalina Skupin**, Justyna Iżykowska, Weronika Andrzejewska, Maria Dobies, Stefan Jurga, Maciej Kozak

395-Pos **Board B160**
THE BILAT: A FREE STANDING LIPID BILAYER MICROARRAY PLATFORM FOR MEMBRANE FUSION. **Sathish K. Ramakrishnan**, Andrea Gohlke, Paul Heo, James Rothman, Frederic Pincet

396-Pos **Board B161**
PHASE SPECIFIC MEMBRANE FUSION WITH SNARE MIMETICS. **Bastian Kubsch**, Tom Robinson, Torben-Tobias Kliesch, Andreas Janshoff, Reinhard Lipowsky, Rumiana Dimova

397-Pos **Board B162**
THE INFLUENCE OF NANOPARTICLES ON SNARE-MEDIATED MEMBRANE FUSION. **Michael J. Crowe**, Jiajie Diao

398-Pos **Board B163**
CALCIUM SENSITIVE RING-LIKE OLIGOMERS OF SYNAPTOTAGMIN 1: IMPLICATIONS FOR NEUROTRANSMITTER RELEASE. **Shyam Krishnakumar**

399-Pos **Board B164**
TOWARDS UNDERSTANDING THE MOLECULAR MECHANISM OF SYNCHRONOUS NEUROTRANSMITTER RELEASE. **Qiangjun Zhou**, Thomas Christian Südhof, Axel Thomas Brunger

400-Pos **Board B165**
A-SYNUCLEIN: A FUNCTIONAL ROLE AS A REGULATOR OF SNARE-MEDIATED FUSION. Siobhan Toal, **Elizabeth Rhoades**

401-Pos **Board B166**
MITOCHONDRIAL FUSION PROTEINS: A TALE OF TWO MEMBRANES. **Andrew D. Kehr**, Marisa A. Rubio, Jenny Hinshaw

402-Pos **Board B167**
STRUCTURE OF THE EBOLA VIRUS ENVELOPE PROTEIN MPER/TM DOMAIN AND ITS INTERACTION WITH THE FUSION LOOP EXPLAINS THEIR FUSION ACTIVITY. **Jinwoo Lee**, David A. Nyenhuis, Elizabeth A. Nelson, David S. Cafiso, Judith M. White, Lukas K. Tamm

403-Pos **Board B168**
LEAKAGE INDUCED BY THE INFLUENZA VIRUS HAEMAGGLUTININ DEPENDS ON TARGET MEMBRANE SPONTANEOUS CURVATURE. **Sourav Haldar**, Elena Mekhedov, Jane Farrington, Petr Chlanda, Paul S. Blank, Joshua Zimmerberg

404-Pos **Board B169**
VIRAL FUSION EFFICACY OF INFLUENZA VIRUS H3N2 REASSORTMENT COMBINATION TO THE SUPPOERED LIPID LAYER. **Hunglun Hsu**, Jean Millet, Deirdre Costello, Gary Whittaker, Susan Daniel

405-Pos **Board B170**
SERINC5 INHIBITS HIV FUSION THROUGH INACTIVATION OF ENV GLYCOPROTEINS AND INTERFERENCE WITH PRODUCTIVE REFOLDING OF ENV. Chetan Sood, Mariana Marin, Ajit Chande, Alexa L. Mattheyses, Khalid Salaita, Massimo Pizzato, **Gregory Melikian**

406-Pos **Board B171**
SERINC INHIBITS HIV-1 ENV INDUCED MEMBRANE FUSION AND SLOWS FUSION PORE ENLARGEMENT. **Ruben M. Markosyan**, Shan-Lu Liu, Fred S. Cohen

407-Pos **Board B172**
PROBING INDUCED STRUCTURAL CHANGES IN BIOMIMETIC BACTERIAL CELL MEMBRANE INTERACTIONS WITH DIVALENT CATIONS. **Allison Whited**, Alexander Johs, John Katsaras, Robert Standaert, Aaron Jubb

408-Pos **Board B173**
ROLE OF *TRANS* TO *CIS* TRANSITION IN VIRAL FUSION PORE DILATION. **Brett E. Alcott**, Zhenyong Wu, Josie Bircher, Erdem Karatekin, Ben O'Shaughnessy

409-Pos **Board B174**
THE INFLUENCE OF MEMBRANE COMPOSITION ON THE KINETICS OF INFLUENZA VIRUS FUSION MEASURED USING A SINGLE PARTICLE APPROACH. **Guus van der Borg**, Scarlett Braddock, Jelle S. Blijleven, Antoine M. van Oijen, Wouter H. Roos

410-Pos **Board B175**
REVISIT THE CORRELATION BETWEEN THE ELASTIC MECHANICS AND FUSION OF LIPID MEMBRANES. Zih-An Fan, Kuan-Yu Tsang, Si-Han Chen, **Yi-Fan Chen**

411-Pos **Board B176**
HEMAGGLUTININ PALMITOYLATION CONTRIBUTES TO MEMBRANE CURVATURE IN INFLUENZA A VIRUS ASSEMBLY AND MEMBRANE FUSION. Petr Chlanda, Elena Mekhedov, Hang Waters, Alexander Sodt, Paul S. Blank, **Joshua Zimmerberg**

412-Pos **Board B177**
HIV ENTRY: RECEPTORS COOPERATE WITH MEMBRANE DOMAIN BOUNDARIES TO FORM ENTRY SITES IN HOST CELLS. **Sung-Tae Yang**, Volker Kiessling, Lukas K. Tamm

413-Pos **Board B178**
SINGLE-VIRUS OBSERVATION OF PH-TRIGGERED ZIKA FUSION IN THE ABSENCE OF A CELLULAR RECEPTOR. **Robert J. Rawle**, Elizabeth Webster, Isabel Goronzy, Steven Boxer, Peter Kasson

414-Pos **Board B179**
MOLECULAR ATLAS IMAGING AND OSTEOCLAST FORMATION: MULTISCALE STUDY OF CELL-CELL FUSION MECHANISMS. **Jesse L. Silverberg**, Pei Ying Ng, Roland Baron, Peng Yin

415-Pos **Board B180**
OPTIMIZING EXCITATION POLARIZATION TO PROBE FUSION PORE DYNAMICS USING TIRF MICROSCOPY. **Kasey Hancock**, Joerg Nikolaus, Erdem Karatekin, David Baddeley

Membrane Structure I (Boards B181–B196)

416-Pos **Board B181**
ANALYSIS OF LIPID DOMAINS IN BILAYER SIMULATIONS USING OBSERVABLES FOR LIPID PACKING. **Soohyung Park**, Wonpil Im

417-Pos **Board B182**
SOFTWARE FOR DIRECT COMPARISON OF MEMBRANE SCATTERING EXPERIMENTS DATA TO MOLECULAR DYNAMICS SIMULATIONS. **Yevhen Cherniavskyi**, Svetlana Baoukina, Bryan W. Holland, Norbert Kučerka, Peter Tieleman

418-Pos **Board B183**
MODELING ETHERS WITH MOLECULAR DYNAMICS: UPDATED CHARMM FORCE FIELD PARAMETERS FOR ETHERS IN MODEL COMPOUNDS AND LIPID MEMBRANES. **Alison M. Leonard**

419-Pos **Board B184**
SIMULATION OF LINOLEOYL-CONTAINING PURE LIPID BILAYER AND SOYBEAN PLASMA MEMBRANES. Xiaohong Zhuang, Anna Ou, **Jeffery B. Klauda**

420-Pos **Board B185**
LATERAL HETEROGENEITY OF CHOLESTEROL ON BINARY LIPID MIXTURES OF POPC/CHOL IMAGED WITH AFM. **Arturo Galván-Hernández**, Fernando Favela-Rosales, Jorge Hernández-Cobos, Iván Ortega-Blake

421-Pos **Board B186** **CPOW Travel Awardee**
ORIENTATIONAL PROPERTIES OF DOPC/SM/CHOLESTEROL MIXTURES: A PM-IRRAS STUDY. **Sabina M. Maté**, Romina Vazquez, Felippe J. Pavinatto, M. Antonieta Daza-Millone, Vanesa Herlax, Laura Bakas, Osvaldo N. Oliveira Jr., María E. Vela

422-Pos **Board B187**
INVESTIGATING LIPID DOMAIN FORMATION IN ASYMMETRIC LARGE UNILAMELLAR VESICLES USING FÖRSTER RESONANCE ENERGY TRANSFER (FRET). **Johnna R. St Clair**, Qing Wang, Erwin London

423-Pos **Board B188**
LIPID MIXING IN MODEL MEMBRANES. **Ruo-Xu Gu**, Svetlana Baoukina, D. Peter Tieleman

424-Pos **Board B189**
GLYCOLIPID CROSSLINKING IS REQUIRED FOR CHOLERA TOXIN TO PARTITION INTO AND STABILIZE ORDERED DOMAINS. **Krishnan Raghunathan**, Tiffany Wong, Daniel J. Chinnapen, Wayne I. Lencer, Michael G. Jobling, Anne K. Kenworthy

425-Pos **Board B190**
MODEL FOR LIPID DROPLETS WITHIN ENDOPLASMIC RETICULUM. **Gonen Golani**, Michael M. Kozlov

426-Pos **Board B191**
FUNCTIONAL AND STRUCTURAL CHARACTERIZATION OF PULMONARY SURFACTANT FRACTIONS OBTAINED FROM BRONCHOALVEOLAR LAVAGES. José Carlos Castillo-Sánchez, Alejandro Cerrada, Mikel Conde, Jésus Pérez-Gil, **Antonio Cruz**

427-Pos **Board B192**
SIMULATIONS PROVIDE INSIGHT INTO IMPROVING THE TOLERANCE OF THE *E. COLI* MEMBRANE. **Pouyan Khakbaz**, Jeffery Klauda

428-Pos **Board B193**
INTERMEMBRANE CROSSTALK IN E. COLI. **Patrice Rassam**, Colin Kleanthous

429-Pos **Board B194**
LOW-ENTHALPY PHASE TRANSITIONS YIELD ENTROPY-DRIVEN LATERAL REORGANIZATION AND PHASE SEPARATION IN SYNTHETIC AND NATURAL MULTI-COMPONENT DIB MEMBRANES. **Graham Taylor**, Frederick A. Heberle, Jason Seinfeld, John Katsaras, C. Patrick Collier, Stephen A. Sarles

430-Pos **Board B195**
UTILIZING ASYMMETRIC GUVS TO INSPECT PLASMA MEMBRANE PHASE BEHAVIOR AND BINDING OF POLYBASIC PROTEINS. **Josephine Gonzales**, Milka Doktorova, Gerald Feigenson

431-Pos **Board B196**
THE L-GAMMA PHASE OF PULMONARY SURFACTANT. Kamlesh Kumar, Mariya Chavarha, Ryan W. Loney, Maayan P. Dagan, Thomas M. Weiss, Shankar B. Rananavare, **Stephen B. Hall**

General Protein-Lipid Interactions I (Boards B197–B209)

432-Pos **Board B197**
LIPID-PROTEIN INTERACTIONS ARE UNIQUE FINGERPRINTS FOR MEMBRANE PROTEINS. Valentina Corradi, Eduardo Mendez-Villuendas, Helgi Ingolfsson, Siewert-Jan Marrink, **D. Peter Tieleman**

433-Pos **Board B198**
LIPID-DEPENDENCE OF THE MEMBRANE INTERACTIONS OF THE TIM23 CHANNEL SUBUNIT OF THE MITOCHONDRIAL PROTEIN IMPORT MACHINERY. **Melissa K. Skoryk**, Kevin J. Boyd, Eric R. May, Nathan N. Alder

434-Pos **Board B199** **International Travel Awardee**
DECIPHERING MEMBRANE PROTEIN ENERGETICS USING DEEP SEQUENCING; TOWARDS ROBUST DESIGN AND STRUCTURE PREDICTION OF MEMBRANE PROTEINS. **Assaf Elazar**, Jonathan Weinstein, Sarel Fleishman

435-Pos **Board B200**
GOVERNING MECHANISM OF PHOSPHOLIPIDS PEROXIDATION VIA 15-LIPOXYGENASE, A KEY PLAYER IN FERROPTOSIS CELL DEATH PATHWAY. **Dariush Mohammadyani**, Judith Klein-Seetharaman, Valerian E. Kagan

436-Pos **Board B201**
INVESTIGATION OF ACYL PROTEIN THIOESTERASE ACTIVITY AT THE MEMBRANE. **Kathrin Estel**, Patricia Stege, Ingrid Vetter

437-Pos **Board B202**
MG56, A MEMBRANE BOUND O-ACYLTRANSFERASE PROTEIN, REGULATES LIPID COMPOSITION AND MEMBRANE VESICLE SIZE IN SKELETAL MUSCLE. **Matthew Sermersheim**, Arpad Somogyi, Jordi Torrelles, Miyuki Nishi, Hiroshi Takeshima, Pei-Hui Lin, Jianjie Ma

438-Pos **Board B203**
THE ROLE OF PACKING DEFECTS IN THE STABILITY AND FUNCTION OF THE INTRAMEMBRANE PROTEASE GLPG. **Ruiqiong Guo**, Zixuan Cang, Deans Erin, Guowei Wei, Heedeok Hong

439-Pos **Board B204**
DISSECTING THE SIDE CHAIN INTERACTION ENERGIES OF THE ACTIVE SITE HYDROGEN BOND NETWORK IN A RHOMBOID PROTEASE GLPG. **Kristen A. Gaffney**, Jeff Cho, Heedeok Hong

440-Pos **Board B205**
RECONSTITUTION OF FTSH-MEDIATED MEMBRANE PROTEIN DEGRADATION IN BICELLES. **Yiqing Yang**, Miyeon Kim, Ruiqiong Guo, Kristen Gaffney, Heedeok Hong

441-Pos **Board B206**
IMPACT OF PLASMA PROTEIN BINDING ON CARGO RELEASE BY THERMOSENSITIVE LIPOSOMES STUDIED BY FLUORESCENCE CORRELATION SPECTROSCOPY. **Judith J. Mittag**, Barbara Kneidl, Tobias Preiß, Martin Hossann, Gerhard Winter, Stefan Wuttke, Hanna Engelke, Joachim O. Rädler

442-Pos **Board B207**
A MASS-SPECTROMETRY BASED METHODOLOGY TO UNRAVEL THE MOLECULAR MECHANISMS OF SUGAR TRANSPORT. **Chloe Martens**, Antoni Borysik, Paula Booth, Argyris Politis

443-Pos **Board B208**
VECTORIAL CHOLESTEROL TRANSPORT BY STARD4 IS MEDIATED BY SPECIFIC PIP_2 MEMBRANE COMPOSITION. **Derek M. Shore**, David B. Iaea, Radda Rusinova, George Khelashvili, Michel A. Cuendet, Olaf S. Andersen, Frederick R. Maxfield, Harel Weinstein

444-Pos **Board B209**
CHIMERA OF APOLIPOPHORIN III AND C-TERMINAL DOMAIN OF APOLIPOPROTEIN E TO STUDY APOLIPOPROTEIN STRUCTURE FUNCTION. **Paul M. Weers**, Leesa M. Kakutani, James V. Horn, Vasanthy Narayanaswami

Membrane Receptors and Signal Transduction I (Boards B210–B224)

445-Pos **Board B210**
COMPUTATIONAL MODEL OF INTEGRIN CLUSTERING IN RESPONSE TO ACTIN TURNOVER. **Tamara C. Bidone**, Aravind R. Rammohan, Matt McKenzie, Gregory A. Voth

446-Pos **Board B211**
THE M2 MUSCARINIC RECEPTOR SIGNALING COMPLEX RESOLVED BY SINGLE MOLECULE TRACKING IN LIVE CELLS. **Yuchong Li**, Rabindra V. Shivnaraine, Huiqiao Ji, Fei Huang, Kevin Braeckmans, James W. Wells, Claudiu C. Gradinaru

447-Pos **Board B212**
QUANTITATIVE FLUORESCENCE MICROSCOPY REVEALS HIGHER ORDER OLIGOMERIZATION OF FGFR5. Romario Regeenes, Pamuditha Silva, Dawn M. Kilkenny, **Jonathan V. Rocheleau**

448-Pos **Board B213**
INVESTIGATING THE HETERO-INTERATIONS OF RECEPTOR TYROSINE KINASES IN LIVE CELLS. **Michael Paul**, Fozia Ahmed, Kalina Hristova

449-Pos **Board B214**
DECODING THE SIGNALING THROUGH HOMOMERIC AND HETEROMERIC CANNABINOID CB1 RECEPTORS. **Guoqing Xiang**, Takeharu Kawano, Apostolia Baki, Diomedes Logothetis

450-Pos **Board B215**
EXAMINING THE EFFECTS OF NEUROTROPHIN 3 AND NERVE GROWTH FACTOR ON THE INTERACTION OF TROPOMYOSIN RECEPTOR KINASE A AND C. **Fozia Ahmed**, Kalina Hristova

451-Pos **Board B216**
HIGH CONTENT ANALYSIS OF INTRACELLULAR HETEROGENEITY TO STUDY GPCR OLIGOMERIZATION. **Artu' Breuer**, Samuel Mcewen Walsh, Anna Mantsiou, Dimitrios Stamou

452-Pos **Board B217**
INTERACTIONS BETWEEN G PROTEINS AND NON-STIMULATED GPCRS REVEALED BY TWO-PHOTON POLARIZATION MICROSCOPY. **Alexey Bondar**, Josef Lazar

453-Pos **Board B218**
INVESTIGATING MUC1 TRANSMEMBRANE DIMER STRUCTURE USING REPLICA EXCHANGE MOLECULAR DYNAMICS. **Christina M. Freeman**, Alexander J. Sodt

454-Pos **Board B219**
ELECTROSTATICS FACILITATES THE TRIMER-OF-DIMERS FORMATION OF THE CHEMORECEPTOR SIGNALING DOMAIN. **Marharyta Petukh**, Davi Ortega, Igor B. Zhulin

455-Pos **Board B220**
INVESTIGATING INITIAL EVENTS OF IGE RECEPTOR SIGNALING WITH SUPER-RESOLUTION MICROSCOPY AND MONTE CARLO SIMULATIONS. **Eshan Mitra**, James P. Sethna, David Holowka, Barbara Baird

456-Pos **Board B221**
FLUORESCENCE FLUCTUATION SPECTROSCOPY OF DOPAMINERGIC SIGNALING IN PANCREATIC BETA CELLS. **Daniel JP Foust**, Alessandro Ustione, David W. Piston

457-Pos **Board B222**
DYNAMICS OF VARIOUS PHOSPHOLIPASE C-B COMPLEXES. **Ashima Singla**, Suzanne Scarlata

458-Pos **Board B223**
OPTICAL CONTROL OF CGMP SIGNALING. **Ulrike Scheib**, Katja Stehfest, Christine E. Gee, Heinz G. Körschen, Shatanik Mukherjee, Thomas G. Oertner, Peter Hegemann

459-Pos **Board B224**
PHOTO REGULATION OF SMALL G-PROTEIN RAS USING PHOTOCHROMIC PEPTIDE. **Masahiro Kuboyama**, Kaori Masuhara, Shinsaku Maruta, Kazunori Kondo, Kazuo Fujiwara

Exocytosis and Endocytosis I (Boards B225–B241)

460-Pos **Board B225**
DYNAMIN INDEPENDENT ENDOCYTIC PATHWAY OPERATES IN A NEGATIVE FEEDBACK LOOP TO SENSE AND REGULATE THE RESTING MEMBRANE TENSION. **Joseph J. Thottacherry**

461-Pos **Board B226** **Education Travel Awardee**
MUNC13 AND MUNC18 COOPERATE TO PROPERLY ASSEMBLE SNARES FOR FAST NEUROTRANSMITTER RELEASE. **Ying Lai**

462-Pos **Board B227** **CID Travel Awardee**
EFFECTS OF OPSONIN DENSITY AND TYPE ON THE PHAGOCYTOSIS OF BEADS. **Sebastian Hendrickx-Rodriguez**, Michael R. Falvo, E. Timothy O'Brien III, Richard Superfine

463-Pos **Board B228** **Education Travel Awardee**
A SUPPORTED TUBULATED BILAYER SYSTEM SHOWS EFFECTS OF SYNAPTOTAGMIN-7 ON MEMBRANE CURVATURE. **Peter Dahl**, Joseph Vasquez, Hai Tran, Jeff Knight, Arun Anantharam

464-Pos **Board B229**
EXOSOMES FRACTIONATION BY BIOPHYSICAL PROPERTIES. **Soheyl Tadjiki**, Robert Reed, Samer Al-Hakami, Mikhail Skliar

465-Pos **Board B230**
MEMBRANE RECRUITMENT ENABLES WEAK BINDING ENDOCYTIC PROTEINS TO FORM STABLE COMPLEXES. Osman Yogurtcu, **Margaret E. Johnson**

466-Pos **Board B231**
MECHANOREGULATION OF CLATHRIN-MEDIATED ENDOCYTOSIS IN ISOLATED CELLS AND DEVELOPING TISSUES. **Comert Kural**

467-Pos **Board B232**
REGULATION OF LYSOSOMAL EXOCYTOSIS BY OXIDATIVE STRESS AND CALCIUM IONS. Sreeram Ravi, Andrew P. VanDemark, **Kirill Kiselyov**

468-Pos **Board B233**
LOCAL TURGOR PRESSURE REDUCTION VIA CHANNEL CLUSTERING. **Jonah K. Scher-Zagier**

469-Pos **Board B234**
EFFECTS OF STEROL SUBSTITUTION IN PLASMA MEMBRANE OF HOST CELL UPON INTERNALIZATION OF *YERSINIA PSEUDOTUBERCULOSIS*. **JiHyun Kim**, Hana S. Fukuto, James B. Bliska, Erwin London

470-Pos **Board B235**
RECOVERY OF ESCRT-III FILAMENTS SUBJECTED TO FORCE: AN 'INVASIVE MODE' HS-AFM STUDY. **Nebojsa Jukic**, Lorena Redondo-Morata, Aurélien Roux, Simon Scheuring

471-Pos **Board B236**
STRUCTURAL DYNAMICS OF ENDOCYTOSIS BY HIGH-SPEED ATOMIC FORCE MICROSCOPY. **Grigory Tagiltsev**, Frederic Eghiaian, Simon Scheuring

472-Pos **Board B237**
DILATION OF FUSION PORES BY SNARE PROTEIN CROWDING. **Zhenyong Wu**, Oscar D. Bello, Sathish Thiyagarajan, Sarah M. Auclair, Wensi Vennekate, Shyam S. Krishnakumar, Ben O'Shaughnessy, Erdem Karatekin

473-Pos **Board B238**
IMAGING REGULATORY LIPIDS AND PROTEIN KINASE C AT SITES OF EXOCYTOSIS. **Adam J. Trexler**, Justin W. Taraska

474-Pos **Board B239**
A CMOS BASED SENSOR ARRAY PLATFORM FOR ANALYSIS OF EXOCYTOSIS EVENTS. **Meng Huang**, John C. Ruelas, Shailendra S. Rathore, Joannalyn B. Delacruz, Manfred Lindau

475-Pos **Board B240**
MIZ-2, A NEW CATECHOLAMINE-SELECTIVE FLUORESCENT SENSOR FOR VISUALIZING NOREPINEPHRINE. **Xin A. Liu**, Le Zhang, Kevin D. Gillis, Timothy E. Glass

476-Pos **Board B241**
SNARE PROTEIN STRUCTURE ALTERED IN RESPONSE TO PH. **Kara L. Woodbury**, Sam K. Zenger, Peter Weitzel, Curtis D. Nelson, Sterling M. Jones, Trey S. Winter, Wade J. Whitt, Ani C. Henriksen, Dixon J. Woodbury

Calcium Signaling I (Boards B242–B255)

477-Pos **Board B242**
OPTOGENETIC DISSECTION OF STIM1 CONFORMATIONAL SWITCH AND OLIGOMERIZATION. Guolin Ma, Lian He, Qian Zhang, **Yubin Zhou**

478-Pos **Board B243**
STRUCTURAL DIFFERENCES BETWEEN CARDIAC AND SKELETAL RYANODINE RECEPTORS. Sonali Dhindwal, Joshua Lobo, **Montserrat Samso**

479-Pos **Board B244**
INCREASED DENSITY OF SERCA PUMPS AT THE PERIPHERY OF CARDIAC PURKINJE CELLS AFTER MYOCARDIAL INFARCTION. **Bruno Stuyvers**, Penelope Boyden, Henk EDJ ter Keurs, Yunbo Guo, Wen Dun, Kazi Haq, Meleze Hocini, Michel Haissaguerre, Olivier Bernus, Sebastien Chaigne, Sabine Charron, Caroline Cros, Fabien Brette

480-Pos **Board B245**
FUNCTIONAL EFFECTS OF THE RYR_2^{R420Q} CATECHOLAMINERGIC VENTRICULAR POLYMORPHIC TACHYCARDIA IN MOUSE CARDIOMYOCYTES. Riccardo Rizzetto, Miguel Fernandez-Tenorio, Alexandra Zahradnikova Jr, Simona Boncompani, Elena Marqués-Sulé, Yue Yi Wang, Jean-Pierre Benitah, Esther Zorio, Feliciano Protasi, Ernst Niggli, **Ana M. Gomez**

481-Pos **Board B246**
SUPPRESSION OF ARRHYTHMIA BY ENHANCING MITOCHONDRIAL CALCIUM UPTAKE IN EXPERIMENTAL MODELS OF CATECHOLAMINERGIC VENTRICULAR TACHYCARDIA. Maria K. Schweitzer, Fabiola Wilting, Simon Sedej, Lisa Dreizehnter, Nathan J. Dupper, Alessandra Moretti, Ohyun Kwon, Silvia G. Priori, Karl-Ludwig Laugwitz, Michael Mederos y Schnitzler, Thomas Gudermann, **Johann Schredelseker**

482-Pos **Board B247**
ANTIDEPRESSANT DRUGS CITALOPRAM AND ESCITALOPRAM BUT NOT PAROXETINE INDUCE ARRYTHMOGENIC SARCOPLASMIC RETICULUM CALCIUM RELEASE. **Daniel Blackwell**, Björn Knollmann

483-Pos **Board B248**
THE INTERPLAY BETWEEN LENGTH-DEPENDENT CALCIUM AFFINITY OF TROPONIN AND X-ROS SIGNALING ON MYOPLASMIC CALCIUM LEVELS IN HEART. Sarita Limbu, Benjamin L. Prosser, W. Jonathan Lederer, **M. Saleet Jafri**

484-Pos **Board B249**
MITOCHONDRIAL CA^{2+} UPTAKE AND SUPEROXIDE GENERATION REGULATES ANGIOTENSIN II-INDUCED PROLIFERATION IN NEONATAL CARDIAC FIBROBLASTS. **Jin O-Uchi**, Deming Fu, Jyotsna Mishra, Bong Sook Jhun, Shey-Shing Sheu

485-Pos **Board B250**
TRPV4 ENHANCES CARDIOMYOCYTE CALCIUM TRANSIENTS AND CARDIAC CONTRACTILITY FOLLOWING HYPOOSMOTIC STRESS AND ISCHEMIA-REPERFUSION. John L. Jones, Deborah Peana, Michelle D. Lambert, **Timothy L. Domeier**

486-Pos **Board B251**
CHARACTERIZATION OF INTRACELLULAR SODIUM HOMEOSTASIS IN MURINE ATRIAL MYOCYTES. **Libet Garber**, W. Jonathan Lederer, Maura Greiser

487-Pos **Board B252** **Education Travel Awardee**
GENETIC ABLATION OF FIBROBLAST MITOCHONDRIAL CALCIUM UPTAKE INCREASES MYOFIBROBLAST TRANSDIFFERENTIATION AND EXACERBATES FIBROSIS IN MYOCARDIAL INFARCTION. **Alyssa A. Lombardi**, Ehtesham Arif, Timothy S. Luongo, John W. Elrod

488-Pos **Board B253**
GAIN-OF-FUNCTION MUTATION IN RYANODINE RECEPTOR TYPE 1 MODULATES MURINE THYMOCYTE CALCIUM SIGNALING AND AUTOIMMUNE RESPONSE IN MICE. Lukun Yang, Athena Soulika, Lillian Cruz-Orengo, Paul D. Allen, **Alla F. Fomina**

489-Pos **Board B254**
REGULATION OF CARDIAC PACEMAKER ACTIVITY BY PDE4 ISOFORMS. **Delphine Mika**, Ana Maria Gomez, Marco Conti, Rodolphe Fischmeister, Grégoire Vandecasteele

490-Pos **Board B255**
FUNCTIONAL ROLE OF TRPC1 CHANNELS IN NEONATAL CARDIOMYOCYTES. Ahmad A. Azmi, Chris Hunter, Hu Qinghua, **Frank B. Sachse**

Excitation-Contraction Coupling (Boards B256–B278)

491-Pos **Board B256**
PROBING THE INTER-SUBUNIT/SUBDOMAIN INTERACTIONS RELEVANT TO DISEASE MUTATIONS IN THE N-TERMINAL DOMAIN OF RYANODINE RECEPTORS BY MOLECULAR DYNAMICS SIMULATION. **Wenjun Zheng**

492-Pos **Board B257**
GENOTYPE-PHENOTYPE CORRELATIONS OF THE CENTRAL CORE DISEASE MUTATIONS IN THE C-TERMINAL REGION OF THE RYR1 CHANNEL. **Takashi Murayama**, Nagomi Kurebayashi, Haruo Ogawa, Toshiko Yamazawa, Takashi Sakurai

493-Pos **Board B258**
THE ROLE OF TRIC CHANNELS IN SR COUNTERCURRENT DURING SR CA^{2+} RELEASE AND SERCA RE-UPTAKE. Vilmos Zsolnay, Claudio Berti, Michael Fill, **Dirk Gillespie**

494-Pos **Board B259**
A METHOD FOR VALIDATING MUTATIONS ASSOCIATED WITH MALIGNANT HYPERTHERMIA USING CRISPR/CAS9 AND DUAL INTEGRASE CASSETTE EXCHANGE. **Kevin J. De Leon**, Shane Antrobus, Paul Denney Allen, Isabelle Marty, David Segal

495-Pos **Board B260**
ROLE OF STIM1 AND ORAI1 IN THE FORMATION OF TUBULAR AGGREGATES IN AGEING SKELETAL MUSCLE FIBERS. Claudia Pecorai, Antonio Michelucci, Laura Pietrangelo, Feliciano Protasi, **Simona Boncompagni**

496-Pos **Board B261**
MITSUGUMIN 53 REGULATES EXTRACELLULAR CA^{2+} ENTRY AND INTRACELLULAR CA^{2+} RELEASE VIA ORAI1 AND RYR1 IN SKELETAL MUSCLE. **Mi Kyoung Ahn**, Keon Jin Lee, Chuanxi Cai, Mei Huang, Chung-Hyun Cho, Jianjie Ma, Eun Hui Lee

497-Pos **Board B262**
LOCALIZATION OF JUNCTOPHILIN-1 AT THE JUNCTIONAL SARCOPLASMIC RETICULUM REQUIRES A SEQUENCE IN THE TRANSMEMBRANE DOMAIN. **Daniela Rossi**, Angela Maria Scarcella, Stefania Lorenzini, Enea Liguori, Mirko Messa, Pietro De Camilli, Vincenzo Sorrentino

498-Pos **Board B263**
INTERACTION OF JUNCTOPHILINS AND THE C-TERMINUS OF CAV1.1 SUBUNITS REGULATES LOCALIZATION AND FUNCTION OF L-TYPE CALCIUM CHANNELS IN SKELETAL MUSCLE. **Tsutomu Nakada**, Toshihide Kashihara, Mitsuhiko Yamada

499-Pos **Board B264**
DYNAMICS OF TRIAD ORGANIZATION. Muriel Sébastien, Perrine Teyssier, Julie Brocard, Eric Denarier, **Isabelle Marty**, Julien Fauré

500-Pos **Board B265**
ASSESSMENT OF CA^{2+} SENSITIVITY OF SK CHANNELS IN RAT VENTRICULAR CARDIOMYOCYTES USING INTRINSIC CA^{2+} CYCLING MACHINERY. **Luliia Polina**, Radmila Terentyeva, Karim Roder, Gideon Koren, Jin O-Uchi, Dmitry Terentyev

501-Pos **Board B266**
MODIFIED CALCIUM HOMEOSTASIS IN AGED MOUSE SKELETAL MUSCLE. **László Csernoch**, János Fodor, Dána Al-Gaadi, Tamás Czirják, Tamás Oláh, Beatrix Dienes, Péter Szentesi

502-Pos **Board B267**
SHEAR STRESS INDUCES TRANSVERSE CA^{2+} WAVES VIA AUTOCRINE ACTIVATION OF P2X PURINOCEPTORS IN RAT ATRIAL MYOCYTES. Joon-Chul Kim, **Sun-Hee Woo**

503-Pos **Board B268**
OPTICAL MAPPING IN RAT MODELS OF ATRIAL DILATION. **Samantha Cannazzaro**, Claudia Crocini, Marina Scardigli, Raffaele Coppini, Ping Yan, Leslie M. Loew, Chiara Tesi, Elisabetta Cerbai, Francesco S. Pavone, Corrado Poggesi, Leonardo Sacconi, Cecilia Ferrantini

504-Pos **Board B269**
EPAC2-RAP1 SIGNALING INFLUENCES REACTIVE OXYGEN SPECIES PRODUCTION AND SUSCEPTIBILITY TO CARDIAC ARRHYTHMIAS. Zhaokang Yang, **Hannah M. Kirton**, Moza Al-Owais, Chris Peers, Derek S. Steele

505-Pos **Board B270**
GENERATION AND CHARACTERIZATION OF A HUMAN IPSC CARDIOMYOCYTE MODEL OF TROPONIN T I79N LINKED HYPERTROPHIC CARDIOMYOPATHY. **Lili Wang**, Dmytro Oleksandrovych Kryshtal, Kyungsoo Kim, Shan Parikh, Kevin Richard Bersell, Jose R. Pinto, Huan He, Bjorn Christian Knollmann

506-Pos **Board B271**
CARDIAC ELECTROMECHANICAL COUPLING MODEL OF MYOCARDIAL CONTRACTILE FUNCTION UNDER ISCHEMIC CONDITIONS. **Yasser Aboelkassem**, Natalia Trayanova

507-Pos **Board B272**
CARDIOMYOCYTE FUNCTIONAL KINETIC RESERVE IS LOST IN AN OSSABAW SWINE MODEL OF HEART FAILURE WITH PRESERVED EJECTION FRACTION. **Adam B. Veteto**, John L. Jones, Joel C. Robinett, T. Dylan Olver, Jenna C. Edwards, Michelle D. Lambert, Pamela K. Thorne, Maike Krenz, Kerry S. McDonald, Jaume Padilla, David A. Ford, Christopher Baines, R. Scott Rector, Craig A. Emter, Timothy L. Domeier

508-Pos **Board B273**
HEART FAILURE RE-DISTRIBUTES PHOSPHOLAMBAN BETWEEN NUCLEAR MEMBRANES AND SARCOPLASMIC RETICULUM IN CARDIOMYOCYTES. Zhipeng Tian, Yan Li, Peng-Sheng Chen, Steven Cala, **Zhenhui Chen**

509-Pos **Board B274**
THE EFFECT OF OVARIECTOMY ON CALCIUM (CA^{2+}) HANDLING IN GUINEA PIG CARDIOMYOCYTES. **Hsiang-Yu Yang**, Anita Alvarez-Laviada, Jahn M. Firth, Alice J. Francis, Kenneth T. MacLeod

510-Pos **Board B275**
BIOCHEMICAL AND MECHANICAL PROPERTIES OF MURINE EXTRAOCULAR MUSCLES. Jan Eckhardt, Marijana Sekulic-Jablanovic, Susan Treves, **Francesco Zorzato**

511-Pos **Board B276**
THE MAINTENANCE ABILITY AND CA^{2+} AVAILABILITY OF SKELETAL MUSCLE ARE ENHANCED BY SILDENAFIL. **Mei Huang**, Keon Jin Lee, Kyung-Jin Kim, Mi Kyoung Ahn, Chung-Hyun Cho, Do Han Kim, Eun Hui Lee

512-Pos **Board B277**
DANTROLENE SHIFTS THE AFFINITY OF THE RYANODINE RECEPTOR FOR MG^{2+}. Rocky H. Choi, F. Xaver Konig, Tanya R. Cully, **Bradley S. Launikonis**

513-Pos **Board B278**
MG53 INTERACTS WITH CARDIOLIPIN TO PROTECT MITOCHONDRIA FROM ISCHEMIA-REPERFUSION INDUCED OXIDATIVE STRESS. Hanley Ma, Xinyu Zhou, Xinxin Wang, Junwei Wu, Kristyn Gumpper, Tao Tan, Timothy Ayodele Adesanya, Chunlin Yang, Yongqiu Zheng, Heather Chandler, Jingsong Zhou, Jianjie Ma, **Hua Zhu**

Voltage-gated Na Channels I (Boards B279–B298)

514-Pos **Board B279**
DOMAIN SPECIFIC ROLE OF S4 FOR STEPPING INTO AND RECOVERING FROM THE INACTIVATED STATE AS OBTAINED FROM OMEGA- AND R4H MUTANTS IN NAV1.2. **Nikolaus Guenter Greeff**, Hansjakob Heldstab, Claudia Lehmann

515-Pos **Board B280**
DIVERGENCE IN DOMAIN IV OF AN ELECTRIC FISH NA_V CHANNEL TUNES ITS FAST INACTIVATION TO SUPPORT RAPID FIRING RATES BY ELECTROMOTORNEURONS. **Daniel Thomas Infield**, Ammon Thompson, Troy Smith, Harold H. Zakon, Christopher A. Ahern

516-Pos **Board B281**
ROLE FOR FAST INACTIVATION IN DOMAIN I OF VOLTAGE GATED SODIUM CHANNELS. **James R. Groome**, Ryann Camp

517-Pos **Board B282**
EFFECTS OF CYSTEINE SUBSTITUTIONS IN D1-S6 ON FAST AND SLOW INACTIVATION IN NAV1.4. **John O'Reilly**, Penny Shockett

518-Pos **Board B283**
MOLECULAR MECHANISMS OF CARDIACVOLTAGE-GATED NA^+ CHANNEL REGULATION BY ACIDIC PH. **Bicong Li**, Wandi Zhu, Jon Silva

519-Pos **Board B284**
OMEGA MUTATIONS ALONG S4 IN NAV1.2 CHANNELS GIVE INSIGHT INTO DOMAIN SPECIFIC CONTRIBUTION TO ACTIVATION AND STEADY STATE INACTIVATION. **Claudia Lehmann**, Hansjakob Heldstab, Nikolaus Guenter Greeff

520-Pos **Board B285**
CHARACTERIZATION OF A $NA_V1.5$ GAIN-OF-FUNCTION MUTATION (G213D) CAUSING MULTIFOCAL ATRIAL AND VENTRICULAR PREMATURE ECTOPIES AND AN INCREASED RISK OF DILATED CARDIOMYOPATHY. **Kirstine Calloe**, Anders K. Broendberg, Alex H. Christensen, Lisbeth N. Pedersen, Morten S. Olesen, Maria A. Tejada, Soren Friis, Morten B. Thomsen, Henning Bundgaard, Henrik K. Jensen

521-Pos **Board B286**
VOLTAGE-GATED SODIUM CHANNEL MUTATIONS CAN EXERT DOMINANT-NEGATIVE SUPPRESSION BY COUPLED GATING. **Jerome Clatot**, Aurore Girardeau, Celine Marionneau, Isabelle Deschenes

522-Pos **Board B287**
OPEN AND CLOSED STATES OF THE NA_VAB ACTIVATION GATE. **Michael Lenaeus**, Tamer M. Gamal El-Din, Karthik Ramanadane, Ning Zheng, William A. Catterall

523-Pos **Board B288**
IN VITRO SINGLE-MOLECULE STUDY OF NACHBAC USING PLANAR LIPID BILAYER DEVICE. **Hiofan Hoi**, Andrew Jo, Manisha Gupta, Carlo D. Montemagno

524-Pos **Board B289**
CONTROL OF SLOW, USE DEPENDENT INACTIVATION OF NA_VAB BY ITS C TERMINAL TAIL. **Tamer M. Gamal El-Din**, Michael J. Lenaeus, Karthik Ramanadane, Ning Zheng, William A. Catterall

525-Pos **Board B290**
ROLE OF CHANNEL FLUCTUATIONS IN ION TRANSPORT AND SELECTIVITY IN BACTERIAL SODIUM CHANNEL NAVAB. **Christopher Ing**, Nilmadhab Chakrabarti, Ning Zheng, William A. Catterall, Régis Pomès

526-Pos **Board B291**
AN OPEN STATE MODEL OF THE NAVAB CHANNEL EXPLORED BY ROSETTA AND MOLECULAR DYNAMICS SIMULATION. **Phuong T. Nguyen**, Kevin R. DeMarco, Igor Vorobyov, Coleen E. Clancy, Toby W. Allen, Vladimir Yarov-Yarovoy

527-Pos **Board B292**
SIMULATING THE ACCESS AND BINDING OF SUBTYPE SELECTIVE SODIUM CHANNEL INHIBITORS. **Ben Corry**

528-Pos **Board B293**
PROPOFOL IS A POTENT GATING MODIFIER OF VOLTAGE-GATED SODIUM CHANNELS. **Elaine Yang**, Daniele Granata, Roderic Eckenhoff, Vincenzo Carnevale, Manuel Covarrubias

529-Pos **Board B294**
THE SODIUM ION BINDING REGION AT THE FOCUS OF P1 HELICES ATTRACTS BOTH CHARGED AND ELECTRONEUTRAL LIGANDS OF SODIUM CHANNELS. Denis B. Tikhonov, **Boris S. Zhorov**

530-Pos **Board B295**
COMPARISON OF ION SELECTIVITY MECHANISMS IN BACTERIAL AND MAMMALIAN SODIUM CHANNELS. **Emelie Flood**, Céline Boiteux, Toby W. Allen

531-Pos **Board B296**
HOW C-TERMINAL DOMAIN STABILIZE THE GATE OF VOLTAGE-GATED SODIUM CHANNELS. **Song Ke**, Bonnie Ann Wallace, Jakob Ulmschneider, Martin Ulmschneider

532-Pos **Board B297**
MOLECULAR MODELİNG OF MAMMALIAN NAV1.4 CHANNEL. **Ali O. Acar**, Esra Korpe, Murat Cavus, Serdar Kuyucak, Turgut Bastug

533-Pos **Board B298**
MECHANISM AND ENERGETICS OF ION AND TETRODOTOXIN BINDING TO NAVMS CHANNEL. **Esra Korpe**, Ali Osman Acar, Murat Cavus, Serdar Kuyucak, Turgut Bastug

Voltage-gated Ca Channels I (Boards B299–B308)

534-Pos **Board B299**
MODELING THE EFFECTS OF VOLATILE ANESTHETICS ON L-TYPE CA^{2+} CHANNELS AND CA^{2+} INDUCED CA^{2+} RELEASE IN CARDIOMYOCYTES. **Neeraj Manhas**

535-Pos **Board B300**
ELECTROPHYSIOLOGICAL CHARACTERIZATION OF T-TYPE CALCIUM CHANNELS IN CENTRAL MEDIAL NUCLEUS OF THE RAT THALAMUS. **Tamara Timic Stamenic**, Slobodan M. Todorovic

536-Pos **Board B301** **CID Travel Awardee**
UNMASKING THE MOLECULAR DETERMINANTS IMPORTANT FOR CA^{2+} -DEPENDENT REGULATION OF $CA_V2.2$. **Jessica R. Thomas**, Jussara Hagen, Amy Lee

537-Pos **Board B302** **CID Travel Awardee**
C-TERMINAL SPLICE VARIATION REVEALS NEW INSIGHTS INTO CALMODULIN REGULATION OF $CA_V1.4$ CHANNELS. **Brittany Williams**, Vasily Kerov, Daniel Soh, Amy Lee

538-Pos **Board B303**
STRUCTURAL CHARACTERIZATION OF CALMODULIN DISEASE MUTATIONS. **Kaiqian Wang**, Jocelyn Lu, Kamilla T. Larsen, Michael T. Overgaard, Filip Van Petegem

539-Pos **Board B304**
STRONTIUM AND BARIUM IN AQUEOUS SOLUTION AND AN ION CHANNEL BLOCKING SITE. **Mangesh Chaudhari**, Susan Rempe

540-Pos **Board B305**
THE CALCIUM CHANNEL A2D SUBUNIT INCREASES THE GATING CHARGES OF CAV1.2 CHANNELS. **Gustavo F. Contreras**, Nicoletta Savalli, Antonios Pantazis, Carlos Gonzalez, Riccardo Olcese, Alan Neely

541-Pos **Board B306**
CALMODULIN AND STAC3 ENHANCE FUNCTIONAL EXPRESSION OF $CA_V1.1$. **Jacqueline Niu**, Manu Ben Johny, David T. Yue, Takanari Inoue

542-Pos **Board B307**
$CA_V1.3$ (*CACNA1D*) GAIN-OF-FUNCTION *DE NOVO* MISSENSE MUTATIONS ARE ASSOCIATED WITH CNS DISORDERS. **Alexandra Pinggera**, Luisa Mackenroth, Jörg Striessnig

543-Pos **Board B308**
DUAL EFFECT OF PALMITATE ON VOLTAGE-GATED CALCIUM CHANNELS AND INSULIN SECRETION IN PANCREATIC BETA CELLS OF RATS. **Neivys García-Delgado**, Myrian Velasco-Torres, Carmen Sanchez-Soto, Marcia Hiriart

Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating I (Boards B309–B324)

544-Pos **Board B309** **Education Travel Awardee**
EXAMINING THE ROLE OF PHOSPHORYLATION ON INTERACTIONS BETWEEN THE CARDIAC POTASSIUM CHANNEL ALPHA-SUBUNITS HERG AND K_VLQT1. **Medeea C. Popescu**, Louise E.O. Darling

545-Pos **Board B310**
MONITORING STRUCTURAL REORGANIZATION OF CALMODULIN IN COMPLEX WITH THE C-TERMINUS OF KCNQ CHANNELS. **Carolina Gomis-Perez**, Eider Nunez-Viadero, Ganeko Bernardo-Seisdedos, Covadonga Malo, Pilar Areso, Alvaro Villarroel

546-Pos **Board B311**
NOVEL INSIGHTS FROM STRUCTURAL ANALYSIS OF INTERACTIONS OF KCNQ K^+ CHANNELS WITH CALMODULIN. **Crystal R. Archer**, Akash Bhattacharya, Benjamin T. Enslow, Alex B. Taylor, Dmitri N. Ivanov, Mark S. Shapiro

547-Pos **Board B312**
KCNE1 AND KCNE3 MODULATE KCNQ1 CHANNELS BY AFFECTING DIFFERENT GATING TRANSITIONS. **Rene Barro-Soria**, Rosamary Ramentol, Sara I. Liin, Marta E. Perez, Robert S. Kass, H Peter Larsson

548-Pos **Board B313**
CP1 OPENS I_{KS} CHANNELS BY SUBSTITUTING PIP_2. **Moawiah M. Naffaa**, Xianjin Xu, Hongwu Liang, Guohui Zhang, Hong Zhan Wang, Junyuan Goa, Ira S. Cohen, Xiaoqin Zou, Jianmin Cui

549-Pos **Board B314**
$PI(4,5)P_2$ MODULATES HYSTERESIS AND PHARMACOLOGY OF K_V7 CHANNELS. **Carlos A. Villalba-Galea**

550-Pos **Board B315**
MOLECULAR MECHANISM OF THE KV7.1-CHANNEL ACTIVATOR N-ARACHIDONOYL TAURINE. **Sara I. Liin**, Rene Barro-Soria, H Peter Larsson

551-Pos **Board B316**
ML277 OPENS KCNQ1 CHANNELS BY SELECTIVELY ENHANCING THE AO STATE. **Panpan Hou**, Ling Zhong, Powei Kang, Zachary Beller, Kelli McFarland, Jingyi Shi, Jianmin Cui

552-Pos **Board B317**
COMPREHENSIVE ASSESSMENT OF DISEASE MUTANT FORMS OF THE HUMAN KCNQ1 POTASSIUM CHANNEL. **Hui Huang**, Keenan Taylor, Charles Sanders

553-Pos **Board B318**
A VOLTAGE- TO LIGAND- GATED SWITCH IN VOLTAGE-GATED POTASSIUM CHANNELS. **Xiaoping Pi**, Qiang Ding, Zhaobing Gao

554-Pos **Board B319**
VOLTAGE AND CA^{2+} SENSOR COUPLING MODULATION BY B SUBUNITS IN THE BK CHANNEL. **Yenisleidy Lorenzo**, Karen Castillo, Gustavo Contreras, Willy Carrasquel-Ursulaez, Carlos Gonzalez, Ramon Latorre

555-Pos **Board B320**
ALPHA-B HELIX OF RCK1 IS A MAJOR TRANSDUCTION PATHWAY FOR CA^{2+} ACTIVATION OF BK CHANNELS. **Yanyan Geng**, Zengqin Deng, Gonzalo Budelli, Alice Butler Butler, Jianmin Cui, Peng Yuan, Lawrence Salkoff, Karl Magleby

556-Pos **Board B321**
CARBON MONOXIDE MAY REGULATE BK SLO1 CHANNEL ACTIVITY BY PARTIALLY DISRUPTING HEME COORDINATION. **Taleh Yusifov**, Nicoletta Savalli, Antonios Pantazis, Stefan H. Heinemann, Toshinori Hoshi, Riccardo Olcese

557-Pos **Board B322**
ROLE OF THE SLO1 CRAC4 MOTIF IN BK CHANNEL'S ETHANOL SENSITIVITY. **Maria N. Simakova**, Dasha Zaytseva, Shivantika Bisen, Alex M. Dopico, Anna N. Bukiya

558-Pos **Board B323**
DIFFERENTIAL EXPRESSION OF BK CHANNEL BETA1 SUBUNITS IN RAT MESENTERIC, CORONARY AND CEREBRAL ARTERIES. **Guruprasad Kuntamallappanavar**, Shivantika Bisen, Anna Bukiya, Alex Dopico

559-Pos **Board B324**
FUNCTIONAL COUPLING OF BK CHANNELS TO NMDA RECEPTORS IN HIPPOCAMPAL DENTATE GYRUS. **Xin Guan**, Jiyuan Zhang, Qin Li, Hui-Lin Pan, Jiusheng Yan

TRP Channels I (Boards B325–B336)

560-Pos **Board B325**
BINDING OF EXTRACELLULAR CA^{2+} TO THE SPECIFIC AMINO ACIDS IS REQUIRED FOR HEAT-EVOKED ACTIVATION OF TRPA1. **Erkin Kurganov**, Shigeru Saito, Claire T. Saito, Makoto Tominaga

561-Pos **Board B326**
OLIGOMERIC AND THERMAL STABILITY OF TRPA1 COILED-COIL DOMAIN BY POLYPHOSPHATES. **Gilbert Q. Martinez**, Luke D. Cody, Sharona E. Gordon

562-Pos **Board B327**
TOWARD ELUCIDATING THE HEAT ACTIVATION MECHANISM OF THE TRPV1 CHANNEL GATING BY MOLECULAR DYNAMICS SIMULATION. Han Wen, Feng Qin, **Wenjun Zheng**

563-Pos **Board B328**
THE EMERGING ROLE OF HUMAN TRPV1 S1 S4 SENSING DOMAIN IN CHANNEL GATING. **Minjoo Kim**, Nicholas Sisco, Jacob Hilton, Wade Van Horn

564-Pos **Board B329**
INACTIVATION IN TRPV1 ION CHANNELS. **Leon D. Islas**, Ana Sanchez-Moreno, Gisela Rangel-Yescas, Ernesto Ladron de Guevara, Tamara Rosenbaum

565-Pos **Board B330**
KINETIC ANALYSIS OF VANILLOID-INDUCED ACTIVATION IN TRPV1 CHANNEL. **Simon Vu**, Bo Hyun Lee, Jie Zheng

566-Pos **Board B331** **Education Travel Awardee**
RATIONAL DESIGN AND VALIDATION OF A VANILLOID-SENSITIVE TRPV2 ION CHANNEL. **Fan Yang**, Simon Vu, Vladimir Yarov-Yarovoy, Jie Zheng

567-Pos **Board B332**
LOCALIZATION OF THE TEMPERATURE SENSORS TO THE PORE DOMAIN OF THE TRPV1 CHANNEL. **Feng Zhang**, Sonya Hanson, Andres Andres Jara-Oseguera1, Kenton Swartz

568-Pos **Board B333**
TRANSFER OF TRPV1 SODIUM BINDING SITE INTO TRPV2. **Katherine E. Huffer**, Andrés Jara-Oseguera, Kenton J. Swartz

569-Pos **Board B334**
INVESTIGATING THE PUTATIVE ACTIVATION GATE IN THE SELECTIVITY FILTER OF THE TRPV1 CHANNEL. **Andres Jara-Oseguera**, Kenton J. Swartz

570-Pos **Board B335**
THE MECHANISM OF REGULATION OF TRPV6 CHANNELS BY PI(4,5) P_2. Marina Kasimova, Aysenur Yazici, Chike Cao, Phanindra Velisetty, Vincenzo Carnevale, **Tibor Rohacs**

571-Pos **Board B336**
THE ROLE OF THE SENSING DOMAIN (S1-S4) IN TRPM8 TEMPERATURE AND MENTHOL DEPENDENT GATING. **Parthasarathi Rath**

Skeletal Muscle Mechanics, Structure, and Regulation (Boards B337–B354)

572-Pos **Board B337**
MODULATION OF FAST TRANSIENTS BY COMPLIANCE OF CROSSBRIDGES AND MYOFILAMENTS. **Srboljub M. Mijailovich**, Djordje Nedic, Boban Stojanovic, Thomas C. Irving, Michael A. Geeves

573-Pos **Board B338**
INCREASED NON-UNIFORMITY IN *IN VIVO* SARCOMERE LENGTH DURING A TETANIC CONTRACTION. **Eng Kuan Moo**, Timothy R. Leonard, Walter Herzog

574-Pos **Board B339**
MYOFIBRILLAR REGULATORY MECHANISMS OF STRETCH ACTIVATION IN MAMMALIAN STRIATED MUSCLE. **Joel C. Robinett**, Laurin M. Hanft, Kerry S. McDonald

575-Pos **Board B340**
EFFECT OF CALCIUM ON MYOSIN BINDING TO A REGULATED THIN FILAMENT FROM SINGLE MOLECULE TO ENSEMBLE. Thomas Longyear, **Sam Walcott**, Edward P. Debold

576-Pos **Board B341**
COORDINATED VARIATIONS IN MYOSIN LIGHT CHAIN AND TROPONIN T ISOFORMS AND IN MAXIMAL SHORTENING VELOCITY IN HUMAN SLOW SKELETAL MUSCLE FIBERS. **Peter J. Reiser**

577-Pos **Board B342**
COMPUTATIONAL SIMULATIONS OF LOAD-DEPENDENT MYOSIN KINETICS DURING MUSCLE SHORTENING AND LENGTHENING. **Axel J. Fenwick**, Bertrand C.W. Tanner

578-Pos **Board B343**
CLEAVAGE OF SKELETAL MUSCLE MYOSIN LOOPS 1 AND 2 LEADS TO A DECREASED FUNCTION. **Yu-Shu Cheng**, Oleg Matusovskiy, Dilson Rassier

579-Pos **Board B344**
FORCE AND POWER OF A SYNTHETIC MYOSIN II-BASED MACHINE. **Pasquale Bianco**, Irene Pertici, Luca Melli, Giulia Falorsi, Danut-Adrian Cojoc, Tamás Bozó, Miklos Kellermayer, Vincenzo Lombardi

580-Pos **Board B345**
DISSECTING ACTOMYOSIN MECHANOCHEMISTRY USING BLEBBISTATIN AS A PHARMACOLOGICAL TOOL. **Mohammad A. Rahman**, Dilson Rassier, Alf Månsson

581-Pos **Board B346**
DEVELOPMENT AND PHENOTYPE STUDIES OF A SLOW SKELETAL TROPONIN T E180 NONSENSE MUTATION KNOCK-IN MOUSE LINE. **Han-Zhong Feng**, J.-P. Jin

582-Pos **Board B347**
SKELETAL MYOSIN-BINDING PROTEIN C MODULATES ACTOMYOSIN CONTRACTILITY IN AN ISOFORM-DEPENDENT MANNER. **Amy Li**, Shane Nelson, Kyounghwan Lee, Samantha Previs, Karen Brack, Michael Previs, Suresh Govindan, Sakthivel Sadayappan, Roger Craig, David Warshaw

583-Pos **Board B348**
EXPRESSION OF MYOSIN STORAGE MYOPATHY MUTATIONS IN *DROSOPHILA* DISRUPTS MUSCLE FUNCTION, MYOFIBRILLAR STRUCTURE AND CAUSES DEFECTS IN THICK FILAMENT ASSEMBLY. **Meera C. Viswanathan**, Rick Tham, William A. Kronert, William Schmidt, Floyd Sarsoza, Adrianna S. Trujillo, Sanford I. Bernstein, Anthony Cammarato

584-Pos **Board B349**
A SIMPLIFIED FLEXIBLE CHAIN MODEL OF CALCIUM REGULATED MYOSIN-ACTIN INTERACTION. **Leonard P. Heinz**, Rainer H. A. Fink

585-Pos **Board B350**
RECONSTRUCTION OF FUNCTIONAL INSECT FLIGHT MUSCLE FIBERS WITH RABBIT SKELETAL MUSCLE ACTIN. **Hiroyuki Iwamoto**

586-Pos **Board B351**
THE SKELETAL MUSCLE MOLECULAR CLOCK REGULATES TITIN ISOFORM EXPRESSION. **Lance A. Riley**, Xiping Zhang, Karyn A. Esser

587-Pos **Board B352**
CACIUM-INDUCED SR CALCIUM LEAK IN DYSFERLIN-NULL MURINE MUSCLE FIBERS. **Valeriy Lukyanenko**, Joaquin Muriel, Robert J. Bloch

588-Pos **Board B353**
MG29 INTERACTS WITH BIN1 FOR MAINTAINING T-TUBULE STRUCTURE IN SKELETAL MUSCLE PHYSIOLOGY AND REGENERATION. **Xinyu Zhou**, Kristyn Gumpper, Xinxin Wang, Junwei Wu, Tao Tan, Miyuki Nishi, Hiroshi Takeshima, Jianjie Ma, Hua Zhu

589-Pos **Board B354**
PHOSPHORYLATION OF MYOSIN INCREASES THE ATPASE ACTIVITY OF RELAXED SKELETAL MUSCLE FIBERS. Nariman Naber, **Roger Cooke**

Cardiac Muscle Mechanics and Structure I (Boards B355–B369)

590-Pos **Board B355**
IMPACT OF PARA-NITROBLEBBISTATIN ON HUMAN BETA-CARDIAC MYOSIN AT THE MOLECULAR AND TISSUE LEVELS. Wanjian Tang, Cheavar Blair, Kenneth S. Campbell, **Christopher M. Yengo**

591-Pos **Board B356**
MODULATION OF CARDIAC MYOSIN BY A SMALL MOLECULE AGENT THAT TARGETS THE REGULATORY LIGHT CHAIN. **Anu R. Anto**, Raja Kawas, Robert Anderson, Marcus Henze, Hector Rodriguez, Danielle Aubele, Jacques Mauger

592-Pos **Board B357**
CARDIAC MYOSIN STRUTURAL KINETICS MODULATED BY SMALL MOLECULES. **John A. Rohde**, Hyun Cho, Lien Phung, David D. Thomas, Joseph M. Muretta

593-Pos **Board B358**
FORCE-DEPENDENT RECRUITMENT OF CROSS-BRIDGES FROM THE MYOSIN OFF-STATE CAN CONTRIBUTE TO LENGTH-DEPENDENT ACTIVATION. **Kenneth S. Campbell**, Paul Janssen, Stuart G. Campbell

594-Pos **Board B359**
DIFFERENCES IN ACTOMYOSIN FUNCTION IN THE LEFT AND RIGHT VENTRICLES OF HUMAN HEARTS. **Sebasian Requena**

595-Pos **Board B360**
THE FRANK-STARLING MECHANSIM IS ATTENUATED BY A DILATED CARDIOMYOPATHY-ASSOCIATED TROPOMYOSIN MUTATION. **Joseph D. Powers**, Farid Moussavi-Harami, Maria Razumova, Jil Tardiff, Michael Regnier

596-Pos **Board B361**
CARDIOMYOPATHY MUTATIONS IN THE CONVERTER DOMAIN OF HUMAN BETA-CARDIAC MYOSIN IMPAIRS MECHANOCHEMISTRY IN THE PRESENCE AND ABSENCE OF LOAD. **Wanjian Tang**, Shane D. Walton, William C. Unrath, Christopher M. Yengo

597-Pos **Board B362**
MAXIMAL FORCE INCREASES AT PHYSIOLOGICAL TEMPERATURE IN MYOCARDIAL STRIPS FROM NON-FAILING AND FAILING HUMAN HEARTS. Peter O. Awinda, Cheavar A. Blair, Maya E. Guglin, Kenneth S. Campbell, **Bertrand C.W. Tanner**

598-Pos **Board B363**
STRUCTURE AND NANOMANIPULATION OF THE TITIN M-LINE COMPLEX. **Zsolt Martonfalvi**, Dominik Sziklai, Marton Kovacs, Zsombor Papp, Miklos S. Kellermayer

599-Pos **Board B364**
PRE-ACTIVATION OF CARDIOMYOCYTES DETERMINES SPEED OF CONTRACTION: ROLE OF TITIN. **Michiel Helmes**, Aref Najafi, Martijn van der Locht, Maike Schuldt, Ilse AE Bollen, Max Goebel, Coen Ottenheijm, Jolanda van der Velden, Diederik WD Kuster

600-Pos **Board B365**
A NOVEL APPROACH TO IDENTIFY THE ROLE OF SINGLE MOLECULE TITIN MECHANICS IN HUMAN HEART FAILURE. **Mei-pian Chen**, Nancy S. Saad, Benjamin D. Canan, Ahmet Kilic, Peter J. Mohler, Paul M.L. Janssen

601-Pos **Board B366**
MODELING AND EXPERIMENT TO DETERMINE THE ROLE OF PASSIVE STIFFNESS ON MECHANICAL (STRAIN RATE) CONTROL OF RELAXATION. **Charles S. Chung**

602-Pos **Board B367**
DIRECT OBSERVATION OF STRAIN TRANSMISSION THROUGH THE MICROTUBULE NETWORK OF CARDIOMYOCYTES. **Matthew A. Caporizzo**, Brandon Kao, Patrick Robison, Alexey I. Bogush, Benjamin L. Prosser

603-Pos **Board B368**
NOVEL ROLES FOR OBSCURIN PROTEINS IN CARDIAC MUSCLE. **Patrick F. Desmond**, Stephanie Myers, Anush Velmurugan, Matthew Klos, Yusu Gu, Nancy Dalton, Eric Devaney, Kirk Peterson, Ju Chen, Stephan Lange

604-Pos **Board B369**
DIFFUSION IN THE TRANSVERSE-AXIAL TUBULE SYSTEM OF CARDIAC MYOCYTES. **Cherrie Ht Kong**, Eva A. Rog-Zielinska, Clive H. Orchard, Peter Kohl, Mark B. Cannell

Cell Mechanics, Mechanosensing, and Motility I (Boards B370–B391)

605-Pos **Board B370**
FROM ELASTICITY TO INELASTICITY IN CANCER CELL MECHANICS: A LOSS OF SCALE INVARIANCE. **Francoise Argoul**

606-Pos **Board B371**
MIGRATION BEHAVIOR OF NORMAL AND METASTATIC HUMAN MAMMARY CELLS. **Josiah Low**, Keith Bonin, Hyunsu Lee, Amanda Smelser, Martin Guthold

607-Pos **Board B372**
ADHESION-CONTROLLED PROLIFERATION REVEALING ANTI-CANCER DRUG RESISTANCE OF BREAST CANCER CELLS. **Soyeun Park**

608-Pos **Board B373**
DIVISION INDUCED DYNAMICS IN NON-INVASIVE AND INVASIVRE BREAST CANCER. **Ann-Katrine Vranso West**, Lena Wullkopf, Amalie Christensen, Natascha Leijnse, Jens Magelund Tarp, Joachim Mathiesen, Janine Terra Erler, Lene Broeng Oddershede

609-Pos **Board B374**
INHIBITION OF A DNA REPAIR KINASE ATM LEADS TO CELL DEATH IN 3D MIGRATION INDEPENDENT OF DNA DAMAGE. **Yuntao Xia**, Jerome Irianto, Charlotte Pfeifer, Roger Greenberg, Dennis Discher

610-Pos **Board B375**
GENOMIC VARIATION IN AN OSTEOSARCOMA CELL LINE CAUSED BY PORE MIGRATION. **Jerome Irianto**, Yuntao Xia, Charlotte R. Pfeifer, Avathamsa Athirasala, Jiazheng Ji, Cory A. Alvey, Manu Tewari, Rachel R. Bennett, Shane M. Harding, Andrea J. Liu, Roger A. Greenberg, Dennis E. Discher

611-Pos **Board B376**
DIFFUSIVE BEHAVIOR OF MISMATCH REPAIR PROTEIN MSH2 IN CELLS AT DIFFERENT STAGES OF CANCER. **Keith D. Bonin**, Justin Sigley, John Jarzen, Karin Scarpinato, Martin Guthold, Tracey Pu, Daniel Nelli, Josiah Low

612-Pos **Board B377**
CHEMOTHERAPY IMPEDES *IN VITRO* MICROCIRCULATION AND PROMOTES MIGRATION OF LEUKEMIC CELLS WITH IMPACT ON METASTASIS. **Sruti V. Prathivadhi-Bhayankaram**, Jianhao Ning, Michael Mimlitz, Carolyn Taylor, Erin Gross, Michael Nichols, Jochen Guck, Andrew E. Ekpenyong

613-Pos **Board B378**
THE HERG1/BETA1 INTERACTION COMPROMISES THE MECHANO-RECIPROCITY OF PANCREATIC CANCER. **Stefano Coppola**, Annarosa Arcangeli, Thomas Schmidt

614-Pos **Board B379**
MECHANICAL PROPERTIES OF NORMAL BREAST CELLS AND METASTATIC CANCER CELLS IN CO-CULTURE. **Hyunsu Lee**, Amanda Smelser, Josiah Low, Martin Guthold, Keith Bonin

615-Pos **Board B380**
KAPPA-ACTIN ALTERS HEPATOCELLULAR CARCINOMA PHYSIOLOGY IN CIRRHOTIC MICROENVIRONMENT. **Chi-Shuo Chen**, Cheng-Yi Lin, Chi-Hung Ho, Wei-Chi Wu

616-Pos **Board B381**
IS SHAPE OF CANCER CELL CORRELATED WITH ITS INVASIVENESS? **Elaheh Alizadeh**, Samanthe M. Lyons, Jordan M. Castle, Jacqueline Irene Foss, Ashok Prasad

617-Pos **Board B382**
STABILITY ON THE EDGE: PROBING THE BIOPHYSICAL MECHANISMS OF POLARITY MAINTENANCE AT THE LEADING EDGE OF MOTILE NEUTROPHIL-LIKE HL-60 CELLS. **Rikki M. Garner**, Elena Koslover, Julie Theriot

618-Pos **Board B383** **CID Travel Awardee**
UNDERSTANDING THE MECHANICS OF NEUTROPHIL MIGRATION IN THREE- DIMENSIONAL EXTRACELLULAR MATRICES. **Joshua Francois**, Ruedi Meili, Juan Carlos del Alamo, Richard Firtel, Juan C. Lasheras

619-Pos **Board B384** **CPOW Travel Awardee**
NOVEL MECHANISM FOR DRIVING AMOEBOID-LIKE MOTILITY OF HUMAN NEUTROPHILS UNDER AN ELECTRIC FIELD, BASED ON INTRACELLULAR PROTON CURRENTS AND CYTOPLASM STREAMING. **Hagit Peretz Soroka**, Reuven Tirosh, Murray Alexander, Jolly Hipolito, Francis Lin

620-Pos **Board B385** **Education Travel Awardee**
MACROPHAGES ARE SENSITIVE TO SUBSTRATE ELASTICITY DURING PHAGOCYTOSIS. **Wolfgang Gross**, Franziska Zecherle, Kathrin Weidner-Hertrampf, Holger Kress

621-Pos **Board B386**
INVESTIGATING ACTIN MECHANICS DURING PHAGOCYTIC UPTAKE AND TRANSPORT. **Konrad Berghoff**, Steve Keller, Holger Kress

622-Pos **Board B387**
B CELL ANTIGEN EXTRACTION IS REGULATED BY PHYSICAL PROPERTIES OF ANTIGEN PRESENTING CELLS. **Katelyn M. Spillane**, Pavel Tolar

623-Pos **Board B388**
REVEALING THE MECHANICAL BASIS OF T CELL SIGNALING. **Khalid Salaita**

624-Pos **Board B389**
MECHANICS OF BLOOD CELLS WITH MARGINAL BAND : COMPETITION BETWEEN CORTICAL TENSION AND RIGIDITY. **Serge A. Dmitrieff**, Adolfo Alsina, Mathur Aastha, Nédélec François

625-Pos **Board B390**
MULTISCALE MODELING OF RED BLOOD CELLS SQUEEZING THROUGH SUBMICRON SLITS. **Huijie Lu**, Zhangli N. Peng

626-Pos **Board B391**
ROLLING ADHESION OF MALARIA-INFECTED RED BLOOD CELLS. **Anil Kumar Dasanna**

Transporters and Exchangers I (Boards B392 –B405)

627-Pos **Board B392**
MARKOV STATE-BASED QUANTITATIVE KINETIC MODEL OF SODIUM RELEASE FROM THE DOPAMINE TRANSPORTER. **Asghar Razavi**, George Khelashvil, Harel Weinstein

628-Pos **Board B393**
OLIGOMERIZATION OF HUMAN DOPAMINE TRANSPORTER (HDAT). **Kumaresan Jayaraman**, Harald H. Sitte, Thomas Stockner

629-Pos **Board B394**
TWO MECHANISMS IN ONE FAMILY: PACKAGING OF GLUTAMATE INTO SYNAPTIC VESICLES *AGAINST* A PROTON GRADIENT, A TRANSPORTER DRIVEN BY MEMBRANE POTENTIAL, VERSUS A HOMOLOG DRIVEN DOWNHILL *WITH* PROTON GRADIENTS. **Robert M. Stroud**

630-Pos **Board B395**
SUBSTRATE BINDING TO SEROTONIN TRANSPORTERS REDUCES MEMBRANE CAPACITANCE. **Verena Burtscher**, Matej Hotka, Walter Sandtner

631-Pos **Board B396**
EXPLORING LIGAND-BINDING KINETICS IN THE S2 SITE OF MHST BY ATOMISTIC SIMULATIONS AND MARKOV MODELS. **Ara M. Abramyan**, Cathy Xue, Lei Shi

632-Pos **Board B397**
COMPUTATIONAL INVESTIGATION OF THE SEROTONIN TRANSPORTER CONFORMATION AND RESET MECHANISM. **Emily M. Benner**, Jeffry D. Madura

633-Pos **Board B398**
CHARACTERIZING OUTWARD- TO INWARD-FACING TRANSITION PATHWAY OF DOPAMINE TRANSPORTER. **Zhiyu Zhao**, Emad Tajkhorshid

634-Pos **Board B399** **Education Travel Awardee**
STRUCTURAL INSIGHTS INTO SODIUM-DEPENDENT SUGAR TRANSPORTERS AND THEIR INHIBITION MECHANISM. **Paola Bisignano**, Chakrapani Kalyanaraman, Chiara Ghezzi, Ernest M. Wright, Jeff Abramson, Aviv Paz, Matthew P. Jacobson, Rosmarie Friemann, Michael Grabe

635-Pos **Board B400**
UPTAKE DYNAMICS IN THE LACY MEMBRANE PROTEIN TRANSPORTER. Dari Kimanius, Stephen White, Erik Lindahl, Ronald Kaback, **Magnus Andersson**

636-Pos **Board B401**
ELEVATOR-LIKE MECHANISM OF TRANSPORT IN THE EIIC GLUCOSE SUPERFAMILY OF TRANSPORTERS. **Zhenning Ren**, Yin Nian, Jumin Lee, Jason McCoy, Wonpil Im, Ming Zhou

637-Pos **Board B402**
SUBSTRATE-INDUCED CONFORMATIONAL CHANGE IN LEUT. Yuan-Wei Zhang, Lucy R. Forrest, **Gary Rudnick**

638-Pos **Board B403**
MEMBRANE REMODELING BY GLT_{PH} IN THE INWARD- AND OUTWARD-FACING CONFORMATIONS EXPLAINS LACK OF PROTOMER COOPERATIVITY. **Wenchang Zhou**, Claudio Anselmi, Horacio Poblete, Ali Karimi, Lucy Forrest, Jose Faraldo-Gomez

639-Pos **Board B404**
PROTEIN-PROTEIN INTERACTION BETWEEN SODIUM-COUPLED MONOCARBOXYLATE TRANSPORTER 1 (SMCT1) AND PDZ DOMAIN-CONTAINING RING FINGER DOMAIN 3 (PDZRN3). **Yusuke Otsuka**

640-Pos **Board B405**
IT RUNS IN THE FAMILY: DETERMINING THE TRANSPORT MECHANISM OF SODIUM/DICARBOXYLATE SYMPORTER HNADC3. **Alissa J. Becerril**, Cristina Fenollar-Ferrer, Lucy R. Forrest, Joseph A. Mindell

Mitochondria in Cell Life and Death I (Boards B406–B420)

641-Pos **Board B406**
CYCLOPHILIN D ACETYLATION REGULATES CARDIAC MYOCYTE DIFFERENTIATION. **George A. Porter, Jr.**, Morgan L. Albert, Kathia R. Fantauzzi-Nieves, Gisela Beutner

642-Pos **Board B407**
THE ROLE OF MICU1 IN NEURONAL MITOCHONDRIAL CALCIUM HOMEOSTASIS AND FUNCTION. **Adam Bartok**, Melanie Paillard, Valentina Debattisti, David Weaver, Ashley Tyburski, Lianteng Zhi, Hui Zhang, Melanie Elliott, György Hajnóczky

643-Pos **Board B408**
IP_3 RECEPTOR ISOFORM DEPENDENCE OF THE ER-MITOCHONDRIAL CA^{2+}-TRANSFER IN MAMMALIAN CELLS. **Mate Katona**, Kamil Alzayady, David I. Yule, Gyorgy Hajnoczky

644-Pos **Board B409**
MITOCHONDRIAL CALCIUM UPTAKE AND MATRIX CALCIUM BUFFERING IN SKELETAL MUSCLE. **Valentina Debattisti**, Gyorgy Csordas, Erin Seifert, Gyorgy Hajnoczky

645-Pos **Board B410**
MITOCHONDRIAL CALCIUM FLUX CONTRIBUTES TO ARRHYTHMIA IN MOUSE HEART DURING ACUTE MYOCARDIAL INFARCTION. **An Xie**, Hong Liu, Anyu Zhou, Guangbin Shi, Samuel C. Dudley, Jr

646-Pos **Board B411**
REGULATION OF CARBON SUBSTRATE UTILIZATION BY CARDIAC MITOCHONDRIA. **Santosh K. Dasika**, Sunil M. Kandel, Daniel A. Beard

647-Pos **Board B412**
A THEORETICAL STUDY ON THE ROLES OF CA^{2+} IN THE ENERGY METABOLITE STABILITY DURING CARDIAC WORKLOAD TRANSITION. **Ayako Takeuchi**, Ryuta Saito, Yukiko Himeno, Satoshi Matsuoka

648-Pos **Board B413**
RECIPROCAL POLARIZATION OF THE MITOCHONDRIAL CA^{2+} UNIPORTER AND NA^{+}-CA^{2+} EXCHANGER IN CARDIAC MUSCLE. **Sergio De la Fuente**, Shey-Shing Sheu, Gyorgy Csordas

649-Pos **Board B414**
EFFECT OF ARSENIC ON INTRACELLULAR CALCIUM & REDOX HOMEOSTASIS. **Rafaela Bagur Quetglas**, Péter Várnai, Gyorgy Csordás, Gyorgy Hajnóczky

650-Pos **Board B415**
EFFECT OF RUTIN ON MITOCHONDRIAL RESPIRATION AND CELLULAR ENERGY STATUS. Jeong-Soo Park, **Icksoo Lee**

651-Pos **Board B416**
DETECTION OF A BITHIONOL SENSITIVE POTASSIUM CHANNEL IN CARDIAC MITOCHONDRIA ABSENT IN SLO2.1 KNOCKOUTS. **Charles O. Smith**

652-Pos **Board B417**
MITOCHONDRIAL RESPIRATION AND ROS EMISSION FROM B-OXIDATION IN THE HEART: AN EXPERIMENTAL COMPUTATIONAL STUDY. **Miguel A. Aon**, Steven J. Sollott, Sonia Cortassa

653-Pos **Board B418**
DETECTION OF REACTIVE OXYGEN SPECIES IN LIVE CELL MITOCHONDRIA. **Zhen Luo**, Jixiang Liu, Qin Zhao, Yunting Xi, Ruogu Peng, Jinfang Liao, Zhenjun Diwu

654-Pos **Board B419**
A STANDARDIZED METHOD TO QUANTIFY ER-MITOCHONDRIAL INTERFACES IN ELECTRON MIRCOGRAPHS. **David Weaver**, Adam Bartok, Gyorgy Csordas, Gyorgy Hajnoczky

655-Pos **Board B420**
CONTROL OF MITOCHONDRIAL STRUCTURE AND ANTIOXIDANT RESPONSE BY THE ATPASE INHIBITORY FACTOR 1 DEFINE A NOVEL POTENTIAL ONCOGENIC MECHANISM. **Danilo Faccenda**, Junji Nakamura, Gurtej K. Dhoot, Mauro Piacentini, Masasuke Yoshida, Michelangelo Campanella

Emerging Techniques and Synthetic Biology (Boards B421–B428)

656-Pos **Board B421**
SITE SATURATION MUTANT VIRUSES EVOLVE NEUTRALIZING ANTIBODY RESISTANCE IN A MICROFLUIDIC CELL CULTURE SYSTEM. Jared D. Evans, Audrey E. Fischer, Susan Wu, Peter M. Thielen, Thomas S. Mehoke, Ashok Sivakumar, **Joshua T. Wolfe**

657-Pos **Board B422**
CHIRAL VORTEX DYNAMICS ON MEMBRANES IS AN INTRINSIC PROPERTY OF FTSZ DRIVEN BY GTP HYDROLYSIS. **Diego A Ramirez-Diaz**, Daniela Garcia-Soriano, Ana Raso, Mario Feingold, Germán Rivas, Petra Schwille

658-Pos **Board B423** **Education Travel Awardee**
ENGINEERING OF CHIMERIC PROTEINS TO ENHANCE IMMUNOGENICITY FOR THE PRODUCTION OF HIGH-AFFINITY SPECIFIC MONOCLONAL ANTIBODIES. **Sienna Wong**, M. Moazzem Hossain, Rong Liu, J.-P. Jin

659-Pos **Board B424**
A MULTISCALAR FRAMEWORK DESCRIBES FLUORESCENCE AND FRET OF FLUCTUATING MOLECULAR SPECIES AND RESOLVES KINETIC NETWORKS. **Thomas-Otavio Peulen**, Oleg Opanasyuk, Suren Felekyan, Stanislav Kalinin, Hugo Sanabria, Claus A.M. Seidel

660-Pos **Board B425**
SUB-MICROSECOND-SCALE DYNAMICS IN THE TYPE-1 RYANODINE RECEPTOR OBSERVED WITH CMOS-INTEGRATED ELECTROPHYSIOLOGY. **Andreas J. W. Hartel**, Peiji Ong, Indra Schroeder, Oliver Clarke, Siddharth Shekar, Hunter M. Giese, Andrew R. Marks, Wayne A. Hendrickson, Ken L. Shepard

661-Pos **Board B426**
DROPLET INTERFACE BILAYERS AS A PLATFORM FOR A SPATIALLY SEGREGATED NANOREACTOR. **Maxwell P. Allen-Benton**

662-Pos **Board B427**
CELL LINE PHENOTYPIC ENRICHEMENT BASED ON MIGRATION AND MORPHOLOGY. **Joannie Roy**, Loïc Binan, Javier Mazzaferri, Camille Lehuede, Sébastien Tabariès, Giuseppina Ursini-Siegel, Peter Siegel, Claudia Kleinman, Santiago Costantino

663-Pos **Board B428**
ZLOCK, A BROADLY APPLICABLE OPTOGENETIC METHOD, CONTROLS COFILIN IN LIVING CELLS. **Orrin J. Stone**, Neha Kaul, Hui Wang, Ved P. Sharma, Robert J. Eddy, John S. Condeelis, Klaus M. Hahn

Neuroscience: General, Computational, and Experimental Approaches and Tools I (Boards B429–B441)

664-Pos **Board B429**
NOISE INDUCED HEARING ENHANCEMENT: CLINICAL AND MACHINE LEARNING STUDIES. **Kang-Hun Ahn**, Woo Seok Lee

665-Pos **Board B430** **International Travel Awardee**
STRESS-INDUCED DIFFERENTIAL REGULATION LEADS TO DECOUPLING OF THE ACTIVITY BETWEEN MPFC AND AMYGDALA. **Mohammed Mostafizur Rahman**, Sumantra Chattarji

666-Pos **Board B431**
TEMPERATURE SENSATION AND INTEGRATION IN THE *DROSOPHILA* CIRCADIAN CLOCK. **Chang Jiang**, Swathi Yadlapalli, Andrew Bahle, Pramod Reddy, Edgar Meyhofer, Orie Shafer

667-Pos **Board B432**
TRP CHANNEL FUNCTION IN IPSC-DERIVED SENSORY NEURONS. **Laura Vangeel**

668-Pos **Board B433**
EFFECT OF SPATIAL COMPLEXITY ON DOPAMINERGIC SIGNALING REVEALED FROM MULTISCALE SIMULATIONS. **Cihan Kaya**, Mary H. Cheng, Ethan R. Block, Alexander Sorkin, James R. Faeder, Ivet Bahar

669-Pos **Board B434**
SENSITIVITY AND ROBUSTNESS IN AN AXON GUIDANCE SIGNALING SYSTEM. **Brendan A. Bicknell**, Peter Dayan, Geoffrey J. Goodhill

670-Pos **Board B435**
MATHEMATICAL MODELING AND ANALYSES OF INTERSPIKE-INTERVALS OF SPONTANEOUS ACTIVITY IN AFFERENT NEURONS OF THE ZEBRAFISH LATERAL-LINE. **Sangmin Song**, Ji Ah Lee, Ilya Kiselev, Varun Iyengar, Josef G. Trapani, Nessy Tania

671-Pos **Board B436**
A MODEL FOR ASSESSING ATP DEMANDS OF SUSTAINED HIGH FREQUENCY FIRING. Bela Joos, Michael R. Markham, John E. Lewis, **Catherine E. Morris**

672-Pos **Board B437**
ANALYZING AND MODELING THE DYSFUNCTION OF INHIBITORY NEURONS IN ALZHEIMER'S DISEASE. **Carlos M. Perez**, Ghanim Ullah, Jokubas Ziburkus

673-Pos **Board B438**
DENIED ACCESS OF IONS AND MOLECULES TO AXONS IN THE DEVELOPMENT OF ALZHEIMER'S DISEASE. **Wade Dauberman**, Samuel Breit, Shaohua Xu

674-Pos **Board B439**
BIODISTRIBUTION OF INSULIN-NANOGELS IN MOUSE: A PRELIMINARY STUDY FOR THE TREATMENT OF ALZHEIMER'S DISEASE. **Daniela Giacomazza**, Pasquale Picone, Laura Ditta, M. Antonietta Sabatino, Valeria Militello, P. Luigi San Biagio, Laura Cristaldi, Domenico Nuzzo, Antonella Amato, Flavia Mule', Clelia Dispenza, Marta Di Carlo

675-Pos **Board B440**
STUDIES OF THE INTERACTION BETWEEN AB PEPTIDES AND CARBON NANO-MATERIALS. **Dongdong Lin**, Ruxi Qi, Luogang Xie, Shujie Li, Guanghong Wei, Xinju Yang

676-Pos **Board B441**
ULTRASOUND-ENHANCED MOLECULAR THERAPY FOR AXON NEUROGENESIS. **Asis Lopez**, Damir Khismatullin

Molecular Dynamics I (Boards B442–B454)

677-Pos **Board B442**
ASYMMETRIC MEMBRANE MODELS FOR THE PM AND TGN OF YEAST, AN ALL-ATOM MOLECULAR DYNAMICS STUDY. **Viviana Monje-Galvan**, Jeffery B. Klauda

678-Pos **Board B443**
$PI(4,5)P_2$ BINDS TO PHOSPHOLIPASE C DELTA 1 IN A CHOLESTEROL CONCENTRATION DEPENDENT MANNER: PERSPECTIVE ON IMPLICATIONS TO $PI(4,5)P_2$-BINDING PROTEINS. **Sami Rissanen**, Lauri Salmela, Ilpo Vattulainen, Tomasz Róg

679-Pos **Board B444**
STRD MARTINI: SIMULATING QUASI-2D HYDRODYNAMICS WITH CHEMICALLY DETAILED LIPID MODELS. **Andrew Zgorski**, Edward Lyman

680-Pos **Board B445**
MOLECULAR VIEWS OF A EUKARYOTIC PLASMA MEMBRANE MODEL. **Karelia H. Delgado-Magnero**, Gurpreet Singh, Valentina Corradi, D. Peter Tieleman

681-Pos **Board B446** **CID Travel Awardee**
BEYOND LATERAL PRESSURE PROFILES: LOCAL STRESS AND THE TRACTION VECTOR IN MD SIMULATIONS. **Juan M. Vanegas**, Alejandro Torres-Sanchez, Marino Arroyo

682-Pos **Board B447**
MOLECULAR DYNAMICS STUDY ON LIPID WRAPPED CARBON NANOTUBE AS AN ARTIFICIAL MEMBRANE CHANNEL. **Moon-Ki Choi**, Hyunki Kim, Youngjin Kim, Kyunghoon Kim, Moonki Kim

683-Pos **Board B448**
MOLECULAR DYNAMICS STUDIES SUPPORT ELEVATOR TYPE TRANSPORT MECHANISMS IN THE GLUCOSE EIIC SUPERFAMILY TRANSPORTERS. **Jumin Lee**, Zhenning Ren, Ming Zhou, Wonpil Im

684-Pos **Board B449**
MOLECULAR BASIS OF GLUT4 IN GLUCOSE TRANSPORT: ATOMISTIC MOLECULAR DYNAMICS STUDY. **Chetan S. Poojari**, Job Roodhuizen, Fabio Lolicato, Tomasz Róg, Ilpo Vattulainen

685-Pos **Board B450**
IONS IN ACTION - STUDYING ION CHANNELS BY COMPUTATIONAL ELECTROPHYSIOLOGY IN GROMACS. **Carsten Kutzner**, R. Thomas Ullmann, Bert L. de Groot, Ulrich Zachariae, Helmut Grubmueller

686-Pos **Board B451**
MODELING MEMBRANE ASSOCIATED PROTEINS THROUGH NEUTRON REFLECTIVITY AUGMENTED MOLECULAR DYNAMICS. **Bradley W. Treece**, Mathias Loesche, Frank Heinrich, Arvind Ramanathan

687-Pos **Board B452**
CHARACTERIZATION OF APOLIPOPROTEIN MIMETIC PEPTIDES ON NASCENT HIGH DENSITY LIPOPROTEINS. **Mohsen Pourmousa**, Rafique Islam, Denis Sviridov, Scott Gordon, B. Scott Perrin Jr., John Stonik, Alan T. Remaley, Richard W. Pastor

688-Pos **Board B453**
COMPUTATIONAL AND EXPERIMENTAL STUDIES OF GOLD NANOPARTICLE TEMPLATED HDL-LIKE NANOPARTICLES FOR CHOLESTEROL METABOLISM. **Cheng-Tsung Lai**, Wangqiang Sun, Rohun U. Palekar, C. Shad Thaxton, George C. Schatz

689-Pos **Board B454**
HIGH-THROUGHPUT THERMODYNAMICS OF DRUG-MEMBRANE INTERACTIONS FROM MULTISCALE SIMULATIONS. Roberto Menichetti, Kiran Kanekal, Kurt Kremer, **Tristan Bereau**

Optical Microscopy and Super-Resolution Imaging: Novel Approaches and Analysis I (Boards B455–B478)

690-Pos **Board B455**
COMBINING EXPANSION MICROSCOPY AND STED NANOSCOPY FOR THE STUDY OF CELLULAR ORGANIZATION. **Isotta Cainero**, Michele Oneto, Luca Pesce, Giulia Zanini, Luca Lanzanò, Alberto Diaspro, Paolo Bianchini

691-Pos **Board B456**
QUANTITATIVE MICROSTRUCTURE ANALYSIS OF CASEIN NETWORK DYNAMICS USING STED MICROSCOPY WITH RELATION TO MACROSCOPIC GEL PROPERTIES. **Zachary J. Glover**, Adam Cohen Simonsen, Jonathan Brewer, Jonathan Brewer

692-Pos **Board B457**
A NOVEL STED MICROSCOPE WITH NANOMETER AXIAL SECTIONING. **Iván Coto Hernández**, Siddharth Sivankutty, Nicolas Bourg, Sandrine Lécart, Guillaume Dupuis, Sandrine Lévêque-Fort1

693-Pos **Board B458**
WELL-CHARACTERISED TIME-GATED DETECTOR PHOTON FLUX RESOLVES THE ULTRASTRUCTURE OF DNA-DAMAGE NUCLEAR BODIES WITH G-STED NANOSCOPY. Kok-Lung Chan, Esther Garcia Gonzalez, Sergi Padilla-Parra, **Jorge Bernardino de la Serna**

694-Pos **Board B459**
LOCALIZATION MICROSCOPY THEORY AND PRACTICE FOR DATA ANALYSIS ON SPARSELY LABELED SAMPLES. **Brian T. DeVree**, Sarah L. Veatch

695-Pos **Board B460**
SUPER-RESOLUTION IMAGING OF ORGANELLE MEMBRANE CONTACT SITES VIA FAR-RED HYPERSPECTRAL LOCALIZATION MICROSCOPY. **Adriano Vissa**, Maximiliano Giuliani, Peter K. Kim, Christopher M. Yip

696-Pos **Board B461**
TOWARDS QUANTITATIVE HIGH-THROUGHPUT 3D LOCALIZATION MICROSCOPY. **Joran Deschamps**, Markus Mund, Jonas Ries

697-Pos **Board B462**
VERSATILE SUPER-RESOLUTION CALIBRATION STANDARD FOR QUANTIFYING PROTEIN COPY NUMBER. **Francesca Cella Zanacchi**, Carlo Manzo, Angel Sandoval Alvarez, Nathan D. Derr, Maria Garcia Parajo, Melike Lakadamyali

698-Pos **Board B463**
HETEROGENEITY OF THE NUCLEAR ENVIRONMENT INVESTIGATED BY SUPERRESOLUTION MICROSCOPY AND FLUORESCENCE CORRELATION SPECTROSCOPY. **Luca Lanzano'**, Melody Di Bona, Lorenzo Scipioni, Maria J. Sarmento, Enrico Gratton, Giuseppe Vicidomini, Alberto Diaspro

699-Pos **Board B464**
ANALYSIS OF FIBROUS SPATIAL POINT PATTERNS FROM SINGLE-MOLECULE SUPER-RESOLUTION MICROSCOPY DATA. **Ruby Peters**, Dylan Owen, Juliette Griffie

700-Pos **Board B465**
EXPANDING THE SPECTRAL RESOLUTION OF SINGLE-MOLECULE LOCALIZATION MICROSCOPY WITH BODIPY-BASED PHOTOSWITCHABLE FLUOROPHORES. **Amy M. Bittel**, Ashley Davis, Tao Huang, Xiaolin Nan, Summer L. Gibbs

701-Pos **Board B466**
DNA-PAINT IMAGING OF DNA-ORIGAMI RINGS MIMICKING BIOLOGICALLY RELEVANT STRUCTURES. **Arunima Chaudhuri**, Yang Yang, Kenny Kwok Hin Chung, Zhao Zhang, Fredric Pincet, Shyam Krishnakumar, Chenxiang Lin, James E Rothman, David Baddeley

702-Pos **Board B467**
CHARACTERIZATION OF PS-CFP2 FOR RELIABLE SUPER-RESOLUTION MICROSCOPY. **Benedikt Rossboth**, Rene Platzer, Johannes Huppa, Gerhard Schütz, Mario Brameshuber

703-Pos **Board B468**
A QUANTITATIVE PLATFORM FOR SUPER-RESOLUTION MICROSCOPY IMAGING. Ottavia Golfetto, Devin L. Wakefield, Eliedonna E. Cacao, Kendra N. Avery, Raphael Jorand, Steven J. Tobin, Ronald M. Clinton, Jennifer Gutierrez, Yuelong Ma, Daniel Ganjali, Athanasios Sideris, David A. Horne, John C. Williams, **Tijana Jovanovic-Talisman**

704-Pos **Board B469**
ESTIMATING THE PSF FROM SINGLE MOLECULE DATA. **Kenny KH Chung**, David Baddeley

705-Pos **Board B470**
ROBUST NONPARAMETRIC DESCRIPTORS FOR CLUSTERING QUANTIFICATION IN SINGLE-MOLECULE LOCALIZATION MICROSCOPY. Shenghang Jiang, Sai Divya Challapalli, **Yong Wang**

706-Pos **Board B471**
PERTURBATION UPON OBSERVATION: USER DEFINED, NANOSCALE LABELING OF SUPER-RESOLUTION IMAGES. **Ninning Liu**, Mingjie Dai, Peng Yin

707-Pos **Board B472**
METHODS TO ELIMINATE LOCALIZATION BIAS AND REDUCE LOCALIZATION ERROR IN LOCALIZATION MICROSCOPY DATASETS WITH NON-UNIFORM BACKGROUND FLUORESCENCE. **Thomas Shaw**, Sarah L. Veatch

708-Pos **Board B473** **Education Travel Awardee**
THE CHARACTERIZATION OF CELLULOSE NANOSTRUCTURE USING SUPER-RESOLUTION FLUORESCENCE MICROSCOPY. **Mouhanad Babi**

709-Pos **Board B474**
QUANTITATIVE ANALYSIS OF MEMBRANE PROTEIN CLUSTERING FROM LIVE-CELL,
SINGLE-MOLECULE SUPER-RESOLUTION MICROSCOPY DATA. **Juliette Griffie**, Dylan Owen, Patrick Rubin-Delanchy, Garth Burn

710-Pos **Board B475**
SELECTIVE PLANE ILLUMINATION MICROSCOPY IN THE CONVENTIONAL INVERTED MICROSCOPE GEOMETRY. **Per Niklas Hedde**, Leonel Malacrida, Enrico Gratton

711-Pos **Board B476**
LIGHT-SHEET MICROSCOPY USING ATTENUATION-COMPENSATING AIRY BEAM. **Cong Liu**, Yen-Liang Liu, Tim Yeh

712-Pos **Board B477**
LIGHT SHEET MICROSCOPY BY DUAL LINE SCANNING OF TWO BESSEL BEAMS. **James Werner**, Pengfei Zhang, Elizabeth Phipps, Peter Goodwin

713-Pos **Board B478**
SINGLE MOLECULE FLUROESCENCE APPROACHES TO PLASMA MEMBRANE BIOPHYSICS. **Philip R. Nicovich**

Optical Microscopy and Super-Resolution Imaging: Applications to Cellular Molecules (Boards B479–B501)

714-Pos **Board B479**
A FAST AND RELIABLE ONLINE-SYSTEM FOR PLATELET VIABILITY STUDIES. **Michael D. Brodesser**, Sandra Mayr, Fabian Hauser, Johannes Breuss, Michael Aspetsberger, Andreas Hangler, Lukas Bindreiter, Daniela Borgmann, Stephan Winkler, Christian Gabriel, Eleni Priglinger, Jaroslaw Jacak, Birgit Plochberger

715-Pos **Board B480**
VISUALIZING SIGNALING COMPLEXES IN FILAMENTOUS FUNGI. **Alexander WAF Reismann**, Lea Atanasova, Alexander Lichius, Sabine G. Gruber, Susanne Zeilinger, Gerhard J. Schuetz

716-Pos **Board B481**
FLIM-FRET IMAGING OF PLITIDEPSIN-EEF1A2 COMPLEXES IN LIVE CANCER CELLS USING THE PHASOR APPROACH. Carolina Garcia, Alejandro Losada, Miguel A. Sacristan, Jose M. Molina-Guijarro, Juan F. Martinez-Leal, Carlos M. Galmarini, **M Pilar Lillo**

717-Pos **Board B482**
IMAGE CORRELATION SPECTROSCOPY BASED ASSAY TO INVESTIGATE G-PROTEIN COUPLED RECEPTORS. **Nader Danaf**

718-Pos **Board B483**
SINGLE MOLECULE IMAGING REVEALS DYSFERLIN-MEDIATED RECRUITMENT OF PHOSPHATIDYLSERINE IN CELL MEMBRANE REPAIR. Lu Zhou, Volker Middel, Uwe Strähle, **G. Ulrich Nienhaus**

719-Pos **Board B484**
ROTATION OF SINGLE CELL SURFACE MOLECULES EXAMINED VIA POLARIZED FCS MEASUREMENTS USING QUANTUM DOT PROBES. Domgmei Zhang, Peter W. Winter, Deborah A. Roess, **B. George Barisas**

720-Pos **Board B485**
SUPER-RESOLUTION IMAGING REVEALS PROTEIN-TEMPLATED PATTERNS FOR BIOSILICA FORMATION. **Philip Gröger**, Nicole Poulsen, Jennifer Klemm, Nils Kröger, Michael Schlierf

721-Pos **Board B486**
QUANTITATIVE SUPER-RESOLUTION MICROSCOPY DETECTS HER2 REORGANIZATION FOLLOWING MEDITOPE-ANTIBODY TREATMENT. **Devin Wakefield**, Raphael Jorand, Cindy Zer, John Williams, Tijana Jovanovic-Talisman

722-Pos **Board B487** **International Travel Awardee**
3D ORBITAL TRACKING OF SINGLE GOLD NANOPARTICLES: A NEW APPROACH TO STUDY VESICLE TRAFFICKING IN CHROMAFFIN CELLS. **Manuela Gabriel**, Jose Moya-Diaz, Fernando D. Marengo, Laura C. Estrada

723-Pos **Board B488**
SUPER-RESOLUTION IMAGING OF DNA REPLISOME DYNAMICS IN LIVE *BACILLUS SUBTILIS*. **Yilai Li**, Jeremy W. Schroeder, Yi Liao, Lyle A. Simmons, Julie S. Biteen

724-Pos **Board B489**
SINGLE-MOLECULE TRACKING REVEALS ALTERED DYNAMICS OF A TRANSCRIPTION REGULATOR EXPRESSED AT SIMILAR LEVELS FROM DIFFERENT GENE EXPRESSION SYSTEMS. **Chanrith Siv**, David J. Rowland, Victor J. DiRita, Julie S. Biteen

725-Pos **Board B490**
FLUORESCENCE DIFFUSION TENSOR MAPS OF P53 ACTIVATION ACQUIRED WITH SPIM. **Michelle A. Digman**, Lukas Rottschäfer, Enrico Gratton, Per Niklas Hedde

726-Pos **Board B491**
ASSOCIATION OF ENDOPHILIN B1 WITH CYTOPLASMIC VESICLES. Jinhui Li, Barbara Barylko, Joachim D. Mueller, Joseph Albanesi, **Yan Chen**

727-Pos **Board B492**
CHARACTERIZATION OF IRE1 INTERACTIONS AND DYNAMICS WITH QUANTITATIVE SUPER-RESOLUTION MICROSCOPY. **Elizabeth M. Smith**, Ragnar Stefansson, Maria Paz Ramirez Lopez, Elias M. Puchner

728-Pos **Board B493**
DIFFUSION OF DNA-BINDING SPECIES IN THENUCLEUS: A TRANSIENT ANOMALOUS SUBDIFFUSION MODEL. **Michael J. Saxton**

729-Pos **Board B494**
SPATIAL DYNAMICS OF SIRT1 RELATES TO METABOLIC TRANSITIONS IN THE CELL NUCLEUS. **Suman Ranjit**, Lorena Aguilar-Arnal, Chiara Stringari, Paolo Sassone-Corsi, Enrico Gratton

730-Pos **Board B495**
SPATIOTEMPORAL FLUCTUATION ANALYSIS: A POWERFUL TOOL FOR THE FUTURE NANOSCOPY OF DYNAMIC MOLECULAR PROCESSES. **Francesco Cardarelli**, Enrico Gratton, Fabio Beltram, Carmine Di Rienzo

731-Pos **Board B496**
BACTERIAL TYPE 3 SECRETION SYSTEMS: HIGH-THROUGHPUT 3D SINGLE-MOLECULE TRACKING OF SORTING PLATFORM PROTEINS IN LIVE CELLS. Julian Rocha, Andreas Diepold, Judith P. Armitage, **Andreas Gahlmann**

732-Pos **Board B497**
MOLECULAR TATTOO: SUBCELLULAR CONFINEMENT OF DRUG EFFECTS IN VIVO WITH TWO-PHOTON MICROSCOPY. Boglárka Várkuti, Miklós Képiró, Anna Á. Rauscher, László Végner, Áron Zsigmond, Vanda Imrich, Szilvia Ráti, Ádám I. Horváth, Máté Varga, Miklós S. Kellermayer, **Malnasi-Csizmadia Andras**

733-Pos **Board B498**
HUMAN SUBCUTANEOUS ADIPOSE TISSUE ADIPOCYTES DEMONSTRATE TWO PHYSIOLOGICAL STATES: INSULIN RESPONSIVE OR INSULIN REFRACTORY. **Chad D. McCormick**, Hang Waters, Ludmila Bezrukov, Brad Busse, Andrew Demidowich, Paul S. Blank, Jack A. Yanovski, Joshua J. Zimmerberg

734-Pos **Board B499**
SINGLE CELL EXAMINATION OF MEMBRANE FLUIDITY AND CELLULAR RESPIRATION. Krishna Ojha, John Ertle, **Michael C. Konopka**

735-Pos **Board B500**
AN IMPROVED SINGLE MOLECULE IMAGING VIVO METHOD FOR IN VIVO STOICHIOMETRIC AND FUNCTIONAL ANALYSIS OF PROTEIN COMPLEXES. **Warren R. Zipfel**, Avtar Singh, Maria Sirenko, Alexander Song, Paul Kammermeier

736-Pos **Board B501**
VISUALIZING HETEROGENEOUS SINGLE-MOLECULE DYNAMICS OF MOLECULAR ASSEMBLIES IN LIVE CELLS. **Michael Lacy**, David Baddeley, Julien Berro

Single-Molecule Spectroscopy I (Boards B502–B512)

737-Pos **Board B502**
SINGLE-MOLECULE COUNTING APPLIED TO IMMUNOASSAYS. **Patrick J. Macdonald**, Qiaoqiao Ruan, Kerry M. Swift, Sergey Y. Tetin

738-Pos **Board B503**
COMPARING ANTIBODY-ANTIGEN BINDING IN SERUM VERSUS BUFFER WITH FLUORESCENCE CORRELATION SPECTROSCOPY. **David Ortiz**, Isabel Yannatos, Abhinav Nath

739-Pos **Board B504** **CID Travel Awardee**
IN VITRO BINDING OF 6S RNA MANGO TO RNA POLYMERASE BY TWO PHOTON FLUORESCENCE CROSS CORRELATION SPECTROSCOPY. S. Shyam Sundar Panchapakesan, Eric J. Hayden, Peter Unrau, **Matthew L. Ferguson**

740-Pos **Board B505**
SINGLE-MOLECULE FLUORESCENCE STUDY OF RNA RECOGNITION BY VIRAL RNAI SUPPRESSORS. Mohamed Fareh, Jasper van Lopik, **Iason Katechis**, Ronald van Rij, Chirlmin Joo

741-Pos **Board B506**
DUAL ROLE OF MUNC13 IN REGULATING SNARE ASSEMBLY FOR FAST NEUROTRANSMITTER RELEASE. **Ucheor Brandon Choi**

742-Pos **Board B507**
MONITORING SMALL MOLECULE AND G-QUADRUPLEX INTERACTIONS AND KINETICS USING SINGLE MOLECULE FRET. **Parastoo Maleki**

743-Pos **Board B508**
ENGINEERING CLPXP FOR SINGLE-MOLECULE PROTEIN SEQUENCING. **Mike Filius**, Jetty van Ginkel, Chirlmin Joo

744-Pos **Board B509**
INVESTIGATING THE MECHANISM OF ULTRA-FAST ENERGY TRANSFER BETWEEN VENUS OLIGOMERS USING TIME-RESOLVED ANISOTROPY, FLUORESCENCE CORRELATION SPECTROSCOPY, AND PHOTON ANTIBUNCHING. **Youngchan Kim**, Grace H. Taumoefolau, Tuan A. Nguyen, Henry L. Puhl, Paul S. Blank, Steven S. Vogel

745-Pos **Board B510**
PLASMA MEMBRANE ORGANIZATION AND DYNAMICS IS PROBE AND CELL LINE DEPENDENT: AN IMAGING FCS STUDY. **Thorsten Wohland**, Shuangru Huang, Shi Ying Lim, Anjali Gupta, Nirmalya Bag

746-Pos **Board B511**
SINGLE MOLECULE IMAGING OF TRANSCRIPTION FACTOR-DNA INTERACTIONS IN ZEBRAFISH DEVELOPMENT. Matthias Reisser, Shai R. Joseph, Nadine L. Vastenhouw, **J. Christof M. Gebhardt**

747-Pos **Board B512**
A HIDDEN MARKOV MODEL APPROACH TO MEASURE TWO-STATE DIFFUSION OF THERMOBIFIDA FUSCA CELLULASES. **Markus Rose**, Jose Moran-Mirabal

Micro- and Nanotechnology I (Boards B513–B541)

748-Pos **Board B513**
BIOMOLECULE TRANSPORT ACROSS DROPLET INTERFACE BILAYER NETWORKS. **Heather E. Findlay**, Grant Pellowe, Paula J. Booth

749-Pos **Board B514**
HIERARCHICALLY LAYERED PLATFORM FOR THE FORMATION OF FREE-STANDING LIPID BILAYER MEMBRANE. **Hyunil Ryu**, Sangbaek Choi, Sun Min Kim, Tae-Joon Jeon

750-Pos **Board B515**
DYNAMICS AND ENERGETICS OF PHAGE T4 INJECTION MACHINERY. **Ameneh Maghsoodi**, Anupam Chatterjee, Ioan Andricioaei, Noel C. Perkins

751-Pos **Board B516**
USING MAGNETIC FIELD TO PURIFY MEMBRANE PROTEINS IN SUPPORTED CELL PLASMA MEMBRANES. **Kai-Hung Hsiao**, Ling Chao

752-Pos **Board B517**
TARGETING SPECIFIC MEMBRANES WITH THE PORE-FORMING PEPTIDE CERATOTOXIN A USING CLICK CHEMISTRY. Simon F. Mayer, **Aziz Fennouri**, Jerry Yang, Michael Mayer

753-Pos **Board B518**
IDENTIFYING PEPTIDE-PEPTIDE INTERACTIONS WITH LYSENIN NANOPORES. **Christopher A. Thomas**, Nisha Shrestha, Juliette Tinker, Devon Richtsmeier, Sheenah Bryant, Xinzhu Pu, Daniel Fologea

754-Pos **Board B519**
SENSING SSDNA MOLECULES WITH SINGLE LYSENIN CHANNELS. **Philip Belzeski**, Nisha Shrestha, Sheenah Bryant, Juliette Tinker, Christopher Alex Thomas, Devon Richtsmeier, Daniel Fologea

755-Pos **Board B520**
SOLID STATE NANOPORE KIT FOR REAL-TIME ANALYSIS OF DNA AND OTHER ANALYTES. **Federico Thei**, Michele Rossi, James Yates, Marco Bennati

756-Pos **Board B521**
IONIC TRANSPORT PROPERTY UNDER AN EXTREMELY HIGH ELECTRICAL FIELD IN A THIN PORE. **Pinyao He**, Kun Li, Kabin Lin, Zhongwu Li, Haojie Yang, Yunfei Chen

757-Pos **Board B522**
DEFECT-GUIDED TRANSPORT OF BIOMACROMOLECULES. **Manish Shankla**, Aleksei Aksimentiev

758-Pos **Board B523**
ANOMALOUS IONIC CONDUCTANCE IN CARBON NANOTUBE NANOCHANNELS. **Steven F. Buchsbaum**, Shirui Guo, Eric Meshot, Preston Hinkle, Anh Pham, Zuzanna Siwy, Francesco Fornasiero

759-Pos **Board B524**
ROLE OF SOLID STATE NANOPORE SIZE AND CHARGE ON MOLECULAR TRANSPORT KINETICS. **Meni Wanunu**

760-Pos **Board B525**
STRUCTURAL CHARACTERIZATION OF VASCULAR ENDOTHELIAL GROWTH FACTOR BY SOLID-STATE NANOPORES. **Nitinun Varongchayakul**, Mark Grinstaff, Amit Meller

761-Pos **Board B526**
SOLID-STATE NANOPORE DETECTION OF HYDROPHOBIC PROTEINS. **Adam R. Hall**, Dhruba Jyoti Basu Roy

762-Pos **Board B527**
THE NANOMETRIC GOLDEN RATIO: THE RELATION BETWEEN GOLD VOLUME AND NANOPORE DIAMETER. **Lennart J. de Vreede**

763-Pos **Board B528**
MULTIPLE -NANOPORES FABRICATION BASED ON DIELECTRIC BREAKDOWN. **Yunlong Wang**, Cuifeng Ying, Wenyuan Zhou, Zhibo Liu, Jianguo Tian

764-Pos **Board B529**
ARTIFICIAL DNA-BASED CHANNELS FOR CONTROLLED MEMBRANE TRANSPORT. Jonathan R. Burns, Astrid Seifert, Niels Fertig, **Stefan Howorka**

765-Pos **Board B530**
SLOWING DOWN DNA TRANSLOCATION USING INTEGRATED NANOPORE AND NANOPILLARS PRECISELY DEPOSITED BY HELIUM ION BEAM. **Yunsheng Deng**, Qimeng Huang, Daming Zhou, Shuo Zhou, Shuo Zhou, Liyuan Liang, Shaoxi Fang, Wanyi Xie, Shixuan He, Peng Tang, Deqiang Wang

766-Pos **Board B531**
SINGLE-CHANNEL
MEASUREMENTS OF CONDUCTANCE THROUGH SUB-NANOMETER CARBON NANOTUBE PORINS. **Yun-Chiao Yao**, Robert Henley, Ramya Tunuguntla, Meni Wanunu, Aleksandr Noy

767-Pos **Board B532**
TUNABLE ION SELECTIVITY IN SUB-NANOMETER DIAMETER CARBON NANOTUBE PORINS. **Robert Y. Henley**, Yun-Chiao Yao, Ramya Tunuguntla, Pradeep Waduge, Meni Wanunu, Aleksandr Noy

768-Pos **Board B533**
SUB-1-NM CARBON NANOTUBE PORINS: WATER TRANSPORT AND ION SELECTIVITY IN A SINGLE-FILE WATER MEMBRANE NANOPORE. **Aleksandr Noy**

769-Pos **Board B534**
CARBON NANOSTRUCTURES OF DIFFERENT SPATIAL GEOMETRY: THEIR DISPERSION AND INFLUENCE ON MODEL BIOLOGICAL SYSTEMS. **Justyna Iżykowska**, Michalina Skupin, Weronika Andrzejewska, Maria Dobies, Stefan Jurga, Maciej Kozak

770-Pos **Board B535**
THE INFLUENCE OF SURFACTANT STRUCTURE AND GEOMETRY ON NANOTOXICITY AND DISPERSION OF CARBON NANOTUBES. **Jakub Zaręba**, Justyna Iżykowska, Michalina Skupin, Augustyn Moliński, Maria Dobies, Stefan Jurga, Maciej Kozak

771-Pos **Board B536**
DESIGNER PEPTIDES SELF-ASSEMBLE ON GRAPHENE TO CREATE REMARKABLY STABLE, PRECISELY ORGANIZED SUBSTRATES. **Gina-Mirela Mustata**, Meni Wanunu, Gevorg Gregoryan, Yong Ho Kim, Jian Zhang, William F. DeGrado

772-Pos **Board B537**
MODULATION OF GRAPHENE OXIDE PROBIOTIC AND ANTIBIOTIC ACTIVITY BY CRITICAL COAGULATION CONCENTRATION. **Massimiliano Papi**, Valentina Palmieri, Francesca Bugli, Maria Carmela Lauriola, Margherita Cacaci, Claudio Conti, Maurizio Sanguinetti, Marco De Spirito

773-Pos **Board B538**
REAL-TIME FLOW DEFORMABILITY CYTOMETRY VIA RESISTIVE PULSE SENSING. **Preston Hinkle**

774-Pos **Board B539**
QUANTIFYING EXTRACELLULAR ROS LEVELS IN INDIVIDUAL PANCREATIC ISLETS USING AN OPTICAL SENSOR AND MICROFLUIDIC DEVICE. **Romario Regeenes**, Jonathan V. Rocheleau

775-Pos **Board B540**
MICROCANTILEVER INVESTIGATION OF NANOCONFINEMENT EFFECTS ON WATER TRANSPORT. **Michael DeLay**

776-Pos **Board B541**
SUB-DIFFRACTION STED LITHOGRAPHY USING ORTHOGONALLY FUNCTIONALIZED RESINS. **Thomas A. Klar**, Richard Wollhofen, Johannes Kreutzer, Bianca Buchegger, Christine Eder, Jaroslaw Jacak

Student Research Achievement Award (SRAA) Poster Competition

These posters will be displayed for judging on Sunday, February 12, 6:00 PM–9:00 PM, in the SRAA poster board area marked S1–S101, in the Exhibit Hall. S board numbers before each title indicate where the posters will be assigned during the Sunday evening competition.

The posters will also be presented during the regular daily sessions as programmed below. Note that only the applicant's name is listed. Please refer to the full abstract for all authors. **Please also note that only applicants and judges will be allowed in S poster area on Sunday evening.**

Bioenergetics

Board S1
PORPHYRIN INDUCED MULTIMERIZATION OF SOLUTION-STATE PROTEINS.
Daniel R. Marzolf (2427-Pos, B34)

Board S2
MIMICKING NATURAL PHOTOSYNTHSIS: ULTRAFAST CHARGE TRANSFER IN PPCA RU(BPY)3 COMPLEXES.
Matthew O'Malley (2171-Pos, B491)

Board S3
MITOCHONDRIAL PROTEIN ABF2P INTERCALATES, BENDS, LOOPS, AND COMPACTS DNA.
Divakaran Murugesapillai (1832-Pos, B152)

Bioengineering

Board S4
POLYETHYLENE GLYCOL CONJUGATION ENHANCES MOSQUITO-LARVICIDAL ACTIVITY OF LYSINIBACILLUS SPHAERICUS BINA PROTEIN.
Mahima Sharma (247-Pos, B6)

Board S5
BIOLOGICAL SEMICONDUCTORS: STRUCTURAL CONTROL OF HEME REDOX POTENTIALS IN PPCA, A 3-HEME CYTOCHROME.
Coleman Swaim (1504-Pos, B572)

Board S6
THE FRANK-STARLING MECHANSIM IS ATTENUATED BY A DILATED CARDIOMYOPATHY-ASSOCIATED TROPOMYOSIN MUTATION.
Joseph D. Powers (595-Pos, B360)

Biological Fluorescence

Board S7
PROTEIN STRUCTURE DETERMINATION BY HIGH-PRECISION FRET AND MOLECULAR MODELING.
Mykola Dimura (241-Pos, B6)

Board S8
ACCURATE DETERMINATION OF THE RNA THREE-WAY JUNCTIONS VIA SINGLE-MOLECULE HIGH-PRECISION FRET MEASUREMENTS.
Olga Doroshenko (1806-Pos, B126)

Board S9
OPTICAL PROBES FOR IMAGING SIGNAL MEDIATING PHOSPHOLIPIDS.
Samsuzzoha Mondal (2279-Pos, B593)

Board S10
CELL LINE PHENOTYPIC ENRICHEMENT BASED ON MIGRATION AND MORPHOLOGY.
Joannie Roy (662-Pos, B427)

Board S11
CARDIOMYOCYTE FUNCTIONAL KINETIC RESERVE IS LOST IN AN OSSABAW SWINE MODEL OF HEART FAILURE WITH PRESERVED EJECTION FRACTION.
Adam Veteto (507-Pos, B272)

Biopolymers in vivo

Board S12
GLYCINE BETAINE REVERSES OSMOTIC SHOCK INDUCED PROTEIN DESTABILIZATION IN LIVING CELLS.
Samantha Stadmiller (287-Pos, B52)

Board S13
ELUCIDATING THE ROLE OF TRANSCRIPTION IN SHAPING THE 3D STRUCTURE OF THE BACTERIAL GENOME.
Hugo Brandao (354-Pos, B119)

Exocytosis & Endocytosis

Board S14
CALCIUM-MEDIATED DOCKING AND FUSION OF PURIFIED DENSE CORE VESICLES WITH RECONSTITUTED MEMBRANES.
Alex Kreutzberger (1954-Pos, B274)

Board S15
DEVELOPMENT OF BIOPHYSICAL MARKERS THAT QUANTIFY METASTATIC POTENTIALS OF PROSTATE CANCER CELLS USING TSUNAMI MICROSCOPE.
Yen-Liang Liu (1958-Pos, B278)

Board S16
SNARE PROTEIN STRUCTURE ALTERED IN RESPONSE TO pH.
Kara Woodbury (476-Pos, B24)

Intrinsically Disordered Proteins

Board S17
A STUDY OF DISORDER-TO-ORDER TRANSITION BY CHARACTERIZING THE BINDING PARTNERS USING A STATISTICAL POTENTIAL.
Iqbal Sumaiya (1032-Pos, B100)

Board S18
UNDERSTANDING THE ROLE OF CHAIN FLEXIBILITY IN AMYLOID PROTEIN AGGREGATION THROUGH RATIONALLY DESIGNED PROTEIN SEQUENCES.
Steven Vance (264-Pos, B29)

Board S19
MICROSECOND SIMULATIONS OF AMYLOID BETA FIBRIL NUCLEATION IN REVERSE MICELLES.
Gozde Eskici (2608-Pos, B215)

Board S20
SECONDARY STRUCTURE FLIPPING CONNECTED TO SALT-BRIDGE FORMATION CONVERTS TOXIC AMYLOID-β_{40} OLIGOMERS TO FIBRILS.
Bappaditya Chandra (1782-Pos, B102)

Board S21
LIPID HEADGROUPS MODULATE CONFORMATIONAL SWITCHING DURING MEMBRANE INSERTION OF CANCER-TARGETING PHLIP PEPTIDES.
Victor Vasquez-Montes (2602-Pos, B209)

Board S22
TARDIGRADE INTRINSICALLY DISORDERED PROTEINS AS POTENTIAL EXCIPIENTS FOR BIOLOGICS.
Samantha Piszkiewicz (2520-Pos, B127)

Board S23
SURFACE SOLVATION TUNES MOLECULAR-RECOGNITION PLASTICITY IN IDPS.
Aritra Chowdhury (1018-Pos, B86)

Board S24
A MODEL FOR HYSTERESIS OBSERVED IN PHASE TRANSITIONS OF THERMALLY RESPONSIVE INTRINSICALLY DISORDERED PROTEIN POLYMERS.
Tyler Harmon (1022-Pos, B90)

Board S25
MECHANISM UNDERLYING CONFORMATIONAL EFFECTS OF A DISEASE-ASSOCIATED HYDROPHOBIC-TO-HYDROPHOBIC SUBSTITUTION ON AN INTRINSICALLY DISORDERED REGION.
Ruchi Lohia (1024-Pos, B92)

Mechanobiology

Board S26
TEMPERATURE-DEPENDENT PROTEIN MALLEABILITY PROBED BY SINGLE-MOLECULE FORCE SPECTROSCOPY AND FLUORESCENCE SPECTROSCOPY.
Shrabasti Bhattacharya (1472-Pos, B540)

Board S27
CELL POPULATION AND ELECTROPHYSIOLOGY APPROACHES TO OSMOTIC FITNESS OF PSEUDOMONAS AERUGINOSA.
Ugur Cetiner (2789-Pos, B396)

Board S28
TOWARDS ROLLING-CIRCLE REPLICATION AT THE SINGLE-MOLECULE LEVEL.
Cesar Pastrana (1833-Pos, B153)

Board S29
HUMAN PIEZO1 MEMBRANE LOCALIZATION AND GATING KINETICS ARE MODULATED BY CHOLESETROL LEVELS.
Pietro Ridone (2630-Pos, B237)

Board S30
SUBSTRATE CHEMISTRY AND MORPHOLOGY INFLUENCE THE VALVULAR INTERSTITIAL CELLS MECHANOBIOLOGY.
Luisa Ulloa Severino (2146-Pos, B466)

Board S31
MULTIGENERATIONAL STUDY OF SPACEFLIGHT-RESPONSIVE GENE NETWORKS.
Irem Celen (2815-Pos, B422)

Board S32
INEQUALITY OF THE CLONES: LIFE-LONG TRACKING OF SINGLE ANIMALS REVEALS DISCORDANT TRAITS IN C. ELEGANS.
Andrew Moore (1386-Pos, B454)

Membrane Biophysics

Board S33
PHOSPHORYLATION IN AMPA RECEPTOR CARBOXY-TERMINUS: STRUCTURE, FUNCTION, AND LIPID REGULATION.
Caitlin Nurik (2056-Pos, B376)

Board S34
CHEMICAL GRADIENTS TRIGGER AND GUIDE MOVEMENT OF GIANT LIPID VESICLES.
Baharan Ali Doosti (1853-Pos, B173)

Board S35
MULTISCALE DYNAMICS OF LIPID MEMBRANES FROM FEMTOSECONDS TO MILLISECONDS: INSIGHTS FROM TIME-RESOLVED INFRARED SPECTROSCOPY.
Paul Stevenson (1087-Pos, B155)

Board S36
HOW DO PEPTIDES AND NANOPARTICLES INTERACT WITH THE MEMBRANES OF E. COLI? INSIGHTS FROM MOLECULAR DYNAMICS.
Pin-Chia Hsu (2592-Pos, B199)

Board S37
INFLUENZA BINDING AVIDITY GOVERNED BY STEROL-DEPENDENT GANGLIOSIDE DYNAMICS.
Isabel Goronzy (387-Pos, B152)

Board S38
TRP CHANNEL FUNCTION IN iPSC-DERIVED SENSORY NEURONS.
Laura Vangeel (667-Pos, B432)

Board S39
INTERACTIONS OF CARBON NANOTUBES STABILIZED BY SELECTED GEMINI SURFACTANTS WITH MODEL BIOMEMBRANES.
Michalina Skupin (394-Pos, B159)

Board S40
TRANSFER OF TRPV1 SODIUM BINDING SITE INTO TRPV2.
Katherine Huffer (568-Pos, B333)

Board S41
AZOBENZENE-CHOLESTEROL AS A PHOTOACTIVATOR IN BIOMIMETIC MEMBRANES: 1. LIPID DYNAMICS.
Chen Shen (383-Pos, B148)

Board S42
STERIC PRESSURE FROM PERIPHERAL PROTEIN CONFORMATIONAL CHANGES DRIVES MEMBRANE CURVATURE.
Helen Hew Ming Siaw (1132-Pos, B200)

Board S43
AUTOMATED IDENTIFICATION OF CHOLESTEROL INTERACTION SITES ON G-PROTEIN COUPLED RECEPTORS BY COARSE-GRAINED SIMULATION.
Eric Rouviere (1936-Pos, B256)

Board S44
PROPOFOL IS A POTENT GATING MODIFIER OF VOLTAGE-GATED SODIUM CHANNELS.
Elaine Yang (528-Pos, B293)

Board S45
LIPID COMPOSITION AND ENDOSOMAL PH REGULATES ANTHRAX LETHAL TOXIN UPTAKE AND PA_{63} CHANNEL BEHAVIOR.
Nnanya Kalu (1117-Pos, B185)

Board S46
PERTURBATION OF BILAYER SURFACE TENSION DIFFERENTIALLY MODULATES MECHANOSENSITIVE ION CHANNELS.
Navid Bavi (2049-Pos, B369)

Board S47
PHOTOACOUSTICS AS A NEW MODALITY FOR RECORDING MEMBRANE POTENTIAL CHANGES.
Haichong Zhang (1399-Pos, B467)

Board S48
REDUCED STRUCTURAL DYNAMICS IN KAINATE RECEPTORS THROUGH AUXILIARY PROTEIN MODULATION.
Douglas Litwin (2061-Pos, B381)

Membrane Structure & Assembly

Board S49
DIRECT IMAGING OF LIQUID DOMAINS BY CRYOTEM IN SUBMICRON VESICLES.
Caitlin Cornell (1851-Pos, B171)

Board S50
MEMBRANE BOUND STRUCTURES OF PERIPHERAL MEMBRANE BINDING PROTEINS TIM3 AND TIM1 PRODUCED BY MOLECULAR DYNAMICS INFORMED ANALYSIS OF X-RAY SCATTERING EXPERIMENTS.
Daniel Kerr (1931-Pos, B251)

Board S51
SOFTWARE FOR DIRECT COMPARISON OF MEMBRANE SCATTERING EXPERIMENTS DATA TO MOLECULAR DYNAMICS SIMULATIONS.
Yevhen Cherniavskyi (417-Pos, B182)

Board S52
PERMEABILITY OF PULMONARY SURFACTANT MEMBRANES IS MODULATED BY PROTEINS SP-B AND SP-C.
Marta Martínez-Calle (2479-Pos, B86)

Board S53
STRUCTURAL CHARACTERIZATION OF HUMAN PULMONARY SURFACTANT PROTEIN SP-D BY ATOMIC FORCE MICROSCOPY.
Raquel Arroyo (2478-Pos, B85)

Molecular Biophysics

Board S54
INTRAMOLECULAR FRIEDEL-CRAFTS ACYLATION PROMOTED BY HEXAFLUOROISOPROPANOL.
Alexander Li (1353-Pos, B421)

Board S55
MOLECULAR RATIONALE BEHIND THE DIFFERENTIAL SUBSTRATE SPECIFICITY OF RND TRANSPORTERS ACRB AND ACRD.
Venkata Krishnan Ramaswamy (1339-Pos, B407)

Board S56
NEXT GENERATION EVOLUTIONARY SAMPLING AND ENERGY FUNCTION GUIDED AB INITIO PROTEIN STRUCTURE PREDICTION.
Avdesh Mishra (278-Pos, B43)

Board S57
HEXAMERIC E5 PROTEIN OF HUMAN PAPILLOMAVIRUS TYPE 16 FORMS A LOW SELECTIVE ION CHANNEL - A COMPUTATIONAL ANALYSIS.
Dhani Mahato (2484-Pos, B91)

Board S58
MOLECULAR MODELING OF LIQUID CRYSTAL/PHOSPHOLIPID INTERFACE AS A LABEL-FREE BIOSENSOR.
Donya Ohadi (2912-Pos, B519)

Board S59
CONSTRUING THE DYNAMIC COMPLEXITY AT A PLAUSIBLE IKK2-NEMO INTERFACE.
Jamie Schiffer (1731-Pos, B51)

Board S60
NEAR-ATOMIC STRUCTURAL MODEL FOR BACTERIAL DNA REPLICATION INITIATION COMPLEX AND ITS FUNCTIONAL INSIGHTS.
Masahiro Shimizu (2523-Pos, B130)

Board S61
BIOPHYSICAL INSIGHT INTO THE ANTI AMYLOIDOGENIC BEHAVIOR OF CYSTEINE.
Masihuz Zaman (1794-Pos, B114)

Board S62
MODULATION OF PROTEIN FLEXIBILITY WITH CHANGES IN SEQUENCE AND COMPLEXATION STATE OF UBIQUITIN FAMILY PROTEINS.
Sanjoy Paul (1406-Pos, B474)

Board S63
BLIND PREDICTIONS OF RNA/PROTEIN RELATIVE BINDING AFFINITIES.
Kalli Kappel (370-Pos, B135)

Board S64
EXPANDING THE SCOPE OF SINGLE MOLECULE FRET SPECTROSCOPY TOWARDS PRIMARILY UNDERGRADUATE INSTITUTIONS.
Jesse Howe (2278-Pos, B598)

Board S65
EXAMINING THE ROLE OF PHOSPHORYLATION ON INTERACTIONS BETWEEN THE CARDIAC POTASSIUM CHANNEL ALPHA-SUBUNITS HERG AND K_VLQT1.
Medeea Popescu (544-Pos, B309)

Board S66
STRUCTURAL INVESTIGATIONS OF SUPERCONTRACTED SPIDER DRAGLINE SILK.
Justine Dionne (2905-Pos, B512)

Board S67
INVESTIGATING TRANSIENT EVENTS IN NUCLEOTIDE EXCISION REPAIR USING SINGLE-MOLECULE DARK FIELD IMAGING.
Jamie Barnett (2543-Pos, B150)

Board S68
PROBING THE NUCLEIC ACID BINDING PROPERTIES OF THE SINGLE-STRANDED DNA BINDING PROTEIN OF BACTERIOPHAGE T4 REPLICATION COMPLEX AT SINGLE NUCLEOTIDE RESOLUTION.
Benjamin Camel (2526-Pos, B133)

Board S69
AGGREGATION INDUCED CONFORMATION CHANGES DETERMINE AMYLIN MEMBRANE AFFINITY.
Barun Maity (1776-Pos, B96)

Board S70
UNDERSTANDING THE MECHANISMS OF HUMAN RNA POLYMERASE II TRANSCRIPTION USING SINGLE MOLECULE FLUORESCENCE COLOCALIZATION.
Abigail Horn (1045-Pos, B113)

Board S71
STRUCTURAL, THERMODYNAMIC AND PHOSPHATIDYLINOSITOL 3-PHOSPHATE BINDING PROPERTIES OF PHAFIN2.
Tuo-Xian Tang (2435-Pos, B42)
Board S72
DICATIONIC AND TRICATIONIC SURFACTANTS AS TRANSGENE CARRIERS - COMPARISON OF THEIR ABILITY TO DSDNA AND SIRNA BINDING.
Weronika Andrzejewska (1060-Pos, B128)

Board S73
PROTEIN ENERGY NETWORK MODELS TO CLASSIFY AND PREDICT FUNCTIONALLY LINKED INTERFACES OF PROTEINS FROM FUNCTIONALLY UNCORRELATED INTERFACES.
Isha Mehta (1692-Pos, B12)

Board S74
CHARACTERIZING OUTWARD- TO INWARD-FACING TRANSITION PATHWAY OF DOPAMINE TRANSPORTER.
Zhiyu Zhao (633-Pos, B398)

Board S75
SYMMETRY MATCH IN DESIGN OF MULTIVALENT INHIBITORS OF ANTHRAX TOXIN.
Sanaz Momben Abolfath (2079-Pos, B399)

Board S76
RELATIVE AFFINITIES OF GENERAL ANESTHETICS FOR PSEUDO-SYMMETRIC INTERSUBUNIT BINDING SITES OF HETEROMERIC GABA(A) RECEPTORS.
Sruthi Murlidaran (2734-Pos, B341)

Board S77
TOXIC METAL IONS PROMOTE SELF-ASSOCIATION AND REPLACE STRUCTURAL ZINC IONS IN THE REGULATORY REGION OF PROTEIN KINASE C.
Taylor Cole (2408-Pos, B15)

Motility

Board S78
ACTIVATION OF TRPM3 IN PERIVASCULAR SENSORY NERVES INDUCES DILATION OF MOUSE RESISTANCE ARTERIES.
Lucia Alonso-Carbajo (1992-Pos, B312)

Board S79
DISSECTING ACTOMYOSIN MECHANOCHEMISTRY USING BLEBBISTATIN AS A PHARMACOLOGICAL TOOL.
Mohammad Rahman (580-Pos, B345)

Board S80
MYOVA VESICLE TRANSPORT THROUGH BIOMIMETIC ACTIN NETWORKS VISUALIZED BY 3D STORM MICROSCOPY.
Andrew Lombardo (1335-Pos, B403)

Nanoscale Biophysics

Board S81
MOLECULAR DYNAMICS STUDY ON LIPID WRAPPED CARBON NANOTUBE AS AN ARTIFICIAL MEMBRANE CHANNEL.

Board S82
CARBON NANOSTRUCTURES OF DIFFERENT SPATIAL GEOMETRY: THEIR DISPERSION AND INFLUENCE ON MODEL BIOLOGICAL SYSTEMS.

Board S83
C60 FULLERENES AS CONTRAST AGENTS - STRUCTURAL, SPECTROSCOPIC AND NANOTOXICITY STUDIES.
Augustyn Molinski (2918-Pos, B525)

Board S84
THE INFLUENCE OF SURFACTANT STRUCTURE AND GEOMETRY ON NANOTOXICITY AND DISPERSION OF CARBON NANOTUBES.
Jakub Zaręba (770-Pos, B535)

Board S85
LIGHT-INDUCED CONFORMATIONAL CHANGES OF *S. AURANTIACA* BACTERIOPHYTOCHROMES AS REVEALED BY ATOMIC FORCE MICROSCOPY.
Rima Rebiai (943-Pos, B1)

Board S86
IMPACT OF DENDRIMER SURFACE CHEMISTRY ON ANTHRAX TOXIN CHANNEL BLOCKAGE: A SINGLE MOLECULE STUDY.
Goli Yamini (2580-Pos, B187)

Permeation & Transport

Board S87
ROLE OF INDIVIDUAL CAMP BINDING SITES ON RELIEVING THE AUTOINHIBITION IN HCN CHANNELS.
Mallikarjuna Sunkara (2075-Pos, B395)

Board S88
OLIGOMERIZATION OF HUMAN DOPAMINE TRANSPORTER (hDAT).
Kumaresan Jayaraman (628-Pos, B393)

Board S89
MEASURING TRANSPORT KINETICS OF LIGHT DRIVEN CHLORIDE PUMP, HALORHODOPSIN.
Hasin Feroz (2810-Pos, B417)

Board S90
IN VIVO NONLINEAR LIGHT SCATTERING PROBE OF DRUG-INDUCED ACTIVATION OF BACTERIAL MECHANOSENSITIVE CHANNELS.
Mohammad Sharifian Gh. (2857-Pos, B464)

Board S91
SILICA NANOPARTICLES INDUCE CALCIUM-PERMEABLE PORES IN PLASMA MEMBRANES.
Alicia Sanchez (2045-Pos, B365)

Board S92
MODULATION BY PHENOLIC COMPOUNDS PROVIDES NOVEL INSIGHT INTO THE MECHANISMS OF TRPA1 ACTIVATION.
Justyna Startek (1232-Pos, B300)

Board S93
FILTERING WITH THE ELECTRIC FIELD: A STORY ON PROTEIN CHANNELS ELECTROSTATICS.
Silvia Acosta-Gutierrez (2052-Pos, B372)

Board S94
REVERSIBLE PERMEABILIZATION OF CELL MEMBRANES VIA LYSENIN CHANNELS.
Nisha Shrestha (2582-Pos, B189)

Board S95
EFFECT OF ELECTROOSMOTIC FLOW ON THE TRANSPORT OF α-CYCLODEXTRIN THROUGH THE CHANNEL CYMA.
Jigneshkumar Prajapati (2710-Pos, B317)

Board S96
STRUCTURAL AND FUNCTIONAL EVIDENCE FOR MULTI-SITE ALLOSTERY MEDIATED BY GENERAL ANESTHETICS IN A MODEL LIGAND-GATED ION CHANNEL.
Stephanie Heusser (2730-Pos, B337)

Board S97
MECHANISM OF ACTION OF PH-TRIGGERED MEMBRANE ACTIVE PEPTIDES.
Sarah Kim (2589-Pos, B196)

Board S98
TRIM FAMILY PROTEINS IN INTRACELLULAR VESICLE TRAFFICKING.
Kristyn Gumpper (1174-Pos, B242)

Board S99
FREE ENERGY CALCULATION OF MEMBRANE PERMEATION - SIMULATION RESULTS SUGGEST RELAXATION OF HEADGROUP-SOLUTE INTERACTIONS IS THE SLOWEST DEGREE OF FREEDOM.
Nihit Pokhrel (1130-Pos, B198)

Board S100
IDENTIFICATION OF THE ION CONDUCTION PATHWAY IN A TMEM16 SCRAMBLASE.
Tao Jiang (1351-Pos, B419)

Board S101
MODULATING O2 PERMEABILITY OF THE CENTRAL PORE OF RH50 BY IN SILICO SITE DIRECTED MUTAGENESIS.
Eric Shinn (2078-Pos, B398)

Board S102
A FLUORESCENT AGONIST OF THE MUSCLE NICOTINIC ACETYLCHOLINE RECEPTOR
Abhilasha Ladha (2722-Pos, B329)

Monday, February 13, 2017

Daily Program Summary

All rooms are located in the *Ernest N. Morial Convention Center* unless noted otherwise.

7:30 AM-8:30 AM	**Graduate Student Breakfast**	**Rivergate Room, Lobby Level**
7:30 AM-5:00 PM	**Registration/Exhibitor Registration**	**Lobby B**
8:00 AM-8:30 AM	**Career Center Workshop** **Career Q&A with Joe Tringali**	**Room 212/213**
8:00 AM-10:00 PM	**Poster Viewing**	**Hall B-2 & C**
8:15 AM-10:15 AM	**Symposium: Biophysics of lncRNA** **Chair:** *Gregor Neuert, Vanderbilt University* DYNAMIC TEMPORAL CONTROL OF SIGNALING ACTIVATED GENE REGULATION. *Gregor Neuert* THE GROUND-STATE OF PROMOTER DIRECTIONALITY REVEALED BY A FUNCTIONAL EVOLUTIONARY APPROACH AND DEEP LEARNING MODELING. *Stirling Churchman* HOW A LNCRNA SHAPES CHROMATIN STRUCTURE TO CONTROL GENE EXPRESSION. *Mitchell Guttman* STRUCTURE VS. FUNCTION: A QUANTITATIVE ANALYSIS OF CHROMOSOME ARCHITECTURE. *Luca Giorgetti*	**Great Hall A**
8:15 AM-10:15 AM	**Symposium: Catalyzed Membrane Fusion and Fission** **Chair:** *Phyllis Hanson, Washington University* MEMBRANE REMODELING BY ESCRT-III POLYMERS. *Phyllis Hanson* KNOW WHEN TO HOLD 'EM, KNOW WHEN TO FOLD 'EM; SM PROTEINS AS TEMPLATES FOR SNARE ASSEMBLY. *Frederick Hughson* CATALYTIC INTERMEDIATES OF MEMBRANE FISSION. *Vadim A. Frolov* PROTEIN-LIPID INTERACTIONS OF VIRAL CLASS II MEMBRANE FUSION PROTEINS. *Félix Rey*	**Great Hall B**
8:15 AM-10:15 AM	**Platform: Molecular and Cellular Neuroscience**	**Room R02/03**
8:15 AM-10:15 AM	**Platform: Excitation-Contraction Coupling**	**Room R04/05**
8:15 PM-10:15 AM	**Platform: Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating II**	**Room R06/07**
8:15 AM-10:15 AM	**Platform: Cardiac Muscle Mechanics and Structure**	**Room R08/09**
8:15 AM-10:15 AM	**Platform: Force Spectroscopy**	**Room 206/207**
8:15 AM-10:15 AM	**Platform: Protein Stability, Folding, and Chaperones II**	**Room 208/209**
8:30 AM-10:00 AM	**Exhibitor Presentation: TA Instruments** **Instrumentation and Experimental Design for Utilization of ITC and IMC Techniques for Characterization of Biopharmaceuticals**	**Room 221**
8:30 AM-10:30 AM	**CID Committee Meeting**	**Room 203**
10:00 AM-11:00 AM	**Career Center Workshop** **Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)**	**Room 212/213**
10:00 AM-5:00 PM	**Exhibits**	**Hall B-2 & C**
10:15 AM-11:00 AM	**Coffee Break**	**Hall B-2 & C**
10:15 AM-11:15 AM	**New Member Welcome Coffee**	**Rivergate Room, Lobby Level**
10:30 AM-12:00 PM	**Exhibitor Presentation: Beckman Coulter Life Sciences** **What Goes Around, Comes Around: Unveiling the Optima AUC**	**Room 221**

10:45 AM-12:45 PM	**Symposium: Future of Biophysics** **Co-Chairs:** *David W. Piston, Washington University and Catherine A. Royer, Rensellaer Polytechnic Institute* X-RAY VISION INTO THE WORLD OF ENZYMES. *Nozomi Ando* BACTERIAL TYPE 3 SECRETION SYSTEMS: HIGH-THROUGHPUT 3D SINGLE-MOLECULE TRACKING OFSORTING PLATFORM PROTEINS IN LIVE CELLS. *Andreas Gahlmann* SCANNING HE ION- AND NONLINEAR OPTICAL MICROSCOPY COMBINED WITH FORCE MEASUREMENTS FOR THE CHARACTERIZATION OF SPIDER SILK. *Irina Iachina* *REPURPOSING MECHANOSENSITIVE CHANNELS TO STUDY CONFINED 3D CELL MIGRATION*. *Allen Liu* PHOSPHORYLATION INDUCES SEQUENCE-SPECIFIC CONFORMATIONAL SWITCHES IN THE RNA POLYMERASE II C-TERMINAL DOMAIN. *Scott A. Showalter* REAL-TIME QUANTIFICATION OF SINGLE RNA TRANSLATION DYNAMICS IN LIVING CELLS. *Timothy J. Stasevich*	**Great Hall A**
10:45 AM-12:45 PM	**Symposium: TRP Channels** **Chair:** *Sharona E. Gordon, University of Washington* MECHANISMS OF TRPV1 ION CHANNEL GATING. *Sharona E. Gordon* GLEANING FUNCTIONAL INSIGHTS FROM TRP CHANNEL STRUCTURES. *David Julius* COMPUTATIONAL APPROACHES TO THE STUDY OF TRPV CHANNEL ACTIVATION AND MODULATION APPROACHES TO THE STUDY OF TRPV CHANNEL ACTIVATION AND MODULATION. *Carmen Domene* NEW INSIGHTS INTO THE FUNCTION OF TRPV CHANNELS. *Vera Moiseenkova Bell*	**Great Hall B**
10:45 AM-12:45 PM	**Platform: Protein-Nucleic Acid Interactions I**	**Room R02/03**
10:45 AM-12:45 PM	**Platform: Membrane Receptors and Signal Transduction II**	**Room R04/05**
10:45 AM-12:45 PM	**Platform: Other Channels**	**Room R06/07**
10:45 AM-12:45 PM	**Platform: Membrane Physical Chemistry II**	**Room R08/09**
10:45 AM-12:45 PM	**Platform: Molecular Dynamics I**	**Room 206/207**
10:45 AM-12:45 PM	**Platform: Protein Structure and Conformation II**	**Room 208/209**
11:30 AM-12:30 PM	**Career Center Workshop** **Demystifying the Academic Job Search II:** **Preparing Your Written Application Materials: CV, Cover Letter, and Research Statement**	**Room 212/213**
11:30 AM-1:00 PM	**Exhibitor Presentation: Asylum Research, an Oxford Instruments Company** **Now Playing: Video-Rate AFM with the New Cypher VRS Atomic Force Microscope**	**Room 218**
12:30 PM-2:00 PM	**Exhibitor Presentation: Nanion Technologies GmbH** **Ion Channel Drug Discovery – Beyond the Bottlenecks and Ready for CiPA**	**Room 221**
1:30 PM-3:00 PM	**Industry Panel: Breaking Into Industry**	**Rivergate Room, Lobby Level**
1:30 PM-3:00 PM	**Exhibitor Presentation: Malvern Instruments** **Molecular Interactions of Proteins & Small Molecules**	**Room 218**
1:30 PM-3:00 PM	**Biophysics 101: Cryo-electron Microscopy (Cryo-EM)**	**Room 214**
1:45 PM-3:00 PM	**Snack Break**	**Hall B-2 & C**
1:45 PM-3:45 PM	**Poster Presentations and Late Posters**	**Hall B-2 & C**
2:15 PM-3:45 PM	**How to Get Your Scientific Paper Published**	**Room 220**
2:30 PM-3:30 PM	**Speed Networking**	**Mosaic Lounge, Lobby A**
2:30 PM-3:30 PM	**Career Center Workshop** **Beyond the Bench: Preparing for Your Career Transition in the Life Sciences**	**Room 212/213**
2:30 PM-4:00 PM	**A Driving Force in the Middle of the Journey: Funding Opportunities for Mid-Career Scientists**	**Room 219**
2:30 PM-4:00 PM	**Exhibitor Presentation: HORIBA Scientific** **Experience the New Shape and SPEED of Things to Come in Fluorescence**	**Room 221**
3:00 PM-5:00 PM	**Membership Committee Meeting**	**Room 203**
3:30 PM-5:00 PM	**Exhibitor Presentation: OriginLab Corporation** **Origin 2017 Product Demo**	**Room 218**

4:00 PM-5:00 PM	**Career Center Workshop** **The Strategic Postdoc: How to Find and Leverage Your Postdoc Experience**	**Room 212/213**
4:00 PM-6:00 PM	**Symposium: Protein Folding Mechanisms** **Chair:** *Susan Marqusee, University of California, Berkeley* TOURING THE LANDSCAPE: THE VIEW DEPENDS ON HOW AND WHEN YOU LOOK. *Susan Marqusee* FOLDING OF DISORDERED PROTEINS: SINGLE MOLECULES TO MESOSCALES. *Ashok Deniz* FOLDING MECHANISMS: DISTINGUISHING SIGNATURES AND FUNCTIONAL ADVANTAGES. *Olga Dudko* PROTEINS AS PH SENSORS AND SWITCHES. *Bertrand Garcia-Moreno*	**Great Hall A**
4:00 PM-6:00 PM	**Symposium: Mitochondrial Dynamics and Transport** **Chair:** *Robert S. Balaban, NIH* THE MUSCLE CELL MITOCHONDRIA RETICULUM. *Robert S. Balaban* CONTROL OF MITOCHONDRIAL FUNCTION BY FUSION AND FISSION. *David Chan* STRUCTURE AND IN SITU ORGANIZATION OF ATP SYTHASE AND RESPIRATORY CHAIN COMPLEXES. *Karen Davies* MITOCHONDRIA AND MEMORY: BIOENERGETICS, SYNAPTIC PLASTICITY AND NEURODEGENERATION. *Elizabeth A. Jonas*	**Great Hall B**
4:00 PM-6:00 PM	**Symposium: Epigenomic Changes Driven by Biomechanical Load** **Chair:** *Andrew D. McCulloch, University of California, San Diego* SYSTEMS MECHANOBIOLOGY OF CARDIAC MYOCYTES. *Andrew D. McCulloch* THE "SELF-STIRRED" GENOME: BULK AND SURFACE DYNAMICS OF THE CHROMATIN GLOBULE. *Alexandra Zidovska* EPIGENETIC REGULATION OF CHROMATIN DYNAMICS. *Michael G. Poirier* MULTI-SCALE MODELING OF CHROMOSOMAL DNA IN PROKARYOTIC AND EUKARYOTIC CELLS. *Andrew J. Spakowitz*	**Room R02/03**
4:00 PM-6:00 PM	**Platform: Skeletal Muscle Mechanics, Structure, and Regulation**	**Room R04/05**
4:00 PM-6:00 PM	**Platform: Ion Channel Regulatory Mechanisms**	**Room R06/07**
4:00 PM-6:00 PM	**Platform: Membrane Active Peptides and Toxins II**	**Room R08/09**
4:00 PM-6:00 PM	**Platform: Optical Microscopy and Super-resolution Imaging: Novel Approaches and Analysis II**	**Room 206/207**
4:00 PM-6:00 PM	**Platform: Membrane Protein Structures II**	**Room 208/209**
5:30 PM-7:00 PM	**Exhibitor Presentation: Sutter Instrument** **Scientists Empowering Scientists**	**Room 218**
8:00 PM-9:30 PM	**Awards and National Lecture**	**Great Hall A & B**
9:30 PM-12:00 AM	**Reception and Dance**	**Hilton, Grand Ballrooom**
9:30 PM-12:00 AM	**Reception and Quiet Room**	**Hilton, Versailles Ballroom**

Monday, February 13

Graduate Student Breakfast

7:30 AM - 8:30 AM, Rivergate Room, Lobby Level

Support contributed by the Burroughs Wellcome Fund

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

Speakers
Hugo Sanabria, Clemson University
Jeanne Small, Quantum Northwest

Registration/Exhibitor Registration

7:30 AM - 5:00 PM, Lobby B

Career Center Workshop
Career Q&A with Joe Tringali

8:00 AM - 8:30 AM, Room 212/213

Do you have a pressing question about your career in science? Attend this informal discussion with veteran career consultant Joe Tringali and get the answers you are looking for.

Poster Viewing

8:00 AM - 10:00 PM, Hall B-2 & C

Symposium
Biophysics of lncRNA

8:15 AM - 10:15 AM, Great Hall A

Chair
Gregor Neuert, Vanderbilt University

777-Symp **8:15 AM**
DYNAMIC TEMPORAL CONTROL OF SIGNALING ACTIVATED GENE REGULATION. **Gregor Neuert**

778-Symp **8:45 AM**
THE GROUND-STATE OF PROMOTER DIRECTIONALITY REVEALED BY A FUNCTIONAL EVOLUTIONARY APPROACH AND DEEP LEARNING MODELING. **Stirling Churchman**

779-Symp **9:15 AM**
HOW A LNCRNA SHAPES CHROMATIN STRUCTURE TO CONTROL GENE EXPRESSION. **Mitchell Guttman**

780-Symp **9:45 AM**
STRUCTURE VS. FUNCTION: A QUANTITATIVE ANALYSIS OF CHROMOSOME ARCHITECTURE. **Luca Giorgetti**

Symposium
Catalyzed Membrane Fusion and Fission

8:15 AM - 10:15 AM, Great Hall B

Chair
Phyllis Hanson, Washington University

No Abstract **8:15 AM**
MEMBRANE REMODELING BY ESCRT-III POLYMERS. **Phyllis Hanson**

781-Symp **8:45 AM**
KNOW WHEN TO HOLD 'EM, KNOW WHEN TO FOLD 'EM; SM PROTEINS AS TEMPLATES FOR SNARE ASSEMBLY. **Frederick Hughson**

782-Symp **9:15 AM**
CATALYTIC INTERMEDIATES OF MEMBRANE FISSION. **Vadim A. Frolov**, Pavel V. Bashkirov, Anna V. Shnyrova

No Abstract **9:45 AM**
PROTEIN-LIPID INTERACTIONS OF VIRAL CLASS II MEMBRANE FUSION PROTEINS.**Félix Rey**

Platform
Molecular and Cellular Neuroscience

8:15 AM - 10:15 AM, Room R02/03

Co-Chairs
Ann-Sofie U. Cans, Chalmers University of Technology, Sweden
Astrid Gräslund, Stockholm University, Sweden

783-Plat **8:15 AM**
MODULATION OF SYNAPTIC VESICLES CLUSTERING BY AXONAL TENSION. **Anthony Fan**, Alireza Tofangchi, Taher Saif

784-Plat **8:30 AM**
LOW-FORCE MECHANICAL PERTURBATIONS ALTERED CALCIUM DYNAMICS IN NETWORKS OF GCAMP6S EXPRESSING CORTICAL NEURONS. Kimberly Sam, Tom Srnak, **Parijat Sengupta**

785-Plat **8:45 AM**
OSMOTIC STRESS REDUCES VESICLE SIZE WHILE KEEPING A CONSTANT NEUROTRANSMITTER CONCENTRATION. Hoda Fathali, Johan Dunevall, Soodabeh Majdi, Jelena Lovric, **Ann-Sofie Cans**

786-Plat **9:00 AM**
MICROCAVITATION AS A NEURONAL DAMAGE MECHANISM IN AN IN VITRO MODEL OF BLAST TRAUMATIC BRAIN INJURY. **Jonathan B. Estrada**, Mark T. Scimone, Harry C. Cramer, Lauren Mancia, Eric Johnsen, Christian Franck

787-Plat **9:15 AM**
EFFECTS OF AMYLOID-BETA EXPRESSION ON NEURONAL SIGNALLING PATHWAYS IN A NOVEL C. ELEGANS MODEL OF ALZHEIMER'S DISEASE. **Tessa Sinnige**, Prashanth Ciryam, Christopher M. Dobson, Mario de Bono, Michele Vendruscolo

788-Plat **9:30 AM**
BIOPHYSICAL STUDIES OF THE AMYLOID BETA PEPTIDE INVOLVED IN ALZHEIMER´S DISEASE. **Astrid Gräslund**, Ann Tiiman, Jyri Jarvet, Vladana Vukojevic

789-Plat **9:45 AM**
AN ANCIENT ROLE FOR GIANT ANKYRINS IN AXON INITIAL SEGMENT ORGANIZATION. **Timothy Jegla**, Michelle M. Nguyen, Chengye Feng, Daniel J. Goetschius, Esteban Luna, Damian B. van Rossum, Bishoy Kamel, Aditya Pisupati, Elliot S. Milner, Melissa M. Rolls

790-Plat **10:00 AM**
STRUCTURAL EVOLUTION OF HUMAN-SPECIFIC SRGAP2 PROTEINS. **Yarden Opatowsky**

Platform
Excitation-Contraction Coupling

8:15 AM - 10:15 AM, Room R04/05

Co-Chairs
Julio A. Copello, Southern Illinois University
Susan Treves, Basil University Hospital, Switzerland

791-Plat **8:15 AM**
FUNCTION BASED ANALYSIS OF THE CARDIAC ENDOPLASMIC AND SARCOPLASMIC RETICULUM PROTEOME. **Steven E. Cala**, Nicholas Carruthers, Joseph Caruso, Paul Stemmer, Xuequn Chen

792-Plat 8:30 AM
CELLULAR, BIOCHEMICAL AND MOLECULAR CHANGES IN MUSCLES FROM PATIENTS WITH X-LINKED MYOTUBULAR MYOPATHY DUE TO MTM1 MUTATIONS. **Susan Treves**, Christoph Bachmann, Heinz Jungbluth, Francesco Muntoni, Adnan Y. Manzur, Francesco Zorzato

793-Plat 8:45 AM
ASSEMBLY OF CALCIUM ENTRY UNITS IMPROVES MUSCLE RESISTANCE TO FATIGUE. **Antonio Michelucci**, Laura Pietrangelo, Claudia Pecorai, Simona Boncompagni, Feliciano Protasi

794-Plat 9:00 AM
RYR2 TETRAMER DISTRIBUTIONS IN VENTRICULAR MYOCYTES FROM PHOSPHOMUTANT MICE. **Parisa Asghari**, David R.L. Scriven, Yanting Zhao, Roberto Ramos Mondragon, Hector Valdivia, Xander Wehrens, Edwin D.W. Moore

795-Plat 9:15 AM
MEASURING ELECTRICAL CONDUCTIVITY OF THE CARDIAC T-TUBULAR SYSTEM. Marina Scardigli, Claudia Crocini, Cecilia Ferrantini, Tecla Gabbrielli, Ludovico Silvestri, Raffaele Coppini, Chiara Tesi, Elisabetta Cerbai, Corrado Poggesi, Francesco Pavone, **Leonardo Sacconi**

796-Plat 9:30 AM
DHBP REVERSIBLY INHIBITS CALCIUM RELEASE FROM SARCOPLASMIC RETICULUM (SR) IN SKELETAL MUSCLE AND HEART. Yuriana Aguilar-Sanchez, Marino DiFranco, Yuanzhao L. Darcy, Marbella Quiñonez, Ariel L. Escobar, **Julio A. Copello**

797-Plat 9:45 AM
OPTICAL STIMULATION OF IPS CARDIOMYOCYTES ALLOWS BRAND NEW INSIGHTS INTO CONTRACTILITY AND ELECTROPYHSIOLOGY CONJUNCTIONS. Sonja Stoelzle-Feix, Matthias Beckler, Patrick Mumm, Ulrich Thomas, Leo Doerr, Elena Dragicevic, Krisztina Juhasz, **Corina T. Bot**, Michael George, Andrea Brüggemann, Niels Fertig, Jean-Francois Rolland, R. Rizzetto, L. Redaelli, Philipp Sasse

798-Plat 10:00 AM
HUMAN MESENCHYMAL STEM CELL PARACRINE SIGNALING COUNTERACTS HETEROCELLULAR COUPLING EFFECTS ON CARDIAC CONTRACTILITY AND ARRHYTHOMGENICITY. **Joshua Mayourian**, Timothy J. Cashman, Bryce V. Johnson, David M. Sachs, Deepak A. Kaji, Eric A. Sobie, Kevin D. Costa

Platform
Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating II
8:15 PM - 10:15 AM, ROOM R06/07

Co-Chairs
Karen M. Callahan, University of Chicago
Cui Jianmin, Washington University

799-Plat 8:15 PM
NON-CANONICAL INTERACTIONS BETWEEN VOLTAGE SENSORS AND PORE DOMAIN IN SHAKER K^+-CHANNEL. **João Carvalho-de-Souza**, Francisco Bezanilla

800-Plat 8:30 PM
VOLTAGE SENSING IN HYPERPOLARIZATION ACTIVATED CYCLIC NUCLEOTIDE GATED (HCN) CHANNELS. **Karen M. Callahan**, Nazzareno D'Avanzo

801-Plat 8:45 PM
THE TARANTULA TOXIN GUANGXITOXIN-1E TRAPS K^+ CHANNEL VOLTAGE SENSOR IN A FULLY RESTING CONFORMATION. **Drew C. Tilley**, Kenneth S. Eum, Jon T. Sack

802-Plat 9:00 PM
KCNE1-DEPENDENT SUMOYLATION OF $K_V7.1$ SUBUNITS DETERMINES THE VOLTAGE-DEPENDENCE OF CARDIAC I_{KS} CHANNELS. **Dazhi Xiong**, Tian Li, Leigh D. Plant, Steve A.N. Goldstein

803-Plat 9:15 PM
THE TRANSITIONS BETWEEN TWO OPEN STATES OF THE KCNQ1 POTASSIUM CHANNEL PRODUCE INACTIVATION-LIKE PHENOTYPE. **Panpan Hou**, Mark A. Zaydman, Jingyi Shi, Ling Zhong, Kelli McFarland, Jianmin Cui

804-Plat 9:30 PM
KV1.2 CHANNELS AT THE INTERFACE OF REDOX AND ELECTRICAL EXCITABILITY. **Victoria A. Baronas**, Runying Yang, Harley T. Kurata

805-Plat 9:45 PM
MOLECULAR SIMULATIONS OF ION PERMEATION IN POTASSIUM CHANNELS. **Wojciech Kopec**, Bert de Groot

806-Plat 10:00 PM
DOES PROTON CONDUCTION IN THE VOLTAGE-GATED PROTON CHANNEL HH_V1 INVOLVE GROTTHUS HOPPING VIA ACIDIC RESIDUES? **Lucie Delemotte**, Siri van Keulen, Ursula Roethlisberger, Eleonora Gianti, Vincenzo Carnevale, Michael L. Klein

Platform
Cardiac Muscle Mechanics and Structure
8:15 AM - 10:15 AM, ROOM R08/09

Co-Chairs
Douglas D. Root, University of North Texas
Jorge Alegre-Cebollada, Columbia University

807-Plat 8:15 AM
INDEPENDENT STOCHASTIC BURST-LIKE TRANSCRIPTION OF MUTANT AND WILDTYPE ALLELES AS MECHANISM FOR CELL-TO-CELL FUNCTIONAL IMBALANCE IN HYPERTROPHIC CARDIOMYOPATHY. **Ante Radocaj**, Kathrin Kowalski, Judith Montag, Theresia Kraft, Bernhard Brenner

808-Plat 8:30 AM
UNCOVERING THE MOLECULAR INTERACTIONS THAT MAINTAIN THE SEQUESTERED STATE OF MYOSIN AND THEIR IMPLICATION IN HYPERTROPHIC CARDIOMYOPATHY. **Darshan V. Trivedi**, Suman Nag, Saswata S. Sarkar, Arjun S. Adhikari, Shirley Sutton, Kathleen M. Ruppel, James A. Spudich

809-Plat 8:45 AM
STRUCTURAL AND BIOPHYSICAL ANALYSIS OF HYPERTROPHIC CARDIOMYOPATHY-LINKED TITIN MISSENSE VARIANTS. **Martin Rees**, Franca Fraternali, Perry Elliott, Mathias Gautel

810-Plat 9:00 AM
NANOMECHANICAL PHENOTYPES IN HYPERTROPHIC CARDIOMYOPATHY CAUSED BY MISSENSE MUTATIONS IN CARDIAC MYOSIN-BINDING PROTEIN C. Carmen Suay-Corredera, Elías Herrero-Galán, Diana Velázquez-Carreras, Íñigo Urrutia-Irazábal, Diego García-Giustiniani, Javier Delgado, Luis Serrano, Pablo García-Pavía, Lorenzo Monserrat, **Jorge Alegre-Cebollada**

811-Plat 9:15 AM EDUCATION TRAVEL AWARDEE
GENETICALLY ENGINEERED HUMAN STEM CELL-DERIVED CARDIOMYOCYTES TO STUDY THE FUNCTIONALITY OF CRONOS TITIN. **Rebecca J. Zaunbrecher**, Kevin Beussman, Andrea Leonard, Lil Pabon, Hans Reinecke, Nathan Sniadecki, Michael Regnier, Charles Murry

812-Plat 9:30 AM
ENGINEERED TROPONINS MODULATE THE CA^{2+} SENSITIVITY OF THE FAILING HUMAN MYOCARDIUM. **Cheavar A. Blair**, Jonathan Davis, Brandon Biesiadecki, Kenneth Campbell

813-Plat 9:45 AM
RECOVERY OF CALCIUM ACTIVITY AND CONTRACTION IN MODELS OF DILATED CARDIOMYOPATHY. **Sonette Steczina**, Soley Olafsson, Galina Flint, Jil Tardiff, Michael Regnier, Farid Moussavi-Harami

814-Plat 10:00 AM
ACUTE REDUCTION OF DESMIN INTERMEDIATE FILAMENTS ALTERS MYOCYTE MECHANICS AND EXCITATION-CONTRACTION COUPLING. **Julie Heffler**, Matthew A. Capporizzo, Alexey I. Bogush, Patrick Robison, Benjamin L. Prosser

Platform
Force Spectroscopy
8:15 AM - 10:15 AM, Room 206/207

Co-Chairs
Peter Hinterdorfer, Johannes Kepler University Linz, Austria
Bhavik Nathwani, Harvard University

815-Plat 8:15 AM
DIRECT OBSERVATION OF TRANSITION-STATE DYNAMICS DURING FOLDING REACTIONS. **Noel Q. Hoffer**, Krishna Neupane, Michael T. Woodside

816-Plat 8:30 AM
MECHANICAL CHARACTERIZATION OF THE HIV-1 RNA HAIRPIN USING AN ATOMIC FORCE MICROSCOPE. **Robert Walder**, William J. Van Patten, Ty W. Miller, Thomas T. Perkins

817-Plat 8:45 AM
UNCOVERING THE FORCES BETWEEN NUCLEOSOMES USING A DNA ORIGAMI FORCE SPECTROMETER. **Jonas J. Funke**, Philip Ketterer, Corinna Lieleg, Sarah Schunter, Philipp Korber, Hendrik Dietz

818-Plat 9:00 AM
EXPLORING NUCLEIC ACID MECHANICS USING MULTIPLEXED MECHANOCHEMISTRY ASSAY (MMA). **Bhavik Nathwani**, Darren Yang, Wesley Wong, William M. Shih

819-Plat 9:15 AM
E-CADHERIN FUNCTIONS AS A DESMOGLEIN TRANSPORTER THAT FACILITATES ASSEMBLY OF NASCENT DESMOSOMES. **Omer M. Shafraz**, Sara N. Stahley, Kannan Sankar, Robert L. Jernigan, Andrew P. Kowalczyk, Sanjeevi Sivasankar

820-Plat 9:30 AM
FORCES AND DYNAMICS IN PROTEIN TRANSLOCATION THROUGH THE BACTERIAL TRANSLOCON. **Anny Fis**, Andreas Karner, Roland Kuttner, Johannes Preiner, Mirjam Zimmermann, Hermann J. Gruber, Peter Pohl, Peter Hinterdorfer

821-Plat 9:45 AM
A MULTI-TOOL MOUSE MODEL TO STUDY THE ELASTICITY OF NATIVE TITIN. **Jaime Andres Rivas-Pardo**, Zsolt Mártonfalvi, Aitor Manteca, Edward C. Eckels, Daniel J. Echelman, Miklós S.Z. Kellermayer, Jorge Alegre-Cebollada, Wolfgang Linke, Julio M. Fernandez

Platform
Protein Stability, Folding, and Chaperones II
8:15 AM - 10:15 AM, Room 208/209

Co-Chairs
Cesar Ramirez, Universidad de Chile
Shachi Gosavi, National Centre for Biological Sciences-TIFR, India

822-Plat 8:15 AM
FOLDING IN PIECES. Weiwei Kuo, Upneet Kaur, Daniel Deredge, Cameron J. Kilcoyne, Eugenia M. Clerico, Patrick L. Wintrode, Lila M. Gierasch, **Anne Gershenson**

823-Plat 8:30 AM
STABILIZATION OF VARIABLE DOMAIN DIMERS OF AN IMMUNOGLOBULIN LIGHT CHAIN INHIBITS FORMATION OF AMYLOID FIBRILS. **Shannon R. Esswein**, Boris Brumshtein, David S. Eisenberg

824-Plat 8:45 AM
AN INTERNAL DISULFIDE LOCKS A MISFOLDED AGGREGATION-PRONE INTERMEDIATE IN CATARACT-LINKED MUTANTS OF HUMAN GAMMA-D CRYSTALLIN. **Eugene Serebryany**, Jaie C. Woodard, Bharat V. Adkar, Mohammed Shabab, Jonathan A. King, Eugene I. Shakhnovich

825-Plat 9:00 AM
BIOPHYSICAL AND EVOLUTIONARY ASPECTS OF DOMAIN SWAPPING IN THE FORKHEAD DOMAIN OF HUMAN FOXP PROTEINS. Exequiel Medina, Javiera Reyes, Pablo Villalobos, Elizabeth A. Komives, Jorge Babul, **Cesar A. Ramirez-Sarmiento**

826-Plat 9:15 AM
UNDERSTANDING PROTEIN DOMAIN-SWAPPING IN THE CYSTATIN-MONELLIN FAMILY OF PROTEINS. Nahren Manuel Mascarenhas, **Shachi Gosavi**

827-Plat 9:30 AM
USING HIGH PRESSURE NMR TO STUDY FOLDING COOPERATIVITY AND KINETICS OF PROTEIN L9. **Yi Zhang**, Soichiro Kitazawa, Ivan Peran, Natalie Stenzoski, Scott McCallum, Daniel Raleigh, Catherine Royer

828-Plat 9:45 AM
INTRACELLULAR MODULATION OF PROTEIN FOLDING STABILITY PROBED BY A NOVEL FOLDING REPORTER. **David Gnutt**, Jonas Ahlers, Benedikt König, Simon Ebbinghaus

829-Plat 10:00 AM
MODULATING SOD1 FOLDING LANDSCAPES WITH TARGETED MOLECULAR BINDERS. **David N. Bunck**, Beatriz Atsavapranee, Katrine Museth, James Heath

Exhibitor Presentation
TA Instruments
8:30 AM – 10:00 AM, Room 221

Instrumentation and Experimental Design for Utilization of ITC and IMC Techniques for Characterization of Biopharmaceuticals
Eight out of the top ten drugs worldwide in 2016 are biopharmaceuticals. Microcalorimetry is a powerful tool in the characterization of their structure and stability. Isothermal titration calorimetry (ITC) has long been the gold standard technique for exploring the binding of any drug to its target molecule. Recent publications describing the advantages of enthalpy screening utilizing the advances in ITC hardware and software exemplified by the Affinity ITC instruments from TA Instruments have shown that microcalorimetry remains a powerful tool in characterizing biopharmaceuticals. Isothermal Calorimetry (IMC) has the sensitivity and flexibility to fully characterize formulation stability and aggregation kinetics of even the high concentration (200-300 mg/mL) biopharmaceutical formulations. The sensitivity and flexibility of the TAM IV microcalorimetry system has shown the ability to rapidly characterize even the slowest degradation or aggregation reactions taking place in these biopharmaceutical formulations without diluting the sample. Attendees will participate in a wide ranging discussion of these powerful techniques including a full detailed description of the new Affinity ITC and TAM IV hardware along with a Q&A session focused on experimental design considerations for successfully performing enthalpy screening and biopharmaceutical formulation stability testing. Join your colleagues in this in-depth discussion of how ITC and IMC can speed up the candidate selection process and benefit overall lab productivity in any drug discovery or development effort.

Speaker
Dile Holton, Microcalorimetry Product Manager, TA Instruments

CID Committee Meeting

8:30 AM - 10:30 AM, ROOM 203

Career Center Workshop
Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)

10:00 AM - 11:00 AM, ROOM 212/213

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.

Exhibits

10:00 AM - 5:00 PM, HALL B-2 & C

Coffee Break

10:15 AM - 11:00 AM, HALL B-2 & C

New Member Welcome Coffee

10:15 AM - 11:15 AM, RIVERGATE ROOM, LOBBY LEVEL

Calling all new BPS members! Come and mingle with BPS Staff, Society Council, and program members as you learn about the Society's activities. Current members are welcome to come and meet with new members.

Exhibitor Presentation
Beckman Coulter Life Sciences

10:30 AM - 12:00 PM, ROOM 221

What Goes Around, Comes Around: Unveiling the Optima AUC
For more than 70 years, Analytical Ultracentrifugation (AUC) has played a critical role in laying the foundations for modern molecular biology. AUC allows for the characterization of proteins, oligomers, aggregates, particles, colloids, nanoparticles, extracellular vesicles and other small structures in native conditions and matrix-free conditions. By measuring proteins and other macro-molecules as interacting elements instead of in isolation, AUC more closely approximates true physiological conditions offering unique insight into molecular characterization and processes including molecular weight determination/conformation, stoichiometry, heterogeneity as well as thermodynamic parameters associated with binding.

Following a brief overview of the fundamentals of AUC operation and analysis, the talk will include a brief introduction of the new Optima AUC system. Comparative data from the new Optima AUC versus the ProteomeLab series will be presented, while highlighting applications that are now enabled in the new system due to multi-wavelength analysis and faster scan speeds.

Analytical Ultracentrifugation is a complementary technique to many others; the talk will illuminate advantages of AUC over existing techniques for different applications. Lastly, future research fields enabled by the new Optima AUC will be discussed.

Speaker
Chad Schwartz, AUC Product Manager, Beckman Coulter Life Sciences

Symposium
Future of Biophysics

10:45 AM - 12:45 PM, GREAT HALL A

Support contributed by the Burroughs Wellcome Fund

Co-Chairs
David W. Piston, Washington University
Catherine W. Royer, Rensellaer Polytechnic Institute

No Abstract **10:45 AM**
X-RAY VISION INTO THE WORLD OF ENZYMES. **Nozomi Ando**

No Abstract **11:05 AM**
BACTERIAL TYPE 3 SECRETION SYSTEMS: HIGH-THROUGHPUT 3D SINGLE-MOLECULE TRACKING OFSORTING PLATFORM PROTEINS IN LIVE CELLS. **Andreas Gahlmann**

No Abstract **11:25 AM**
SCANNING HE ION- AND NONLINEAR OPTICAL MICROSCOPY COMBINED WITH FORCE MEASUREMENTS FOR THE CHARACTERIZATION OF SPIDER SILK. **Irina Iachina**

No Abstract **11:45 AM**
REPURPOSING MECHANOSENSITIVE CHANNELS TO STUDY CONFINED 3D CELL MIGRATION. **Allen Liu**

No Abstract **12:05 PM**
PHOSPHORYLATION INDUCES SEQUENCE-SPECIFIC CONFORMATIONAL SWITCHES IN THE RNA POLYMERASE II C-TERMINAL DOMAIN. **Scott A. Showalter**

No Abstract **12:25 PM**
REAL-TIME QUANTIFICATION OF SINGLE RNA TRANSLATION DYNAMICS IN LIVING CELLS. **Timothy J. Stasevich**

Symposium
TRP Channels

10:45 AM - 12:45 PM, GREAT HALL B

Chair
Sharona E. Gordon, University of Washington

830-Symp **10:45 AM**
MECHANISMS OF TRPV1 ION CHANNEL GATING. **Sharona E. Gordon**

No Abstract **11:15 AM**
GLEANING FUNCTIONAL INSIGHTS FROM TRP CHANNEL STRUCTURES. **David Julius**

831-Symp **11:45 AM**
COMPUTATIONAL APPROACHES TO THE STUDY OF TRPV CHANNEL ACTIVATION AND MODULATION
APPROACHES TO THE STUDY OF TRPV CHANNEL ACTIVATION AND MODULATION. **Carmen Domene**

832-Symp **12:15 PM**
NEW INSIGHTS INTO THE FUNCTION OF TRPV CHANNELS. **Vera Moiseenkova Bell**

Platform
Protein-Nucleic Acid Interactions I

10:45 AM - 12:45 PM, ROOM R02/03

Co-Chairs
Dagmar Klostermeier, University of Munster, Germany
Candice Etson, Wesleyan University

833-Plat **10:45 AM**
SINGLE MOLECULE FRET STUDIES ON THE MECHANISM OF ATP-DEPENDENT RNA UNWINDING BY DEAD-BOX HELICASES: AN RNA-INDUCED MOVEMENT OF THE RNA BINDING DOMAIN OF YXIN REGULATES UNWINDING BY THE HELICASE CORE. Brighton Samatanga, Alexandra Z. Andreou, **Dagmar Klostermeier**

834-Plat **11:00 AM**
DIRECT SINGLE MOLECULE MEASUREMENT OF ATP HYDROLYSIS SUBSTATES IN HEL308 DNA HELICASE USING NANOPORE TWEEZERS. **Jonathan M. Craig**, Andrew H. Laszlo, Henry D. Brinkerhoff, Ian M. Derrington, Matt Noakes, Ian C. Nova, Kenji M. Doering, Benjamin I. Tickman, Noah F. De Leeuw, Jens H. Gundlach

835-Plat **11:15 AM**
MEASURING THE ORIENTATION OF SINGLE PROTEINS INTERACTING WITH DNA USING FLUORESCENCE POLARIZATION MICROSCOPY. **Emil Marklund**, Elias Amselem, Kalle Kipper, Magnus Johansson, Sebastian Deindl, Johan Elf

836-Plat **11:30 AM**
VISUALIZING CTCF MEDIATED DNA LOOPING AT THE SINGLE MOLECULE LEVEL. **Maria Eugenia Fuentes Perez**, Kotryna Bloznelyte, Matthias Merkenschlager, David Rueda

837-Plat **11:45 AM**
PROTEIN-MEDIATED LOOPS IN SUPERCOILED DNA CREATE LARGE TOPOLOGICAL DOMAINS. **Yan Yan**, David D. Dunlap, Fenfei Leng, Laura Finzi

838-Plat **12:00 PM**
TOWARD DIRECT OBSERVATION OF THE DNA BINDING DYNAMICS OF MONOMERIC TYPE IIP RESTRICTION ENDONUCLEASES. **Candice M. Etson**

839-Plat **12:15 PM**
SINGLE MOLECULE STUDIES ON G-QUADRUPLEX, PROTEIN, AND SMALL MOLECULE INTERACTIONS. **Hamza Balci**, Sujay Ray, Jagat Budhathoki, Parastoo Maleki

840-Plat **12:30 PM**
HIGH-RESOLUTION SINGLE MOLECULE ROTATION TRACKING OF RECBCD USING DNA ORIGAMI ROTORS. **Benjamin D. Altheimer**, Pallav Kosuri, Mingjie Dai, Peng Yin, Xiaowei Zhuang

Platform
Membrane Receptors and Signal Transduction II

10:45 AM - 12:45 PM, ROOM R04/05

Co-Chairs
Carlos Gasser, Humboldt University Berlin, Germany
David L. Farrens, Oregon Health and Science University

841-Plat **10:45 AM**
THE ALLOSTERIC SITE IS REQUIRED FOR VOLTAGE DEPENDENCE OF MUSCARINIC GPCRS. Anika Hoppe, Moritz Bünemann, **Andreas Rinne**

842-Plat **11:00 AM**
PROBE ACTIVATION MECHANISM OF 6TM VARIANTS OF MU-OPIOID RECEPTOR BY A MORPHINE DERIVATIVE (IBNTXA) USING ALL-ATOM MOLECULAR DYNAMICS SIMULATION WITH EXPLICIT MEMBRANE. Safaa Sader, Anant Kumar, **Chun Wu**

843-Plat **11:15 AM**
DECAY OF AN ACTIVE GPCR: CONFORMATIONAL DYNAMICS GOVERN AGONIST REBINDING AND PERSISTENCE OF AN ACTIVE, YET EMPTY, RHODOPSIN STATE. Christopher T. Schafer, Jonathan F. Fay, Jay M. Janz, **David L. Farrens**

844-Plat **11:30 AM**
ANALYSIS OF RECEPTOR TYROSINE KINASE AND G-PROTEIN COUPLED RECEPTOR SIGNALING DYNAMICS ON MICRO-STRUCTURED SURFACES. Peter Lanzerstorfer, Yosuke Yoneyama, Fumihiko Hakuno, Diana Zindel, Ulrike Müller, Cornelius Krasel, Moritz Bünemann, Otmar Höglinger, Shin-Ichiro Takahashi, **Julian Weghuber**

845-Plat **11:45 AM**
CLASS I CYTOKINE RECEPTORS: TOWARDS THE INSIDE. **Helena Steinocher**, Katrine Bugge, Louise Fletcher Nikolajsen, Kresten Lindorff-Larsen, Andrew Brooks, Birthe Brandt Kragelund

846-Plat **12:00 PM**
FORCE GENERATION BY T CELLS MODULATES THE STRENGTH OF ACTIVATION. **Kenneth H. Hu**, Manish Butte

847-Plat **12:15 PM**
CATCH BONDS AT CELL-CELL INTERFACES: IMPACT OF MEMBRANE FLUCTUATIONS. **Robert H. Pullen**

848-Plat **12:30 PM**
LIGHT-ACTIVATED CYCLIC NUCLEOTIDE PHOSPHODIESTERASES. **Carlos F. Gasser**, Peter Hegemann

Platform
Other Channels

10:45 AM - 12:45 PM, ROOM R06/07

Co-Chairs
Christian G. Peters, The University of Toledo Health Science Campus
Nathan Dascal, Tel Aviv University School of Medicine, Israel

849-Plat **10:45 AM**
ARTIFICIAL ANION CONDUCTING CHANNELRHODOPSINS WITH TUNED SPECTRA, MODIFIED KINETICS AND ENHANCED LIGHT SENSITIVITY. **Jonas Wietek**, J. Simon Wiegert, Christiane Grimm, Peter Soba, Peter Hegemann

850-Plat **11:00 AM**
MLKL FORM CATION CHANNELS. **Bingqing Xia**, Zhaobing Gao

851-Plat **11:15 AM**
IMPROVING TRAFFICKING AND KINETICS OF A SYNTHETIC LIGHT-GATED POTASSIUM CHANNEL. **Laura S. Alberio**, Giordano Defranceschi, Federica Simeoni, Paolo Zuccolini, Gerhard Thiel, Anna Moroni

852-Plat **11:30 AM**
IDENTIFICATION OF CRITICAL RESIDUES FOR ANION CONDUCTANCE IN THE TMEM16A CHANNEL. **Christian J. Peters**, Tingxu Chen, Jason Tien, Yuh Nung Jan, Lily Jan

853-Plat **11:45 AM**
IDENTIFICATION OF NOVEL AND NATURAL HIGH AFFINITY PEPTIDE INHIBITORS OF KCSA BY PHAGE-DISPLAY REVEALS AN UNEXPECTED MECHANISM OF PORE BLOCKADE. **Ruiming Zhao**, Hui Dai, Netanel Mendelman, Luis G. Cuello, Jordan H. Chill, Steve A. N. Goldstein

854-Plat **12:00 PM**
AN EXPLORATION INTO THE OPTIMAL LIPID COATING FOR NANOPORE-BASED PROTEIN CHARACTERIZATION. **Olivia M. Eggenberger**, Brandon R. Bruhn, Haiyan Liu, Geoffray Leriche, Jerry Yang, Michael Mayer

855-Plat **12:15 PM**
THE HUMAN ERYTHROCYTE MECHANO ACTIVATED K^+ CHANNEL A (HEMK-CA) A PARTIAL CHARACTERIZATION OF CONDUCTANCE, SELECTIVITY AND OPEN PROBABILITY. Luis O. Romero, Daniel Mata, Antonio Gutierrez, **Jesus G. Romero**

856-Plat **12:30 PM**
GIRK4 MUTATIONS R52H AND E246K IMPAIR CHANNEL GATING BUT NOT INWARD RECTIFICATION. **Boris Shalomov**, Haritha P. Reddy, Amal Kanti Bera, Nathan Dascal

Platform
Membrane Physical Chemistry II

10:45 AM - 12:45 PM, ROOM R08/09

Co-Chairs
Gerald W. Feigenson, Cornell University
Stephanie Tristram-Nagle, Carnegie Mellon University

857-Plat **10:45 AM**
ELUCIDATING PI(4,5)P_2 AQUEOUS MICELLE BEHAVIOR AND PI(4,5)P_2 CLUSTER FORMATION IN AN INNER LEAFLET MODEL MEMBRANE. **Yi Wen**, Volker M. Vogt, Gerald W. Feigenson

858-Plat **11:00 AM**
HIV-1 MATRIX-31 MEMBRANE BINDING PEPTIDE INTERACTS DIFFERENTLY WITH MEMBRANES CONTAINING PS VS. PI(4,5)P_2. Lauren O'Neil, Kathryn Andenoro, Isabella Pagano, Laura Carroll, Leah Langer, Zachary Dell, Davina Perera, Bradley W. Treece, Frank Heinrich, Mathias Loesche, John Nagle, **Stephanie Tristram-Nagle**

859-Plat **11:15 AM**
STABILITY OF CHARGED MEMBRANES: THE ROLE OF PORE EDGE TENSION. Rafael B. Lira, Rumiana Dimova, **Karin A. Riske**

860-Plat **11:30 AM**
DETERMINING INTERACTIONS OF CATIONIC MEMBRANE NANOPARTICLES WITH HYDROPHOBIC DRUG CARGO AND THEIR MECHANISMS OF DRUG DELIVERY TO CELLS. **Victoria Steffes**, Meena Murali, Kai K. Ewert, Cyrus R. Safinya

861-Plat **11:45 AM**
BILAYER DEFECTS FACILITATE DPPC FLIP-FLOP. **Drew Marquardt**, Frederick A. Heberle, Tatiana Miti, John Katsaras, Georg Pabst

862-Plat **12:00 PM**
NANOMETER-SCALE LIPID CLUSTERS IN MODEL MEMBRANES REVEALED BY ATOMIC RECOMBINATION IN NANOSIMS. **Frank R. Moss**, Steven G. Boxer

863-Plat **12:15 PM**
EFFECTS OF SILICA SUPPORT ON DYNAMICS OF TRANSMEMBRANE PEPTIDES AND EFFECTIVE PKA OF IONISABLE SIDECHAINS. Erkang Ou, Maxim Voinov, Alex I. Smirnov, **Tatyana I. Smirnova**

864-Plat **12:30 PM**
TOTAL REFLECTION X-RAY FLUORESCENCE AT THE AIR WATER INTERFACE USING XERAY. **Zhiliang Gong**, Daniel Kerr, Hyeondo L. Hwang, J. Michael Henderson, Tiffany Suwatthee, Benjamin R. Slaw, Kathleen D. Cao, Binhua Lin, Wei Bu, Ka Yee C. Lee

Platform
Molecular Dynamics I

10:45 AM - 12:45 PM, ROOM 206/207

Co-Chairs
Lee Makowski, Northeastern University
Sarah Rauscher, Max Planck Institute for Biophysical Chemistry, Germany

865-Plat **10:45 AM**
DEVELOPING FORCE FIELDS FOR THE ACCURATE SIMULATION OF BOTH ORDERED AND DISORDERED PROTEIN STATES. **Paul Robustelli**, Stefano Piana, David E. Shaw

866-Plat **11:00 AM**
CHARMM36M: AN IMPROVED FORCE FIELD FOR FOLDED AND INTRINSICALLY DISORDERED PROTEINS. Jing Huang, **Sarah Rauscher**, Grzegorz Nawrocki, Ting Ran, Michael Feig, Bert L. de Groot, Helmut Grubmüller, Alexander D. MacKerell, Jr.

867-Plat **11:15 AM**
VERIFYING SELF-CONSISTENCY OF PROTEIN STRUCTURE AND DYNAMICS THROUGH MD SIMULATION AND WAXS. **Hao Zhou**, Hugo Guterres, Carla Mattos, Lee Makowski

868-Plat **11:30 AM**
ATOM-RESOLVED VIEW OF A CELL ORGANELLE ON A COMPUTATIONAL MICROSCOPE. **Abhishek Singharoy**, Klaus Schulten

869-Plat **11:45 AM**
AS SIMPLE AS POSSIBLE BUT NOT SIMPLER: ON THE RELIABILITY OF PROTEIN COARSE-GRAINED MODELS. **Mona Habibi**, Joerg Rottler, Steven S. Plotkin

870-Plat **12:00 PM**
IMPROVED CHARMM ADDITIVE FORCE FIELD PARAMETERS TO ACCURATELY MODEL TYROSINE-CHOLINE CATION-Π INTERACTIONS. **Hanif Muhammad Khan**, Cédric Grauffel, Ria Broer, Alexander D. MacKerell Jr., Remco W. A. Havenith, Nathalie Reuter

871-Plat **12:15 PM**
GROMEX: ELECTROSTATICS WITH CHEMICAL VARIABILITY FOR REALISTIC MOLECULAR SIMULATIONS ON THE EXASCALE. **R. Thomas Ullmann**, Carsten Kutzner, Andreas Beckmann, Bartosz Kohnke, David Haensel, Ivo Kabadshow, Holger Dachsel, Berk Hess, Helmut Grubmüller

872-Plat **12:30 PM**
A HYBRID ALL-ATOM/COARSE-GRAINED APPROACH TO PROBLEMS IN CHEMISTRY AND BIOLOGY. **Samuel Genheden**

Platform
Protein Structure and Conformation II

10:45 AM - 12:45 PM, ROOM 208/209

Co-Chairs
Kelly A. Jenkins, Rensselaer Polytechnic Institute
David Sehnal, Central European Institute of Technology, Czech Republic

873-Plat **10:45 AM**
USING HYDROGEN BOND SURROGATE TECHNOLOGY TO STABILIZE BETA-HAIRPINS. **Nicholas Sawyer**, Paramjit S. Arora

874-Plat **11:00 AM**
SINGLE-MOLECULE FRET DELINEATES ASYMMETRIC TRIMER CONFORMATIONS DURING HIV-1 ENTRY. Xiaochu Ma, **Maolin Lu**, Daniel S. Terry, Jason Gorman, Peter D. Kwong, Scott C. Blanchard, James B. Munro, Walther Mothes

875-Plat **11:15 AM**
LIPID REGULATED INTRAMOLECULAR CONFORMATIONAL DYNAMICS OF SNARE-PROTEIN YKT6. Yawei Dai, Markus Seeger, Jingwei Weng, Song Song, Wenning Wang, **Yan-Wen Tan**

876-Plat **11:30 AM** **Education Travel Awardee**
THE TWO GTPASE DOMAINS OF THE OUTER MITOCHONDRIAL MEMBRANE PROTEIN MIRO HAVE NOVEL ACTIVE SITE CONFORMATIONS AND DISTINCT BIOCHEMICAL PROPERTIES. **Kyle P. Smith**, Pamela J. Focia, Yongbo Zhang, Julian L. Klosowiak, Douglas M. Freymann, Sarah E. Rice

877-Plat **11:45 AM**
CAVITIES AND COOPERATIVITY IN THE FOLDING OF THE LEUCINE RICH REPEAT PROTEIN PP32: A PRESSURE-JUMP FLUORESCENCE AND HIGH PRESSURE NMR STUDY. **Kelly A. Jenkins**, Martin Fossat, Thuy Dao, Yi Zhang, Zackery White, Doug Barrick, Catherine A. Royer

878-Plat 12:00 PM
REAL-TIME INTERACTIVE VISUALISATION OF LARGE MACROMOLECULAR ASSEMBLIES AND MOLECULAR MACHINES AT ATOMIC RESOLUTION. **David Sehnal**, Mandar Deshpande, Radka Svobodova Varekova, Saquib Mir, Karel Berka, Adam Midlik, Lukas Pravda, Sameer Velankar, Jaroslav Koca

879-Plat 12:15 PM
STRUCTURAL BASIS FOR THE DISSOCIATION OF ALPHA-SYNUCLEIN FIBRILS TRIGGERED BY PRESSURE PERTURBATION OF THE HYDROPHOBIC CORE. **Guilherme A. P. de Oliveira**, Mayra A. Marques, Yraima Cordeiro, Caroline Schuabb, Adolfo H. Moraes, Roland Winter, Hartmut Oschkinat, Debora Foguel, Mônica S. de Freitas, Jerson L. Silva

880-Plat 12:30 PM
CO-TRANSCRIPTIONAL RIBOSOME ASSEMBLY IN REAL-TIME. **Olivier Duss**, Seán O'Leary, Jody Puglisi, James Williamson

Career Center Workshop
Demystifying the Academic Job Search II: Preparing Your Written Application Materials: CV, Cover Letter, and Research Statement

11:30 AM - 12:30 AM, ROOM 212/213

Your written application materials are typically the only information a search committee will have before them as they make the vast majority of cuts. Learn how to craft credentials that speak clearly and powerfully on your behalf, and help committees understand the potential contribution you have to offer.

Exhibitor Presentation
Asylum Research, an Oxford Instruments Company

11:30 AM - 1:00 PM, ROOM 218

Now Playing: Video-Rate AFM with the New Cypher VRS Atomic Force Microscope
Join our free lunch and learn as we introduce the first and only full-featured, video-rate AFM for imaging biological processes— the Cypher VRS Atomic Force Microscope. The Cypher VRS enables high resolution video-rate imaging at 625 lines per second with incredibly easy operation and modularity to support other modes and environmental accessories. The Cypher VRS is capable of imaging samples at 10 frames per second with unprecedented resolution for clearly observing dynamics such as the action of restriction enzymes digesting DNA molecules. Perfusion can also be performed during experiments to observe growth crystal in real time and molecular arrangements of self-assembled monolayers (SAMs). All the ease-of-use features of the industry-leading Cypher ES AFM increase productivity such as automated laser positioning, cantilever calibration, and blueDriveTM photothermal excitation for stable imaging and quantitative measurements. No other AFM can match the combined performance of video-rate speed, high resolution and versatility. Learn all the details about Cypher VRS and be entered in our iPad drawing (must be present to win). See it in action in Booth 608.

Speaker
Iréne Revenko, Product Manager, Asylum Research, an Oxford Instruments Company

Exhibitor Presentation
Nanion Technologies GmbH

12:30 PM - 2:00 PM, ROOM 221

Ion Channel Drug Discovery - Beyond the Bottlenecks and Ready for CiPA
Nanion Technologies is one of the leading providers of automated patch clamp systems, offering a diverse product portfolio for experiments ranging from single channel recordings to HTS-compatible ion channel drug discovery. During this workshop, we will demonstrate how to push the boundaries of patch clamp-based ion channel high throughput screening projects of various voltage- and ligand gated targets, and how to get ready for CiPA-compliant safety screening beyond hERG.

The CIPA initiative is an ongoing validation program aimed at improving the regulatory requirements for proarrhythmia risk assessment. In accordance with the CiPA-initiative, the panel of cardiac ion channels to consider will drastically expand, consequently requiring increased data throughput for early compound safety prediction.

The SyncroPatch 384/768PE, an automated patch clamp platform recording from up to 768 cells simultaneously, allows the highest data throughput on the market supporting HTS of ion channel active compounds and early safety assessment on cardiac channels. Data of six different cardiac channels recorded in the voltage clamp mode, using one single plate, will be shown. The SyncroPatch 384/768PE also supports automated current clamp recordings, experiments at physiological temperature, and minimal cell usage, making it the ideal partner for safety testing on stem cell-derived cardiomyocytes.

The CardioExcyte 96 is a hybrid system combining impedance and EFP recordings from beating cardiomyocyte networks from 96 wells in parallel. The CardioExcyte 96 has proven a versatile tool for safety and toxicity screening applications serving as a powerful tool complementing APC.

Join our workshop to learn more about new safety screening strategies and how to keep up with the increasing demands on cardiac safety and toxicity screening.

Space is limited so reserve yours by sending an email to info@nanion.de.

Speakers
Andrea Brüggemann, CSO, Nanion Technologies GmbH
Niels Fertig, CEO, Nanion Technologies GmbH
Markus Rapedius, Senior Scientist, Nanion Technologies GmbH

Industry Panel: Breaking Into Industry

1:30 PM - 3:00 PM, RIVERGATE ROOM, LOBBY LEVEL

Are you interested in pursuing a career in industry? Stop by to hear from a panel of experts who work in bio-related industries. Panelists will discuss how to find, select, and apply for industry internships, as well as the skills that industry is looking for in job applicants. This panel will provide attendees with useful tools and resources.

Exhibitor Presentation
Malvern Instruments

1:30 PM - 3:00 PM, ROOM 218

Molecular Interactions of Proteins & Small Molecules
Factors describing the stability of any protein formulating can generally be classified into two areas, conformational stability and colloidal stability. Conformational stability relates to the intrinsic properties of a protein molecule and can be described by a range of parameters such as melting point, enthalpy, aggregation onset temperature, and composition of aggregate. These parameters can be observed using many traditional techniques such as Differential Scanning Calorimetry (DSC), Dynamic Light Scattering (DLS), and Size Exclusion Chromatography (SEC).

Colloidal stability in contrast, is a property that describes extrinsic behavior of proteins in a bulk solution, and can be a key attribute in ensuring product quality. The most commonly observed properties to quantify colloidal stability include the diffusion interaction parameter (k_D), second virial coefficient (B_{22}), zeta potential (ζ), viscosity (η) and hydrodynamic size (r_h).

The workshop will introduce a newly developed technique called Taylor Dispersion Analysis (TDA), which provides an automated method for analysis of hydrodynamic size and k_D using small volumes of sample (<5uL) without the need for serial dilutions. This presentation will compare and contrast the results of Taylor Dispersion Analysis to that of traditional analysis methods to further understand the complimentary nature of these results.

Speaker
Matthew McGann, Product Manager, Innovation Products, Malvern Instruments

Biophysics 101
Cryo-electron Microscopy (Cryo-EM)

1:30 PM - 3:00 PM, ROOM 214

Cryo electron microscopy is booming, with new atomic structures appearing every week and new facilities being installed at research centers across the globe. This unprecedented growth has been stimulated by the availability of new imaging detectors that dramatically increase the acuity of images, but also reflects advances in electron microscopes and image analysis software. These technologies are being employed for two main applications, known as single-particle analysis and tomography, which can be used to produce structures of a wide range of biomolecular assemblies, from isolated molecules to cells and tissues. This year's "Biophysics 101" will discuss both the technologies and the applications to provide insight into why cryo-EM has become such a powerful and essential tool in structural biology.

Session Chair
Erin Schexnaydre, Lousiana State University

Presenters
Esther Bullitt, Boston University School of Medicine
David DeRosier, Brandeis University
David Stokes, New York University School of Medicine

Snack Break

1:45 PM - 3:00 PM, HALL B-2 & C

How to Get Your Scientific Paper Published

2:15 PM - 3:45 PM, ROOM 220

This panel discussion, will focus 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 dos 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.

Moderators
Enrique De La Cruz, Yale University
Gail Robertson, University of Wisconsin-Madison

Panelists
Cynthia Czajkowski, University of Wisconsin-Madison
Jane Dyson, Scripps Research Institute
Chris Yip, University of Toronto

Speed Networking

2:30 PM - 3:30 PM, MOSAIC LOUNGE, LOBBY A

Career development and networking is important in science, but can be a big time commitment. Here we offer refreshments and the chance to speed network, an exciting way to connect with a large number of biophysicists in a short amount of time. This is an ideal opportunity for graduate students to meet prospective postdoc mentors and faculty to find a postdoc. Early career scientists could use their new contacts to discuss career goals and challenges, get advice on tenure or grant writing, find out how to gain recognition, or network for your next job. Mid-career and more experienced scientists could learn how to get more involved in the Society or network for possible reviewers for papers. After introductions, each person will have short 3-5 minute meetings with consecutive new contacts. During this time you can exchange information and ask questions. When time is up, you select the next person to talk to. By the end of the event, each participant will have had meaningful interactions with over half a dozen colleagues and the opportunity to meet many more. It's that simple!

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

2:30 PM - 3:30 PM, ROOM 212/213

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.

A Driving Force in the Middle of the Journey
Funding Opportunities for Mid-Career Scientists

2:30 PM - 4:00 PM, ROOM 219

This session features a discussion of funding opportunities for mid-career researchers – those who fall in between the "new investigator" and "senior researcher" career stages. Panelists will discuss options and offer their points of view on how to maximize and strategize about funding opportunities.

Speakers
Nancy Carrasco, Yale University
German Cavelier, Fordham University
Frances Separovic, University of Melbourne, Australia
Engin Serpersu, NSF

Exhibitor Presentation
HORIBA Scientific

2:30 PM – 4:00 PM, ROOM 221

Experience the New Shape and SPEED of Things to Come in Fluorescence

HORIBA Scientific is proud to introduce a revolutionary new fluorescence/UV-Vis spectrometer that advances beyond larger, slower, multi-step scanning fluorometers. The design consists of a harmonious blend of two spectroscopies, Fluorescence AND Absorbance, applied in a unique and patented way.

The system combines a patented two-in-one fluorescence / UV-Vis spectrometer with an ultrafast CCD that acquires fluorescence spectra in the blink of an eye. It features a smaller, more elegant and ergonomic design than current fluorometers with a simple and unique interchangeable sampling arrangement. In addition to traditional fluorescence AND UV-Vis-NIR absorbance spectroscopy modalities, the new system features ultra-fast fluorescence Excitation Emission Matrices (EEMs), simultaneous absorbance allowing for extended linear dynamic range due to automatic inner filter effect corrections, and unique molecular fingerprinting capabilities not available on any other commercial fluorometer.

The new instrument has a standard wavelength range from 200 to 1,100 nm and a scan speed of over 5,000,000 nm/min, allowing the system to go further into the NIR, and acquire data much faster than any competitive mid-market, bench-top spectrofluorometer.

Beyond even all of these unique benefits, this new instrument is also much more sensitive than any other commercial bench-top spectrofluorometer.

Just as the hardware and configuration are all new, so too is the software that runs the instrument. Running on the latest touch screen Windows operating systems, this newest generation of spectroscopy software offers dedicated apps-driven icons that simplify the user experience and the operation of the instrument. Researchers and students will easily be able to perform fluorescence, absorption or simultaneous fluorescence and absorbance measurements and applications without prior software training.

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

Speaker

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

Membership Committee Meeting

3:00 PM - 5:00 PM, ROOM 203

Exhibitor Presentation
OriginLab Corporation

3:30 PM – 5:00 PM, ROOM 218

Origin 2017 Product Demo

This workshop will focus on graphing and analysis using our latest version, Origin 2017.

The following topics will be covered: Importing ASCII, Excel and third-party files. Creating and customizing 2D, 3D and specialized graphs. Using graph templates and themes for repeat plotting. Batch plotting. Exporting and publishing. Data processing. Data exploration. Linear and nonlinear regression. Peak analysis. Statistics. Batch analysis and custom reports using templates. Installing Apps from the OriginLab website.

Speaker

Chris Drozdowski, Technical Support, OriginLab Corporation

Career Center Workshop
The Strategic Postdoc: How to Find and Leverage Your Postdoc Experience

4:00 PM - 5:00 PM, ROOM 212/213

Many PhDs just kind of fall in to a postdoc, rather than thinking about it from a strategic perspective. Your postdoc is never an end in itself; rather it's a means to another end whether that goal is a faculty position at a research university, a small college, or perhaps a job in industry or government. Learn how to find postdoc opportunities that will best prepare you for that next step, and how to use your postdoc experience to facilitate the transition to your next position.

Symposium
Protein Folding Mechanisms

4:00 PM - 6:00 PM, GREAT HALL A

Chair

Susan Marqusee, University of California, Berkeley

881-Symp **4:00 PM**
TOURING THE LANDSCAPE: THE VIEW DEPENDS ON HOW AND WHEN YOU LOOK. **Susan Marqusee**

882-Symp **4:30 PM**
FOLDING OF DISORDERED PROTEINS: SINGLE MOLECULES TO MESOSCALES. **Ashok Deniz**

883-Symp **5:00 PM**
FOLDING MECHANISMS: DISTINGUISHING SIGNATURES AND FUNCTIONAL ADVANTAGES. **Olga Dudko**

884-Symp **5:30 PM**
PROTEINS AS PH SENSORS AND SWITCHES. **Bertrand Garcia-Moreno**

Symposium
Mitochondrial Dynamics and Transport

4:00 PM - 6:00 PM, GREAT HALL B

Chair
Robert S. Balaban, NIH

885-Symp 4:00 PM
THE MUSCLE CELL MITOCHONDRIA RETICULUM. **Robert S. Balaban**

886-Symp 4:30 PM
CONTROL OF MITOCHONDRIAL FUNCTION BY FUSION AND FISSION. Hsiuchen Chen, **David Chan**

887-Symp 5:00 PM
STRUCTURE AND IN SITU ORGANIZATION OF ATP SYTHASE AND RESPIRATORY CHAIN COMPLEXES. **Karen Davies**, Alexander Muehleip, Thorsten Blum, Bertram Daum, Claudio Anselmi, José Faraldo-Gómez, Werner Kühlbrandt

888-Symp 5:30 PM
MITOCHONDRIA AND MEMORY: BIOENERGETICS, SYNAPTIC PLASTICITY AND NEURODEGENERATION. **Elizabeth A. Jonas**, Nelli Mnatsakanyan, Paige Miranda, Han-A Park, Rongmin Chen, Pawel Licznerski, Maria Weinert, Peter J.S. Smith, Andres Chavez, R. Suzanne Zukin, Valentin K. Gribkoff, Kambiz N. Alavian

Symposium
Epigenomic Changes Driven by Biomechanical Load

4:00 PM - 6:00 PM, ROOM R02/03

Chair
Andrew D. McCulloch, University of California, San Diego

889-Symp 4:00 PM
SYSTEMS MECHANOBIOLOGY OF CARDIAC MYOCYTES. **Andrew D. McCulloch**

890-Symp 4:30 PM
THE "SELF-STIRRED" GENOME: BULK AND SURFACE DYNAMICS OF THE CHROMATIN GLOBULE. **Alexandra Zidovska**

891-Symp 5:00 PM
EPIGENETIC REGULATION OF CHROMATIN DYNAMICS. **Michael G. Poirier**

892-Symp 5:30 PM
MULTI-SCALE MODELING OF CHROMOSOMAL DNA IN PROKARYOTIC AND EUKARYOTIC CELLS. **Andrew J. Spakowitz**

Platform
Skeletal Muscle Mechanics, Structure, and Regulation

4:00 PM - 6:00 PM, ROOM R04/05

Co-Chairs
Luca Fusi, King's College London, United Kingdom
Felipe de Souza Leite, McGill University, Canada

893-Plat 4:00 PM
STRUCTURAL KINETICS OF THE RLC DOMAIN OF MYOSIN DURING ACTIVATION OF SKELETAL MUSCLE FIBERS BY PHOTOLYSIS OF CAGED-CALCIUM. **Luca Fusi**, Elisabetta Brunello, Ziqian Yan, Malcolm Irving

894-Plat 4:15 PM
STRUCTURAL CHANGES IN THE THICK FILAMENTS DURING ACTIVATION OF DEMEMBRANATED SKELETAL MUSCLE FIBERS. Marco Caremani, Luca Fusi, Massimo Reconditi, Gabriella Piazzesi, Theyencheri Narayanan, Malcolm Irving, Vincenzo Lombardi, **Elisabetta Brunello**

895-Plat 4:30 PM
THICK FILAMENT COMPLIANCE IN PASSIVELY STRETCHED SKELETAL MUSCLE. Weikang Ma, Danielle Buck, Joshua Nedrud, **Thomas C. Irving**, Henk Granzier

896-Plat 4:45 PM
EVIDENCE FOR AN I-BAND SPRING THAT IS TUNED TO THE LENGTH OF THE SKELETAL MUSCLE SARCOMERE. **Joseph D. Powers**, Massimo Reconditi, Luca Fusi, Elisabetta Brunello, Vincenzo Lombardi, Gabriella Piazzesi

897-Plat 5:00 PM
ACTIVATED SKELETAL MUSCLE MYOFIBRILS HAVE DIFFERENT PEAK STRESSES AT SIMILAR SARCOMERE LENGTHS WHEN LENGTHENED BEYOND MYOFILAMENT OVERLAP. **Tim R. Leonard**, Walter Herzog

898-Plat 5:15 PM INTERNATIONAL TRAVEL AWARDEE
SARCOMERE AND INTER-SARCOMERE DYNAMICS WITHIN SKELETAL MUSCLE MYOFIBRILS. **Felipe de Souza Leite**, Dilson E. Rassier

899-Plat 5:30 PM
THIN FILAMENT POINTED ENDS REDISTRIBUTE IN RESPONSE TO ALTERED THICK FILAMENTS. **Ryan Littlefield**

900-Plat 5:45 PM
ACTA1-RELATED NEMALINE MYOPATHY MUTATIONS ENGENDER A RANGE OF STRUCTURAL AND FUNCTIONAL PHENOTYPES IN *DROSOPHILA* INDIRECT FLIGHT MUSCLES. **Aditi Madan**, Meera C. Viswanathan, Manuela Lavorato, William Schmidt, Julien Ochala, Anthony Cammarato

Platform
Ion Channel Regulatory Mechanisms

4:00 PM - 6:00 PM, ROOM R06/07

Co-Chairs
Coeli M. Lopes, University of Rochester
Gaya P. Yadav, University of Texas Southwestern Medical Center

901-Plat 4:00 PM
SMALL MOLECULE MODULATION OF BRAIN GIRK CHANNELS MOLECULE MODULATION OF BRAIN GIRK CHANNELS. **Ian W. Glaaser**, Paul A. Slesinger

902-Plat 4:15 PM
BK CHANNEL A AND Γ1 SUBUNITS ASSEMBLE WITH A STOICHIOMETRY OF UP TO 4:4, BUT ONE Γ1 IS SUFFICIENT TO PRODUCE THE FULL Γ1-INDUCED GATING SHIFT. **Vivian Gonzalez-Perez**, Manu Ben-Johny, Xiao-Ming Xia, Christopher J. Lingle

903-Plat 4:30 PM
SUMOYLATION OF $NA_V1.2$ CHANNELS MEDIATES THE EARLY RESPONSE TO ACUTE HYPOXIA IN CENTRAL NEURONS. **Leigh D. Plant**, Jeremy D. Marks, Steve A.N. Goldstein

904-Plat 4:45 PM
STOICHIOMETRIES OF HCN-KCNE2 CHANNEL. Yoann Lussier, Lena Möller, Oliver Fürst, Rikard Blunck, **Nazzareno D'Avanzo**

905-Plat 5:00 PM
MOLECULAR INTERACTIONS BETWEEN KV4.3 AND DPP6 - THE BIOCHEMICAL ANATOMY OF IDIOPATHIC VENTRICULAR FIBRILLATION. **Nazlee Sharmin**, Peter Mohler, Rikard Blunck, Stanley Nattel

906-Plat 5:15 PM
CHARACTERIZATION OF THE ORAI-CALMODULIN INTERACTION AS POTENTIAL
MEDIATOR OF CALCIUM-DEPENDENT ORAI-CHANNEL INACTIVATION. **Lukas Traxler**, Felix Faschinger, Petr Rathner, Michael Stadlbauer, Tatsiana Charnavets, Christoph Romanin, Norbert Müller, Peter Hinterdorfer, Hermann J. Gruber

907-Plat **5:30 PM**
PH-INDUCED OLIGOMERIZATION OF THE VOLTAGE DEPENDENT ANION CHANNEL. **Lucie A. Bergdoll**, Michael T. Lerch, Kendrick Belardo, Christian Altenbach, Paola Bisignano, Michael Grabe, Wayne Hubbell, Jeff Abramson

908-Plat **5:45 PM**
CHROMOGRANIN B SERVES THE LONG-SOUGHT-AFTER ANION CONDUCTANCE IN REGULATED SECRETION. **Gaya P. Yadav**, Qing Yang, Qiu-Xing Jiang

Platform
Membrane Active Peptides and Toxins II

4:00 PM - 6:00 PM, ROOM R08/09

Co-Chairs
John M. Sanderson, Durham University, United Kingdom
Marie Kelly-Worden, Ball State University

909-Plat **4:00 PM**
MEMBRANE PERFORATION THERMODYNAMICS OF A PORE-FORMING TOXIN EXPLORED BY MOLECULAR DYNAMICS SIMULATIONS. **Felipe Merino**, Stefan Raunser

910-Plat **4:15 PM**
MEMBRANE PERMEATION AND AGGREGATION OF TOXINS VIA ENHANCED FREE ENERGY SAMPLING. **Jessica M.J. Swanson**, Rui Sun

911-Plat **4:30 PM**
THE PH-DEPENDENT TRIGGER IN DIPHTHERIA TOXIN T DOMAIN COMES WITH A SAFETY LATCH. Mykola V. Rodnin, Jing Li, Michael L. Gross, **Alexey S. Ladokhin**

912-Plat **4:45 PM**
THE DELTA PEPTIDE OF EBOLA VIRUS HAS POTENT VIROPORIN ACTIVITY. **Jing He**, Lilia Melnik, Alexander Komin, Charles G. Starr, Taylor Fuselier, Gregory Wiedman, Cameron F. Morris, Yilin Wang, Kalina Hristova, William Gallaher, Robert F. Garry, William C. Wimley

913-Plat **5:00 PM**
IDENTIFICATION OF RECEPTOR-BASED PEPTIDES TO INHIBIT LEUKOTOXIN ACTIVITY. **Eric Krueger**, Shannon Hayes, Angela C. Brown

914-Plat **5:15 PM**
FUNCTIONAL RECONSTITUTION OF V-ATPASE PROTEOLIPID RING INTO A PLANAR LIPID MEMBRANE. Sergio Couoh-Cardel, Yi-Ching Hsueh, Stephan Wilkens, **Liviu Movileanu**

915-Plat **5:30 PM**
HUMAN LACTOFERRICIN DERIVED PEPTIDES INDUCE APOPTOSIS SPECIFICALLY IN CANCER CELLS THROUGH TARGETING MEMBRANOUS PHOSPHATIDYLSERINE. Sabrina Riedl, Beate Rinner, Helmut Schaider, Bernadette Liegl-Atzwanger, Christina Wodlej, Karl Lohner, **Dagmar Zweytick**

916-Plat **5:45 PM**
POPULATION DYNAMICS OF ANTIMICROBIAL PEPTIDE'S ACTIVITY IS GOVERNED BY THEIR RETENTION IN DEAD BACTERIAL CELLS. Mehdi Snoussi, Paul Talledo, Nathan-Alexander Del Rosario, Lannah Abasi, Federico Prokopzuk, Bae-Yeun Ha, **Sattar Taheri-Araghi**

Platform
Optical Microscopy and Super-Resolution Imaging: Novel Approaches and Analysis II

4:00 PM - 6:00 PM, ROOM 206/207

Co-Chairs
Chiara Stringari, Laboratory for Optics and Biosciences, France
Keith A. Lidke, University of New Mexico

917-Plat **4:00 PM**
ROCS MICROSCOPY: SUPER-RESOLUTION IMAGING OF CELLULAR STRUCTURES AT 100 HZ. **Alexander Rohrbach**, Felix Juenger

918-Plat **4:15 PM**
NEW SUPER-OSCILLATORY TECHNOLOGY FOR UNLABELLED SUPER-RESOLUTION CELLULAR IMAGING WITH POLARISATION CONTRAST. **Edward TF Rogers**, Shmma Quraishe, John E. Chad, Tracey A. Newman, Nikolay I. Zheludev, Peter JS Smith

919-Plat **4:30 PM**
FLIM PHASOR FINGERPRINT OF BACTERIAL METABOLIC STATE. **Rupsa Datta**, Arunima Bhattacharjee, Allon Hochbaum, Enrico Gratton

920-Plat **4:45 PM**
AN EFFICIENT MULTICOLOR TWO-PHOTON IMAGING OF ENDOGENOUS FLUOROPHORES IN LIVING TISSUES BY WAVELENGTH MIXING. **Chiara Stringari**, Lamiae Abdeladim, Guy Malkinson, Willy Supatto, Sébastien Brizion, Jean-Baptiste Galey, Ana-Maria Pena, Renaud Legouis, Emmanuel Beaurepaire

921-Plat **5:00 PM**
COORDINATE-TARGETED FLUORESCENCE NANOSCOPY WITH MULTIPLE OFF-STATES. **Johann G. Danzl**, Sven Sidenstein, Carola Gregor, Nicolai Urban, Peter Ilgen, Stefan Jakobs, Stefan Hell

922-Plat **5:15 PM**
SINGLE OBJECTIVE LIGHT-SHEET MICROSCOPY FOR HIGH-SPEED WHOLE-CELL 3D SUPER-RESOLUTION. **Marjolein B.M. Meddens**, Sheng Liu, Patrick S. Finnegan, Thayne L. Edwards, Conrad D. James, Keith A. Lidke

923-Plat **5:30 PM**
VIEWING CANCER IN A NEW LIGHT: MULTIMODAL LABEL-FREE SPECIFIC CHEMICAL IMAGING TO DISTINGUISH HEALTHY CELL TISSUE FROM INVASIVE CARCINOMA. **Bjarne Thorsted**, Stine R. Larsen, Christian Godballe, Jonathan R. Brewer

924-Plat **5:45 PM**
DEVELOPMENT OF STRAIN DURING ZEBRAFISH GASTRULATION. **Jun Zhong**, Dipanjan Bhattacharya, Alexandre J. Kabla, Paul T. Matsudaira

Platform
Membrane Protein Structures II

4:00 PM - 6:00 PM, ROOM 208/209

Co-Chairs
Sarah Rouse, University of Oxford, United Kingdom
Per A. Pedersen, University of Copenhagen, Denmark

925-Plat **4:00 PM**
DECIPHERING THE CONFORMATIONAL EQUILIBRIUM OF INTEGRIN RECEPTORS. Xiao-Ping Xu, Mark Swift, Dorit Hanein, **Niels Volkmann**

926-Plat **4:15 PM**
CRYO-EM STUDIES OF DYNAMIN MEDIATED MEMBRANE CONSTRICTION. **Leopold Kong**, Huaibin Wang, Shunming Fang, Jenny Hinshaw

927-Plat **4:30 PM**
SINGLE PARTICLE KINETIC AND ELECTRON CRYO-MICROSCOPY STUDIES OF FLAVIVIRUS MEMBRANE FUSION. **Luke Chao**

928-Plat 4:45 PM
FUSION ON A PEDESTAL: THE STRUCTURE OF THE FULL-LENGTH HSV-1 FUSOGEN GB. **Rebecca S. Cooper**, Elka R. Georgieva, Henry B. Rogalin, Peter P. Borbat, Jack H. Freed, Ekaterina E. Heldwein

929-Plat 5:00 PM CPOW Travel Awardee
STRUCTURAL AND MECHANISTIC INSIGHTS INTO TRANSPORT OF FUNCTIONAL AMYLOID SUBUNITS ACROSS THE *PSEUDOMONAS* OUTER MEMBRANE. **Sarah L. Rouse**, William Hawthorne, Jamie Berry, Stephen Matthews

930-Plat 5:15 PM
LARGE SCALE PRODUCTION OF MAMMALIAN MEMBRANE PROTEINS TOWARD DETERMINATION OF HIGH-RESOLUTION STRUCTURE. **Haruo Ogawa**, Chikashi Toyoshima

931-Plat 5:30 PM
A PLATFOTM FOR HIGH YIELD PRODUCTION OF HUMAN MEMBRANE PROTEINS. **Per A. Pedersen**, Peter Scharff-Poulsen, Sarah Preisler, Karen Molbæk

932-Plat 5:45 PM Education Travel Awardee
TOWARDS A UNIVERSAL CHARACTERIZATION OF THE MEMBRANE PROTEIN EXPRESSION LANDSCAPE. **Alexander E. Chu**, Shyam M. Saladi, Nadine Bradbury, William M. Clemons

Exhibitor Presentation
Sutter Instrument

5:30 PM - 7:00 PM, ROOM 218

SCIENTISTS EMPOWERING SCIENTISTS
Patch clamp electrophysiology, which started as a highly specialized technique, is now considered a primary tool for biological research. To meet the needs of the research community, Sutter Instrument has introduced a new line of flexible and intuitive patch clamp amplifiers and data acquisition software. The IPA® Amplifier and SutterPatch® Software will allow the researcher to quickly set up and perform routine tasks, but still have the flexibility to meet the demands of the experienced electrophysiologist.

At this presentation, we will demonstrate how the IPA Integrated Patch Amplifier, the new Double IPA® Amplifier and SutterPatch Software can be used for a variety of common experiments, including characterization of ionic current and recording synaptic events in tissue slices. We will also show how the IPA family of amplifiers and SutterPatch software can be used in much more complex acquisition and analysis scenarios.

Data collection in SutterPatch Software was designed to track environmental variables along with the context of each sample within an experiment, so that all data are recorded together for future reference. We focused on creating an intuitive navigational interface to make large data sets more manageable. Controls that are already familiar to you, from electrophysiology software or applications in other fields, make finding a specific section of an experiment very easy. Where appropriate, we used innovative new approaches to make the interface as simple and powerful as possible.

Paradigms and Routines control the experiment in a way that enables a high degree of automation, helping to eliminate operator bias. Real-time decision making and sophisticated control of the experimental flow are made easy with a comprehensive set of sample parameters. Even complex stimulus waveforms can easily be configured using the Waveform Editor or a template created from a recorded or synthesized signal.

Who should attend?
- Electrophysiologists who use amplifiers, micropipettes and micromanipulators for patch clamp, sharp electrode or extracellular recordings.
- Researchers who perform patch clamp recordings in tissue slices, dissociated cells, cell lines or *in vivo* preparations.
- Anybody who is interested in the latest feature-rich hardware and software for electrophysiology applications.

Speakers
Jan Dolzer, Product Manager, Patch Clamp Systems, Sutter Instrument
Telly Galiatsatos, Tech Support and Product Development, Sutter Instrument

Awards and National Lecture

8:00 PM - 9:30 PM, GREAT HALL A & B

Reception and Dance

9:30 PM - 12:00 AM, HILTON, GRAND BALLROOOM

Registrants are invited to attend the reception following the National Lecture. Badges will be required for admittance. Guest badges for this event are available for purchase during registration.

Reception and Quiet Room

9:30 PM - 12:00 AM, HILTON, VERSAILLES BALLROOM

Registrants are invited to attend the reception in a more quiet atmosphere following the National Lecture. Badges will be required for admittance. Guest badges for this event are available for purchase during registration.

MONDAY POSTER SESSIONS

1:45 PM–3:45 PM, HALL B-2 & C

Below is the list of poster presentations of abstracts submitted by October 3.
The list of abstracts submitted after October 3 and scheduled for Monday is available in the Program Addendum; those posters can be viewed on boards beginning with L. All abstracts are available through the desktop planner and mobile app.

Posters should be mounted beginning at 6:00 PM on Sunday and removed by 5:30 PM on Monday evening. Posters will be on view until 10:00 PM the night before presentation. Poster numbers 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

Board Numbers	Category
B1 – B22	Protein Structure and Conformation II
B23 – B31	Protein Structure, Prediction, and Design II
B32 – B45	Protein Folding: Dynamics and Novel Methods
B46 – B58	Protein Assemblies I
B59 – B71	Protein Dynamics and Allostery II
B72 – B84	Membrane Protein Folding
B85 – B105	Intrinsically Disordered Proteins (IDP) and Aggregates I
B106 – B119	Transcription
B120 – B136	Nucleic Acid Structure and Dynamics II
B137 – B148	Chromatin and the Nucleoid I
B149 – B163	Membrane Dynamics II
B164 – B179	Membrane Structure II
B180 – B195	Protein-Lipid Interactions:Channels
B196 – B207	General Protein-Lipid Interactions II
B208 – B217	Intercellular Calcium Channels and Calcium Sparks and Waves I
B218 – B230	Cardiac, Smooth, and Skeletal Muscle Electrophysiology I
B231 – B236	Muscle Regulation
B237 – B248	Intracellular Transport
B249 – B264	Voltage-gated Na Channels II
B265 – B275	Voltage-gated Ca Channels II
B276 – B295	Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating II
B296 – B303	TRP Channels II
B304 – B324	Ion Channel Regulatory Mechanisms I
B325 – B342	Cardiac Muscle Regulation I
B343 – B358	Kinesins, Dyneins, and Other Microtubule-based Motors I
B359 – B378	Myosins
B379 – B399	Cell Mechanics, Mechanosensing, and Motility II
B400 – B406	Cytoskeletal-based Intracellular Transport
B407 – B420	Transporters and Exchangers II
B421 – B434	Energy Transducing Complexes and Electron and Proton Transfer
B435 – B460	Cellular Signaling and Systems Biology
B461 – B472	Neuroscience: General Computational and Experimental Approaches and Tools II
B473 – B483	Molecular Dynamics II
B484 – B511	Computational Methods and Bioinformatics I
B512 – B535	Optical Microscopy and Super-Resolution Imaging: Novel Approaches and Analysis II
B536 – B545	Single-Molecule Spectroscopy II
B546 – B558	Micro- and Nanotechnology II
B559 – B579	Bioengineering

It is the responsibility of the poster presenters to remove print materials from the board after their presentations. Please do not leave materials or belongings under poster boards or in the poster area. Posters will not be collected or stored for pick-up at a later time. The Biophysical Society is not responsible for any articles left in the poster area.

Protein Structure and Conformation II (Boards B1–B22)

933-Pos **Board B1**
CONFORMATIONAL DYNAMICS OF HISTONE LYSINE METHYLTRANSFERASES BY MILLISECOND-TIMESCALE MOLECULAR DYNAMICS ON FOLDING@HOME. **Rafal P. Wiewiora**, Shi Chen, Kyle Beauchamp, Minkui Luo, John D. Chodera

934-Pos **Board B2**
SUCROSE AND THE LIPID ENVIRONMENT MODULATE CONFORMATIONAL HETEROGENEITY IN THE GLUTAMATE TRANSPORTER HOMOLOGUE GLTPH. **Sara Blankenship**, David Cafiso

935-Pos **Board B3** **International Travel Awardee**
DESIGN AND CHARACTERIZATION OF LONG AND STABLE *DE NOVO* SINGLE A-HELIX DOMAINS. **Marcin Wolny**, Matthew Batchelor, Gail J. Bartlett, Emily G. Baker, Marta Kurzawa, Peter J. Knight, Lorna Dougan, Yasuharu Takagi, Derek N. Woolfson, Emanuele Paci, Michelle Peckham

936-Pos **Board B4**
MOLECULAR DYNAMICS SIMULATIONS OF DNA POL B PHOSPHORYLATION-INDUCED STRUCTURAL CHANGES. **Dirar M. Homouz**, Haitham Idriss

937-Pos **Board B5**
G PROTEIN SIGNALING IN PLANTS: CHARACTERIZATION OF ALPHA AND GAMMA SUBUNITS. **Zehra Sayers**, Bihter Avsar, Ines Karmous, Ersoy Cholak

938-Pos **Board B6**
SPECTROSCOPIC AND SAXS STUDIES OF HUMAN PRION PROTEIN VARIANTS COMPLEXED WITH DIVALENT CATIONS. **Maciej Kozak**, Maciej Gielnik, Michał Taube, Igor Zhukov

939-Pos **Board B7**
ERGODICITY MEASUREMENTS IN NATIVE PROTEIN ENSEMBLES USING SOLID-STATE NANOPORES. **Pradeep Waduge**, Rui Hu, Prasad Bandarkar, Benjamin Cressiot, Paul Whitford, Meni Wanunu

940-Pos **Board B8** **International Travel Awardee**
BIOPHYSICAL STUDIES OF TRAIL_BASED ANTICANCER FUSION PROTEIN AD O51.4. **Ilona Marszalek**, Sebastian D. Pawlak, Adrian Jasiński, Michal Szymanik

941-Pos **Board B9**
ON THE INTERACTION OF ALKYL-FUNCTIONALIZED IONIC LIQUIDS WITH MODEL PROTEINS: A SPECTROSCOPIC AND STRUCTURAL STUDY. Juliana Raw, Luma O. Melo, **Leandro R S Barbosa**

942-Pos **Board B10**
CHARGE TRANSFER TRANSITIONS ORIGINATING FROM CHARGED AMINO ACIDS ACCOUNT FOR 300-800 NM UV-VISIBLE ELECTRONIC ABSORPTION SPECTRA IN PROTEINS. Imon Mandal, Saumya Prasad, Rajaram Swaminathan, **Ravindra Venkatramani**

943-Pos **Board B11**
LIGHT-INDUCED CONFORMATIONAL CHANGES OF *S. AURANTIACA* BACTERIOPHYTOCHROMES AS REVEALED BY ATOMIC FORCE MICROSCOPY. **Rima Rebiai**, Stefan Tsonchev, Kenneth T. Nicholson, Emina A. Stojković

944-Pos **Board B12**
TEMPERATURE DEPENDENT PAIR-WISE AMINO ACID STRUCTURAL PROPENSITY IN CCB AND IMPLICATIONS FOR A TO B SECONDARY STRUCTURAL CONVERSION. **Norma L. Peña-Flores**, Camila Uzcategui, Tim Steckmann, Prem Chapagain, Bernard Gerstman

945-Pos **Board B13**
PROTEIN FOOTPRINTING COUPLED WITH MASS SPECTROMETRY FOR *IN VIVO* PROTEIN STRUCTURAL ANALYSIS IN *C. ELEGANS*. Jessica A. Espino, **Lisa M. Jones**

946-Pos **Board B14**
COMPUTATIONAL INVESTIGATION INTO THE SOLUTION STRUCTURE OF MONOMERIC LASSA VIRUS NUCLEOPROTEIN AND INSIGHTS INTO ITS RNA BINDING MECHANISM. **Jason G. Pattis**, Michael D. Ward, Eric R. May

947-Pos **Board B15**
CONTRIBUTIONS OF GLYCOSAMINOGLYCANS TO MEMBRANE ADSORPTION AND CONFORMATIONAL CONVERSION OF PEPTIDE HORMONES. **Noé Quittot**

948-Pos **Board B16**
COMPUTATIONAL MODELING OF HUMAN 3'-PHOSPHOADENOSINE 5'-PHOSPHOSULFATE SYNTHASE. **Rudiger H. Ettrich**, Chris Soha, Dhiraj Sinha, Cecilia Rokusek, Kallidaikurichi Venkatachalam

949-Pos **Board B17**
GUIDING DOUBLE ELECTRON ELECTRON RESONANCE EXPERIMENTS USING INFORMATION THEORY AND MOLECULAR DYNAMICS SIMULATIONS. **Jennifer M. Hays**, Marissa Kieber, David Nyenhuis, Linda Columbus, David Cafiso, Peter Kasson

950-Pos **Board B18**
HIGH-RESOLUTION PROBING OF CONFORMATIONAL CHANGES IN PROTEINS THROUGH A TUG-OF-WAR BETWEEN ELECTROKINETIC FORCES AND PRESSURE-DRIVEN FLOW. **Rui Hu**, Pradeep Waduge, Sylvia Ujwary, Qing Zhao, Meni Wanunu

951-Pos **Board B19**
A NEW TEMPORAL DIMENSION FOR MULTISIGNAL SEDIMENTATION VELOCITY AS A TOOL TO ANALYZE MULTICOMPONENT INTERACTIONS. **Sumit K. Chaturvedi**, George Patterson, Huaying Zhao, Peter Schuck

952-Pos **Board B20**
DYNAMIC CHANGES IN COMPLEMENT COMPONENT 3 IN THE PRESENCE OF THE LECTIN-LIKE DOMAIN OF THROMBOMODULIN. Thomas Holt, Daniel DeHelian, Gavin Palowitch, **Julia R. Koeppe**

953-Pos **Board B21**
HEAT-INDUCED DIMERIZATION OF COLICIN A PORE FORMING DOMAIN. **Yan Huang**, Jun-Peng Fan, Jeremy H. Lakey, Yi Liu

954-Pos **Board B22**
EFFECTS OF HUMANIZING MUTATIONS ON THE HEME CREVICE LOOP OF YEAST ISO-1-CYTOCHROME *C*. **Haotian Lei**, Bruce E. Bowler

Protein Structure, Prediction, and Design II (Boards B23–B31)

955-Pos **Board B23**
ENERGY LANDSCAPE OF A BRIDGE BETWEEN PROTEIN FOLDS. **Pengfei Tian**, Robert B. Best

956-Pos **Board B24**
OPTIMIZING PROTEIN DYNAMICS IN METALLOENZYME DESIGN. **Ronald L. Koder**, Bernard Everson, Lei Zhang, Jonathan Preston, Emma Bjerkefeldt

957-Pos **Board B25**
A STATISTICAL MECHANICAL MODEL FOR COILED-COIL PROTEIN STRUCTURE PREDICTION. Mojtaba Jokar, **Korosh Torabi**

958-Pos **Board B26**
CHARACTERIZATION OF COARSE-GRAINED HELIX-COIL TRANSITION KINETICS USING MARKOV STATE MODELS. **Joseph F. Rudzinski**, Kurt Kremer, Tristan Bereau

959-Pos **Board B27**
NOVEL METHOD FOR THE DESIGN OF A NEW ALPHA-HELICAL FOLD. **Taylor R. Crawford**, Shivarni Patel, Danielle MacArt, Hyun Joo, Jerry Tsai

960-Pos **Board B28**
HIGH-THROUGHPUT PROTEIN DESIGN REVEALS QUANTITATIVE PROTEIN STABILITY REQUIREMENTS. **Gabriel J. Rocklin**, Tamuka Chidyausiku, Inna Goreshnik, Alex Ford, Scott Houliston, Cheryl Arrowsmith, David Baker

961-Pos **Board B29**
LUTE (LOCAL UNPRUNED TUPLE EXPANSION): ACCURATE CONTINUOUSLY FLEXIBLE PROTEIN DESIGN WITH GENERAL ENERGY FUNCTIONS AND RIGID-ROTAMER-LIKE EFFICIENCY. **Mark A. Hallen**, Jonathan D. Jou, Bruce R. Donald

962-Pos **Board B30**
A DEEP-DIVE INTO THE ROSETTA ENERGY FUNCTION FOR BIOLOGICAL MACROMOLECULES. **Rebecca F. Alford**, Andrew Leaver-Fay, Jeliazko R. Jeliazkov, Michael S. Pacella, Brian Kuhlman, Tanja Kortemme, Jeffrey J. Gray

963-Pos **Board B31**
FRACTAL NATURE OF PROTEIN INTERIOR AND ITS IMPLICATIONS FOR PROTEIN FUNCTION. **Alexandr P. Kornev**, Susan S. Taylor

Protein Folding: Dynamics and Novel Methods (Boards B32–B45)

964-Pos **Board B32**
HOW DO COSOLUTES STABILIZE MACROMOLECULES? FROM BRIDGING TO DEPLETION ATTRACTION. **Liel Sapir**, Daniel Harries

965-Pos **Board B33**
THREE-STRAND B-SHEET PEPTIDE MODELS. IR, VCD AND ECD SPECTRA, T-JUMP DYNAMICS AND NMR STRUCTURES SUPPORT MD AND DFT SIMULATATIONS. **Timothy A. Keiderling**, Heng Chi, Dan McElheny, Allen Walker, David Scheerer, Karin Hauser

966-Pos **Board B34**
NANOPORE IONIC CURRENT CAN REPORT ON THE FOLDING STATE OF A PROTEIN. **Wei Si**, Aleksei Aksimentiev

967-Pos **Board B35**
SIMULATING FORCE RESPONSE AT CELLULAR JUNCTIONS: DESMOPLAKIN AS A MOLECULAR FORCE SENSOR? **Csaba Daday**, Frauke Gräter

968-Pos **Board B36**
COMPLEX DYNAMICS IN SINGLE MOLECULE FORCE SPECTROSCOPY FROM SIMPLE SIMULATION MODELS. **David De Sancho**, Robert B. Best

969-Pos **Board B37**
DYNAMIC ESTIMATION OF FRET CORRECTION FACTORS TO STUDY REDOX PROTEIN INTERACTIONS. **Halil Bayraktar**, Selen Manioglu

970-Pos **Board B38**
FAST CALCULATION OF PROTEIN-PROTEIN BINDING FREE ENERGIES USING UMBRELLA SAMPLING WITH A COARSE-GRAINED MODEL. **Jagdish Suresh Patel**, F. Marty Ytreberg

971-Pos **Board B39**
ULTRAFAST PROTEIN FOLDING THROUGH POLAR INTERACTIONS IN MEMBRANE-MIMETIC ENVIRONMENTS. **Georg Krainer**, Andreas Hartmann, Abhinaya Anandamurugan, Pablo Gracia, Sandro Keller, Michael Schlierf

972-Pos **Board B40**
MONTE CARLO SIMULATIONS OF THE EFFECT OF A TURN SEQUENCE IN AN ALANINE-BASED PEPTIDE. **Shiloh M. Nold**

973-Pos **Board B41** **Education Travel Awardee**
DEGRADATION OF CALPONIN 2 IS REQUIRED FOR CYTOKINESIS. **Dipak Maskey**, Airong Qian, Jian-Ping Jin

974-Pos **Board B42**
INSULIN STRUCTURE AND STABILITY ASSESSED BY INTRINSIC FLUORESCENCE AND SIMULTANEOUS UV-VIS ABSORBANCE SPECTROSCOPY COUPLED WITH CHEMOMETRIC ANALYSIS. **Karen E. Steege Gall**, Marinella Sandros

975-Pos **Board B43**
MACROMOLECULAR CROWDING EFFECTS ON PRESSURE-INDUCED PROTEIN FOLDING/UNFOLDING. **Andrei G. Gasic**, Dirar Homouz, Margaret S. Cheung

976-Pos **Board B44**
EXAMINING THE STABILITY OF B-SHEETS USING THE CHARMM DRUDE POLARIZABLE FORCE FIELD. **Anthony Hazel**, James C. Gumbart

977-Pos **Board B45**
HYDROPHOBIC BURIAL AND DYNAMIC CONFORMATIONS OF ESTROGEN RECEPTOR N-TERMINUS. **Sichun Yang**, Yi Peng

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978-Pos **Board B46**
STUDYING PEPTIDE AGGREGATION USING MIXED ALL-ATOM/COARSE GRAIN MOLECULAR DYNAMICS SIMULATIONS. **John C. Shelley**, Mee Shelley, Myvizhi Esai Selvan, Jun Zhao, Volodymyr Babin, Chenyi Liao, Jianing Li

979-Pos **Board B47**
MOLECULAR MECHANISM OF SURFACE-ASSISTED SELF-ASSEMBLY OF AMYLOID-LIKE PEPTIDES. **Seung-gu Kang**

980-Pos **Board B48**
VARIABLE BINDING OF THIOFLAVIN T BY AMYLOID FIBRILS. **Hiroaki Komatsu**, Claire Meurice, Giuseppe Grasso, Lisa G. Lippert, Yale E. Goldman, Paul H. Axelsen

981-Pos **Board B49**
THE LEVINTHAL PROBLEM IN AMYLOID AGGREGATION: IDENTIFICATION OF GOOD COORDINATES IN A FLAT REACTION SPACE. Zhiguang Jia, Jianhan Chen, **Jeremy D. Schmit**

982-Pos **Board B50**
PREDICTION OF PROTEIN AGGREGATION PROPENSITIES USING GOR METHOD. Maksim Kouza, Girik Malik, Eshel Faraggi, Andrzej Kolinski, Irina Buhimschi, **Andrzej Kloczkowski**

983-Pos **Board B51**
A GENERAL FRAMEWORK FOR THE BOUNDARY STRUCTURE IN MULTICOMPONENT SEDIMENTATION VELOCITY WITH REVERSIBLE INTERACTIONS. **Peter Schuck**, Sumit K. Chaturvedi, Huaying Zhao

984-Pos **Board B52**
DESIGNED CELL-PENETRATING PEPTIDES FOR INHIBITION OF AMYLOID-BETA (AB) AMYLOID FORMATION AND CYTOTOXICITY. **Anja Henning-Knechtel**, Mazin Magzoub

985-Pos **Board B53**
FLUORESCENCE DETECTED SEDIMENTATION VELOCITY ANALYTICAL ULTRACENTRIFUGATION FOR INVESTIGATING AFFINITY AND STOICHIOMETRY OF PROTEIN INTERACTIONS. **Huaying Zhao**, Sumit Chaturvedi, Peter Schuck

986-Pos **Board B54**
AUC SEDIMENTATION VELOCITY STUDIES OF THERAPEUTIC PROTEINS IN SERUM. **Robert T. Wright**, Walter F. Stafford, Peter J. Sherwood, John J. Corriea

987-Pos **Board B55**
COMPUTATIONAL CHARACTERIZATION OF OLIGOMERIZATION OF FVFLM PEPTIDE AND ITS ABILITY TO INHIBIT BETA AMYLOID AGGREGATION. **Maksim Kouza**, Anirban Banerji, Andrzej Kolinski, Irina Alexandra Buhimschi, Andrzej Kloczkowski

988-Pos **Board B56**
A NOVEL COARSE-GRAINED MODEL TO STUDY LIQUID-LIQUID PHASE SEPARATION OF DISORDERED PROTEINS. **Gregory L. Dignon**, Wenwei Zheng, Robert Best, Jeetain Mittal

989-Pos **Board B57**
PROTEINS EVOLVE ON THE EDGE OF SUPRAMOLECULAR SELF-ASSEMBLY. **Héctor Garcia Seisdedos**

990-Pos **Board B58**
GREAT INTERACTIONS: BINDING INCORRECT PARTNERS TO LEARN ABOUT PROTEIN RECOGNITION AND FUNCTION. Lydie Vamparys, Benoist Laurent, Alessandra Carbone, **Sophie Sacquin-Mora**

Protein Dynamics and Allostery II (Boards B59–B71)

991-Pos **Board B59**
3D MOTION MAPS OF TRPV1 CATION CHANNEL DEPICTED BY DIFFRACTED X-RAY TRACKING METHOD. **Kazuhiro Mio**, Keigo Ikezaki, Hiroshi Sekiguchi, Muneyo Mio, Tai Kubo, Yuji C. Sasaki

992-Pos **Board B60**
BALANCE BETWEEN PROTEIN SOFTNESS AND RIGIDITY ASSESSED BY INELASTIC X-RAY SCATTERING. **Utsab R. Shrestha**, Debsindhu Bhowmik, Kurt W. Van Delinder, Eugene Mamontov, Hugh O'Neill, Qiu Zhang, Ahmet Alatas, Xiang-Qiang Chu

993-Pos **Board B61**
DESCRIPTION OF HYDRATION WATER IN PROTEIN (GFP) SOLUTION. Stefania Perticaroli, Georg Ehlers, Christopher Stanley, Eugene Mamontov, Hugh O'Neill, Qui Zhang, Xiaolin Cheng, Dean A. A. Myles, John Katsaras, **Jonathan D. Nickels**

994-Pos **Board B62**
SECOND HARMONIC GENERATION AS A METHOD TO IDENTIFY AND SCREEN FOR ALLOSTERIC MODULATORS OF PROTEIN TARGETS. **Joshua Salafsky**, Roman Agafonov, Elizabeth Donohue Vo, Katelyn Connell, Gabriel Mercado, Tad George, Frank McCormick, Dorothee Kern

995-Pos **Board B63**
BINDING MECHANISM BETWEEN CRKII AND CABL KINASE. Qingliang Shen, Danyun Zeng, **Jae-Hyun Cho**

996-Pos **Board B64**
DYNAMIC QUATERNARY ASSOCIATIONS IN REGULATING EXPRESSION OF THE *B. SUBTILIS TRP* OPERON. **Mark P. Foster**

997-Pos **Board B65**
CROWDING AGENTS DIRECT AMYLOID BETA INTO MEMBRANE-ACTIVE OLIGOMERS. **Niraja Kedia**

998-Pos **Board B66**
INVESTIGATION OF METHIONINE SULFOXIDE FORMATION AS A REGULATOR OF PROTEOLYSIS. **Matthew G. Moudy**, Wesley Stites

999-Pos **Board B67**
DIRECTIONALITY OF THE REVERSIBLE REDUCTION/OXIDATION REACTIONS CATALYZED BY FERREDOXIN-NAD(P)H OXIDOREDUCTASES FROM PHOTOTROPHIC AND HETEROTROPHIC BACTERIA. **Daisuke Seo**

1000-Pos **Board B68**
CONFORMATION-MODULATED SINGLE-ENZYME KINETICS: DETAILED BALANCE VIOLATIONS AND KINETIC COOPERATIVITY. **D. Evan Piephoff**, Jianlan Wu, Jianshu Cao

1001-Pos **Board B69**
CONFORMATIONAL CONTROL OF NITRIC OXIDE SYNTHASE ACTIVITY: RESULTS FROM TIME-RESOLVED AND SINGLE-MOLECULE FLUORESCENCE. **Carey K. Johnson**, David C. Arnett, Anthony Persechini, Brian C. Smith

1002-Pos **Board B70**
PROBING THE CONFORMATIONAL DYNAMICS OF BUTYROPHILIN 3A1 USING ATOMIC FORCE MICROSCOPY AND MOLECULAR DYNAMICS SIMULATIONS. **Christopher T. Boughter**, Benoit Roux, Erin J. Adams

1003-Pos **Board B71**
DYNAMIC CONFORMATIONAL CHANGES IN A CYCLIC NUCLEOTIDE-BINDING DOMAIN. **Tobias Zbik**

Membrane Protein Folding (Boards B72–B84)

1004-Pos **Board B72**
THE SIGNIFICANCE OF SURFACE COMPLEMENTARITY ON THE FREE ENERGY OF MEMBRANE PROTEIN ASSEMBLY IN MEMBRANES. **Kacey Mersch**, Rahul Chadda, Venkatramanan Krishnamani, Marley Brimberry, Janice L. Robertson

1005-Pos **Board B73**
IN VITRO REVERSIBLE FOLDING OF THE MEMBRANE TRANSPORTER LEUT IN MEMBRANE MIMETIC ENVIRONMENTS. **Michael R. Sanders**

1006-Pos **Board B74**
MONOMERIC POTASSIUM CHANNELS MAY EXIST AS HETEROGENEOUS ENSEMBLE BEFORE ASSEMBLY. **Kevin Song**

1007-Pos **Board B75**
ROLE OF LIPIDS IN THE REACTION COORDINATE OF GLPG RHOMBOID PROTEASE. **Ana-Nicoleta Bondar**

1008-Pos **Board B76**
SMFRET REVEALS STRUCTURAL BASIS FOR CONFORMATIONAL MISFOLDING OF A CYSTIC FIBROSIS MUTATION IN CFTR. Georg Krainer, Antoine Treff, Andreas Hartmann, Henry Chang, Tracy Stone, Ariana Rath, Charles Deber, **Michael Schlierf**

1009-Pos **Board B77**
INVESTIGATING THE INSERTION AND FOLDING OF MEMBRANE TRANSPORTERS INTO LIPID BILAYERS USING A CELL FREE EXPRESSION SYSTEM. **Nicola J. Harris**, Paula J. Booth

1010-Pos **Board B78**
FOLDING MEMBRANE PROTEINS BY CONTACTS INFERRED FROM NON-MEMBRANE PROTEINS AND NEAR-ATOMIC LEVEL REFINEMENT. **Sheng Wang**, Zongan Wang, John Jumper, Karl F. Freed, Tobin R. Sosnick, Jinbo Xu

1011-Pos **Board B79**
FRETTING ABOUT OUTER MEMBRANE PROTEIN BIOGENESIS. HOW EXACTLY DO THEY FOLD? **Jim E. Horne**, David J. Brockwell, Sheena E. Radford

1012-Pos **Board B80**
CHAPERONE SURA INTERACTS WITH UNFOLDED MEMBRANE PROTEIN CLIENTS VIA DELOCALIZED INTERFACE. **Ashlee M. Plummer**, Susan Krueger, Karen G. Fleming

1013-Pos **Board B81**
IN VITRO RECONSTITUTION TO UNDERSTAND THE MECHANISM OF BAM. **Pamela A. Doerner**, Marcelo C. Sousa

1014-Pos **Board B82**
SIDE CHAIN HYDROPHOBICITY SCALE USING THE TILTED BETA-BARREL PROTEIN PAGP. **Dagan Marx**, Karen Fleming

1015-Pos **Board B83**
DIFFERENCES IN THE ASSOCIATION OF BH3-ONLY PROTEINS TO BIOLOGICAL MEMBRANES. Vicente Andreu-Fernandez, Maria J. Garcia-Murria, Manuel Baño-Polo, Luis Martinez-Gil, Mar Orzaez, **Ismael Mingarro**

1016-Pos **Board B84**
POLYMER-MEDIATED SYNTHESIS AND INCORPORATION OF MEMBRANE PROTEIN IN PHOSPHOLIPID VESICLES. **Tao Jiang**, Ting Xu

Intrinsically Disordered Proteins (IDP) and Aggregates I (Boards B85–B105)

1017-Pos **Board B85**
ENGINEERING PROTEASE-TRIGGERED DISASSEMBLY OF INTRINSICALLY DISORDERED PROTEIN DROPLETS. **Benjamin S. Schuster**, Ranganath Parthasarathy, Ellen H. Reed, Daniel A. Hammer

1018-Pos **Board B86**
SURFACE SOLVATION TUNES MOLECULAR-RECOGNITION PLASTICITY IN IDPS. **Aritra Chowdhury**, Iker Valle Aramburu, Piau Siong Tan, Edward A. Lemke

1019-Pos **Board B87** **Education Travel Awardee**
CONFORMATION PLASTICITY AND PEPTIDOGLYCAN CLEAVAGE BY THE N-TERMINAL INTRINSICALLY DISORDERED DOMAIN OF CHIZ. **Cristian A. Escobar**, Riqiang Fu, Timothy A. Cross

1020-Pos **Board B88**
ZINC BINDING INDUCES CONFORMATIONAL CHANGES IN THE LARGE INTRACELLULAR LOOP OF THE HUMAN ZINC TRANSPORTER HZIP4. Elizabeth Bafaro, **Robert Dempski**

1021-Pos **Board B89**
STRUCTURE AND SELF-ASSEMBLY OF ELASTIN-LIKE PEPTIDES: A JOINT MOLECULAR DYNAMICS AND NMR STUDY. **Quang Huynh**, Sean Reichheld, Sarah Rauscher, Zhen Hao Wu, Simon Sharpe, Régis Pomès

1022-Pos **Board B90**
A MODEL FOR HYSTERESIS OBSERVED IN PHASE TRANSITIONS OF THERMALLY RESPONSIVE INTRINSICALLY DISORDERED PROTEIN POLYMERS. **Tyler S. Harmon**, Stefan Roberts, Ashutosh Chilkoti, Rohit V. Pappu

1023-Pos **Board B91**
WALKING THE DNA METHYLATION TIGHTROPE: THE INVOLVEMENT OF INTRINSICALLY DISORDERED REGIONS OF TRANSCRIPTION FACTORS. **Stephanie M. Bilinovich**, Hai Pan, Parminder Kaur, Hong Wang, David C. Williams Jr.

1024-Pos **Board B92**
MECHANISM UNDERLYING CONFORMATIONAL EFFECTS OF A DISEASE-ASSOCIATED HYDROPHOBIC-TO-HYDROPHOBIC SUBSTITUTION ON AN INTRINSICALLY DISORDERED REGION. **Ruchi Lohia**, Reza Salari, Grace Brannigan

1025-Pos **Board B93**
IMPROVING THE PERFORMANCE OF SIMULATIONS OF THE INTRINSICALLY DISORDERED N-TERMINAL DOMAIN FROM P53. **Nic A. Ezzell**, Yue Zhang, Steven T. Whitten, Nicholas C. Fitzkee

1026-Pos **Board B94** **Education Travel Awardee**
EXPLORING THE ROLE OF FLEXIBILITY IN BINDING KINETICS AND AFFINITY OF PKID-KIX THROUGH COARSE GRAINED SIMULATIONS. **Talant A. Ruzmetov**, John J. Portman

1027-Pos **Board B95**
DYNAMICAL PROPERTIES OF FLEXIBLE PEPTIDES ARE MODIFIED BY COVALENT FLUOROPHORE ATTACHMENT: A COMBINED FLUORESCENCE AND MOLECULAR DYNAMICS STUDY. **Anders Barth**, Manuel P. Luitz, Alvaro H. Crevenna, Rainer Bomblies, Martin Zacharias, Don C. Lamb

1028-Pos **Board B96**
DISORDERED TOXIN: THE MECHANISM OF TRANSCRIPTION REGULATION OF THE *PSEUDOMONAS PUTIDA GRATA* OPERON. **Ariel Talavera Perez**

1029-Pos **Board B97**
THE ROLE OF INTRINSICALLY DISORDERED LINKER AND SALT TYPE ON COOPERATIVITY OF *E. COLI* SSB BINDING TO SSDNA. **Alexander G. Kozlov**, Min Kyung Shinn, Timothy M. Lohman

1030-Pos **Board B98**
LATTICE MODELS FOR MODELING SEQUENCE-SPECIFIC PHASE BEHAVIOR OF LOW COMPLEXITY DOMAINS. **Jeong-Mo Choi**, Rohit V. Pappu

1031-Pos **Board B99**
INTRINSICALLY DISORDERED PROTEIN DYNAMICS UNCOVERED THROUGH DYNAMIC FLEXIBILITY INDEX (DFI) ANALYSIS. **Tushar Modi**, Gül H. Zerze, Jeetain Mittal, Sara M. Vaiana, S. Banu Ozkan

1032-Pos **Board B100**
A STUDY OF DISORDER-TO-ORDER TRANSITION BY CHARACTERIZING THE BINDING PARTNERS USING A STATISTICAL POTENTIAL. **Iqbal Sumaiya**, Hoque Md Tamjidul

1033-Pos **Board B101**
SINGLE-MOLECULE FRET PROBES A TRANSIENT COMPLEX THAT FACILITATES BINDING OF AN INTRINSICALLY-DISORDERED PROTEIN. Jae-Yeol Kim, Fanjie Meng, **Hoi Sung Chung**

1034-Pos **Board B102**
THERAPEUTIC POTENTIAL OF PEPTIDES DERIVED FROM INTRINSICALLY DISORDERED PROTEIN REGIONS. Stephen Beesley, Efrosini Artikis, **Ewa Bienkiewicz**

1035-Pos **Board B103**
ENSEMBLE AND SINGLE MOLECULE BIOPHYSICAL STUDIES OF TDP43. **Phoebe S. Tsoi**, Kyoungjae Choi, Josephine C. Ferreon, Allan Chris M. Ferreon

1036-Pos **Board B104**
GRP78 IS A MAJOR RIBOSYLATED PROTEIN IN CHO CELLS. **Rong-Qiao He**, Yang Lu, Bei Bei Wu, Le Xiang YU, Chan Shuai Han, Yan Wei

1037-Pos **Board B105**
THE IMPACT OF IDPS ON CIRCADIAN RHYTHMS. **Jennifer M. Hurley**

Transcription (Boards B106–B119)

1038-Pos **Board B106**
SINGLE-CELL, SINGLE-MRNA ANALYSIS OF *CCNB1* PROMOTER REGULATION. Nidhi Vishnoi, **Jie Yao**

1039-Pos **Board B107**
VISUALIZATION OF ACTIVE TRANSCRIPTION SITES IN HUMAN CARDIOMYOCYTES SUPPORTS THE CONCEPT OF BURST-LIKE TRANSCRIPTION OF *MYH7*. **Kathrin Kowalski**, Ante Radocaj, Cristobal G. dos Remedios, Antonio Francino, Francisco Navarro-López, Theresia Kraft, Bernhard Brenner

1040-Pos **Board B108**
SINGLE MOLECULE ANALYSIS OF TRANSCRIPTION IN LIVE CELLS REVEALS THE GENE REGULATORY FUNCTION OF MYC IN VIVO. **Simona Patange**, Michelle Girvan, David Levens, Daniel R. Larson

1041-Pos **Board B109**
RNA POLYMERASE TRANSLOCATION IN PROCESSIVE TRANSCRIPTION ELONGATION AND PAUSING: DYNAMICS, FORCE-DEPENDENCE, AND MODULATION BY SEQUENCE-SPECIFIC RNAP-DNA INTERACTIONS. **Antony Lee**, Ronen Gabizon, Hanif Vahedian-Mohaved, Richard H. Ebright, Carlos Bustamante

1042-Pos **Board B110**
TRANSCRIPTION LOCALLY DISPERSES CHROMATIN AND THEREBY ORGANIZES THE GLOBAL ARCHITECTURE OF INTERPHASE NUCLEI. **Lennart Hilbert**, Yuko Sato, Hiroshi Kimura, Alf Honigmann, Vasily Zaburdaev, Nadine Vastenhouw

1043-Pos **Board B111**
MRNA TRANSCRIPT QUANTIFICATION IN YEAST WITH SINGLE-MOLECULE FRET. **Gable M. Wadsworth**, Harold D. Kim

1044-Pos **Board B112**
IMAGING TRANSCRIPTION DYNAMICS IN SINGLE CANCER CELLS. Adrien Senecal, Charles Kenworthy, Luke Lavis, Wei-Li Liu, Robert H. Singer, **Robert A. Coleman**

1045-Pos **Board B113**
UNDERSTANDING THE MECHANISMS OF HUMAN RNA POLYMERASE II TRANSCRIPTION USING SINGLE MOLECULE FLUORESCENCE COLOCALIZATION. **Abigail E. Horn**, Jennifer F. Kugel, James A. Goodrich

1046-Pos **Board B114**
TRANSCRIPTOME PROFILE OF SINOATRIAL NODE IN AC8 TRANSGENIC MICE. **Kirill V. Tarasov**, Jack Moen, Yelena S. Tarasova, Michael Matt, Bruce Ziman, Oliver Monfredi, Edward G. Lakatta

1047-Pos **Board B115**
TRANSCRIPTION PAST LOOP FORMING REPRESSOR PROTEINS. **Zsuzsanna Vörös**, David Dunlap, Laura Finzi

1048-Pos **Board B116**
SPATIAL ORGANIZATION OF TRANSCRIPTION IN E. COLI USING SUPER-RESOLUTION FLUORESCENCE MICROSCOPY. **Xiaoli Weng**, Christopher Bohrer, Arvin Lagda, Jie Xiao

1049-Pos **Board B117**
RNA POLYMERASE TRANSCRIPTION ELONGATION PASUING AND TERMINATION INVESTIGATED AT SUPER RESOLUTION WITH THE MSPA NANOPORE. **Ian C. Nova**, Abhishek Mazumder, Ian M. Derrington, Andrew H. Laszlo, Richard H. Ebright, Jens H. Gundlach

1050-Pos **Board B118**
DIRECT VISUALIZATION OF INDIVIDUAL MRNA EXPORT THROUGH DIFFERENTIAL FLUORESCENT LABELING. **Songyi Lee**, Narendra Chaudhary, Hajin Kim

1051-Pos **Board B119**
STRUCTURAL VISUALIZATION OF THE P53/RNA POLYMERASE II ASSEMBLY. Sameer Singh, Zhen Qiao, Robert Coleman, **Wei-Li Liu**

Nucleic Acid Structure and Dynamics II (Boards B120–B136)

1052-Pos **Board B120** **CID Travel Awardee**
MD SIMULATIONS AND CD SPECTROSCOPIES OF (BENZ) ACRIDINE: RDNA G-QUADRUPLEX COMPLEXES. **Manal Ahmidouch**

1053-Pos **Board B121**
THE CHARGE VARIANTS OF DNA AND OTHER POLYELECTROLYTES: COMPARISON OF EXPERIMENTAL MOBILITIES WITH ELECTROPHORESIS THEORIES. **Nancy C. Stellwagen**

1054-Pos **Board B122**
OBSERVATION OF FLEXIBILITY REVERSAL IN DNA BENDING. **Jiyoun Jeong**, Harold D. Kim

1055-Pos **Board B123**
THE VARIED EFFECTS OF TETRAALKYLAMMONIUM CATIONS ON THE PROPERTIES OF DNA. **Earle Stellwagen**, Nancy Stellwagen

1056-Pos **Board B124**
BINDING OF THE CARCINOGEN 4-NITROQUINOLINE-1-OXIDE TO PHIX174 DNA - SELECTIVITY AND DISTORTION. **Stephen A. Winkle**, Jessie Limonta, Juan Medina, Elizabeth Tinoco

1057-Pos **Board B125**
DNA-POLYCATION COMPLEX PHASE CONTROLLED BY HYBRIDIZATION. **Jeffrey Vieregg**, Michael Lueckheide, Lorraine Leon, Amanda Marciel, Matthew Tirrell

1058-Pos **Board B126**
PATH SAMPLING SIMULATIONS OF THE MECHANISMS AND RATES OF TRANSITIONS BETWEEN WATSON-CRICK AND HOOGSTEEN BASE PAIRING IN DNA. **Jocelyne Vreede**, Peter G. Bolhuis, David W.H. Swenson

1059-Pos **Board B127**
DNA SEQUENCE CAN PIN THE POSITION OF DNA SUPERCOILS. Sung Hyun Kim, **Mahipal Ganji**, Jaco van der Torre, Elio Abbondanzieri, Cees Dekker

1060-Pos **Board B128**
DICATIONIC AND TRICATIONIC SURFACTANTS AS TRANSGENE CARRIERS - COMPARISON OF THEIR ABILITY TO DSDNA AND SIRNA BINDING. **Weronika J. Andrzejewska**, Michalina Skupin, Andrzej Skrzypczak, Maciej Kozak

1061-Pos **Board B129**
SINGLE - MOLECULE FLUORESCENCE MICROSCOPY OF FOLDING DYNAMICS OF G-QUADRUPLEX DNA. **Mikayel Aznauryan**, Victoria Birkedal

1062-Pos **Board B130**
IMPROVING *DE NOVO* NANOPORE SEQUENCING BY STRETCHING DNA. **Matthew T. Noakes**, Henry D. Brinkerhoff, Ian M. Derrington, Kyle W. Langford, Andrew H. Laszlo, Kenji M. Doering, Benjamin I. Tickman, John W. Mount, Hugh R. Higinbotham, Katherine S. Baker, Jens H. Gundlach

1063-Pos **Board B131**
RESOLVING THE MECHANICAL PROPERTIES OF DNA-YOYO-1 COMPLEX. **Ali A. Almaqwashi**, Mark C. Williams

1064-Pos **Board B132**
IS DNA BRANCH MIGRATION A ONE-DIMENSIONAL RANDOM WALK? **D. W. Bo Broadwater, Jr.**, Harold D. Kim

1065-Pos **Board B133** **CID Travel Awardee**
PREFERENTIAL LENGTH FOR G-QUADRUPLEX FORMATION REVEALED BY IR SPECTROSCOPY. **David A. Price**, Zachary J. Kartje, Tayler D. Hill, Gisela Cairo-Baza, Keith T. Gagnon, Sean D. Moran

1066-Pos **Board B134**
DYNAMIC COARSE-GRAINING OF DNA MELTING KINETICS: ENTHALPIC AND ENTROPIC EFFECTS OF COOPERATIVE BASE-PAIR DYNAMICS. **Zhangli Peng**, Sebastian Sensale, Hsueh-Chia Chang

1067-Pos **Board B135**
UNFOLDING THERMODYNAMICS OF THE BOUND AND UNBOUND STATES OF THE $PREQ_1$ RIBOSWITCH. Calliste Reiling-Steffensmeier, **Luis A. Marky**

1068-Pos **Board B136**
FORCED BACTERIOPHAGE UNCORKING: VIRAL DNA EJECTION TRIGGERED BY A SENSITIVE MECHANICAL SWITCH. **Miklós S. Kellermayer**, Zsuzsanna Vörös, Gabriella Csík, Levente Herényi

Chromatin and the Nucleoid I (Boards B137–B148)

1069-Pos **Board B137**
UNDERSTANDING CHROMATIN STRUCTURE AND DYNAMICS: A MOLECULAR DYNAMICS STUDY. **Francisco Rodriguez Ropero**, Jeff Wereszczynski

1070-Pos **Board B138**
THE FREE-ENERGY LANDSCAPE OF THE DI-NUCLEOSOME: A CRITICAL ROLE OF THE H4 TAILS FOR THE NUCLEOSOME-NUCLEOSOME CONFORMATION. **Hisashi Ishida**, Hidetoshi Kono

1071-Pos **Board B139** **Education Travel Awardee**
CHROMATIN ACCESSIBILITY STUDIED BY SLOW SCAN FCS IN THE EUKARYOTIC NUCLEUS. **Melody Di Bona**, Lorenzo Scipioni, Maria J. Sarmento, Giuseppe Vicidomini, Alberto Diaspro, Luca Lanzanò

1072-Pos **Board B140**
BACKGROUND-FREE VISUALIZATION OF LIVE GENOME LOCI OF MINIMAL SIZE BY ENGINEERED CRISPR SYSTEM. **Hajin Kim**, Narendra Chaudhary, Narangerel Gantumur

1073-Pos **Board B141**
NUCLEOSOME OPENING KINETICS AND THE INFLUENCE OF HISTONE MODIFICATIONS STUDIED BY SINGLE MOLECULE FRET. Alexander Gansen, Suren Felekyan, Kathrin Lehmann, Ralf Kühnemuth, Ruihan Zhang, Katalin Tóth, Claus A.M. Seidel, **Jörg Langowski**

1074-Pos **Board B142**
EFFECT OF CHROMATIN ARCHITECTURE ON DYNAMIC CORRELATIONS AND RHEOLOGICAL RESPONSES OF INTERPHASE CHROMOSOMES. **Min Hyeok Kim**, Lei Liu, Changbong Hyeon

1075-Pos **Board B143**
SPATIAL ORGANIZATION OF CHROMATIN DOMAINS AND COMPARTMENTS IN SINGLE CHROMOSOMES. **Siyuan Wang**, Jun-Han Su, Brian J. Beliveau, Bogdan Bintu, Jeffrey R. Moffitt, Chao-ting Wu, Xiaowei Zhuang

1076-Pos **Board B144**
THE UNIVERSALITY OF NUCLEOSOME POSITIONING: FROM YEAST TO HUMAN. **Razvan V. Chereji**, David J. Clark

1077-Pos **Board B145**
PROTEIN DIFFUSION AROUND BACTERIAL NUCLEOID. **Asli Yildirim**, Tadashi Ando, Yuji Sugita, Michael Feig

1078-Pos **Board B146**
WATER ACTIVITY INSIDE THE NUCLEUS: SOME CLUES USING ACDAN FLUORESCENCE AND ITS IMPLICATIONS IN THE CHROMATIN SUPRAMOLECULAR ORGANIZATION. **Leonel S. Malacrida**, Suman Ranjit, Enrico Gratton

1079-Pos **Board B147**
MODULATION OF DNA-BIDING PROPERTIES OF EURYARCHAEAL ARCHITECTURAL PROTEINS BY MG^{2+} IONS TRIGGERS DRASTIC CHANGES IN THE GLOBAL DNA ORGANIZATION. **Artem K. Efremov**, Xiaodan Zhao, Hugo Maruyama, Kunio Takeyasu, Jie Yan

1080-Pos **Board B148**
USING CHROMATIN CONFORMATION CAPTURE (3C) TO INVESTIGATE LENGTH-DEPENDENT *SACCHAROMYCES CEREVISIAE* GENE LOOPING WITH AND WITHOUT HMGB PROTEINS. **Justin P. Peters**, L. James Maher III

Membrane Dynamics II (Boards B149–B163)

1081-Pos **Board B149**
DYNAMICS AND TOPOLOGY OF HEPARIN INTERACTION WITH MALARIA PARASITE-INFECTED ERYTHROCYTES REVEALED BY LIVE CELL TIME LAPSE MICROSCOPY. **Svetlana E. Glushakova**

1082-Pos **Board B150**
REFRACTIVE INDEX TOMOGRAMS AND DYNAMIC MEMBRANE FLUCTUATIONS OF RED BLOOD CELLS FROM PATIENTS WITH DIABETES MELLITUS. SangYun Lee, Hyunjoo Park, Seongsoo Jang, **Yongkeun Park**

1083-Pos **Board B151**
INVESTIGATING THE OSMOTIC COMPONENT IN MECHANISMS OF MALARIA PARASITE *PLASMODIUM FALCIPARUM* EGRESS AND INVASION OF HUMAN RED BLOOD CELLS. **Matthias Garten**, Svetlana Glushakova, Joshua Zimmerberg

1084-Pos **Board B152**
OSMOTIC PULSATIONS OF LIPID VESICLES UNDER HYPOTONIC STRESS. **Morgan Chabanon**, James Ho CS, Atul N. Parikh, Padmini Rangamani

1085-Pos **Board B153**
QUANTITATIVE SMALL MOLECULE TRANSPORT AFTER NANOSECOND ELECTRIC FIELD EXPOSURES - EXPERIMENTS AND MODELS. **Esin B. Sözer**, C. Florencia Pocetti, Zachary A. Levine, P. Thomas Vernier

1086-Pos **Board B154**
VOLTAGE-DEPENDENT FORMATION OF STABLE, ION CONDUCTIVE PORES IN SUSPENDED LIPID BILAYERS FROM OXIDIZED LIPIDS. André P. Schroder, Ekaterina Zaitseva, Carlos M. Marques, **Jan C. Behrends**

1087-Pos **Board B155**
MULTISCALE DYNAMICS OF LIPID MEMBRANES FROM FEMTOSECONDS TO MILLISECONDS: INSIGHTS FROM TIME-RESOLVED INFRARED SPECTROSCOPY. **Paul Stevenson**, Andrei Tokmakoff

1088-Pos **Board B156**
MACROSCOPIC RESPONSE AND MANIPULATION OF LIPID NANOTUBES WITH CALCIUM ION GRADIENT. **Vladimir Kirejev**, Baharan Ali Doosti, Mehrnaz Shaali, Gavin Jeffries, Tatsiana Lobovkina

1089-Pos **Board B157**
MEMBRANE DEFORMATION INDUCED BY CATION BINDING TO NEGATIVELY CHARGED PHOSPHOLIPIDS. **Zachary Graber**, Zheng Shi, Tobias Baumgart

1090-Pos **Board B158**
ENERGETICS OF MEMBRANE NECKING: ROLE OF FORCES AND PROTEIN INDUCED CURVATURE. **Ritvik Vasan**

1091-Pos **Board B159**
CURVATURE-UNDULATION COUPLING AS A BASIS FOR CURVATURE SENSING AND GENERATION IN BILAYER MEMBRANES. **Ryan Bradley**, Ravi Radhakrishnan

1092-Pos **Board B160** **Education Travel Awardee**
NANOSCALE MEMBRANE BUDS INDUCED BY CTXB-GM1 IN ONE COMPONENT BILAYER DETECTED BY POLARIZED LOCALIZATION MICROSCOPY (PLM). **Abir Kabbani**, XinXin Woodward, Christopher V. Kelly

1093-Pos **Board B161**
MOLECULAR DYNAMICS INVESTIGATION INTO THE DISTRIBUTION OF CARDIOLIPIN VARIANTS IN FLAT AND BUCKLED HETEROGENEOUS BILAYERS. **Kevin J. Boyd**, Nathan N. Alder, Eric R. May

1094-Pos **Board B162**
SENSING CURVATURE: LIPID PHASE COEXISTENCE AT PLANAR AND CURVED MONOLAYERS. **Amit K. Sachan**, Joseph A. Zasadzinski

1095-Pos **Board B163** **CID Travel Awardee**
MG53-MEDIATED PROTECTION IN HEART VALVE BIOLOGY. **T.M. Ayodele Adesanya**, Melanie Russell, Xinyu Zhou, Hua Zhu, Tao Tan, Ki Ho Park, Joy Lincoln, Jianjie Ma

Membrane Structure II (Boards B164–B179)

1096-Pos **Board B164**
INTERACTION OF DAPTOMYCIN AND CALCIUM WITH LIPID BILAYERS. **Nicholas E. Charron**, Yuan-Pang Chang, Ming-Tao Lee, Huey W. Huang

1097-Pos **Board B165**
MEMBRANE STRUCTURAL ANALYSIS BY ENHANCED RAMAN SCATTERING. **Jason H. Hafner**, James R. Matthews, Cyna R. Shirazinejad, Grace A. Isakson, Steven ME Demers

1098-Pos **Board B166**
MECHANICAL PROPERTIES OF GIANT PLASMA MEMBRANE VESICLES. **Jan Steinkühler**, Tripta Bhatia, Reinhard Lipowsky, Rumiana Dimova

1099-Pos **Board B167**
IMAGING THE LIPID LANDSCAPE WITHIN FOCAL ADHESIONS WITH SUPER-RESOLUTION MICROSCOPY. **Julia T. Bourg**, Sarah L. Veatch

1100-Pos **Board B168**
INVESTIGATION OF MACRO- AND NANOSCOPIC LIPID DOMAINS IN FOUR COMPONENT MIXTURES VIA SAXS AND DSC MEASUREMENTS. **Anna Weitzer**, Michal Belička, Drew Marquardt, Peter Heftberger, Georg Pabst

1101-Pos **Board B169**
ROLE OF BINDING FREE ENERGY IN MEMBRANE BENDING BY PROTEIN CROWDING. **Gokul Raghunath**, Brian Dyer

1102-Pos **Board B170**
ANIONIC H-BONDS IN THE CHLOROSULFOLIPID SURFACE BILAYER OF O. DANICA THE STRENGTH OF A BACTERIAL CELL WALL. Robert E. Parrish, **Thomas H. Haines**, Robert G. Hohenstein

1103-Pos **Board B171**
RING AND TAILS: EXPLORING THE INTIMACY OF CYCLODEXTRIN - MEMBRANE INTERACTIONS. **Monika Kluzek**, Fabrice Thalmann, Marc Schmutz, Carlos Marques

1104-Pos **Board B172**
INFLUENCE OF CHOLESTEROL ON LATERAL SEGREGATION IN BILAYERS CONTAINING DIFFERENT SPHINGOMYELINS AND UNSATURATED PHOSPHOLIPIDS. **Oskar Engberg**, Victor Hautala, Thomas K.M Nyholm, J.Peter Slotte

1105-Pos **Board B173**
THE MOLECULAR STRUCTURE OF SPHINGOMYELIN IN FLUID PHASE BILAYERS DETERMINED BY THE JOINT ANALYSIS OF NEUTRON AND X-RAY SCATTERING DATA. **Frederick A. Heberle**, Milka Doktorova, Jianjun Pan, Drew Marquardt, Richard W. Pastor, Richard M. Venable, Norbert Kucerka, John Katsaras

1106-Pos **Board B174**
INVESTIGATION OF TRANSBILAYER COUPLING IN GEL-FLUID ASYMMETRIC LIPID VESICLES. **Barbara Eicher**, Drew Marquardt, John Katsaras, Georg Pabst

1107-Pos **Board B175**
MITOCHONDRIAL MEMBRANE ORGANIZATION IN REGULATION OF APOPTOSIS. Artur Dingeldein, Jörgen Aden, Tobias Sparrman, Radek Sachl, Sarka Pokorna, Martin Hof, **Gerhard Gröbner**

1108-Pos **Board B176**
NEUTRON SCATTERING TO STUDY MEMBRANE SYSTEMS: FROM MODEL MEMBRANES TO LIVING CELLS. **Jonathan D. Nickels**, Sneha Chatterjee, Christopher Stanley, Shuo Qian, Xiaolin Cheng, Dean A. A. Myles, Robert Standaert, James Elkins, John Katsaras

1109-Pos **Board B177**
INVESTIGATION OF DOMAINS IN MIXTURES OF HIGH-MELTING PHOSPHOLIPIDS, POPC, AND CHOLESTEROL. **Matthew H. Raymonda**, Paulo Almeida, Antje Pokorny

1110-Pos **Board B178**
LIPID PHASE HETEROGENEITY AND SIZE DEPENDENCE IN QUARTERNARY LIPID BILAYER SYSTEM: A COARSE-GRAINED MOLECULAR DYNAMICS STUDY. **Shushan He**, Lutz Maibaum

1111-Pos **Board B179**
QUANTIFYING PROTEIN AND LIPID ACCUMULATION AT SITES OF MEMBRANE CURVATURE. **Michelle K. Knowles**, Aml Alnaas, Carrie Moon, Alan Weisgerber

Protein-Lipid Interactions: Channels (Boards B180–B195)

1112-Pos **Board B180**
INTERACTIONS OF NICOTINIC ACETYLCHOLINE RECEPTORS WITH LIQUID-DISORDERED DOMAINS RICH IN N-3 POLYUNSATURATED FATTY ACIDS. **Liam M. Sharp**, Grace Brannigan

1113-Pos **Board B181**
CONCENTRATION-DEPENDENT DIFFERENTIAL STATE CROSSLINKING OF AZI-CHOLESTEROL WITH HUMAN ALPHA 1 GLYCINE RECEPTOR USING MASS SPECTROMETRY. **Nicholas Ferraro**

1114-Pos **Board B182**
A MODEL WHERE ANESTHETIC EFFECTS ON ION CHANNELS ARE MEDIATED BY A CRITICAL MEMBRANE. **Benjamin B. Machta**, Ofer Kimchi, Sarah Veatch

1115-Pos **Board B183**
ROBUST LIGAND BINDING TO THE PROTEIN TRANSLOCATION COMPLEX (SECYEG) REQUIRES A LIPID ENVIRONMENT. Klemens Winkler, Denis G. Knyazev, Andreas Horner, Roland Kuttner, Christine Siligan, **Peter Pohl**

1116-Pos **Board B184**
REGULATION OF KCSA BY BILAYER-MODIFYING MOLECULES. **Radda Rusinova**, Olaf S. Andersen

1117-Pos **Board B185**
LIPID COMPOSITION AND ENDOSOMAL PH REGULATES ANTHRAX LETHAL TOXIN UPTAKE AND PA_{63} CHANNEL BEHAVIOR. **Nnanya U. Kalu**, Laura Lucas, Clare Kenney, Ekaterina Nestorovich

1118-Pos **Board B186**
BIOPHYSICAL CHARACTERIZATION OF MEMBRANE PORES FORMED BY AMYLOID BETA(25-35). **Nabin Kandel**, Suren A. Tatulian

1119-Pos **Board B187**
LIPID PROTEIN INTERACTION MEDIATES ION TRANSPORT IN P2X RECEPTORS. **Mrinal Shekhar**, Emad Tajkhorshid

1120-Pos **Board B188**
THE IMPORTANCE OF PEPTIDE-MEMBRANE INTERACTIONS IN TOXIN INHIBITIONS OF SODIUM CHANNELS. **Christina I. Schroeder**, Evelyn Deplazes, Nicole Lawrence, Akello Agwa, Sonia T. Henriques

1121-Pos **Board B189**
HYDROGEN SULFIDE (H_2S) REGULATION OF KIR (INWARDLY RECTIFYING K+) CHANNELS. **Junghoon Ha**, Yu Xu, Tyler Hendon, Takeharu Kawano, Sumanta Garai, Ganesh Thakur, Andreas Papapetropoulos, Diomedes E. Logothetis

1122-Pos **Board B190**
GENERAL ANESTHETICS MINIMALLY AFFECT LIPID BILAYER PROPERTIES AT CLINICAL CONCENTRATIONS. **Karl Herold**, William Lee, R. L. Sanford, Olaf S. Andersen, Hugh C. Hemmings Jr.

1123-Pos **Board B191**
LIPID PROFILE AND FUNCTIONALITY OF NICOTINIC ACEYTILCHOLINE RECEPTOR FROM TORPEDO CALIFORNICA SOLUBILLIZED WITH CYCLOFOS DETERGENT FAMILY. **Orestes Quesada**, José O. Colon-Sáez, Carol L. González, Carol L. González, Rafael Maldonado, Irvin Rosado, Alan Espinal, Jesus Acevedo, José A. Lasalde-Dominicci

1124-Pos **Board B192** **Education Travel Awardee**
CU^{2+} IONS MODULATE THE CONDUCTANCE HYSTERESIS OF LYSENIN CHANNELS. **Devon Richtsmeier**, Nisha Shrestha, Sheenah Bryant, Christopher A. Thomas, Andy Bogard, Charles Hanna, Daniel Fologea

1125-Pos **Board B193**
MOLECULAR MECHANISM OF TMEM16A CA^{2+}-ACTIVATED CHLORIDE CHANNEL DESENSITIZATION. **Son C. Le**

1126-Pos **Board B194**
COMPETITIVE INTERACTIONS OF PIRT AND PI(4,5)P2 MODULATE TRPM8. **Nicholas Sisco**, Parthasarathi Rath, Jacob K. Hilton, Cole V. M. Helsell, Wade D. Van Horn

1127-Pos **Board B195**
IDENTIFICATION OF RESIDUES IMPORTANT FOR ION AND LIPID TRANSPORT IN A TMEM16 SCRAMBLASE. **Byoung-Cheol Lee**, Maria Falzone, Anant Menon, Alessio Accardi

General Protein-Lipid Interactions II (Boards B196–B207)

1128-Pos **Board B196**
HUMAN SP-A1 ENHANCES INTERFACIAL PROPERTIES OF LUNG SURFACTANT AND RESTORES A PROPER BEHAVIOR IN THE PRESENCE OF INHIBITORY AGENTS. **Raquel Arroyo**, Elena Lopez-Rodriguez, Alicia Pascual, Mercedes Echaide, Joanna Floros, Jesus Perez-Gil

1129-Pos **Board B197**
THE RELATIONSHIP OF SEQUENCE AND ACTIVITY IN A SERIES OF SHORT B-SHEET PEPTIDES WITH ANTIMICROBIAL ACTIVITY. **Samantha Kennelly**, Larry Masterson, Jalen Hoehn, Andrew Hexum

1130-Pos **Board B198**
FREE ENERGY CALCULATION OF MEMBRANE PERMEATION - SIMULATION RESULTS SUGGEST RELAXATION OF HEADGROUP-SOLUTE INTERACTIONS IS THE SLOWEST DEGREE OF FREEDOM. **Nihit Pokhrel**

1131-Pos **Board B199**
SPHINGOLIPID TRANSFER BY GLTP-FOLD PROTEINS IS DIFFERENTIALLY REGULATED BY PHOSPHATIDYLINOSITOL DERIVATIVES. **Xiuhong Zhai**, Dhirendra K. Simanshu, Ivan A. Boldyrev, Helen M. Pike, John Mundy, Lucy Malinina, Julian G. Molotkovsky, Dinshaw J. Patel, Rhoderick E. Brown

1132-Pos **Board B200**
STERIC PRESSURE FROM PERIPHERAL PROTEIN CONFORMATIONAL CHANGES DRIVES MEMBRANE CURVATURE. **Helen Hew Ming Siaw**, Gokul Raghunath, R. Brian Dyer

1133-Pos **Board B201**
ELECTROSTATIC INTERACTIONS BETWEEN TAU PEPTIDES AND MODEL BIOLOGICAL MEMBRANES: A FOLDING-UPON-BINDING MECHANISM. **Sidney S. Dicke**, Lexus Tatge, Megan Culp, Larry R. Masterson

1134-Pos **Board B202**
PROTEIN-LIPID INTERACTION AT THE HIV MEMBRANE INTERFACE DEFINED BY EPR SPECTROSCOPY. **Likai Song**, Zhen-Yu J. Sun, Mikyung Kim, Pavanjeet Kaur, Zahra Hayati, Mostafa A. ELBahnasawy, Gerhard Wagner, Ellis L. Reinherz

1135-Pos **Board B203**
DETECTION OF HELIX FRAYING IN TRANSMEMBRANE HELICES WITH INTERFACIAL HISTIDINE RESIDUES. **Amanda Paz Herrera**, Fahmida Afrose, Denise Greathouse, Roger Koeppe II

1136-Pos **Board B204**
MODES OF CHOLESTEROL BINDING INFLUENCE THE INTERACTION OF SYRIAN HAMSTER PRP^C WITH THE PLASMA MEMBRANE. **Jesse Woo**, Chad Nieri, Patricia Soto

1137-Pos **Board B205** **CPOW Travel Awardee**
THE ROLE OF SPHINGOMYELIN AND GANGLIOSIDE GM1 IN THE INTERACTION OF POLYGLUTAMINE PEPTIDES WITH LIPID MEMBRANES. Warren A. Campbell, Maxmore Chaibva, Xiang Gao, Justin Legleiter, **Shelli L. Frey**

1138-Pos **Board B206**
THE EFFECT OF MEMBRANE POLYUNSATURATED FATTY ACIDS ON RECEPTOR PARTITIONING TO ORDERED DOMAINS. **Matti Javanainen**, Giray Enkavi, Ramon Guixa-Gonzalez, Waldemar Kulig, Hector Martinez-Seara, Ilpo Vattulainen

1139-Pos **Board B207**
PROTEIN INDUCED MEMBRANE REMODELING ASSAYED IN VITRO USING LIPID MULTILAYER MICRO- AND NANOSTRUCTURES. Troy W. Lowry, **Steven Lenhert**

Intercellular Calcium Channels and Calcium Sparks and Waves I (Boards B208–B217)

1140-Pos **Board B208**
FRET BASED MAPPING OF CALMODULIN WITHIN THE RYANODINE RECEPTOR. **Robyn T. Rebbeck**, Bengt Svensson, Claire E. Haskin, Montserrat Samso, Donald M. Bers, David D. Thomas, Razvan L. Cornea

1141-Pos **Board B209**
ANALYZING OPTICAL IMAGING OF CA^{2+} SIGNALS VIA TIRF MICROSCOPY: THE LIMITS ON RESOLUTION DUE TO CHEMICAL RATES AND DEPTH OF THE CHANNELS. **Patrick T. Toglia**, Ghanim Ullah

1142-Pos **Board B210**
LOCAL RECOVERY OF CICR PROBED BY ULTRA-EFFECTIVE CALCIUM UNCAGING. **Radoslav Janicek**, Hitesh Agarwal, Graham C. R. Ellis-Davies, Ernst Niggli

1143-Pos **Board B211**
THE ROLE OF RYR2 INTERSUBUNIT CROSS-LINKING IN SR CA MISHANDLING IN FAILING HEART. Elisa Bovo, Stefan R. Mazurek, Roman Nikolaienko, **Aleksey V. Zima**

1144-Pos **Board B212**
ELECTRICAL AND CALCIUM TRANSIENT ALTERNANS IN CELL PAIRS AND INTACT ATRIUM. **Kathrin Banach**, Jaime DeSantiago, Lothar A. Blatter

1145-Pos **Board B213**
THE ROLE OF CALCIUM LEAK IN AGE-DEPENDENT LOSS OF *C. ELEGANS* MUSCLE FUNCTION. **Frances M. Forrester**, Alisa Umanskaya, Wenjun Xie, Steven Reiken, Qi Yuan, Alain Lacampagne, Andrew Marks

1146-Pos **Board B214**
CALMODULIN REGULATION OF RYANODINE RECEPTORS (RYR2) DEPENDS ON RYR2 PHOSPHORYLATION AT RESIDUES S2808 AND S2814. **Nieves Gomez-Hurtado**, Kafa Walweel, Derek Laver, Bjorn C. Knollmann

1147-Pos **Board B215**
NOVEL LUMINAL REGULATION OF INOSITOL 1,4,5-TRISPHOSPHATE RECEPTOR CHANNEL GATING. Horia Vais, J. Kevin Foskett, **Don-On Daniel Mak**

1148-Pos **Board B216**
MONITORING CALCIUM ACTIVITY IN INTACT ISLET OF LANGHERANS A-CELLS USING A GENETICALLY ENCODED BIOSENSOR AND LIGHT-SHEET ILLUMINATION MICROSCOPY. **Zeno Lavagnino**, David W. Piston

1149-Pos **Board B217**
ANISOTROPIC DIFFUSION OF PROTEINS IN THE SARCOPLASMIC RETICULUM OF SKELETAL MUSCLE. **Carlo D. Manno**, Lourdes C. Figueroa, Dirk Gillespie, ChulHee Kang, Clara Franzini-Armstrong, Eduardo Rios

Cardiac, Smooth, and Skeletal Muscle Electrophysiology I (Boards B218–B230)

1150-Pos **Board B218**
THE SODIUM CHANNEL AUXILIARY SUBUNIT B1 IS STRUCTURALLY CRITICAL FOR CARDIAC CONDUCTION: EVIDENCE FROM THE SINGLE MOLECULE SCALE TO THE WHOLE ORGAN. **Rengasayee Veeraraghavan**, Gregory S. Hoeker, Steven Poelzing, Robert G. Gourdie

1151-Pos **Board B219**
BIOPHYSICAL AND MOLECULAR COMPARISON OF SODIUM CURRENT IN CELLS ISOLATED FROM CANINE ATRIA AND PULMONARY VEIN. Hector Barajas-Martinez, Robert J. Goodrow, Dan Hu, Payal Patel, Brian K. Panama, Jacqueline A. Treat, **Jonathan M. Cordeiro**

1152-Pos **Board B220**
EFFECTS OF KINETICS AND STATE-DEPENDENT BINDING PROPERTIES OF I_{KUR} TARGETING DRUGS ON ATRIAL ELECTROPHYSIOLOGY. **Nicholas Ellinwood**, Stefano Morotti, Eleonora Grandi

1153-Pos **Board B221**
A DUAL POTASSIUM CHANNEL ACTIVATOR IMPROVES REPOLARIZATION RESERVE AND NORMALIZES VENTRICULAR ACTION POTENTIALS. **Kirstine Calloe**, José M. Di Diego, Rie S. Hansen, Shea Nagle, Jacqueline A. Treat, Jonathan M. Cordeiro

1154-Pos **Board B222**
DYSFUNCTION OF INWARD RECTIFIER POTASSIUM CHANNEL IN RBM20-/- RATS. **Bi-Hua Tan**, Wei Guo, Chunhua Song, Marion Greaser

1155-Pos **Board B223**
A NEW CLASS OF ANTIARRHYTHMICS FOR LATE $I_{CA,L}$. **Marina Angelini**, Arash Pezhouman, Nicoletta Savalli, Antonios Pantazis, Hrayr S. Karagueuzian, James N. Weiss, Riccardo Olcese

1156-Pos **Board B224**
A RARE SK2 CHANNEL VARIANT CONFERS A GAIN-OF-FUNCTION PHENOTYPE. **Zhuo Wang**, Jum-Suk Ko, Matteo Vatta, Patricia Celestino-Soper, Ty C. Lynnes, Peng-Sheng Chen, Michael Rubart

1157-Pos **Board B225**
ATRIAL FIBRILLATION IN HYPERTENSIVE HEART DISEASE IS ASSOCIATED WITH DISTINCT PATTERNS OF ELECTRICAL REMODELING IN THE LEFT AND RIGHT ATRIA. **Hailey J. Jansen**, Emmanuel E. Egom, Sara A. Rafferty, Robert A. Rose

1158-Pos **Board B226**
ELECTROPHYSIOLOGICAL EFFECTS OF TRIGGERED CALCIUM WAVES ON THE ACTION POTENTIAL IN LEFT ATRIAL MYOCYTES FROM NORMAL AND FAILING DOG HEART. **Georg Gussak**, Gary L. Aistrup, William Marszalec, Yohannes Shiferaw, J. Andrew Wasserstrom

1159-Pos **Board B227**
ELECTRONIC EXPRESSION OF I_{K1} IN HUMAN INDUCED PLURIPOTENT STEM CELL DERIVED CARDIAC MYOCYTES (HIPSCD-CM) ALTERS ACTION POTENTIAL RESPONSE TO CHANNEL BLOCK. Mark Nowak, Sanjot Singh, Aidan Coon, Shimin Wang, Glenna Bett, **Randall L. Rasmusson**

1160-Pos **Board B228**
CHARACTERIZATION OF IPS DERIVED CARDIOMYOCYTES IN VOLTAGE CLAMP AND CURRENT CLAMP BY AUTOMATED PATCH CLAMP. **Andrea Brüggemann**, Claudia Haarmann, Markus Rapedius, Tom Goetze, Ilka Rinke, Michael George, Niels Fertig

1161-Pos **Board B229**
PHARMACOLOGICAL IDENTIFICATION OF AN L-TYPE CALCIUM CHANNEL IMPEDANCE SIGNAL IN HUMAN INDUCED PLURIPOTENT STEM-CELL DERIVED CARDIOMYOCYTES. **Carlos A. Obejero-Paz**, Leslie Ellison, James Kramer, Arthur M. Brown, Andrew Bruening-Wright

1162-Pos **Board B230**
VOLTAGE-SENSITIVE ICG FLUORESCENCE IMAGING. **Regina Macianskiene**, Mante Almanaityte, Rimantas Treinys, Irma Martisiene, Antanas Navalinskas, Rimantas Benetis, Jonas Jurevicius

Muscle Regulation (Boards B231–B236)

1163-Pos **Board B231**
AN OBSEVATION OF NATIVE SKELETAL THIN FILAMENT STRUCTURE AT HIGH CALCIUM CONDITION BY ELECTRON CRYOMICROSCOPY. **Fa-Qing Zhao**

1164-Pos **Board B232**
COOPERATIVE CHANGES IN TROPONIN STRUCTURE EXPLAINED WITHOUT COOPERATIVE CALCIUM BINDING. **Henry G. Zot**, Javier E. Hasbun

1165-Pos **Board B233**
THE ORIGIN OF THE FORCE INCREASE OBSERVED AFTER ACTIVE STRETCH BEYOND MYOFILAMENT OVERLAP IN SINGLE MUSCLE FIBERS. **Shuyue Liu**, Venus Joumaa, Walter Herzog

1166-Pos **Board B234**
DETECTION OF SMALL-MOLECULE MODULATORS OF ACTIN-MYOSIN STRUCTURE AND FUNCTION USING HIGH-THROUGHPUT TIME-RESOLVED FRET. **Piyali Guhathakurta**, Ewa Prochniewicz, Kurt C. Peterson, Benjamin D. Grant, Gregory D. Gillispie, David D. Thomas

1167-Pos **Board B235**
CARDIAC TISSUE ORGANIZATION AND CONTRACTILITY. Jasmine Naik, Meghan Knight, Nancy Drew, Nicholas Johnsen, **Anna Grosberg**

1168-Pos **Board B236**
PROBING ESTRADIOL EFFECTS ON SUPER-RELAXED MYOSIN IN MUSCLE FIBERS WITH FLUORESCENCE. **Lien A. Phung**, Joseph M. Muretta, Karl J. Petersen, John A. Rohde, Tara L. Mader, Dawn A. Lowe, David D. Thomas

Intracellular Transport (Boards B237–B248)

1169-Pos **Board B237**
COMPUTATIONAL ANALYSIS OF WHOLE-CELL SCALE DISTRIBUTIONS AND INTERACTIONS OF INTRACELLULAR ORGANELLE NETWORKS. Qinle Ba, Guruprasad Raghavan, Hao-Chih Lee, **Ge Yang**

1170-Pos **Board B238**
A CONFOCAL SUPER-RESOLUTION APPROACH TO STUDY THE DYNAMICS OF GOLGI APPARATUS IN LUNG CANCER METASTASIS. **Priyam Banerjee**, Xiaochao Tan, Jonathan M. Kurie

1171-Pos **Board B239**
GOLGI MICROTUBULES ARE HYPER-ACETYLATED AND PARTICIPATE IN FAST CARGO TRAFFICKING. **Huiwen Hao**, Qian Su, Shujuan Zhao, Yujie Sun

1172-Pos **Board B240**
KIF5A IS RESPONSIBLE FOR COLLAGEN TRANSPORT OF MYOFIBROBLASTS DURING PLEURAL FIBROSIS. **Yoshikazu Tsukasaki**, Hirotoshi Kamata, Julia Wang, Tsuyoshi Sakai, Reiko Ikebe, Ann Jeffers, Boren Jake, Shuzi Owens, Masaaki Higashihara, Steven Idell, Torry Tucker, Mitsuo Ikebe

1173-Pos **Board B241**
CARGO-MEDIATED REGULATION OF COLLECTIVE MYOSIN VI MOTILITY. **Ashim Rai**, Ruth Sommese, Tejas Gupte, Sivaraj Sivaramakrishnan

1174-Pos **Board B242**
TRIM FAMILY PROTEINS IN INTRACELLULAR VESICLE TRAFFICKING. **Kristyn Gumpper**, Ki Ho Park, Mingzhai Sun, Pei-Hui Lin, Tao Tan, Miyuki Nishi, Hiroshi Takeshima, Jianjie Ma

1175-Pos **Board B243**
MEMBRANE BINDING AND REMODELLING BY THE COPII COAT. Sebastian Daum, Mona Grimmer, Jan Ebenhan, Annette Meister, Jan Auerswald, Daniela Kruger, Stefan Werner, **Kirsten Bacia**

1176-Pos **Board B244**
STRIKING THE BALANCE BETWEEN SELECTIVITY AND EFFICIENCY: AN INTEGRATIVE MODEL OF NUCLEOCYTOPLASMIC TRANSPORT. **Barak Raveh**, Jerome Karp, Samuel Sparks, Benjamin Timney, David Cowburn, Michael P. Rout, Andrej Sali

1177-Pos **Board B245**
BACTERIAL CARBOXYSOME SHELL PROTEINS ARE SELECTIVELY PERMEABLE TO CARBON FIXATION SUBSTRATES. **Paween Mahinthichaichan**, Dylan Morris, Yi Wang, Grant J. Jensen, Emad Tajkhorshid

1178-Pos **Board B246**
EVIDENCE OF A TRANSITION FROM DIFFUSIVE TO SUPER-DIFFUSIVE MOTION OF CELLULOSE SYNTHASE COMPLEXES IN LIVING PLANTS. **Nina Zehfroosh**, Derui Liu, Brandon Hancock, Tobias I. Baskin, Lori S. Goldner

1179-Pos **Board B247**
PROTEIN CHARGE AND ION CONCENTRATION AFFECT PROTEIN DIFFUSION IN THE PROKARYOTIC CYTOPLASM. **Wojciech M. Smigiel**, Paul E. Schavemaker, Bert Poolman

1180-Pos **Board B248**
EMERGENT SELF-SIMILARITY IN COMPLEX BIOLOGICAL SYSTEMS DUE TO STRONG DISORDER. **Paul A. Wiggins**, Stella Stylianidou

Voltage-gated Na Channels II (Boards B249–B264)

1181-Pos **Board B249**
HIGH-THROUGHPUT SCREENING OF $NA_V1.7$ SODIUM CHANNEL BLOCKERS IN AN AUTOMATED PATCH CLAMP ASSAY. **Tianbo Li**, Gang Lu, Tania Chernov-Rogan, Jun Chen

1182-Pos **Board B250**
POSITIVE MODULATION OF HUMAN NAV CHANNELS BY PYRETHROIDS. Wolf Berger, Kirsty M. Rooney, **Henning J. Draheim**

1183-Pos **Board B251**
TARANTULA TOXIN SGTX-1 ALTERS GATING KINETICS OF HUMAN VOLTAGE-GATED SODIUM CHANNEL NAV1.7. **Ian H. Kimball**, Phuong T. Nguyen, Jenny Yam, Brandon Pressly, Royce York, Jon T. Sack, Vladimir Yarov-Yarovoy

1184-Pos **Board B252**
BIOPHYSICAL, MOLECULAR, AND PHARMACOLOGICAL CHARACTERIZATION OF NA_V CHANNELS FROM INDUCED PLURIPOTENT STEM CELL-DERIVED CARDIOMYOCYTES. Adrien Moreau, Aurélie Mercier, **Mohamed Chahine**

1185-Pos **Board B253**
SODIUM CURRENT ANALYSIS IN MYOCYTES OBTAINED FROM HUMAN INDUCED PLURIPOTENT STEM CELLS AND NATIVE ADULT HEART. Robert J. Goodrow, Suveer Desai, Mayurika Desai, **Jonathan M. Cordeiro**

1186-Pos **Board B254**
MIXED PERIODIC PARALYSIS & MYOTONIA MUTANT IMPARTS PH SENSITIVITY IN NAV1.4. **Mohammad-Reza Ghovanloo**, Peter C. Ruben

1187-Pos **Board B255**
CNV1014802 RESCUES THE PAROXYSMAL EXTREME PAIN DISORDERS $NA_V1.7$ MUTANTS BY RESTORING IMPAIRED INACTIVATION. **Yueming Zheng**, Wanfu Wang, Zhaobing Gao

1188-Pos **Board B256**
ORIENTED CIRCULAR DICHROISM SPECTROSCOPY AS A TOOL FOR STUDYING THE GATING OF SODIUM CHANNELS. **Matthew Colledge**, B.A. Wallace

1189-Pos **Board B257**
EPHAPTIC EFFECTS POTENTIATE THE THRESHOLD BEHAVIOR OF THE CARDIAC SODIUM CURRENT IN A HIGH RESOLUTION MATHEMATICAL MODEL OF A NARROW INTERCELLULAR CLEFT. **Echrak Hichri**, Hugues Abriel, Jan P. Kucera

1190-Pos **Board B258**
BETA-POMPILIDOTOXIN ADOPTS A DISTINCT 3D STRUCTURE WHEN BOUND TO NAV1.2DIVS3-S4 PADDLE MOTIF. **Meero Yeu**, Boris Arshava, Jianqin Zhuang, Sébastien F. Poget

1191-Pos **Board B259**
THE STRUCTURAL CHARACTERIZATION OF THE HUMAN CARDIAC SODIUM CHANNEL VOLTAGE-SENSOR DOMAIN IV PADDLE MOTIF. **Mohammed H. Bhuiyan**, Adel K. Hussein, Boris Arshava, Jianqin Zhuang, James Aramini, Fred Naider, Sébastien F. Poget

1192-Pos **Board B260**
VIRTUAL SCREENING IN SEARCH OF ALLOSTERIC MODULATORS OF NAV1.1 CHANNELS. **Johnathan Wong**, Syed R. Ali, Paul Wadsworth, Aditya K. Singh, Zhiqing Liu, Haiying Chen, Jia Zhou, Fernanda Laezza

1193-Pos **Board B261**
TUNING THE ION SELECTIVITY OF TWO-PORE CHANNELS. **Jiangtao Guo**, Weizhong Zeng, Youxing Jiang

1194-Pos **Board B262**
MAPPING PROTEIN: PROTEIN INTERACTION OF THE FGF14:GSK3B COMPLEX. **Aditya K. Singh**, Paul A. Wadsworth, Fernanda Laezza

1195-Pos **Board B263**
ESTIMATING KINETIC MECHANISMS WITH PRIOR KNOWLEDGE. Autoosa Salari, Zachary F. Elkins, Marco A. Navarro, Benton R. Berigan, Jenna L. Lin, Mirela Milescu, **Lorin S. Milescu**

1196-Pos **Board B264**
ATRIAL-VENTRICULAR DIFFERENCES IN VOLTAGE-GATED NA^+ CURRENTS OF RABBIT CARDIOMYOCYTES. **Rachel E. Caves**, Hongwei Cheng, Stéphanie C. Choisy, Hanne C. Gadeberg, Simon M. Bryant, Jules C. Hancox, Andrew F. James

Voltage-gated Ca Channels II (Boards B265–B275)

1197-Pos **Board B265**
STIMULATION OF AT_1 ANGIOTENSIN RECEPTORS ACTIVATES $CA_V1.2$ L-TYPE CA^{2+} CHANNELS THROUGH BETA-ARRESTIN2 AND CASEIN KINASE 2 IN IMMATURE CARDIOMYOCYTES. **Toshihide Kashihara**

1198-Pos **Board B266**
MANIPULATING L-TYPE CALCIUM CHANNEL ACTIVITY ALTERS MITOCHONDRIAL FUNCTION AND PREVENTS HYPERTROPHIC CARDIOMYOPATHY IN A TROPONIN I MUTANT MOUSE MODEL. **Helena M. Viola**, Victoria P.A. Johnstone, Christopher Semsarian, Livia C. Hool

1199-Pos **Board B267**
STABLE INTERACTION BETWEEN VOLTAGE-ACTIVATED CA^{2+} CHANNEL A1 AND B SUBUNITS REVEALED BY TRANSLOCATABLE B SYSTEMS. Jun-Hee Yeon, **Byung-Chang Suh**

1200-Pos **Board B268**
DELETION OF $A_2\Delta$-1 CALCIUM CHANNEL SUBUNIT REDUCES CALCIUM INFLUX AND ALTERS THE ELECTRICAL ACTIVITY OF MOUSE CHROMAFFIN CELLS. Matteo M. Ottaviani, Vincenzo Mastrolia, Laura Guarina, Emilio Carbone, **Petronel Tuluc**

1201-Pos **Board B269** **International Travel Awardee**
INVESTIGATION OF THE PROTEOLYTIC CLEAVAGE OF $A_2\Delta$ SUBUNITS: A MECHANISTIC SWITCH FROM NHIBITION TO ACTIVATION OF VOLTAGE-GATED CALCIUM CHANNELS? **Ivan Kadurin**, Simon Rothwell, Laurent Ferron, Otto Meyer, Annette Dolphin

1202-Pos **Board B270**
HYDROGEN PEROXIDE INHIBITS WHOLE-CELL $I_{CA,L}$ BUT INCREASES ON-CELL $I_{CA,L}$ AND EBSELEN, AN ORGANOSELENIUM COMPOUND, SUPPRESSES $I_{CA,L}$ IN ARTERIAL SMOOTH MUSCLE CELLS. **Rikuo Ochi**, Sukrutha Chettimada, Sachin A. Gupte

1203-Pos **Board B271**
OPTICALLY PROBING THE MECHANISM OF VOLTAGE-DEPENDENT FACILITATION IN $CA_V1.2$ CHANNELS. **Antonios Pantazis**, Daniel Sigg, Alan Neely, Riccardo Olcese

1204-Pos **Board B272**
TREATMENT OF ADULT *MDX* MICE WITH PHOSPHORODIAMIDATE MORPHOLINO OLIGOMER RESTORES CARDIAC MITOCHONDRIAL ENERGETICS AND PREVENTS THE DYSTROPHIC CARDIOMYOPATHY. **Helena M. Viola**, Victoria P. A. Johnstone, Abbie M. Adams, Susan Fletcher, Livia C. Hool

1205-Pos **Board B273**
STAC PROTEINS SUPPRESS CALCIUM DEPENDENT INACTIVATION OF NEURONAL L-TYPE CA^{2+} CHANNELS. **Alexander Polster**, Stefano Perni, Kurt G. Beam

1206-Pos **Board B274**
ANGIOTENSIN II STIMULATES L-TYPE CALCIUM CURRENT IN MOUSE ATRIAL MYOCYTES BY AFFECTING CAVEOLAE-HOUSED CHANNELS. **Marina Balycheva**, Timothy J. Kamp, Alexey Glukhov

1207-Pos **Board B275**
STAC3 FACILITATED EXPRESSION OF $CA_V1.1$ IN XENOPUS OOCYTES TO ASSESS FUNCTIONAL CONSEQUENCES OF HYPOPP MUTANT $CA_V1.1$-R528H. Fenfen Wu, **Steve C. Cannon**

Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating II (Boards B276–B295)

1208-Pos **Board B276**
USING UNNATURAL AMINO ACIDS TO PROBE THE INTERACTION BETWEEN TARANTULA TOXINS AND VOLTAGE SENSING DOMAINS IN K_V CHANNELS. **Kanchan Gupta**, Kenton J. Swartz

1209-Pos **Board B277**
VOLTAGE DEPENDENCE AND NON-SENSOR RESIDUES. **Joao L. Carvalho-de-Souza**, Francisco Bezanilla

1210-Pos **Board B278**
GENERALIZED INTERACTION ENERGY ANALYSIS OF RESIDUES AT THE VOLTAGE-SENSOR PORE INTERFACE IN THE SHAKER POTASSIUM CHANNEL. **Ana I. Fernández-Mariño**, Kevin Oelstrom, Baron Chanda

1211-Pos **Board B279**
POLARITY OF THE CHEMICAL ENVIRONMENT SURROUNDING POTASSIUM CHANNEL VOLTAGE SENSORS DETECTED BY SOLVATOCHROMIC DYE-TARANTULA TOXIN CONJUGATES. **Sebastian Fletcher-Taylor**, Mark W. Lillya, Parashar Thapa, Bruce E. Cohen, Jon T. Sack

1212-Pos **Board B280**
GRAFTING VOLTAGE SENSING SENSITIVITY AND PHARMACOLOGY IN POTASSIUM CHANNELS. Xi Lan, Chunyan Fan, Wei Ji, Fuyun Tian, Tao Xu, **Zhaobing Gao**

1213-Pos **Board B281**
LIPID BILAYER PERTURBATION BY THE SNAIL TOXIN 6-BROMO-2-MERCAPTOTRYPTAMINE DIMER DOES NOT ACCOUNT FOR ITS MODULATION OF VOLTAGE-GATED POTASSIUM CHANNELS. Chris Dockendorff, Disha Gandhi, Ian Kimball, Kenneth S. Eum, Radda Rusinova, Helgi Ingólfsson, Ruchi Kapoor, Thasin Peyear, Stephen F. Martin, Richard W. Aldrich, Olaf S. Andersen, **Jon Sack**

1214-Pos **Board B282**
THE ROLE OF K IONS IN OPENING K CHANNELS. **Clay M. Armstrong**, Toshi Hoshi, Stefan Heinneman

1215-Pos **Board B283**
A STRUCTURAL MODEL OF THE INACTIVATION GATE OF VOLTAGE ACTIVATED POTASSIUM CHANNELS. Ariela Vergara-Jaque, Francisco Palma-Cerda, Horacio Poblete, Adam Lowet, Alexander Sukharev, Jeffrey Comer, **Miguel Holmgren**

1216-Pos **Board B284**
ANALYSIS OF THE STATE-DEPENDENT BLOCK OF SHAKER IR BY BTBUA. Tibor G. Szanto, Jeffrey D. Fineberg, Manuel Covarrubias, Zoltan Varga, **Gyorgy Panyi**

1217-Pos **Board B285**
THE ACTIVATION GATE AND THE SELECTIVITY FILTER OF KCSA ARE TIGHTLY COUPLED. Cholpon Tilegenova, D. Marien Cortes, **Luis G. Cuello**

1218-Pos **Board B286**
STRUCTURAL DYNAMICS OF THE POTASSIUM CHANNEL SELECTIVITY FILTER REVEALED BY SINGLE-MOLECULE FRET. **Shizhen Wang**, Colin G. Nichols

1219-Pos **Board B287**
PROBING THE GATING OF KV10.1 CHANNELS BY MTS REAGENTS. Adam P. Tomczak, Ferenc Papp, Florina Zakany, Pal Pap, Luis A. Pardo, Gyorgy Panyi, **Zoltan Varga**

1220-Pos **Board B288**
THE EAG DOMAIN MEDIATES THE RESPONSE OF HEAG1 K^+ CHANNELS TO BOTH VOLTAGE AND CA^{2+}-CALMODULIN. **Alina Finch**, Éva Lörinczi, Matthew Helliwell, John Mitcheson

MONDAY

1221-Pos **Board B289**
INSIGHTS INTO THE MOLECULAR MECHANISM COUPLING THE S4 VOLTAGE-SENSOR TO THE PORE DOMAIN IN HCN CHANNELS. **Galen E. Flynn**, William N. Zagotta

1222-Pos **Board B290**
GATING CURRENTS IN HV1 PROTON CHANNELS REVEAL A VOLTAGE SENSOR MODE SHIFT/RELAXATION. **Victor De la Rosa**, Ian S. Ramsey

1223-Pos **Board B291**
GOT ION ACCUMULATION OR DEPLETION (IN YOUR RECORDING)? **Gilman E.S. Toombes**, Mufeng Li, Shai D. Silberberg, Kenton J. Swartz

1224-Pos **Board B292**
SINGLE MOLECULE FRET IMAGING AT MILLIMOLAR CONCENTRATIONS IN ZERO MODE WAVEGUIDES. **David S. White**, Marcel P. Goldschen-Ohm, Vadim A. Klenchin, Randall H. Goldsmith, Baron Chanda

1225-Pos **Board B293**
BIOPHYSICAL CHARACTERIZATION OF ASAP1. **Elizabeth E. L. Lee**, Francisco Bezanilla

1226-Pos **Board B294**
THE ISOLATED VOLTAGE SENSING DOMAIN OF THE SHAKER POTASSIUM CHANNEL FORMS A CATION CHANNEL. **Juan Zhao**, Rikard Blunck

1227-Pos **Board B295** **CPOW Travel Awardee**
HCN CHANNEL GATING STUDIED WITH TMFRET AND A FLUORESCENT NONCANONICAL AMINO ACID. **Teresa K. Aman**, William N. Zagotta

TRP Channels II (Boards B296–B303)

1228-Pos **Board B296**
A GAIN-OF-FUNCTION TRPP2 ION CHANNEL CREATED BY MUTATING SINGLE AMINO ACID IN THE S5 TRANSMEMBRANE DOMAIN. Mahmud Arif Pavel, Caixia Lv, Courtney Ng, Parul Kashyap, Clarissa Lam, Victoria Valentino, Helen Fung, Thomas Campbell, David Zenisek, Nathalia G. Holtzman, **Yong Yu**

1229-Pos **Board B297**
PRECISE CONTROL OF TEMPERATURE IN ARTIFICIAL PLANAR LIPID BILAYERS TO MODULATE DIFFERENT TRP CHANNELS CONTROL OF TEMPERATURE IN ARTIFICIAL PLANAR LIPID BILAYERS TO MODULATE DIFFERENT TRP CHANNELS. **Conrad Weichbrodt**, Jiajun Wang, Mohamed Kreir, Matthias Beckler, Alison Obergrussberger, Ilka Rinke, Michael George, Sonja Stoelze-Feix, Andrea Brüggemann, Niels Fertig

1230-Pos **Board B298** **CPOW Travel Awardee**
ASSESSMENT OF ENDOGENOUS AND EXOGENOUS MODULATORS OF THE TRPM7 CHANNEL IN PLANAR LIPID BILAYERS. **Lusine Demirkhanyan**, Tyler Dawson, Thomas Gudermann, Vladimir Chubanov, Eleonora Zakharian

1231-Pos **Board B299**
EFFECTS OF GINGER AND ITS PUNGENT CONSTITUENTS ON TRANSIENT RECEPTOR POTENTIAL CHANNELS. Young-Soo Kim, Chan Sik Hong, Sang Weon Lee, Joo Hyun Nam, **Byung Joo Kim**

1232-Pos **Board B300**
MODULATION BY PHENOLIC COMPOUNDS PROVIDES NOVEL INSIGHT INTO THE MECHANISMS OF TRPA1 ACTIVATION. **Justyna B. Startek**, Andrei Segal, Thomas Voets, Karel Talavera

1233-Pos **Board B301**
REGULATION OF TRPM7 BY CYTOSOLIC MG^{2+} AND PH: INSIGHTS FROM VSP EXPRESSION. **Pavani Beesetty**, Krystyna Wieczerzak, Tatyana Zhelay, Taku Kaitsuka, Masayuki Matsushita, J. Ashot Kozak

1234-Pos **Board B302**
TEMPERATURE SENSITIVITY OF *DROSOPHILA* GUSTATORY RECEPTOR GR28B. **Autoosa Salari**, Benjamin C. Zars, Aditi Mishra, Benton Berigan, Troy Zars, Lorin S. Milescu, Mirela Milescu

1235-Pos **Board B303**
SIMULATED MICROGRAVITY CONDITIONS MODULATE CA^{2+} TRANSPORT THROUGH TRPV4 CHANNELS. **Sheenah L. Bryant**, Nisha Shrestha, Julia Oxford, Ken Cornell, Daniel Fologea

Ion Channel Regulatory Mechanisms I (Boards B304–B324)

1236-Pos **Board B304**
THE ROLE OF THE N-TERMINAL AND S1 SEGMENTS IN KV1.5 CHANNEL TRAFFICKING AND MODULATION. **Shawn M. Lamothe**, Aja Hogan-Cann, Jun Guo, Wentao Li, Tonghua Yang, Shetuan Zhang

1237-Pos **Board B305**
ERK1/2 MEDIATES EGF-DEPENDENT KV1.3 ENDOCYTOSIS. **Katarzyna Styrczewska**, Ramón Martínez-Mármol, Núria Comes, Irene Estadella, Mireia Pérez-Verdaguer, Lluis Pujadas, Eduardo Soriano, Alexander Sorkin, Antonio Felipe

1238-Pos **Board B306**
DECIPHERING THE KV1.3/CAVEOLIN INTERACTION. Mireia Pérez-Verdaguer, Jesusa Capera, Ramón Martínez-Mármol, Marta Camps, Nuria Comes, Michael M. Tamkun, **Antonio Felipe**

1239-Pos **Board B307**
MECHANISMS OF KV1.1 CHANNEL ACTIVITY SUPPRESSION BY BETA AMYLOID 42. **Joseph Farley**, Kristi DeBoeuf, Mohammad F. Islam

1240-Pos **Board B308**
PROTEIN KINASE A-DEPENDENT PHOSPHORYLATION MODULATES THE AFFINITY OF KV7.5 POTASSIUM CHANNELS TO PHOSPHATIDYLINOSITOL 4,5-BISPHOSPHATE TO ENHANCE POTASSIUM CONDUCTANCE. **Kenneth L. Byron**, Lyubov I. Brueggemann, Ahmed Kouta, Leanne L. Cribbs

1241-Pos **Board B309**
THE STREX-INSERT IN A STRETCH-ACTIVATED BK CHANNEL FROM CHICK HEART IS NOT ENOUGH FOR CONFERRING GSMTX-4 INHIBITORY EFFECT ON MSLO1. Zhe Zhang, Mingxi Tang, Xiang-rong Du, Hui Li, Yan-Jun Feng, Shao-Xi Ke, Xiao-Dong Tang, Masahiro Sokabe, **Qiong-Yao Tang**

1242-Pos **Board B310**
ROLE OF AN INTERSUBUNIT CA^{2+} BRIDGE IN BK CHANNEL GATING. **Alexandre G. Vouga**, Brad Rothberg

1243-Pos **Board B311**
PROBING THE COMPOSITION OF TMEM16A-CONTAINING SIGNALING COMPLEXES IN SENSORY NEURONS. Shihab Shah, Chase M. Carver, Mark S. Shapiro, **Nikita Gamper**

1244-Pos **Board B312**
ENDOTHELIAL CAVEOLAE-TRPV4-SK CHANNEL INTERACTIONS IN SHEAR STRESS-MEDIATED CORONARY ARTERIOLE DILATION. **Hon-Chi Lee**, Tong Lu, Qiang Chai, Xiao-Li Wang

1245-Pos **Board B313** **CPOW Travel Awardee**
STATIN THERAPY IN LONG QT SYNDROME TYPE II. **Elsa Ronzier**, Xiaorong Xu Parks, Coeli Lopes

1246-Pos **Board B314**
REGULATION OF THE HUMAN ETHER-A-GO-GO-RELATED GENE (HERG) POTASSIUM CHANNEL BY THE UBIQUITIN LIGASE RIFIFYLIN (RFFL). **Karim Roder**, Karni S. Moshal, An Xie, Tae Yun Kim, Kevin R. Murphy, Nilüfer Nermin Turan Dural, Yichun Lu, Bum-Rak Choi, Gideon Koren

1247-Pos **Board B315**
S. AUREUS SPHINGOMYELINASE IS A STATE-DEPENDENT INHIBITOR OF THE CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR (CFTR). **Brandon Stauffer**

1248-Pos **Board B316**
MECHANISM OF ACTION OF A SMALL MOLECULE ACTIVATOR OF PHOSPHOINOSITIDE-DEPENDENT GIRK CHANNELS. **Yu Xu**, Takeharu Kawano, Junghoon Ha, Sumanta Garai, Guoqing Xiang, Ganesh Thakur, Diomedes E. Logothetis

1249-Pos **Board B317**
REGULATION OF A FUNGAL K_{2P} CHANNEL BY PROTEIN KINASES. Ryan Manville, Andrew Corran, **Anthony Lewis**

1250-Pos **Board B318**
SILVER AS A PROBE OF SELECTIVITY FILTER GATING IN TREK-1 K2P CHANNELS. **Marcus Schewe**, Thomas Baukrowitz

1251-Pos **Board B319**
THE ORIGIN OF COUPLED CHLORIDE AND PROTON TRANSPORT IN A CL^-/H^+ ANTIPORTER. **Sangyun Lee**, Heather B. Mayes, Jessica M. J. Swanson, Gregory A. Voth

1252-Pos **Board B320**
PHYLOGENETIC AND SEQUENCE ANALYSIS OF THE FLUCS, A REMARKABLE FAMILY OF FLUORIDE CHANNELS. **Christian B. Macdonald**, Randy B. Stockbridge

1253-Pos **Board B321**
MG^{2+} INHIBITS CARDIAC SR CALCIUM RELEASE AND HAS BIPHASIC EFFECTS ON CALMODULIN BINDING TO RYR2. **Xiaoqiong Dong**, Ivanita Stefanon, Rogerio F. Ribeiro Jr., Mena Said, Robyn T. Rebbeck, Razvan L. Cornea, Donald M. Bers

1254-Pos **Board B322**
INTERACTIONS BETWEEN NEURONAL JUNCTOPHILINS AND VOLTAGE GATED ION CHANNELS. **Stefano Perni**, Kurt G. Beam

1255-Pos **Board B323**
VOLTAGE DEPENDENT INHIBITION OF CX46 HEMICHANNELS BY CALCIUM. **Bernardo I. Pinto**, Amaury Pupo, Isaac Garcia, Karel Mena-Ulecia, Agustin Martinez, Ramon Latorre, Carlos Gonzalez

1256-Pos **Board B324**
DISTRIBUTION OF PHOSPHORYLATED CONNEXIN 43 IN GAP JUNCTIONS: IMPLICATIONS FOR ENDOCYTOSIS. **Rachel A. Margraf**, Rachael M. Kells Andrews, Matthias M. Falk

Cardiac Muscle Regulation I (Boards B325–B342)

1257-Pos **Board B325**
TUNING CARDIOMYOCITE DYNAMIC TRANSIENT RESPONSES WITH A HETEROGENEOUS POPULATIONS OF CTNC MUTATIONS. Srboljub Mijailovic, **Djordje Nedic**, Marina Svicevic, Boban Stojanovic, Michael A. Geeves, Michael Regnier

1258-Pos **Board B326**
DIFFERENTIAL CAMK-II ACTIVATION IN THE PROGRESSION OF HCM IN CTNT MUTATIONS. **Sarah Lehman**, Lauren Grinspan, Mark E. Anderson, Jil C. Tardiff

1259-Pos **Board B327**
CTNT ISOFORM SWITCHING IN THE DEVELOPMENT OF EARLY CHILDHOOD TROPOMYOSIN-LINKED DCM. **Melissa Lynn**, Teryn Holeman, Lauren Grinspan, J.P. Jin, Jil Tardiff

1260-Pos **Board B328**
N-TERMINAL TRUNCATION OF CARDIAC TROPONIN I COMPENSATES FOR DIASTOLIC DYSFUNCTION OF MOUSE HEARTS INDUCED BY ACUTE PRESSURE OVERLOAD. **Li-Fei Liu**, Han-Zhong Feng, J.-P. Jin

1261-Pos **Board B329**
FUNCTIONAL SIGNIFICANCE OF C-TERMINAL MOBILE DOMAIN OF CARDIAC TROPONIN I. **Nazanin Bohlooli Ghashghaee**, Peter O. Awinda, Bertrand C.W Tanner, Wen-Ji Dong

1262-Pos **Board B330**
IMPACT OF CGMP-PKG PATHWAY MODULATION ON TITIN PHOSPHORYLATION AND TITIN-BASED MYOCARDIAL PASSIVE STIFFNESS. **Nazha Hamdani**, Melissa Herwig, Soraya Hoelper, Marcus Krueger, Doris Koesling, Michaela Kuhn, Wolfgang A. Linke

1263-Pos **Board B331**
SARCOMERE LENGTHDEPENDENT EFFECTS ON THE CA^{2+}-TROPONIN REGULATION IN SKINNED MYOCARDIAL FIBERFROM TITIN RBM20 DELETION MICE. King-Lun Li, Mei Methawasin, Henk Granzier, Ross John Solaro, Bertrand Tanner, **Wen-Ji Dong**

1264-Pos **Board B332**
ACTIVATION AND INHIBITION OF CARDIAC THIN FILAMENTS BY SINGLE AND MULTIPLE DOMAINS CONSTRUCTS OF HUMAN CARDIAC MYOSIN BINDING PROTEIN-C (CMYBP-C) AT LOW CALCIUM. Betty Virok, Samantha Harris, Vitold E. Galkin, **Howard D. White**

1265-Pos **Board B333**
COMPARISON OF THE REGULATION OF CONTRACTION IN INSECT FLIGHT MUSCLE AND VERTEBRATE CARDIAC MUSCLE. **Belinda Bullard**, Demetris Koutalianos, Kate English, Kevin Leonard

1266-Pos **Board B334**
CHARACTERIZATION OF A TRUNCATED CARDIAC MYOSIN-BINDING PROTEIN C MUTATION USING PATIENT-DERIVED ENGINEERED HEART TISSUE AND COMPUTATIONAL MODELING. **Jonas Schwan**, Yongming Ren, Daniel L. Jacoby, Yibing Qyang, Stuart G. Campbell

1267-Pos **Board B335**
TIME-COURSE OF CARDIAC MYOFIBRILLAR CONTRACTILE PROPERTIES DURING THE PROGRESSION OF RAT HYPERTENSIVE HEART FAILURE. **Laurin M. Hanft**, Craig A. Emter, Kerry S. McDonald

1268-Pos **Board B336**
PROTEOMIC AND IMMUNOHISTOLOGICAL CHARACTERIZATION OF CYTOSKELETAL ALTERATIONS DURING THE PROGRESSION OF HUMAN CARDIOMYOPATHY. **Chrisitna Y. Chen**, Alexey Bogush, Kenneth Margulies, Benjamin L. Prosser

1269-Pos **Board B337**
HYPERTROPHIC CARDIOMYOPATHY MUTATIONS DESTABILIZE THE SUPER-RELAXED STATE OF MYOSIN. **Robert L. Anderson**, Roger Cooke, James A. Spudich, Eric M. Green

1270-Pos **Board B338**
INVESTIGATION OF THE MOLECULAR INTERACTIONS REGULATING THE FUNCTION OF HUMAN CARDIAC MYOSIN. **Saswata S. Sarkar**, Darshan Trivedi, Arjun S. Adhikari, Chao Liu, Kathleen M. Ruppel, James A. Spudich

1271-Pos **Board B339**
D292V ACTIN MUTATION STABILIZES TROPOMYOSIN IN THE OFF-STATE OF THE THIN FILAMENT. **Jeffrey R. Moore**, Thavanareth Prum, Patricia M. Fagnant, Kathleen M. Trybus, William Lehman

1272-Pos **Board B340**
STEP-WISE TRUNCATION OF THE C-TERMINAL 14 RESIDUES OF TROPONIN T REDUCES THE B STATE OF REGULATED ACTIN AND ENHANCES THE M STATE. Dylan Johnson, William Angus, **Joseph M. Chalovich**

1273-Pos **Board B341**
TROPOMYOSIN FLUCTUATIONS OVER A MULTI-WELL ENERGY LANDSCAPE: A BROWNIAN RATCHET MODEL OF CARDIAC MUSCLE CONTRACTION. **Yasser Aboelkassem**, Natalia Trayanova

1274-Pos **Board B342**
INVESTIGATING THE PHENOTYPE OF CARDIOMYOPATHY-ASSOCIATED ALPHA-TROPOMYOSIN E192K MUTATION IN PATIENT-DERIVED ENGINEERED HEART TISSUE. **Lorenzo R. Sewanan**, Jinkyu Park, Yongming Ren, Angela Urdaneta, Michael Rynkiewicz, Jeffrey Moore, William Lehman, Daniel L. Jacoby, Yibing Qyang, Stuart G. Campbell

Kinesins, Dyneins, and Other Microtubule-based Motors I (Boards B343–B358)

1275-Pos **Board B343**
RECONSTITUTION OF EUKARYOTIC FLAGELLAR AXONEMES BY THE BOTTOM-UP STRATEGY. Misaki Shiraga, Junya Kirima, Hiroaki Kojima, **Kazuhiro Oiwa**

1276-Pos **Board B344**
THE COORDINATION AND REGULATION OF AXONEMAL DYNEIN. **Joshua Alper**

1277-Pos **Board B345**
REGULATION OF DYNEIN-DRIVEN MOTILITY BY HOOK PROTEINS. **Mara Olenick**, Mariko Tokito, Malgorzata Boczkowska, Roberto Dominguez, Erika Holzbaur

1278-Pos **Board B346**
THREE-DIMENSIONAL SNAPSHOTS OF THE MICROTUBULE-BOUND DYNEIN-DYNACTIN COMPLEX. **Danielle Grotjahn**, Saikat Chowdhury, Yiru Xu, Gabriel Lander

1279-Pos **Board B347**
REGULATING NATIVE CYTOPLASMIC DYNEIN'S PROCESSIVITY. **Vincent Behrens**, Tim Scholz, Bernhard Brenner, Michael A. Geeves, Walter Steffen

1280-Pos **Board B348**
TRACKING DYNEIN STEPPING ALONG MICROTUBULES USING MULTICOLOR HIGH RESOLUTION IMAGING. **Stefan Niekamp**, Nico Stuurman, Nan Zhang, Ronald D. Vale

1281-Pos **Board B349**
A DYNAMIC MODEL FOR THE PROCESSIVE MOTION OF DYNEIN ON MICROTUBULES. **Ya-chang Chou**

1282-Pos **Board B350**
MULTI-SCALE INVESTIGATION ON THE MECHANISMS OF DYNEINS' MOTION ON MICROTUBULE. **Lin Li**, Jushua Alper, Emil Alexov

1283-Pos **Board B351**
TAU DIRECTS TRANSPORT ALONG MICROTUBULES THROUGH DIFFERENTIAL REGULATION OF KINESIN AND DYNEIN. **Abdullah R. Chaudhary**, Adam G. Hendricks

1284-Pos **Board B352**
ENSEMBLE MICROSCOPY REVEALS NANOSCALE PATTERNS OF MOLECULAR MOTORS ON MICROTUBULES. **Louis Reese**, Marian Baclayon, Nùria Taberner Carretero, Maurits Kok, Roland Dries, Esengül Yildirim, Andrea Martorana, Martin Depken, Marileen Dogterom

1285-Pos **Board B353**
MECHANISMS UNDERLYING THE NUCLEATION AND KINESIN-DRIVEN ASSEMBLY OF MICROTUBULE RINGS. **George D. Bachand**, Virginia VanDelinder, Christina Ting, Stephanie Brener

1286-Pos **Board B354**
MAGNETIC CYTOSKELETON AFFINITY (MICA) PURIFICATION FOR FAST PURIFICATION OF CARGO-ATTACHED MOLECULAR MOTORS. **Marco Tjioe**, Hyeon Ryoo, Pinghua Ge, Yuji Ishitsuka, Kevin Teng, Paul Selvin

1287-Pos **Board B355**
TURNING AROUND AT THE TIP: SINGLE-MOLECULE DYNAMICS OF INTRAFLAGELLAR TRANSPORT IN *C. ELEGANS* CHEMOSENSORY CILIA. Jona Mijalkovic, Jaap van Krugten, Felix Oswald, Seyda Acar, **Erwin J. Peterman**

1288-Pos **Board B356** **Education Travel Awardee**
THE ROLE OF THE COVER-NECK BUNDLE IN MULTI-MOTOR TRANSPORT AGAINST LOAD IN CELLS. **Breane G. Budaitis**, Kristin I. Schimert, Guido Scarabelli, Barry J. Grant, Kristen J. Verhey

1289-Pos **Board B357**
MODELING CARGO TRANSPORT BY PAIRS OF KINESIN-1 AND -3 MOTORS. **Goker Arpag**, Stephen Norris, Kristen Verhey, William O. Hancock, Erkan Tuzel

1290-Pos **Board B358** **Education Travel Awardee**
ENGINEERING INHIBITABLE KINESIN-3 MOTORS BY A NOVEL CHEMICAL-GENETIC APPROACH. **Shirley Chen**, T. Lynne Blasius, Martin F. Engelke, Kristen J. Verhey

Myosins (Boards B359–B378)

1291-Pos **Board B359**
MOLECULAR MECHANISM OF SYNCHRONOUS FORCE GENERATIONS AMONG MYOSIN MOLECULES. Motoshi Kaya, Takumi Washio, **Hideo Higuchi**

1292-Pos **Board B360**
O-MYO! AN O-SHAPED MYOSIN GLIDING ASSAY FOR CHARACTERIZING LONG-TERM ACTIN-MYOSIN BEHAVIORS
. **Rizal F. Hariadi**, Abhinav J. Appukutty, Sivaraj Sivaramakrishnan

1293-Pos **Board B361**
CHANGES IN MYOSIN CROSSBRIDGE CYCLE DURING HUMAN DEVELOPMENT. **Alice Ward Racca**, Samantha Lynn, Michael A. Geeves

1294-Pos **Board B362** **International Travel Awardee**
A NEW HUMANIZED MOUSE MODEL FOR STUDYING INHERITED CARDIOMYOPATHIC MUTATIONS IN THE *MYH7* GENE. **Farah Haque**, Mohsen Sarikhani, Souhrid Mukherjee, N. Ravi Sundaresan, John A. Mercer

1295-Pos **Board B363**
A R146N HYPERTROPHIC CARDIOMYOPATHY MYOSIN MUTATION DISRUPTS MYOSIN FUNCTION, MYOFIBRILLAR STRUCTURE, AND CARDIAC CONTRACTION IN *DROSOPHILA*. **Adriana S. Trujillo**, William A. Kronert, Kaylyn Bell, Meera C. Viswanathan, Girish C. Melkani, Anju Melkani, Anthony Cammarato, Douglas M. Swank, Sanford I. Bernstein

1296-Pos **Board B364**
KINETIC CHARACTERIZATION OF THE MITOCHONDRIAL TRANSPORTER HUMAN MYOSIN XIX. Matt Mcconnell, Laura Jackson, Ailian Xiong, Betty Belknap, Howard White, Omar Quintero, **Eva Forgacs**

1297-Pos **Board B365**
SINGLE MOLECULE CHARACTERISATION OF THE MOLECULAR MOTOR MYOSIN VB. Lucia Gardini, Sarah M. Heissler, Claudia Arbore, James R. Sellers, Francesco S. Pavone, **Marco Capitanio**

1298-Pos **Board B366**
DIRECT SINGLE MOLECULE OBSERVATIONS OF THE UNIQUE MECHANICAL STATE OF HUMAN MYOSIN-6. **Yasuharu Takagi**, Nikolas Hundt, Neil Billington, Joanna Andrecka, Daniel Cole, Adam J. Fineberg, Noriko Katagiri, Jonathan E. Bird, Thomas B. Friedman, Philipp Kukura, James R. Sellers

1299-Pos **Board B367**
KINEMATICS OF THE LEVER ARM SWING IN MYOSIN VI. **Mauro L. Mugnai**, Dave Thirumalai

1300-Pos **Board B368**
MODELING THE ATPASE CYCLE OF HUMAN MYOSIN II ISOFORMS AND THEIR MUTATIONS. Srboljub Mijailovich, Marina Svicevic, Djordje Nedic, Boban Stojanovic, Jonathan Walklate, Zoltan Ujfalusi, **Michael Geeves**

1301-Pos **Board B369**
MOLECULAR DYNAMICS AND NORMAL MODE ANALYSIS OF MYO1B AND MYO1B DELETION CONSTRUCTS REVEAL COUPLING BETWEEN THE LEVER ARM HELIX, N-TERMINUS, AND ACTIVE SITE. **Ahmet Mentes**, Henry Shuman, E. Michael Ostap

1302-Pos **Board B370**
X-RAY CRYSTALLOGRAPHY STRUCTURES OF *DROSOPHILA* STRIATED MUSCLE MYOSIN II. **James T. Caldwell**, Tom Huxford, Girish Melkani, Sanford Bernstein

1303-Pos **Board B371**
3D RECONSTRUCTION OF THE FOLDED, INHIBITED FORM OF VERTEBRATE SMOOTH MUSCLE MYOSIN II BY SINGLE PARTICLE ANALYSIS. **Shixin Yang**, Kyounghwan Lee, Osamu Sato, Mitsuo Ikebe, Roger Craig

1304-Pos **Board B372**
MYOSINS ACTIVE SITE CLOSURE VIA SWITCH-1 ALLOSTERICALLY REGULATES THE MOTOR-ACTIN INTERACTION DURING THE ATPASE CYCLE FOR PRODUCTIVE FORCE GENERATION. **Benjamin C. Walker**, Morgan E. Thompson, F Jon Kull, Jared C. Cochran

1305-Pos **Board B373**
ROLE OF METAL CATION IN CONTROL OF PHOSPHATE RELEASE IN MYOSIN ATPASE. Furong Huang, Jinghua Ge, **Yuri E. Nesmelov**

1306-Pos **Board B374**
HIGHLY SOLUBLE, NON-PHOTOTOXIC,
NON-FLUORESCENT, PHOTOSTABLE BLEBBISTATIN DERIVATIVES. **Anna Á. Rauscher**, Sharad Kumar, Boglárka H. Várkuti, Miklós Képiró, Ádám I. Horváth, László Végner, György Hegyi, Zsolt Borhegyi, Máté Varga, Zsolt Lenkei, Andras Malnasi-Csizmadia

1307-Pos **Board B375**
INTERACTIONS AND FUNCTIONS OF MYOSIN 16 DOMAINS. Andras Kengyel, Elek Telek, Zoltan Konya, Balint Becsi, Ferenc Erdodi, **Miklos Nyitrai**

1308-Pos **Board B376**
C. ELEGANS THICK FILAMENTS ASSEMBLE WITH A DECAPITATED MYOSIN A. **Hallea Ward**, Ryan Littlefield

1309-Pos **Board B377**
TRIPLE FRET IMAGING OF NON-MUSCLE MYOSIN II LOCALIZATION IN MIGRATING CELLS. **Nicole E. Snell**

1310-Pos **Board B378**
LIVE-CELL SINGLE-MOLECULE IMAGING OF HUMAN MYOSIN IIIA. **Munenori Ishibashi**, Tsuyoshi Sakai, Reiko Ikebe, Mitsuo Ikebe

Cell Mechanics, Mechanosensing, and Motility II (Boards B379–B399)

1311-Pos **Board B379**
TALIN AS A MOLECULAR SHOCK ABSORBER. Mingxi Yao, Benjamine T. Goult, MIchael P. Sheetz, **Jie Yan**

1312-Pos **Board B380**
VINCULIN FORMS A CATCH BOND WITH F-ACTIN THAT DEPENDS ON ACTIN FILAMENT ORIENTATION. **Derek Huang**, Nick Bax, Craig Buckley, William Weis, Alexander Dunn

1313-Pos **Board B381**
REGULATION OF ELASTICALLY COUPLED MYOSIN IC MOLECULES. **Florian Berger**, A. J. Hudspeth

1314-Pos **Board B382**
TRAJECTORIES OF GLIDING FILAMENTS ON OPTICALLY PATTERNED MYOSIN SURFACES. **Daniel Todd**, Vikrant Yadav, Paul Ruijgrok, Zev Bryant, Jennifer Ross

1315-Pos **Board B383**
MECHANOACCUMULATIVE ELEMENTS OF THE MAMMALIAN ACTIN CYTOSKELETON. **Eric S. Schiffhauer**, Tianzhi Luo, Krithika Mohan, Xuyu Qian, Vasudha Srivastava, Pablo Iglesias, Douglas N. Robinson

1316-Pos **Board B384**
STEADY DYNEIN ACTIVITY PRODUCES DYNAMIC INSTABILITY AND WAVELIKE OSCILLATIONS IN A 9-DOUBLET FINITE ELEMENT MODEL OF FLAGELLA. **Tianchen Hu**, Susan K. Dutcher, Philip V. Bayly

1317-Pos **Board B385**
RESURRECTION OF FLAGELLAR BENDING MOVEMENTS IN CHLAMYDOMONAS PARALYZED MUTANTS AT HIGH PRESSURE. **Toshiki Yagi**, Masayoshi Nishiyama

1318-Pos **Board B386**
SURFACE DRAG AND SWARMING BACTERIA. **Katie M. Ford**, Pushkar L. Lele

1319-Pos **Board B387**
QUANTIFICATION OF FLAGELLA-DRIVEN CELLULAR MOTILITY UNDER VARIOUS VISCOUS RESISTANCES. **Kara M. Clark**, Daniel Fijalka, Gang Xu

1320-Pos **Board B388**
APPARENT FLEXURAL RIGIDITY OF SINGLE FLAGELLA DEPENDS ON INTERDOUBLET SHEAR STIFFNESS. **Gang Xu**, Kate S. Wilson, Ruth J. Okamoto, Jin-Yu Shao, Susan K. Dutcher, Philip V. Bayly

1321-Pos **Board B389**
MECHANICAL PROPERTIES OF TRYPANOSOMA CRUZI FLAGELLUM. **Nancy E. Ruiz Uribe**, John Mario Gonzalez, Antonio Manu Forero Shelton

1322-Pos **Board B390**
COORDINATION OF SEQUENTIAL ACTION IN ASYMMETRICAL HEXAMERIC ATPASE BY ARGININE FINGER. Zhengyi Zhao, **Peixuan Guo**

1323-Pos **Board B391**
PROBING CELLULAR MECHANOSTAT DYNAMICS CELLULAR MECHANOSTAT DYNAMICS. **Tomas Andersen**

1324-Pos **Board B392**
EXPERIMENTAL AND COMPUTATIONAL METHODOLOGIES TO MEASURE INTERCELLULAR FORCES DURING TISSUE DEVELOPMENT. **Ernesto Criado-Hidalgo**, Yi-Ting Yeh, Ricardo Serrano, Juan Carlos del Alamo, Juan Lasheras

1325-Pos **Board B393** **Education Travel Awardee**
INVESTIGATION OF THE RELIABILITY OF AFM NANOINDENTATION-DERIVED MEASUREMENTS OF CELL MECHANICS. **Matthew Dragovich**, Jared Feindt, Daniel Altman, Cassandra Christman, Nathan DeRaymond, Ibrahim Hashmi, Adama Shaw, Katie Wu, Serge Ayinou, Felipe Torres, Frank Zhang, Hannah Dailey

1326-Pos **Board B394**
MEASURING CELLULAR REACTIONS UPON PARTICLE APPROACH BY PHOTONIC FORCE MICROSCOPY. **Felix Jünger**, Alexander Rohrbach

1327-Pos **Board B395**
SINGLE-CELL MOTILITY ANALYSIS OF STIMULATED DIATOMS USING A MICROCHAMBER. **Shunsuke Kondo**, Yoshikazu Kumashiro, Shigeki Mayama, Kazuo Umemura

1328-Pos **Board B396**
NANONET FORCE MICROSCOPY. Abinash Padhi, Alex Hall, **Amrinder S. Nain**

1329-Pos **Board B397**
THREE-DIMENSIONAL MONOLAYER STRESS CYTOMETRY. **Ricardo Serrano**, Aereas Aung, Shyni Varghese, Juan Carlos del Alamo

1330-Pos **Board B398**
IMAGING OF CELL MECHANICS UNDER HIGH GRAVITY BY ROTATIONAL MICROSCOPE. **Masatoshi Morimatsu**, Ken Takahashi, Ayano Fujita, Keiji Naruse

1331-Pos **Board B399**
UNDERSTANDING THE INTERACTIONS OF PEPTIDES AND PROTEINS THAT ARE COMMONLY USED IN BIOLOGICAL MEDIA ON POLYSTYRENE SURFACES. **Matt McKenzie**, Aravind Rammohan, Martial Hervy

Cytoskeletal-based Intracellular Transport (Boards B400–B406)

1332-Pos **Board B400**
PHAGOSOMES OF DIFFERENT SIZE SHOW QUALITATIVELY DIFFERENT TRANSPORT CHARACTERISTICS. **Steve Keller**, Konrad Berghoff, Holger Kress

1333-Pos **Board B401**
REPORTING ROTATIONAL DYNAMICS OF INTRACELLULAR CARGOS WITH JANUS PARTICLES. **Yuan Gao**, Stephen M. Anthony, Yi Yi, Yan Yu

1334-Pos **Board B402**
TARGETING OF MYOSIN TO CELLULAR ORGANELLES RESULTS IN DRAMATIC REORGANIZATION BASED ON CARGO/MOTOR AFFINITY. **Michael Ritt**

1335-Pos **Board B403**
MYOVA VESICLE TRANSPORT THROUGH BIOMIMETIC ACTIN NETWORKS VISUALIZED BY 3D STORM MICROSCOPY. **Andrew T. Lombardo**, Guy G. Kennedy, Shane R. Nelson, Kathleen M. Trybus, David M. Warshaw

1336-Pos **Board B404**
A KINETIC MODEL TO DESCRIBE THE BIDIRECTIONAL MOTILITY OF DIMERIC MOLECULAR MOTORS. **Matthew A. Caporizzo**, Claire E. Fishman, Yale E. Goldman

1337-Pos **Board B405**
COLLECTIVE DYNAMICS OF COOPERATING HOMODIMERIC AND HETEROTRIMERIC KINESIN-2 MOTOR PROTEINS UNRAVELED. **Vandana S. Kushwaha**, Daniel M. Miedema, Dmitry V. Denisov, Seyda Acar, Bernard Nienhuis, Peter Schall, Erwin J.G. Peterman

1338-Pos **Board B406**
MYO1C AND ENDOPHILIN PROMOTE KINESIN-DRIVEN TUBULATION AT ENGINEERED CYTOSKELETAL INTERSECTIONS. **Betsy B. McIntosh**, Erika L. F. Holzbaur, E. Michael Ostap

Transporters and Exchangers II (Boards B407–B420)

1339-Pos **Board B407**
MOLECULAR RATIONALE BEHIND THE DIFFERENTIAL SUBSTRATE SPECIFICITY OF RND TRANSPORTERS ACRB AND ACRD. **Venkata Krishnan Ramaswamy**, Giuliano Malloci, Attilio Vittorio Vargiu, Paolo Ruggerone

1340-Pos **Board B408**
MOLECULAR INSIGHTS INTO COMPOUND-TRANSPORTER INTERACTIONS: THE CASE OF INHIBITORS OF GRAM-NEGATIVE BACTERIA EFFLUX PUMPS Hanno Sjuts, Attilio V. Vargiu, Steven M. Kwasny, Son T. Nguyen, Hong-Suk Kim, Xiaoyuan Ding, Alina R. Ornik, **Paolo Ruggerone**, Terry L. Bowlin, Hiroshi Nikaido, Klaas M. Pos, Timothy J. Opperman

1341-Pos **Board B409**
COMPUTATIONAL STUDY OF THE INTERACTION BETWEEN ANTIMICROBIAL COMPOUNDS AND EFFLUX SYSTEMS OF GRAM-NEGATIVE BACTERIA. **Alessio Atzori**, Attilio Vittorio Vargiu, Giuliano Malloci, Paolo Ruggerone

1342-Pos **Board B410**
TRANSPORT MECHANISM IN THE RND TRANSPORTER ACRB OF E.COLI. **Attilio V. Vargiu**, Venkata R. Krishnan, Giuliano Malloci, Paolo Ruggerone

1343-Pos **Board B411**
MEMBRANE TRANSPORT OF GUANIDIUM ION. **Ali A. Kermani**, Randy Stockbridge

1344-Pos **Board B412**
CHARACTERIZATION OF
SODIUM-CALCIUM EXCHANGER NCX_MJ USING FLUORESCENT INDICATORS. **Irina Shlosman**, José Faraldo-Gómez, Joseph Mindell

1345-Pos **Board B413**
PROTON SENSITIVITY OF NCX: MODULATION BY NA, CA AND A DISTINCT PROTON-SENSING DOMAIN. Scott John, Brian Kim, Riccardo Olcese, Joshua I. Goldhaber, **Michela Ottolia**

1346-Pos **Board B414**
STRUCTURE OF A CLC-FAMILY FLUORIDE/PROTON ANTIPORTER. **Nicholas B. Last**, Randy B. Stockbridge, Ashley E. Brammer, Tania Shane, Ludmila Kolmakova-Partensky, Akiko Koide, Shohei Koide, Christopher Miller

1347-Pos **Board B415**
REPEAT-SWAP HOMOLOGY MODELING OF THE ANION EXCHANGER AE1 REVEALS AN ELEVATOR-LIKE ANTIPORT MECHANISM. **Emel Ficici**, Jose D. Faraldo-Gomez, Lucy R. Forrest, Michael L. Jennings

1348-Pos **Board B416**
FUNCTIONAL CHARACTERIZATION OF THE SLC-TRANSPORTERS PEPT1 AND OCT2 BY ELECTROPHYSIOLOGICAL REAL-TIME MEASUREMENTS USING A HIGH THROUGHPUT SYSTEM. **Maria Barthmes**, Andre Bazzone, Stephan Holzhauser, Maximilian Kellner, Niels Fertig, Michael George, Andrea Brüggemann

1349-Pos **Board B417**
HIGH THROUGHPUT ANALYSIS OF MEMBRANE TRANSPORT BY USING ARRAYED WATER-IN-OIL DROPLET BILAYERS. **Rikiya Watanabe**, Naoki Soga, Hiroyuki Noji

1350-Pos **Board B418**
ANALYZING THE EFFECTS OF LIPID TYPE ON THE A-HEMOLYSIN NANOPORE AND 5HT3 RECEPTOR STRUCTURE AND GATING USING MOLECULAR DYNAMICS SIMULATIONS. **Nicholas B. Guros**, Jeffery B. Klauda

1351-Pos **Board B419**
IDENTIFICATION OF THE ION CONDUCTION PATHWAY IN A TMEM16 SCRAMBLASE. **Tao Jiang**, Criss Hartzell, Emad Tajkhorshid

1352-Pos **Board B420**
EFFECT OF CAMP ON THE HUMAN ERYTHROCYTE K^+/CA^{2+} EXCHANGER ACTIVITY. Daniel Landi-Conde, Alejandro Mata, **Jesus G. Romero**

Energy Transducing Complexes and Electron and Proton Transfer (Boards B421–B434)

1353-Pos **Board B421**
INTRAMOLECULAR FRIEDEL-CRAFTS ACYLATION PROMOTED BY HEXAFLUOROISOPROPANOL. **Alexander Y. Z. Li**

1354-Pos **Board B422**
TAUTOMERIC EQUILIBRIA OF CYTOSINE AND ISOCYTOSINE IN GAS PHASE AND IN SOLUTION. Avichai Fagan, **Shuhua Ma**

1355-Pos **Board B423**
REDUCTION POTENTIAL CALCULATIONS OF THE IRON-SULFUR CLUSTERS IN RESPIRATORY COMPLEX I. **Kelly N. Tran**

1356-Pos **Board B424**
REGULATION OF PROTON MIGRATION ALONG THE MEMBRANE SURFACE. **Ewald Weichselbaum**, Maria Österbauer, Günther Knör, Peter Pohl

1357-Pos **Board B425**
CAGED PROTONS AS TOOLS FOR STUDYING TRANSPORT OF PROTONS ALONG LIPID BILAYERS. **Maria Österbauer**, Ewald Weichselbaum, Peter Pohl, Günther Knör

1358-Pos **Board B426**
ENERGY TAXIS IN *ESCHERICHIA COLI* ON THE SINGLE-CELL LEVEL. **Tatyana Perlova**, Martin Gruebele, Yann R. Chemla

1359-Pos **Board B427**
ANALYSIS OF THE STRUCTURAL AND FUNCTIONAL ROLE OF THE DICYCLOHEXYLCARBODIIMIDE (DCCD) BINDING SITE (E90-H212-Y246) IN SUBUNIT III OF BOVINE HEART AND *RHODOBACTER SPHAEROIDES* CYTOCHROME *C* OXIDASE USING MUTAGENESIS AND CHEMICAL MODIFICATION. **Lawrence J. Prochaska**, R. Ryan Geyer, Kelli N. Fisher, Christine N. Pokalsky, Jonathan Hosler, Rachel Omolwelu, Kemi Ogunjimi

1360-Pos **Board B428**
THE ARCHITECTURE OF RESPIRATORY SUPERCOMPLEXES. **James A. Letts**, Karol Fiedorczuk, Leonid A. Sazanov

1361-Pos **Board B429**
A FUNCTIONAL DIMER MODEL OF UBIQUINOL CYTOCHROME C OXIDOREDUCTASE. **Jason Bazil**

1362-Pos **Board B430**
EQUILIBRIUM ELECTRON AFFINITIES OF MENAQUINOL OXIDASE FROM *BACILLUS SUBTILIS*. THE REDOX POTENTIAL OF THE DONOR IS REFLECTED IN THE DISTRIBUTION OF POTENTIALS IN THE OXIDASE. **Bruce C. Hill**, Neil Mattatall, Diann Andrews

1363-Pos **Board B431**
BIOPHYSICAL COMPARISON OF ATP SYNTHESIS MECHANISMS SHOWS A KINETIC ADVANTAGE FOR THE ROTARY PROCESS. **Ramu Anandakrishnan**, Zining Zhang, Rory Donovan-Maiye, Daniel M. Zuckerman

1364-Pos **Board B432**
CONFORMATIONAL TRANSITION FROM CATALYTIC DWELL TO ATP-BINDING DWELL IN F_1-ATPASE. **Kei-ichi Okazaki**, Mitsuhiro Sugawa, Gerhard Hummer

1365-Pos **Board B433**
ELUCIDATING THE 30-YEAR-LONGSTANDING BIOENERGETIC MYSTERY IN ALKALOPHILIC BACTERIA. **James W. Lee**

1366-Pos **Board B434**
MOLECULAR MOTORS HAVE EVOLVED TO OPTIMIZE THERMODYNAMIC PERFORMANCE. **Jason A. Wagoner**, Ken Dill

Cellular Signaling and Systems Biology (Boards B435–B460)

1367-Pos **Board B435**
QUANTIFICATION OF NUTRIENT DEPENDENCE OF SBF/MBF TRANSCRIPTION FACTORS CONTROLLING START IN BUDDING YEAST. **Savanna B. Dorsey**, Sylvain Tollis, Jing Cheng, Linnea Olofsson, Mike Tyers, Catherine A. Royer

1368-Pos **Board B436**
DISRUPTION OF PHOTOCHEMICAL CO2 METABOLISM DURING FOLIAR PURIFICATION OF FORMALDEHYDE IN EPIPREMNUM AUREUM. **Garrett W. Arosemena Ott**, Taylor L. Mustapich

1369-Pos **Board B437**
INTEGRATED ANALYSIS FOR QUANTITATIVE PREDICTIONS OF DRUG INDUCED CARDIOTOXICITY. **Jaehee Shim**

1370-Pos **Board B438**
AN ENHANCED DELTA-NOTCH LATERAL INHIBITION MODEL INCORPORATING INTRACELLULAR NOTCH HETEROGENITY AND TENSION-DEPENDENT RATE OF DELTA-NOTCH BINDING TO EXPLAIN CELLULAR PATTERNING DURING SPROUTING ANGIOGENESIS. **Yen Ling Koon**, Muhammad Bakhait Rahmat, Cheng Gee Koh, Keng-Hwee Chiam

1371-Pos **Board B439**
FLASHING BROWNIAN RATCHET MECHANISM OF COLLECTIVE STATE TRANSITION IN MOUSE EMBRYONIC STEM CELL REVEALED BY USING SINGLE CELL ANALYSIS. Kazuko Okamoto, Hideaki Fujita, Chikara Furuwaka, **Tomonobu M. Watanabe**

1372-Pos **Board B440**
PROTECTIVE EFFECTS OF EXTREMELY LOW FREQUENCY MAGNETIC FIELD (50 HZ, 1 MT) AND PTEROSTILBENE TREATMENT ON RENAL ISCHEMIC INJURY. Ozlem Bozkurt Girit, Hatice Keser, Feride Severcan, **Mehmet D. Bilgin**

1373-Pos **Board B441**
POSSIBLE THERAPEUTIC EFFECTS OF GAMMA-TOCOTRIENOL CONJUGATION THERAPY WITH DOXORUBICIN ON HEPATOCELLULAR CARCINOMA CELL LINE HEPG2. **Akin Sevinc**, Ipek Ozyurt, Feride Z. Severcan

1374-Pos **Board B442**
DEVELOPMENT OF AGED ERYTHROCYTES SEPARATION DEVICE USING LORENTZ FORCE. **Naoyuki Yokoyama**, Daisuke Sugiyama, Mai Itakura

1375-Pos **Board B443**
MODULATION OF EGFR SIGNALING BY ANTIBODY CONJUGATED DNA NANO-FORCEPS. **Hanki Lee**

1376-Pos **Board B444**
MODELING ANALYSIS OF RNA GRANULE FORMATION AND SELECTIVITY MEDIATED BY MULTIVALENT INTERACTIONS. **Cibele V. Falkenberg**, John H. Carson, Michael L. Blinov

1377-Pos **Board B445**
NUCLEOTIDE AND NUCLEOTIDE EXCHANGE FACTOR BOUND NANO TO MILLISECOND STRUCTURAL-DYNAMICS OF G ALPHA. **Labe A. Black**, J. B. A. Ross, Stephen R. Sprang

1378-Pos **Board B446**
MEMBRANE FLUIDITY MODULATES BIOFILM FORMATION IN *E. COLI* VIA THE RCS PHOSPHORELAY. **Julia F. Nepper**, Douglas B. Weibel

1379-Pos **Board B447**
MULTIVALENT SIGNALING CLUSTERS HAVE UNIQUE SIZES DETERMINED BY MEMBRANE LOCALIZATION AND EXCLUDED VOLUME: THE NEPHRIN/NCK/N-WASP SYSTEM. Madeleine Youngstrom, **Aniruddha Chattaraj**, Paul J. Michalski, James C. Schaff, Michael L. Blinov, Leslie M. Loew

1380-Pos **Board B448**
CONNECTING THE SEQUENCE-SPACE OF BACTERIAL SIGNALING PROTEINS TO PHENOTYPES USING COEVOLUTIONARY LANDSCAPES. **Ryan R. Cheng**

1381-Pos **Board B449**
NADH AUTO FLUORESCENCE REVEALS NEW METABOLIC SIGNATURES IN YEAST AND MAMMALIAN CELLS. **Jenu V. Chacko**, Michelle Digman

1382-Pos **Board B450**
A CONTROLLABLY-SIZED SYNTHETIC CELL SYSTEM TO INVESTIGATE THE GEOMETRIC DEPENDENCE OF INTRACELLULAR SIGNALING. Jessica G. Bermudez, **Matthew C. Good**

1383-Pos **Board B451**
SINGLE-MOLECULE TRANSCRIPTION FACTOR DYNAMICS IN *SACCHAROMYCES CEREVISIÆ* GLUCOSE SENSING. **Erik G. Hedlund**, Sviatlana Shashkova, Adam J. M. Wollman, Stefan Hohmann, Mark C. Leake

1384-Pos **Board B452**
DESIGN PRINCIPLES OF PLEIOTROPIC G-PROTEIN SIGNALING THROUGH GUANINE NUCLEOTIDE EXCHANGE MODULATORS (GEMS). **Michael Getz**, Pradipta Ghosh, Padmini Rangamani

1385-Pos **Board B453**
EFFICACY OF METHYLENE BLUE AND ALIMINIUM PHTHALOCYANINE MEDIATED SONOPHOTODYNAMIC THERAPY ON PROSTATE CANCER CELL LINES. **Mehmet D. Bilgin**, Mehran Aksel, Esin H. Degirmenci, Ozlem Bozkurt Girit, Ali Ozmen

1386-Pos **Board B454**
INEQUALITY OF THE CLONES: LIFE-LONG TRACKING OF SINGLE ANIMALS REVEALS DISCORDANT TRAITS IN *C. ELEGANS*. **Andrew Moore**, Donnel Smith, Irem Celen, Michael T. Moore, Chandran Sabanayagam

1387-Pos **Board B455**
IN VITRO EVALUATION OF PHOTODYNAMIC THERAPY USING DIFFERENT PHOTOSENSITIZERS ON *LEISHMANIA TROPICA* PROMASTIGOTES. Sercin Ozlem Caliskan, Hatice Ertabaklar, **Mehmet D. Bilgin**, Sema Ertug

1388-Pos **Board B456**
COMPUTATIONAL MODEL OF CELLULAR ENERGY HOMEOSTASIS AND ROS DYNAMICS FOR NONMUSCLE AND CANCER CELLS. **Leonid Fridlyand**, Louis H. Philipson

1389-Pos **Board B457**
CALIFORNIA CONDOR MICROBIOMES. **Benjamin McMahon**, Lindsey Jacobs, Jeanne Fair, Jonathan Longmire, Momchilo Vuyisich, Cheryl Gleasner, Joel Berendzen, Nicolas Hengartner, Judith Cohn, Marti Jenkins

1390-Pos **Board B458**
PERTURBING THE HYPOTHALAMIC-PITUITARY-ADRENAL STRESS RESPONSE SYSTEM: MATHEMATICAL MODELING TO IMPROVE DIAGNOSIS OF POST-TRAUMATIC AND RELATED STRESS DISORDERS. **Lae U. Kim**, Maria R. D'Orsogna, Tom Chou

1391-Pos **Board B459**
HIERARCHICAL TISSUE ORGANIZATION AS A GENERAL MECHANISM TO LIMIT SOMATIC EVOLUTION. **Imre Derenyi**, Gergely J. Szollosi

1392-Pos **Board B460**
REAL TIME STUDY OF TRANSPOSABLE ELEMENT ACTIVITY. **Neil Hyuneil Kim**, Gloria Lee, Nicholas A. Sherer, K. Michael Martini, Nigel Goldenfeld, Thomas E. Kuhlman

Neuroscience: General Computational and Experimental Approaches and Tools II (Boards B461–B472)

1393-Pos **Board B461**
MANIPULATION OF NEURONS WITH PRECISELY CONTROLLED ILLUMINATION IN SPACE AND TIMEE. Stephan Junek, Susanne Holzmeister, Manuela Fichte, Alexander Heckel, Oliver Wendt, **Gert Rapp**

1394-Pos **Board B462**
NEW GFP VARIANTS WITH ENHANCED TWO-PHOTON BRIGHTNESS. **Rosana S. Molina**, Robert E. Campbell, Nathan C. Shaner, Thomas E. Hughes, Mikhail Drobizhev

1395-Pos **Board B463**
APPLICATION OF SMALL, SIZE-EQUALIZED
FLUORESCENT QUANTUM DOTS (SE-QDS) FOR GLUTAMATE RECEPTOR TRACKING IN LIVE-NEURON
IMAGING. Sang Hak Lee, **Yeoan Youn**, Phuong Le, Sung Jun Lim, Andrew M. Smith, Paul R. Selvin

1396-Pos **Board B464**
SYNAPTIC PROTEIN DYNAMICS MEASURED BY FLUORESCENCE CORRELATION SPECTROSCOPY. **Francesco Colaci**, Francesca D'autilia, Alberto Diaspro, Paolo Bianchini, Luca Lanzanò, Andrea Barberis

1397-Pos **Board B465**
A NEW METHOD TO DETECT INTRA- AND EXTRACELLULAR CONFORMATIONAL CHANGES IN ION CHANNELS WITH HIGH TEMPORAL RESOLUTION. **Matthias Wulf**, Stephan A. Pless

1398-Pos **Board B466**
DESIGNING NEURONAL OPTICAL VOLTAGE-SENSING PROBES USING ARTIFICIAL PROTEINS. **Martin J. Iwanicki**, Geetha Goparaju, Christopher C. Moser, Sergei A. Vinogradov, Bohdana M. Discher

1399-Pos **Board B467**
PHOTOACOUSTICS AS A NEW MODALITY FOR RECORDING MEMBRANE POTENTIAL CHANGES. **Haichong K. Zhang**, Ping Yan, Jeeun Kang, Diane Abou, Hanh N. D. Le, Abhinav K. Jha, Daniel Thorek, Jin Kang, Arman Rahmim, Dean F. Wang, Emad M. Boctor, Leslie M. Loew

1400-Pos **Board B468**
OPTOCAPACITANCE-MEDIATED
RESPONSES OF EXCITABLE CELLS: NEW DEVELOPMENTS. **Joao L. Carvalho-de-Souza**, David R. Pepperberg, Francisco Bezanilla

1401-Pos **Board B469**
BIDIRECTIONAL MAGNETOTHERMAL MODULATION OF NEURONAL ACTIVITY IN BEHAVING MICE. **Rahul Munshi**, Sara Parker, Idoia Castellanos-Rubio, Arnd Pralle

1402-Pos **Board B470**
MAGNETIC-ENTROPY-GATED TRP CHANNELS. **Sruthi Polali**, Guillaume Duret, Erin Anderson, Jacob Robinson

1403-Pos **Board B471**
MAGNETOELECTRIC NEURAL MODULATION. **Amanda Wickens**, Jacob Robinson

1404-Pos **Board B472**
LARGE-SCALE BEHAVIORAL PHENOTYPING REVEALS FAMILY OF PUTATIVELY LIGHT-ACTIVATED COMPOUNDS. **Cole V. Helsell**

Molecular Dynamics II (Boards B473–B483)

1405-Pos **Board B473**
INVESTIGATING THE INFLUENCE OF SEQUENCE ON PROTEIN FOLDING MECHANISM USING A STRUCTURE BASED MODEL. **Elizabeth Gichana**, Charles L. Brooks III

1406-Pos **Board B474**
MODULATION OF PROTEIN FLEXIBILITY WITH CHANGES IN SEQUENCE AND COMPLEXATION STATE OF UBIQUITIN FAMILY PROTEINS. **Sanjoy Paul**

1407-Pos **Board B475**
CHARACTERIZATION OF PROFILIN BINDING KINETICS USING ENSEMBLE MOLECULAR DYNAMICS SIMULATIONS. **Jocelyn Sunseri**, David R. Koes, Partha Roy, David Gau

1408-Pos **Board B476**
EXPLORING MOLECULAR INTERACTIONS BETWEEN *ESCHERICHIA COLI* RNA POLYMERASE AND TOPOISOMERASE I BY MOLECULAR SIMULATIONS. **Purushottam Tiwari**, Prem Chapagain, Srikanth Banda, Yesim Darici, Yuk-Ching Tse-Dinh, Aykut Üren

1409-Pos **Board B477**
COMPUTATIONAL STUDY ON A VARIETY OF PATHWAYS FOR CONFORMATIONAL CHANGES OF A PROTEIN. **Sotaro Fuchigami**

1410-Pos **Board B478**
MOLECULAR DYNAMICS STUDY FOR STREPTAVIDIN MUTANT WITH/WITHOUT BIOTIN ANALOG. **Keiko Shinoda**, Hideaki Fujitani

1411-Pos **Board B479**
DEPENDENCE OF WATER EXCHANGE KINETICS ON THE SIZE AND CHARGE OF METAL ION. **Yuno Lee**, Devarajan Thirumalai, Changbong Hyeon

1412-Pos **Board B480**
ANISOTROPY IMAGING OF APOLLO-NADP+ IN VIVO TO TRACK NADPH DYNAMICS IN THE PANCREATIC BETA CELLS OF LIVING ZEBRAFISH. **Cindy V. Bui**, Curtis W. Boswell, Christopher M. McFaul, Christopher M. Yip, Brian Ciruna, Jonathan V. Rocheleau

1413-Pos **Board B481**
MONITORING THE INTERCALATION OF ACRIDINE ORANGE (AO) MOLECULES INTO 6-METHYL ISOXANTHOPTERIN (6-MI)-LABELED DNA BY CIRCULAR DICHROISM AND SINGLE-MOLECULE FRET. **Huiying Ji**, Neil P. Johnson, Peter H. von Hippel, Andrew H. Marcus

1414-Pos **Board B482**
RECONSTRUCTION OF THREE-DIMENSIONAL STRUCTURES OF A PROTEIN WITH SOFTWARE ENMA AND EMC ALGORITHM: A SIMULATION FOR XFEL-CXDI EXPERIMENT. **Takashi Yoshidome**, Yuki Sekiguchi, Tomotaka Oroguchi, Masayoshi Nakasako, Mitsunori Ikeguchi

1415-Pos **Board B483**
ELUCIDATING THE MACROMOLECULAR CROWDING EFFECTS ON INTRACELLULAR NADH AND ENZYME BINDING USING TIME-RESOLVED ASSOCIATED ANISOTROPY. **Shane Wilson**, Tylor Franklin, Ryan Leighton, Robert Kajer, Ahmed A. Heikal

Computational Methods and Bioinformatics I (Boards B484–B511)

1416-Pos **Board B484**
CHARMM-GUI LIGAND READER & MODELER. **Seonghoon Kim**, Jumin Lee, Sunhwan Jo, Wonpil Im

1417-Pos **Board B485**
MOLECULAR DYNAMICS SIMULATION WORKFLOW FOR NUCLEOSOME STUDIES. **Ran Sun**, Zilong Li, Thomas C. Bishop

1418-Pos **Board B486**
EVALUATING MOLECULAR MECHANICS FORCE FIELDS WITH A QUANTUM CHEMICAL APPROACH. **David Koes**, John Vries

1419-Pos **Board B487**
ONE CONSTRAINT AT A TIME: USING VIABILITY PRINCIPLES IN INTEGRATIVE MODELING OF MACROMOLECULAR ASSEMBLIES. **Giorgio E. Tamo**, Andrea Maesani, Sylvain Traeger, Matteo Thomas Degiacomi, Dario Floreano, Matteo Dal Peraro

1420-Pos **Board B488**
A BALANCED APPROACH TO ADAPTIVE DENSITY ESTIMATION IN BIOPHYSICAL ANALYTICS. **Julio A. Kovacs**, Willy Wriggers

1421-Pos **Board B489**
MECHANISM BEYOND MARKOV MODELS: HISTORY INFORMATION IS NEEDED FOR UNBIASED PATHWAY RECONSTRUCTION OF PROTEIN FOLDING. **Ernesto Suárez**, Joshua L. Adelman, Daniel M. Zuckerman

1422-Pos **Board B490**
FINDING DOMINANT REACTION PATHWAYS VIA GLOBAL OPTIMIZATION OF ACTION. **Juyong Lee**, In-Ho Lee, InSuk Joung, Jooyong Lee, Bernard R. Brooks

1423-Pos **Board B491**
INTERACTIVE CHROMATIN MODELING WITH GENOME BROWSER. **Zilong Li**, Ran Sun, Thomas C. Bishop

1424-Pos **Board B492**
A NEW METHOD TO PREDICT THE ELECTRONIC CIRCULAR DICHROISM SPECTRA OF PROTEINS. Gabor Nagy, **Gabor Nagy**, Helmut Grubmueller

1425-Pos **Board B493**
IMAGING LOCALIZED FORCE DISTRIBUTIONS IN CELLS AND TISSUES FROM SUBSTRATE DISPLACEMENTS. **Joshua C. Chang**, Tom Chou

1426-Pos **Board B494**
INTERACTION SURFACES OF PROTEINS INVOLVED IN BACTERIAL CHEMOTAXIS WITH RIGID-BODY DOCKING DECOYS. **Nobuyuki Uchikoga**, Yuri Matsuzaki, Masahito Ohue, Yutaka Akiyama

1427-Pos **Board B495**
A PRELIMINARY NORMAL MODE ANALYSIS OF A SUGAR TRANSPORTER VSGLT. **John E. Cabrera**, Claudia A. Blanco, Yuly E. Sánchez

1428-Pos **Board B496**
PREDICTING SMALL MOLECULE-BINDING TO DNA WITH COMPUTATIONAL DOCKING AND EMPIRICAL ENTROPIC CONTRIBUTIONS. **Christos Deligkaris**, GW McElfresh

1429-Pos **Board B497**
TOWARDS IN-SILICA SCREENING OF MOLECULE PERMEATION THROUGH OUTER MEMBRANE CHANNELS IN GRAMM-NEGATIVE BACTERIA. **Igor V. Bodrenko**, Silvia Acosta-Gutierrez, Tommaso D'Agostino, Samuele Salis, Susruta Samanta, Mariano Andrea Scorciapino, Matteo Ceccarelli

1430-Pos **Board B498**
ON THE ROBUSTNESS OF SAC SILENCING IN CLOSED MITOSIS. **Donovan P. Ruth**, Jian Liu

1431-Pos **Board B499**
COMPUTATIONAL ANALYSIS OF THE MECHANISM OF THE UBIQUITIN CONJUGATING ENZYME UBC13. **Walker M. Jones**, Aaron Davis, Isaiah Sumner, Serban Zamfir

1432-Pos **Board B500**
PHYSICAL BINDING OF A TOBACCO-SPECIFIC CARCINOGEN (NNK) METABOLITE TO THE HUMAN TP53 GENE WITH RAMIFICATIONS FOR DNA DAMAGE AND MUTATIONS. **Breanna S. Stirewalt**, Christos Deligkaris

1433-Pos **Board B501**
TRANSCRIPTION FACTOR-DNA INTERACTION: FROM ENCODE TO BIOPHYSICS USING EVOLUTION AND MOLECULAR DYNAMIC SIMULATIONS. **Jeremy W. Prokop**, Casey Smith, Stephanie M. Bilinovich, David C. Williams Jr, Howard J. Jacob

1434-Pos **Board B502**
MECHANICS OF GLYCOPROTEIN ORGANIZATION IN THE GLYCOCALYX. **Jay G. Gandhi**, Matthew J. Paszek, Donald L. Koch

1435-Pos **Board B503**
TOWARD A MORE ROBUST GENE EXPRESSION SIGNATURE FOR ALZHEIMER'S DISEASE NEURODEGENERATION. **Carol Huseby**, Connor Wagner, Lauren Lin, Jeff Kuret

1436-Pos **Board B504**
PREDICTION OF CANCER-ASSOCIATED HOTSPOT MUTATIONS THAT AFFECT GPCR OLIGOMERIZATION. **Wataru Nemoto**, Vachiranee Limviphuvadh, Sebastian Maurer-Stroh, Shunsuke Fujishiro, Yoshihiro Yamanishi, Yuichi Amemiya, Hiroyuki Toh

1437-Pos **Board B505**
MOLE 2.5 - TOOL FOR DETECTION AND ANALYSIS OF MACROMOLECULAR PORES AND CHANNELS. **Karel Berka**, David Sehnal, Vaclav Bazgier, Lukas Pravda, Radka Svobodova-Varekova, Michal Otyepka, Jaroslav Koca

1438-Pos **Board B506** **Education Travel Awardee**
INVESTIGATING TRANSPORT PROPERTIES WITH MULTI-SCALE COMPUTABLE MESH MODELS FROM HETEROGENEOUS STRUCTURAL DATASETS. **Christopher Lee**, John Moody, James Andrew McCammon, Michael Holst, Rommie E. Amaro

1439-Pos **Board B507**
THREE-DIMENSIONAL MODELING OF CIRCULATING CELL SEPARATION IN A Y-JUNCTION MICROCHANNEL. **Scott J. Hymel**, Damir B. Khismatullin

1440-Pos **Board B508**
THE IMPACT OF MACHINE SPECIFICATIONS IN DETECTING BREAST CANCER IN BREAST ULTRASOUND IMAGES. **Farzan Khatib**, Firouzeh Ghafourian Nasab

1441-Pos **Board B509**
IMPLICIT HYDRATION MODELLING IN SMALL-ANGLE X-RAY SCATTERING FOR PROTEIN STRUCTURE DETERMINATION. Dudu Tong, Sichun Yang, **Lanyuan Lu**

1442-Pos **Board B510**
IN SILICO PREDICTION OF HLA-ASSOCIATED DRUG HYPERSENSITIVITY. **Xin-Qiu Yao**, Shashank Jariwala, Barry J. Grant

1443-Pos **Board B511**
COMPUTATIONAL MODELING OF PH SENSITIVITY IN THE CRITICAL HIV GP120-CD4 INTERACTION. **Jonathan Howton**, Joshua L. Phillips

Optical Microscopy and Super-resolution Imaging: Novel Approaches and Analysis II (Boards B512–B535)

1444-Pos **Board B512**
POSITION BASED SINGLE PARTICLE TRACKING (P-SPT) FOR HIGH-RESOLUTION DEFORMATION AND MOTION CAPTURE. **Mohak Patel**, Christian Franck

1445-Pos **Board B513**
COLOCALISATION - THE TALE OF CO-OCCURRENCE AND CORRELATION. **Ingela Parmryd**, Jeremy Adler

1446-Pos **Board B514**
IMAGING OF THREE-DIMENSIONAL SINGLE MOLECULE DYNAMICS IN THEIR CELLULAR CONTEXT. Dongyoung Kim, Sungyong You, E Sally Ward, **Raimund Ober**

1447-Pos **Board B515**
SINGLE CELL FLUORESCENT LABELLING IN 3-DIMENSIONAL ENVIRONMENTS. **Loic Binan**, Ariel Wilson, Sapieha Przemyslaw, Santiago Costantino

1448-Pos **Board B516**
PARTICLE COUNTING BY CONFOCAL MICROSCOPY: INCREASING THE DYNAMIC RANGE VIA MULTIPLE-SLITS FLUORESCENCE DETECTION. **Margaux Bouzin**, Christopher Heylman, Weian Zhao, Enrico Gratton

1449-Pos **Board B517**
REAL-TIME SINGLE PROTEIN TRACKING WITH POLARIZATION READOUT USING A CONFOCAL MICROSCOPE. **Elias Amselem**, Emil Marklund, Kalle Kipper, Magnus Johansson, Sebastian Deindl, Johan Elf

1450-Pos **Board B518**
IMAGING SINGLE MOLECULES VS. SINGLE-MOLECULE IMAGING: COUNTING SINGLE MOLECULES USING DEXTRAN-STREPTAVIDIN-ANTIBODY CLUSTERS (DSA). **Qiaoqiao Ruan**, Richard A. Haack, Zhen Lin, Patrick J. Macdonald, Kerry M. Swift, Sergey Y. Tetin

1451-Pos **Board B519**
POLYMER DOTS FOR MULTIPHOTON FLUORESCENCE VASCULAR IMAGING *IN VIVO*. **Ahmed Hassan**, Steven Wu, Jeremey Jarrett, Evan Perillo, David Miller, Allen Liu, Daniel Chiu, Tim Yeh, Andrew Dunn

1452-Pos **Board B520**
QUANTITATIVE MAPPING OF INTRANUCLEAR DIFFUSION IN LIVING CELLS BY PHASOR ANALYSIS OF LOCAL RICS. **Lorenzo Scipioni**, Melody Di Bona, Maria Joao Sarmento, Giuseppe Vicidomini, Alberto Diaspro, Luca Lanzanò

1453-Pos **Board B521** **International Travel Awardee**
MULTICOLOR 3D SINGLE PARTICLE TRACKING USING SPECTRALLY DISPLACED LOCALIZATION. **Corey Butler**, Rémi Galland, Vincent Studer, Jean-Baptiste Sibarita

1454-Pos **Board B522**
HOW TO CALIBRATE YOUR CCD IN THE DARK? A PRECISE CCD CALIBRATION METHOD. **Urszula P. Golebiewska**, Chiaki Yanagisawa

1455-Pos **Board B523** **International Travel Awardee**
VELOCITY LANDSCAPES RESOLVE MULTIPLE DYNAMICAL POPULATIONS FROM FLUORESCENCE IMAGE TIME SERIES. **Elvis Pandzic**, Asmahan Abu-Arish, Renee M. Whan, John Hanrahan, Paul W. Wiseman

1456-Pos **Board B524**
INTRACELLULAR DYNAMICS OF NANOPARTICLES PROBED BY AN IMAGE-DERIVED MEAN SQUARE DISPLACEMENT APPROACH. **Luca Digiacomo**, Cristina Marchini, Michelle A. Digman, Enrico Gratton, Giulio Caracciolo

1457-Pos **Board B525**
LIVE CELL STRATEGY FOR DETECTION OF CURVATURE DEPENDENT SORTING OF MEMBRANE ASSOCIATED PROTEINS. **Line Lauritsen**, Ivana Vonkova, Elena Bertseva, Dimitrios Stamou

1458-Pos **Board B526**
IDENTIFYING PROTEIN COMPLEXES IN THE NUCLEAR ENVELOPE BY FLUORESCENCE FLUCTUATION MICROSCOPY. **Jared Hennen**, Cosmo Saunders, Siddarth Reddy Karuka, G.W. Gant Luxton, Joachim D. Mueller

1459-Pos **Board B527**
REAL TIME TRACKING OF CAMP GRADIENTS AND CHANGES IN PKA ACTIVITY USING HYPERSPECTRAL IMAGING AND ANALYSIS APPROACHES. **Thomas C. Rich**, Naga S. Annamdevula, Andrea L. Britain, Kenny T. Trinh, Savannah West, Chase Hoffman, John R. Griswold, Silas J. Leavesley

1460-Pos **Board B528**
THE IMPORTANCE OF AXIAL RESOLUTION IN FLUORESCENCE COLOCALIZATION. **Brad Busse**, Ludmila Bezrukov, Paul Blank, Joshua Zimmerberg

1461-Pos **Board B529**
UNRAVELING TERNARY PROTEIN INTERACTIONS IN THE LIVING CELL WITH TRICOLOR FLUORESCENCE MICROSCOPY. **Kwang Ho Hur**, Yan Chen, Joachim D. Mueller

1462-Pos **Board B530**
PHOTOSWITCHING FRET - A NEW APPROACH TO IMAGING ENERGY TRANSFER. **George H. Patterson**, Kristin Rainey

1463-Pos **Board B531**
5 DIMENSIONAL HYPERSPECTRAL FRET IMAGING AND ANALYSIS APPROACHES FOR MEASURING CAMP GRADIENTS HYPERSPECTRAL FRET IMAGING AND ANALYSIS APPROACHES FOR MEASURING CAMP GRADIENTS DIMENSIONAL HYPERSPECTRAL FRET IMAGING AND ANALYSIS APPROACHES FOR MEASURING CAMP GRADIENTS. **Naga S. Annamdevula**, Thomas C. Rich, Rachel Sweat, Andrea Britain, Kenny T. Trinh, Silas J. Leavesley

1464-Pos **Board B532**
A 3D DUAL-PARTICLE TRACKING CO-LOCALIZATION MICROSCOPE FOR THE STUDY OF DNA DYNAMICS IN FREE SOLUTION. **Evan P. Perillo**, Yen-Liang Liu, Phyllis Ang, Andrew K. Dunn, Hsin-Chih Yeh

1465-Pos **Board B533**
RAPID FLIM: THE NEW AND INNOVATIVE METHOD FOR ULTRA-FAST IMAGING OF BIOLOGICAL PROCESSES. **Marcelle Koenig**, Sandra Orthaus-Mueller, Rhys Dowler, Benedikt Kraemer, Astrid Tannert, Olaf Schulz, Tino Roehlicke, Michael Wahl, Hans-Juergen Rahn, Matthias Patting, Felix Koberling, Rainer Erdmann

1466-Pos **Board B534**
METABOLIC IMAGING OF SQUAMOUS CELL CARCINOMA CELLS AND IN VIVO SKIN BY PHASOR FLIM. **Michael G. Nichols**, Rohan Das, Marifel F. Gabriel, Christina R. Miller, Alexis M. Mills, Dominick M. Myers, Dan L. Pham, Inga N. Pociupany, Katie D. Sotelo, Kathleen E. Troup

1467-Pos **Board B535**
PROTEIN ORDER AND ADHESIVE STRENGTH IN DESMOSOMES DETERMINED BY FLUORESCENCE POLARIZATION MICROSCOPY. **Emily I. Bartle**, Tara M. Urner, Siddharth S. Raju, Alexa L. Mattheyses

Single-Molecule Spectroscopy II (Boards B536–B545)

1468-Pos **Board B536**
FLUORBT: A MULTIMODAL METHOD FOR INVESTIGATING SINGLE-MOLECULE DYNAMICS. **Ivan E. Ivanov**, Paul Lebel, Florian C. Oberstrass, Zev Bryant

1469-Pos **Board B537**
TRANSVERSE FLUORESCENCE MICROSCOPY WITH MAGNETIC AND OPTICAL TWEEZERS. **Jack Shepherd**, Zhaokun Zhou, Robert Greenall, Matt Probert, Mark Leake

1470-Pos **Board B538**
QUICKER THAN QUICK: CORRELATIVE OPTICAL TWEEZERS-FLUORESCENCE MICROSCOPY (CTFM) FOR THE STUDY OF SHORT-LIVED METABOLIC PROCESSES. **Jordi Cabanas-Danés**, Rosalie P.C. Driessen, Sara Tafoya, Lisa Alexander, Carlos Bustamante, Gerrit Sitters, Andrea Candelli

1471-Pos **Board B539**
SINGLE MOLECULE STUDIES OF EARLY STAGES OF AMYLOID AGGREGATION AN EFFECT OF PH. **Sibaprasad Maity**, Ekaterina Viazovkina, Alexander Gall, Yuri Lyubchenko

1472-Pos **Board B540**
TEMPERATURE-DEPENDENT PROTEIN MALLEABILITY
PROBED BY SINGLE-MOLECULE FORCE SPECTROSCOPY AND FLUORESCENCE SPECTROSCOPY. **Shrabasti Bhattacharya**, Sri Rama Koti Ainavarapu

1473-Pos **Board B541**
A SIMPLE DNA HANDLE ATTACHMENT METHOD FOR SINGLE MOLECULE MECHANICAL MANIPULATION EXPERIMENTS. **Duyoung Min**, Mark A. Arbing, Robert E. Jefferson, James U. Bowie

1474-Pos **Board B542** **International Travel Awardee**
A LEGO TOOLBOX FOR ENGINEERING PROTEINS FOR SINGLE MOLECULE FORCE SPECTROSCOPY. **Alvaro Alonso-Caballero**, Jaime Andres Rivas-Pardo, Carmen L. Badilla, Daniel J. Echelman, Julio M. Fernandez

1475-Pos **Board B543**
BIOCOMPATIBLE AND HIGH STIFFNESS NANOPHOTONIC TRAP ARRAY FOR PRECISE AND VERSATILE MANIPULATION. **Fan Ye**, Ryan P. Badman, James T. Inman, Mohammad Soltani, Jessica L. Killian, Michelle D. Wang

1476-Pos **Board B544**
LIGAND INDUCED CHANGES IN THE ASSEMBLY OF NICOTINIC RECEPTORS. **Faruk H. Moonschi**, Ashley M. Loe, Chris I. Richards

1477-Pos **Board B545**
DNA-ORIGAMI-BASED TETHERED PARTICLE MOTION FOR THE SINGLE-MOLECULE STUDY OF BIMOLECULAR INTERACTIONS. **Matthias Schickinger**, Hendrik Dietz

Micro- and Nanotechnology II (Boards B546–B558)

1478-Pos **Board B546** **Education Travel Awardee**
FABRICATING AND ACTUATING DNA ORIGAMI MECHANISMS. **Alexander E. Marras**

1479-Pos **Board B547**
UTILIZING DNA ORIGAMI NANOSTRUCTURES WITH DESIGNED ENTROPIC SPRINGS FOR HIGH THROUGHPUT, SINGLE-MOLECULE FORCE SPECTROSCOPY. **Randy Patton**, Carlos Castro

1480-Pos **Board B548**
DNA ORIGAMI PLATFORM FOR PROTEIN INTERACTION ANALYSIS. **Viktoria Motsch**, Schütz Gerhard, Sevcsik Eva

1481-Pos **Board B549**
TRANSFORMATIVE SELF-ASSEMBLY OF HYBRID NANOCOMPOSITE RINGS. **Haneen Martinez**, George D. Bachand

1482-Pos **Board B550**
MODULATING PROTEIN-NANOPARTICLE INTERACTION ENERGETICS USING SITE DIRECTED MUTAGENESIS. **Yasiru R. Perera**, Ailin Wang, Alex Hughes, Nicholas C. Fitzkee

1483-Pos **Board B551**
ELECTROSTATICS OF DNA-WRAPPED CATIONICALLY STABILIZED GOLD NANOSPHERES. **Savannah Miller**, Celina Harris, Lucas B. Thompson, Kurt Andresen

1484-Pos **Board B552**
MODULATION OF FLUORESCENCE EMISSION RATE USING NANO-ANTENNA. **Wenqi Zhao**, Xiaochaoran Tian, Meng Qiu, Yuanbo Zhang, Lei Zhou, Yanwen Tan

1485-Pos **Board B553**
IMPROVING STABILITY AND SENSITIVITY OF SERS-BASED BIOSENSORS. Joseph Smolsky, Zakhar Reveguk, Zachary Sabata, **Alexey Krasnoslobodtsev**

1486-Pos **Board B554**
CONTROLLED BIOMOLECULE RELEASE FROM A LIPOSOMAL NANOCARRIER MODULATED WITH PULSED NIR LIGHT. **Jeongeun Shin**, Maria Olubunmi Ogunyankin, Joseph A. Zasadzinski

1487-Pos **Board B555**
FILOVIRUS MIMICS DELIVER EFFECTIVELY TO IRREVERSIBLY CONTROL CARCINOMA CELL FATE. **Praful R. Nair**, Cory Alvey, Dennis Discher

1488-Pos **Board B556**
IN VIVO NANO-BIO INTERACTIONS IN ZEBRAFISH USING ADVANCED FLUORESCENCE MICROSCOPY. **Marta d'Amora**, Giuseppe Sancataldo, Romuald Intartaglia, Alberto Diaspro

1489-Pos **Board B557** **CID Travel Awardee**
HALF PEGYLATED PARTICLES EVADE MACROPHAGES AS EFFECTIVELY AS FULLY PEGYLATED ONES. **Lucero Sanchez**, Yi Yi, Yan Yu

1490-Pos **Board B558** **International Travel Awardee**
ATOMIC FORCE MICROSCOPY AS A TOOL TO EVALUATE THE RISK OF CARDIOVASCULAR DISEASES IN PATIENTS. **Ana F. Guedes**, Filomena Carvalho, Nuno Lousada, Luis Sargento, Nuno C. Santos

Bioengineering (Boards B559–B579)

1491-Pos **Board B559**
COMPUTATIONAL CELL-BARCODING FOR HIGH-THROUGHPUT ROBOTIC MICROSCOPY. **Mariya Barch**, Gaia Skibinski, Alicia Lee, Steven Finkbeiner

1492-Pos **Board B560**
CYBERNETIC ANALYSIS OF NATURAL INTELLIGENCE. **Charles Walter**

1493-Pos **Board B561**
QUASI-STATIC ACOUSTIC TWEEZING THROMBOELASTOMETRY. **Daishen Luo**, R. Glynn Holt, Damir B. Khismatullin

1494-Pos **Board B562**
A DUAL IMAGE SENSOR APPROACH FOR AUTOMATED, HIGH RESOLUTION, REGION-OF-INTEREST IMAGING IN A 96-WELL PLATE. **Aaron Au**, Maximiliano Giuliani, Sean Harrington, Peter Roy, Christopher M. Yip

1495-Pos **Board B563**
ELECTRICAL CIRCUIT MODELLING AND EXPERIMENTAL EVALUATION OF THE BLOOD UNDERGOING THROMBOSIS. **Achyut Sapkota**, Dung Nguyen Huu, Masahiro Takei

1496-Pos **Board B564**
PHYSICAL AND MECHANICAL FORCES THAT SHAPE HEART TUBE IN THE CHICK EMBRYO. **Seyedhadi Hosseini**, Larry A. Taber

1497-Pos **Board B565** **Education Travel Awardee**
COVALENTLY CIRCULARIZED NANODISCS: EM AND NMR APPLICATIONS. **Mahmoud L. Nasr**, Julia Simon, Zhao Zhao, Mike Strauss, William Shih, James Hogle, Gerhard Wagner

1498-Pos **Board B566**
MOLECULAR DYNAMICS OF ADENOSINE TRIPHOSPHATE INTERACTING WITH LIPID MEMBRANES. **Abhinav Ramkumar**, Xiaoling Leng, Ryan Z. Lybarger, Horia I. Petrache

1499-Pos **Board B567**
NOVEL PHOTOCHROMIC COMPOUND COMPOSED OF AZOBENZENE AND SPIROPYRAN TO CONTROL THE FUNCTION OF KINESIN EG5. **Kentaro Saito**

1500-Pos **Board B568**
MICROWAVE DIELECTRIC PROPERTIES OF CONDUCTIVE LIQUIDS. **Christopher E. Bassey**, Madeson Claiborne, Kaylee Garcia

1501-Pos **Board B569**
ON THE VISCOELASTIC PROPERTIES OF THE BRAIN TISSUE WITH INDENTATION TECHNIQUE. **Aref Samadi-Dooki**, George Z. Voyiadjis, Rhett W. Stout

1502-Pos **Board B570**
THEORETICAL MODELING OF BIOLOGICAL FLUID DEFORMATION DURING DYNAMIC ACOUSTIC TWEEZING. **Nithya Kasireddy**, Vahideh Ansari Hosseinzadeh, Daishen Luo, R.Glynn Holt, Damir B. Khismatullin

1503-Pos **Board B571**
NANOSTRUCTURED FUNCTIONAL POLYMERS FOR SELECTIVE PROTEIN BINDING. **Bianca Buchegger**, Sandra Mayr, Johannes Kreutzer, Richard Wollhofen, Jaroslaw Jacak, Thomas A. Klar

1504-Pos **Board B572** **Education Travel Awardee**
BIOLOGICAL SEMICONDUCTORS: STRUCTURAL CONTROL OF HEME REDOX POTENTIALS IN PPCA, A 3-HEME CYTOCHROME. **Coleman Swaim**, Oleksandr Kokhan

1505-Pos **Board B573**
RATIONAL DESIGN AND DEVELOPMENT OF POLYSIALIC ACID-BINDING PEPTIDES. **Divya G. Shastry**, Flaviyan J. Irudayanathan, Shikha Nangia, Pankaj S. Karande

1506-Pos **Board B574**
AN ENGINEERED TET ENZYME FOR INDUCIBLE EPIGENOMIC REMODELING AND EDITING. Yi Liang, Minjung Lee, **Yubin Zhou**, Yun Huang

1507-Pos **Board B575**
GAP JUNCTION REMODELING IN A NOVEL ENGINEERED HEART TISSUE SYSTEM CULTURED UNDER POINT STIMULATION. **Jeffery A. Clark**, Ronald G. Ng, Stuart G. Campbell

1508-Pos **Board B576**
PHOTO-REGULATION OF SMALL G PROTEIN RHOA SIGNAL CASCADE USED BY PHOTOCHROMIC MOLECULES. **Kaori Masuhara**, Masahiro Kuboyama, Nobuyuki Nishibe, Mitsuo Ikebe, Shinsaku Maruta

1509-Pos **Board B577**
CONNECTOSOMES FOR DIRECT MOLECULAR DELIVERY TO THE CELLULAR CYTOPLASM. **Avinash Gadok**, Jeanne Stachowiak

1510-Pos **Board B578**
ENGINEERING THE EXTRACELLULAR LOOPS OF OUTERMEMBRANE PROTEIN G IN CREATING A NANOPORE SENSING PLATFORM. **Monifa A. Fahie**, Min Chen

1511-Pos **Board B579**
ANALYSIS OF CONFORMATIONAL CHANGE WITH THE MULTIMERIZATION OF SMALL GTPASE RAS INDUCED BY CHEMICAL MODIFICATION AT HVR DOMAIN. **Takashi Hashimoto**, Yasunobu Sugimoto, Shinsaku Maruta

Tuesday, February 14, 2017

Daily Program Summary

All rooms are located in the *Ernest N. Morial Convention Center* unless noted otherwise.

7:30 AM-5:00 PM	**Registration/Information**	**Lobby B**
8:00 AM-8:30 AM	**Career Center Workshop** **Career Q&A with Joe Tringali**	**Room 212/213**
8:00 AM-9:00 AM	**Biophysical Society Business Meeting**	**Room 205**
8:00 AM-4:00 PM	**Poster Viewing**	**Hall B-2 & C**
8:15 AM-10:15 AM	**Symposium: Transporters** **Chair:** *Hassane S. Mchaourab, Vanderbilt University* PRINCIPLES OF ENERGY TRANSDUCTION AND ALTERNATING ACCESS OF ABC EXPORTERS. *Hassane S. Mchaourab* CLC CHLORIDE/PROTON TRANSPORTERS. *Merritt Maduke* NEW INSIGHTS INTO THE MECHANISM OF IODIDE TRANSPORT BY THE SODIUM/IODIDE SYMPORTER (NIS). *Nancy Carrasco* RIGOROUS REPRESENTATION OF TRANSPORTERS AS ALLOSTERIC MACHINES ENABLES A QUANTITATIVE UNDERSTANDING OF THEIR FUNCTIONALMECHANISMS. *Harel Weinstein*	**Great Hall A**
8:15 AM-10:15 AM	**Symposium: Destroying the Cytoskeleton** **Chair:** *Jennifer Ross, University of Massachusetts* MICROTUBULE SERVERING REGULATED BY TUBULIN TAILS. *Jennifer Ross* THE RELATIONSHIP BETWEEN MICROTUBULE BIRTH AND DEATH. *Gary Brouhard* ARCHITECTURE DEPENDENCE OF ACTIN FILAMENT NETWORK DISASSEMBLY. *Laurent Blanchoin* A HOLISTIC VIEW OF MICROTUBULE ASSEMBLY REGULATION. *Linda Wordeman*	**Great Hall B**
8:15 AM-10:15 AM	**Platform: Membrane Dynamics**	**Room R02/03**
8:15 AM-10:15 AM	**Platform: Mechanosensation**	**Room R04/05**
8:15 AM-10:15 AM	**Platform: Optical Microscopy and Super-Resolution Imaging: Applications to Cellular Molecules**	**Room R06/07**
8:15 AM-10:15 AM	**Platform: Protein-Nucleic Acid Interactions II**	**Room R08/09**
8:15 AM-10:15 AM	**Platform: Intrinsically Disordered Proteins (IDP) and Aggregates I**	**Room 206/207**
8:15 AM-10:15 AM	**Platform: Protein Dynamics and Allostery II**	**Room 208/209**
9:00 AM-10:30 AM	**Subgroup Chairs Meeting**	**Room 222**
9:30 AM-10:30 AM	**Career Center Workshop** **Demystifying the Academic Job Search III: Preparing Your Written Application Materials: CV, Cover Letter, and Research Statement**	**Room 212/213**
10:00 AM-4:30 PM	**Exhibits**	**Hall B-2 & C**
10:15 AM-11:00 AM	**Coffee Break**	**Hall B-2 & C**
10:45 AM-12:45 PM	**Symposium: Awards** **Chair:** *Suzanne Scarlata, BPS President and Worcester Polytechnic Institute* UNDERSTANDING MOLECULAR-SCALE BIOPHYSICS IN CELLS WITH SINGLE-MOLECULE IMAGING. *Julie Biteen* THE MECHANISM OF DYNEIN MOTILITY. *Ahmet Yildiz* FROM MECHANOBIOLOGY TO HUMAN ORGANS ON CHIPS. *Donald Ingber* FIFTY YEARS OF DOING RESEARCH WITH KAZUHIKO KINOSITA, JR. *Shin'ichi Ishiwata* FOLDING COMPLEX MEMBRANE PROTEINS. *James U. Bowie* THE 2ND PERIODIC INVAGINATED VESICLE AWARD. *Sarah Keller* DYNAMICS OF MOUTH OPENING IN HYDRA. *EVA-MARIE S. COLLINS*	**Great Hall A**
10:15 AM-12:45 PM	**Platform: Membrane Structure I: Cholesterol**	**Room R02/03**

10:45 AM-12:45 PM	**Platform: Ligand-gated Channels I**	**Room R04/05**
10:45 AM-12:45 PM	**Platform: Molecular Dynamics II**	**Room R06/07**
10:45 AM-12:45 PM	**Platform: Mitochondria in Cell Life and Death**	**Room R08/09**
10:45 AM-12:45 PM	**Platform: General Protein-Lipid Interactions II**	**Room 206/207**
10:45 AM-12:45 PM	**Platform: Membrane Protein Dynamics**	**Room 208/209**
11:30 AM-12:30 PM	**Career Center Workshop** **Selling Yourself to the Life Sciences Industry**	**Room 212/213**
11:30 AM-1:00 PM	**Exhibitor Presentation: Bruker Corporation** **Bioscope Resolve – The Highest Resolution Imaging of Any BioAFM**	**Room 218**
12:00 PM-1:30 PM	**Career Opportunities at Primarily Undergraduate Institutions: Finding a Job and Finding Success**	**Room 219**
12:00 PM-2:00 PM	**Postdoc to Faculty Q&A: Transitions Forum and Luncheon**	**Room 222/223**
12:30 PM-2:00 PM	**Exhibitor Presentation: Nanion Technologies GmbH** **Measure More Membrane: Cells, Bilayers, and Transporter Activity**	**Room 221**
1:00 PM-2:15 PM	**Bringing Mentees and Mentors Together in a National Network**	**Room 214**
1:00 PM-3:00 PM	**Industry and Agency Opportunities Fair**	**Hall B-2 & C**
1:00 PM-3:00 PM	**NIH Grant Writing Workshop**	**Room R01**
1:30 PM-3:00 PM	**Exhibitor Presentation: Semrock Inc** **Maximizing the Performance of Fluorescence Microscopes by Optical Filters**	**Room 218**
1:45 PM-3:00 PM	**Snack Break**	**Hall B-2 & C**
1:45 PM-3:45 PM	**Poster Presentations and Late Posters**	**Hall B-2 & C**
2:30 PM-3:30 PM	**Career Center Workshop: Looking Beyond Academia:** **Identifying Your Career Options Using MyIDP, Linkedin, and More**	**Room 212/213**
2:30 PM-4:00 PM	**Networking and Personal Branding: The Workshop**	**Room 210**
3:00 PM-5:00 PM	**Education Committee Meeting**	**Room 203**
4:00 PM-6:00 PM	**Symposium: Membrane Protein Biogenesis** **Chair:** *Charles Sanders, Vanderbilt University* THE SCARLET LETTER: CELLULAR RECOGNITION OF MISFOLDING-PRONE MEMBRANE PROTEINS. *Charles R. Sanders* THE ASSEMBLY OF BETA-BARREL PROTEINS INTO BACTERIAL OUTER MEMBRANES. *Trevor Lithgow* MECHANISTIC INSIGHTS INTO OUTER MEMBRANE PROTEIN FOLDING. *Sheena Radford* SOLVING THE MEMBRANE PROTEIN EXPRESSION PROBLEM. *Bil Clemons*	**Great Hall A**
4:00 PM-6:00 PM	**Symposium: Biophysics of Malaria Parasites** **Chair:** *Paula da Fonseca, MRC Laboratory of Molecular Biology, United Kingdom* CRYO-EM STRUCTURE OF THE *PLASMODIUM* PROTEASOME IN THE SEARCH OF NEW ANTIMALARIALS. *Paula da Fonseca* THE ROLE OF CELL ADHESION IN THE MALARIA LIFE CYCLE: FROM GLIDING SPOROZOITES TO ROLLING ADHESION OF INFECTED RED BLOOD CELLS. *Ulrich S. Schwarz* MEASURING AND MODELLING HOST CELL SUBVERSION BY THE MALARIA PARASITE. *Leann Tilley* MULTISCALE MODELING OF MALARIA. *George E. Karniadakis*	**Great Hall B**
4:00 PM-6:00 PM	**Platform: Biosensors**	**Room R02/03**
4:00 PM-6:00 PM	**Platform: Ion Channels, Pharmacology, and Disease**	**Room R04/05**
4:00 PM-6:00 PM	**Platform: Electron Microscopy**	**Room R06/07**
4:00 PM-6:00 PM	**Platform: Membrane Pumps, Transporters, and Exchangers II**	**Room R08/09**
4:00 PM-6:00 PM	**Platform: Cell Mechanics, Mechanosensing, and Motility II**	**Room 206/207**
4:00 PM-6:00 PM	**Platform: Protein-Small Molecule Interactions**	**Room 208/209**
6:00 PM-10:00 PM	**Publications Committee Meeting**	**Hilton, Bridge Room**

7:30 PM-9:30 PM	**Workshop: Beyond Calcium: Imaging Voltage and Other Ions** **Room R02/03** **Chair:** *William R. Kobertz, University of Massachusetts Medical School* FLUORESCENT VISUALIZATION OF CELLULAR EFFLUX. *William R. Kobertz* CRITICAL EVALUATION OF FRET-BASED BIOSENSOR PERFORMANCE: IMPLICATIONS FOR MEASURING ION CONCENTRATIONS. *Amy E. Palmer* LIGHT UP THE BRAIN WITH GENETICALLY ENCODED SENSORS OF NEURAL ACTIVITY. *Lin Tian* FUNCTIONAL CORTICAL CONNECTOMICS THROUGH CO-EXPRESSION OF GENETICALLY EXPRESSED VOLTAGE AND CALCIUM INDICATORS. *Thomas Knöpfel*
7:30 PM-9:30 PM	**Workshop: Next Generation Biophysics Enabled by Precision Chemical Biology Tools** **Room R04/05** **Chair:** *Stephen G. Sligar, University of Illinois* NANODISCS AS A PRECISION TOOL FOR BIOPHYSICS AND CHEMICAL BIOLOGY. *Stephen G. Sligar* GLYCANS AS CELLULAR IDS. *Laura Kiessling* TMP-TAG: A CHEMICAL SURROGATE TO THE FLUORESCENT PROTEINS FOR LIVE CELL IMAGING. *Virginia Cornish* MOLECULAR TOOLS AND NANODEVICES BUILT FROM DNA. *Tim Liedl*
7:30 PM-9:30 PM	**Workshop: Single-Particle CryoEM: A How-To Guide** **Room R06/07** **Chair:** *Bridget Carragher, New York Structural Biology Center* USING EM TO UNDERSTAND THE STRUCTURE AND FUNCTION OF MOLECULAR MACHINES. *Bridget Carragher* BEST PRACTICES IN DATA COLLECTION AND DDD MOVIE PROCESSING FOR CRYO-EM. *John Rubinstein* OPTIMIZATION OF A CRYO-EM STRUCTURAL MODEL REPRESENTATION. *Wah Chiu* STRUCTURE DETERMINATION OF MULTI-PROTEIN COMPLEXES USING CRYO-EM. *Lori A. Passmore*
7:30 PM-9:30 PM	**Workshop: Biological Networks from Experiment to Modeling and Back** **Room R08/09** **Chair:** *Jennifer Reed, University of Wisconsin-Madison* USING A GENOME-SCALE MODEL AND GENOMIC LIBRARY TO DISCOVER THE FUNCTIONS OF METABOLIC GENES. *Jennifer Reed* COORDINATION OF METABOLISM THROUGH METABOLITE-PROTEIN INTERACTIONS. *Uwe Sauer* DECIPHERING THE STOCHASTIC KINETICS OF GENE REGULATION. *Ido Golding* MODELING CYTOPLASMIC MECHANICS IN RAPIDLY MOVING CELLS. *Julie Theriot*
8:00 PM-10:00 PM	**SOBLA (The Society for Latinoamerican Biophysicists) Meeting** **Room 214**

Tuesday, February 14

Registration/Information

7:30 AM - 5:00 PM, LOBBY B

Career Center Workshop
Career Q&A with Joe Tringali

8:00 AM - 8:30 AM, ROOM 212/213

Do you have a pressing question about your career in science? Attend this informal discussion with veteran career consultant Joe Tringali and get the answers you are looking for.

Biophysical Society Business Meeting

8:00 AM - 9:00 AM, ROOM 205

Poster Viewing

8:00 AM - 4:00 PM, HALL B-2 & C

Symposium
Transporters

8:15 AM - 10:15 AM, GREAT HALL A

Chair
Hassane S. Mchaourab, Vanderbilt University

1512-Symp 8:15 AM
PRINCIPLES OF ENERGY TRANSDUCTION AND ALTERNATING ACCESS OF ABC EXPORTERS. **Hassane S. Mchaourab**

1513-Symp 8:45 AM
CLC CHLORIDE/PROTON TRANSPORTERS. **Merritt Maduke**

No Abstract 9:15 AM
NEW INSIGHTS INTO THE MECHANISM OF IODIDE TRANSPORT BY THE SODIUM/IODIDE SYMPORTER (NIS). **Nancy Carrasco**

1514-Symp 9:45 AM
RIGOROUS REPRESENTATION OF TRANSPORTERS AS ALLOSTERIC MACHINES ENABLES A QUANTITATIVE UNDERSTANDING OF THEIR FUNCTIONALMECHANISMS. **Harel Weinstein**, George Khelashvili, Michael V. LeVine, Michel A. Cuendet

Symposium
Destroying the Cytoskeleton

8:15 AM - 10:15 AM, GREAT HALL B

Chair
Jennifer Ross, University of Massachusetts

No Abstract 8:15 AM
MICROTUBULE SERVERING REGULATED BY TUBULIN TAILS. **Jennifer Ross**

1515-Symp 8:45 AM
THE RELATIONSHIP BETWEEN MICROTUBULE BIRTH AND DEATH. **Gary Brouhard**

1516-Symp 9:15 AM
ARCHITECTURE DEPENDENCE OF ACTIN FILAMENT NETWORK DISASSEMBLY. **Laurent Blanchoin**

No Abstract 9:45 AM
A HOLISTIC VIEW OF MICROTUBULE ASSEMBLY REGULATION. **Linda Wordeman**

Platform
Membrane Dynamics

8:15 AM - 10:15 AM, ROOM R02/03

Co-Chairs
Elizabeth Kelley, NIST
David V. Svintradze, Virginia Commonwealth University

1517-Plat 8:15 AM
THE INTERPLAY OF STRUCTURE AND DYNAMICS IN MIXED LIPID BILAYERS. **Elizabeth Kelley**, Rana Ashkar, Robert Bradbury, Paul Butler, Michihiro Nagao

1518-Plat 8:30 AM
MICROFLUIDIC DEVICE TO STUDY PHOSPHOINOSITIDE GRADIENTS IN MODEL MEMBRANES. **Brittany M. Neumann**, Devin Kenney, Qi Wen, Arne Gericke

1519-Plat 8:45 AM
ADVANCES IN THE THEORETICAL AND COMPUTATIONAL MODELING OF LIPID BILAYER MEMBRANES. **Roger A. Sauer**, Kranthi K. Mandadapu, Thang X. Duong, Amaresh Sahu, Yannick Omar

1520-Plat 9:00 AM
ENGINEERING THE CELL ENVELOPE OF GRAM-NEGATIVE BACTERIA. **Sunny Hwang**, James C. Gumbart

1521-Plat 9:15 AM
GEOMETRIC DIVERSITY OF LIVING ORGANISMS AND VIRUSES. **David V. Svintradze**

1522-Plat 9:30 AM
SIMULATIONS HELP UNRAVEL FLAVIVIRUS ENVELOPE STRUCTURE AND FUNCTION. Jan K. Marzinek, Daniel Holdbrook, Roland G. Huber, Chandra Verma, **Peter J. Bond**

1523-Plat 9:45 AM
MODULATION OF MEMBRANE RIGIDITY BY THE ESCRT-III COMPLEX. **Nicola De Franceschi**, Maryam Alqabandi, Nolwenn Miguet, Christophe Caillat, Winfried Weissenhorn, Patricia Bassereau

1524-Plat 10:00 AM
DESIGN PRINCIPLES FOR ROBUST VESICULATION IN CLATHRIN-MEDIATED ENDOCYTOSIS. **Julian Hassinger**, George Oster, David Drubin, Padmini Rangamani

Platform
Mechanosensation

8:15 AM - 10:15 AM, ROOM R04/05

Co-Chairs
Andrew E. Ekpenyong, Creighton University
Bahareh Behkam, Virginia Tech

1525-Plat 8:15 AM
CANDIDA ALBICANS YEAST SEEK TO ADHERE IN ENERGETICALLY OPTIMAL LOCATIONS. Zhou Ye, Amrinder Nain, **Bahareh Behkam**

1526-Plat 8:30 AM
EXPLORING THE PH SENSITIVITY OF *E. COLI* MSCS. Jordyn Veres, **Hannah R. Malcolm**

1527-Plat 8:45 AM
IN SITU MEASUREMENTS OF PROTEIN FORCES AND INTRACELLULAR CA^{2+} UNDER FLUID SHEAR STIMULI. **Susan Z. Hua**, Mohammad Mehdi Maneshi, Frederick Sachs

1528-Plat 9:00 AM
MECHANOSENSETIVE ATP RELEASE INVOLVES A NON-CONDUCTIVE PATHWAY: EVIDENCE FROM LARGE FIELD OF VIEW REAL-TIME IMAGING. **Olga Ponomarchuk**, Francis Boudreault, Sergei N. Orlov, Ryszard Grygorczyk

1529-Plat 9:15 AM
THE SHORT TERM RESPONSE OF PECAM-1 TO MECHANICAL LOADING: CYCLOOXYGENASE-2 AND NITRIC OXIDE PRODUCTION WITH AFM PULLING AND SHEAR STRESS. **Anne Marie T. Weber**, Rick Mathews, Zahin Haq, Limary M. Cancel, John M. Tarbell

1530-Plat 9:30 AM
MECHANICALLY-INDUCED GATING IN PKD2L1 (TRPP2): CALCIUM-INDUCED ACTIVATION MASQUERADING AS FORCE SENSITIVITY? **Charles D. Cox**, Chai Ann Ng, Navid Bavi, Boris Martinac

1531-Plat 9:45 AM
MICROGRAVITY MODULATES DRUG-INDUCED ENHANCEMENT OF CANCER CELL MIGRATION. Devika Prasanth, Sindhuja Suresh, Michael Mimlitz, Noah Zetocha, **Andrew E. Ekpenyong**

1532-Plat 10:00 AM
TREK-2 HAS AN ASYMMETRICAL RESPONSE TO FORCE CHANGES IN THE MEMBRANE. **Michael Voldsgaard Clausen**, Viwan Jarerattanachat, Jackie Ang, Liz Carpenter, Stephen Tucker

Platform
Optical Microscopy and Super-Resolution Imaging: Applications to Cellular Molecules
8:15 AM - 10:15 AM, ROOM R06/07

Co-Chairs
Adam Wollman, University of York, United Kingdom
Linda Kenney, University of Illinois, Chicago

1533-Plat 8:15 AM
ILLUMINATING BACTERIAL ELECTROPHYSIOLOGY. **Giancarlo N. Bruni**, Benjamin Dodd, Joel Kralj

1534-Plat 8:30 AM
UNDERSTANDING THE ASYMMETRIC MIPZ GRADIENT IN *CAULOBACTER CRESCENTUS*. **Matthew D. Stilwell**, Nikolai P. Radzinski, James C. Weisshaar, Douglas B. Weibel

1535-Plat 8:45 AM
A NOVEL DNA BINDING MODE OF H-NS DRIVES CHROMOSOME COMPACTION AND GENE SILENCING IN SINGLE BACTERIAL CELLS. **Linda J. Kenney**

1536-Plat 9:00 AM
INVESTIGATING RNAP SEARCH DYNAMICS IN LIVE *E. COLI* CELLS USING SINGLE MOLECULE AND STATISTICAL METHODS. **Kelsey Bettridge**, Chris Bohrer, Jie Xiao

1537-Plat 9:15 AM
COLLECTIVE LIVE-CELL SUPERRESOLVED TRACES REVEAL NONAXONOMAL DYNAMICS OF INTRAFLAGELLAR TRANSPORT PARTICLES AT THE CILIARY BASE. **Tony Yang**, Nguyet Thi Minh Tran, Weng Man Chong, Jung-Chi Liao

1538-Plat 9:30 AM
REAL-TIME SUBCELLULAR LOCALIZATION REVEALS HIDDEN INTRAFLAGELLAR TRANSPORT MECHANISMS. Anthony Kovacs, Jonathan Kessler, Je-Luen Li, HuaWen Lin, Susan Dutcher, **Yan Mei Wang**

1539-Plat 9:45 AM
SPATIAL ORGANIZATION OF NUCLEAR STRUCTURES BY DUAL COLOUR SUPER-RESOLUTION MICROSCOPY. **Maria J. Sarmento**, Lorenzo Scipioni, Melody Di Bona, Mario Faretta, Laura Furia, Gaetano I. Dellino, Pier G. Pelicci, Paolo Bianchini, Alberto Diaspro, Luca Lanzanò

1540-Plat 10:00 AM
TIME-RESOLVED SINGLE CELL, SUB-CELLULAR COMPARTMENTALIZED PROTEOMICS, COMBINING PRECISE MICROFLUIDICS, DECONVOLUTION AND ULTRASENSITIVE SINGLE-MOLECULE MICROSCOPY. **Adam J. M. Wollman**, Sviatlana Shashkova, Niek Welkenhuysen, Erik G. Hedlund, Stefan Hohmann, Mark C` Leake

Platform
Protein-Nucleic Acid Interactions II
8:15 AM - 10:15 AM, ROOM R08/09

Co-Chairs
Ioulia Rouzina, University of Minnesota
Vladimir Mekler, Rutgers University

1541-Plat 8:15 AM
GENOMIC RNA BINDING PROMOTES RETROVIRAL GAG PROTEIN INTERACTIONS IN AN ASSEMBLY-COMPETENT CONFORMATION LEADING TO SELECTIVE GENOME PACKAGING. **Ioulia Rouzina**, Shuohui Liu, Erik D. Olson, Tiffiny Rye-McCurdy, Christiana Binkley, Joshua-Paolo Reyes, Leslie J. Parent, Karin Musier-Forsyth

1542-Plat 8:30 AM
KINETICS OF DCAS9 TARGET SEARCH IN ESCHERICHIA COLI. **Daniel Jones**, Cecilia Unoson, Prune Leroy, Vladimir Curic, Johan Elf

1543-Plat 8:45 AM
ARGONAUTE TARGET SEARCH IS FACILITATED BY LONG DISTANCE DIFFUSION. **Tao Ju Cui**, Stanley D Chandradoss, Jorrit Hegge, John van der Oost, Chirlmin Joo

1544-Plat 9:00 AM
HOW CONFORMATIONAL DYNAMICS INFLUENCES THE PROTEIN SEARCH FOR TARGETS ON DNA. **Maria P. Kochugaeva**, Alexey A. Shvets, Anatoly B. Kolomeisky

1545-Plat 9:15 AM
SPLICEOSOMAL U1A PROTEIN-SL2 RNA BINDING AFFINITY DECREASES IN CELLS. **Caitlin Davis**, Irisbel Guzman, David Gnutt, Martin Gruebele

1546-Plat 9:30 AM
VISUALIZING INFECTION INITIATION OF BACTERIOPHAGE P22 BY CRYO-ELECTRON TOMOGRAPHY. **Chunyan Wang**, Jiagang Tu, Bo Hu, Ian Molineux, Jun Liu

1547-Plat 9:45 AM
USING SITE SPECIFIC FLUORESCENT PROBES TO EXAMINE REPLICATION FORK DESTABILIZATION BY REGULATORY PROTEINS OF THE BACTERIOPHAGE T4 DNA REPLICATION COMPLEX. **Davis Jose**, Miya Mary Michael, Wonbae Lee, Thomas H. Steinberg, Andrew H. Marcus, Peter H. von Hippel

1548-Plat 10:00 AM
MECHANISM OF DUPLEX DNA DESTABILIZATION BY RNA-GUIDED CAS9 NUCLEASE DURING DNA INTERROGATION. **Vladimir Mekler**, Leonid Minakhin, Konstantin Severinov

Platform
Intrinsically Disordered Proteins (IDP) and Aggregates I

8:15 AM - 10:15 AM, ROOM 206/207

Co-Chairs
Alex Holehouse, Washington University in Saint Louis
Joshua Riback, University of Chicago

1549-Plat 8:15 AM
RESOLVING THE CONTROVERSY BETWEEN SAXS AND FRET MEASUREMENTS ON UNFOLDED PROTEINS. **Wenwei Zheng**, Alessandro Borgia, Alexander Grishaev, Benjamin Schuler, Robert B. Best

1550-Plat 8:30 AM
SIMULATIONS AND EXPERIMENTS PROVIDE A CONVERGENT VIEW OF PROTEIN UNFOLDED STATES UNDER FOLDING CONDITIONS. **Alex S. Holehouse**, Ivan Perana, Isaac S. Carrico, Osman Bilsel, Daniel P. Raleigh, Rohit V. Pappu

1551-Plat 8:45 AM
BIOPHYSICAL STUDIES OF THE INTERACTION BETWEEN OPTIMIZED PEPTIDES AND AMYLOID-BETA ELUCIDATE A COMPLETELY NOVEL BINDING MODE. **Tamar Ziehm**, Antonia Klein, Janine Kutzsche, Dieter Willbold

1552-Plat 9:00 AM
SINGLE MOLECULE FRET INVESTIGATION OF THE DIMENSIONS AND DYNAMICS IN HIGHLY COOPERATIVE SIC1-WD40 BINDING. **Gregory Gomes**, Veronika Csizmok, JIanhui Song, Hue-Sun Chan, Julie Forman-Kay, Claudiu C. Gradinaru

1553-Plat 9:15 AM
MEASURING THE (GOOD) SOLVENT QUALITY OF WATER FOR DISORDERED PROTEINS FROM A SINGLE SAXS MEASUREMENT. **Joshua A. Riback**, Micayla A. Bowman, Adam Zmyslowski, Catherine R. Knoverek, John Jumper, James Hinshaw, Emily B. Kaye, Karl F. Freed, Patricia L. Clark, Tobin R. Sosnick

1554-Plat 9:30 AM
RIGID SPIN LABELS FOR IMPROVED DISTANCE AND DYNAMICS IN INTRINSICALLY DISORDERED PROTEINS AND PEPTIDES. Enrico Zurlo, Nico J. Meeuwenoord, Dmitri V. Filippov, **Martina Huber**

1555-Plat 9:45 AM
EXAMINATION OF THE OLIGOMERIZATION MECHANISM OF SOD1 IN VITRO AND IN LIVE CELLS. Brian C. Mackness, Noah R. Cohen, C. Robert Matthews, Jill A. Zitzewitz, **Osman Bilsel**

1556-Plat 10:00 AM
EXPLORING THE FUNCTIONAL AND STRUCTURAL IMPACT OF DISEASE-ASSOCIATED MUTANTS OF TAU. **Ana M. Melo**, Elizabeth Rhoades

Platform
Protein Dynamics and Allostery II

8:15 AM - 10:15 AM, ROOM 208/209

Co-Chairs
Abel Garcia-Pino, Université Libre de Bruxelles, Belgium
Seyit Kale, NIH

1557-Plat 8:15 AM CID TRAVEL AWARDEE
PREDICTING RESIDUES THAT INCREASE ANTIBIOTIC RESISTANCE OF CTX-M9 ENZYMES USING MOLECULAR SIMULATION AND STATISTICAL LEARNING. **George A. Cortina**, Malgorzata J. Latallo, Peter M. Kasson

1558-Plat 8:30 AM
MODELING PROTEINS' HIDDEN CONFORMATIONS TO PREDICT ANTIBIOTIC RESISTANCE. **Gregory Bowman**

1559-Plat 8:45 AM
REVEALING THE MECHANISM OF BINDING SELECTIVITY IN UNDECAPRENYL DIPHOSPHATE SYNTHASE. **Fareeha Kanwal**, Donald Jacobs

1560-Plat 9:00 AM
DYNAMIC FLEXIBILITY INDEX SHEDS LIGHT ON PIN1 ALLOSTERY. **Paul Campitelli**, Huan-Xiang Zhou, Giovanna Ghirlanda, S. Banu Ozkan

1561-Plat 9:15 AM
INTRINSIC DISORDERED CONTROLS TRANSCRIPTION OF BACTERIAL TOXIN-ANTITOIXN MODULES. **Abel Garcia-Pino**

1562-Plat 9:30 AM
INTEGRATED VIEW OF INTERNAL FRICTION IN UNFOLDED PROTEINS FROM SINGLE-MOLECULE FRET, CONTACT QUENCHING, THEORY, AND SIMULATIONS. **Andrea Soranno**, Andrea Holla, Fabian Dingfelder, Daniel Nettels, Dmitrii E. Makarov, Benjamin Schuler

1563-Plat 9:45 AM
ESCAPING THE WATER CAGE: PROTEIN INTRAMOLECULAR VIBRATIONS AND THE DYNAMICAL TRANSITION. **Mengyang Xu**, Katherine A. Niessen, Yanting Deng, Nigel S. Michki, Andrea G. Markelz

1564-Plat 10:00 AM
FACILITATOR MODELS OF WEAK BINDING IN PROTEIN-PROTEIN INTERACTIONS. **Seyit Kale**, Madeleine Strickland, Alan Peterkofsky, Nico Tjandra, Jian Liu

Subgroup Chairs Meeting

9:00 AM - 10:30 AM, ROOM 222

Career Center Workshop
Demystifying the Academic Job Search III: Preparing Your Written Application Materials: CV, Cover Letter, and Research Statement

9:30 AM - 10:30 AM, ROOM 212/213

Your written application materials are typically the only information a search committee will have before them as they make the vast majority of cuts. Learn how to craft credentials that speak clearly and powerfully on your behalf, and help committees understand the potential contribution you have to offer.

Exhibits

10:00 AM - 4:30 PM, HALL B-2 & C

Coffee Break

10:15 AM - 11:00 AM, HALL B-2 & C

Symposium
Awards

10:45 AM - 12:45 PM, GREAT HALL A

Chair
Suzanne Scarlata, Worcester Polytechnic Institute

No Abstract 10:45 AM
Margaret Oakley Dayhoff Award
UNDERSTANDING MOLECULAR-SCALE BIOPHYSICS IN CELLS WITH SINGLE-MOLECULE IMAGING. **Julie Biteen**

No Abstract 11:02 AM
Michael and Kate Barany Award
THE MECHANISM OF DYNEIN MOTILITY. **Ahmet Yildiz**

No Abstract **11:19 AM**
Founders Award
FROM MECHANOBIOLOGY TO HUMAN ORGANS ON CHIPS.
Donald Ingber

No Abstract **11:36 AM**
Kazuhiko Kinosita Award in Single Molecule Biophysics
FIFTY YEARS OF DOING RESEARCH WITH KAZUHIKO KINOSITA, JR.
Shin'ichi Ishiwata

No Abstract **11:53 PM**
Anatrace Membrane Protein Award
FOLDING COMPLEX MEMBRANE PROTEINS. **James U. Bowie**

No Abstract **12:10 PM**
Avanti Award in Lipids
THE 2ND PERIODIC INVAGINATED VESICLE AWARD. **Sarah Keller**

No Abstract **12:27 PM**
Biophysical Journal Paper of the Year Award
DYNAMICS OF MOUTH OPENING IN HYDRA. **Eva-Marie S. Collins**

Platform
Membrane Structure I: Cholesterol

10:15 AM - 12:45 PM, ROOM R02/03

Co-Chairs
Anna L. Duncan, University of Oxford, United Kingdom
Mary L. Kraft, University of Illinois

1565-Plat **10:15 AM**
POLYPHENOL ALKYL ESTER INHIBITS MEMBRANE CHOLESTEROL DOMAIN FORMATION THROUGH AN ANTIOXIDANT MECHANISM BASED, IN NONLINEAR FASHION, ON CHAIN LENGTH. **Samuel Sherratt**, Pierre Villeneuve, Robert Jacob, Erwann Durand, R. Preston Mason

1566-Plat **10:30 AM**
IS THE SITE OF INFLUENZA VIRUS ASSEMBLY AND BUDDING ENRICHED WITH CHOLESTEROL AND SPHINGOLIPIDS? **Mary L. Kraft**, Ashley N. Yeager, Peter K. Weber, Joshua Zimmerberg

1567-Plat **10:45 AM**
LIPID-PROTEIN INTERACTIONS IN FIBER CELL PLASMA MEMBRANE ISOLATED FROM HUMAN AND PORCINE EYE LENSES. **Marija Raguz**, Laxman Mainali, William J O'Brien, Witold Karol Subczynski

1568-Plat **11:00 AM**
RAFT-LIKE DOMAINS ARE DRIVEN TOGETHER BY PUFA. **Jacob J. Kinnun**, Xiaoling Leng, Dylan Johnson, Edward R. Pennington, Andrew J. Meador, Saame Raza Shaikh, Stephen R. Wassall

1569-Plat **11:15 AM**
AZOBENZENE-CHOLESTEROL AS A PHOTOACTIVATOR IN BIOMIMETIC MEMBRANES: 2. MEMBRANE STRUCTURE. Chen Shen, Jorge de la Serna, Bernd Struth, **Beate Klösgen**

1570-Plat **11:30 AM**
SUBMICROMETRIC LIPID DOMAINS PLAY KEY ROLES IN ERYTHROCYTE DEFORMATION: FROM MEMBRANE BENDING TO SHAPE RESTORATION. **Catherine Leonard**, Marie-Paule Mingeot-Leclercq, Donatienne Tyteca

1571-Plat **11:45 AM**
MEMBRANE CROWDING AND COMPLEXITY: INTERPLAY BETWEEN PROTEIN-LIPID INTERACTIONS, CLUSTERING AND DIFFUSION. **Anna L. Duncan**, Heidi Koldsø, Tyler J. Reddy, Jean Hélie, Mark S. P. Sansom

1572-Plat **12:00 PM**
THE EFFECT OF PROPOFOL ON PLASMA MEMBRANE ULTRASTRUCTURE IN THE INTACT CELLS. **Weixiang Jin**, Arnd Pralle

Platform
Ligand-gated Channels I

10:45 AM - 12:45 PM, ROOM R04/05

Co-Chairs
Pei Tang, University of Pittsburgh School of Medicine
Ryan E. Hibbs, University of Texas Southwestern Medical Center

1573-Plat **10:45 AM**
STRUCTURE AND MECHANISM OF NEURONAL NICOTINIC ACETYLCHOLINE RECEPTORS. Claudio L. Morales-Perez, Colleen M. Noviello, **Ryan E. Hibbs**

1574-Plat **11:00 AM**
PHOTOAFFINITY LABELING OF A4B2 NICOTINIC ACETYLCHOLINE RECEPTOR USING [^{3}H]-LABELED POSITIVE ALLOSTERIC MODULATORS. Gordon Ang, Farah Deba, Akash Pandhare, Michael P. Blanton, Jonathan B. Cohen, **Ayman K. Hamouda**

1575-Plat **11:15 AM**
STRUCTURAL MECHANISMS UNDERLYING PUFA MODULATION IN PENTAMERIC LIGAND GATED ION CHANNELS. **Yvonne W. Gicheru**, Sandip Basak, Sudha Chakrapani

1576-Plat **11:30 AM**
DIRECT VISUALIZATION OF CONFORMATIONAL CHANGES RELATED TO PENTAMERIC RECEPTOR ION CHANNEL GLIC GATING. Yi Ruan, Pierre-Jean Corringer, **Simon Scheuring**

1577-Plat **11:45 AM**
UNCOMMON FEATURES OF A NOVEL Γ-PROTEOBACTERIAL PENTAMERIC LIGAND-GATED ION CHANNEL REVEALED BY ITS CRYSTAL STRUCTURE. HaiDai Hu, Akos Nemecz, Zeineb Fourati, Pierre-Jean Corringer, **Marc Delarue**

1578-Plat **12:00 PM**
STRUCTURAL BASIS OF ALCOHOL INHIBITION OF THE PENTAMERIC LIGAND-GATED ION CHANNEL ELIC. **Qiang Chen**, Marta M. Wells, Tommy S. Tillman, Monica N. Kinde, Aina Cohen, Yan Xu, Pei Tang

1579-Plat **12:15 PM**
STRUCTURAL REARRANGEMENTS IN $GABA_A$ RECEPTORS REVEALED BY LRET. **Namrta Purwar**, Sana A. Shaikh, Vasanthi Jayaraman, Cynthia Czajkowski

1580-Plat **12:30 PM**
CROSSLINKING-MASS SPECTROMETRY OF TARGETED SINGLE CYS MUTANTS TO REFINE ALLOSTERY AND MODEL BUILDING IN THE GLYCINE RECEPTOR. **Kayce A. Tomcho**, Rathna J. Veeramachaneni, David J. Lapinsky, Jeffry Madura, Michael Cascio

Platform
Molecular Dynamics II

10:45 AM - 12:45 PM, ROOM R06/07

Co-Chairs
Willy Wriggers, Old Dominion University
Steffen Lindert, Ohio State University

1581-Plat **10:45 AM**
MOLECULAR EFFECTS OF CARDIAC TROPONIN DCM MUTATIONS ON CALCIUM SENSITIVITY AND MYOFILAMENT ACTIVATION - AN INTEGRATED MULTI-SCALE MODELING STUDY. Sukriti Dewan, Kimberly McCabe, Michael Regnier, Andrew McCulloch, **Steffen Lindert**

1582-Plat **11:00 AM**
SPATIAL HEAT MAPS FROM FAST INFORMATION MATCHING OF FAST AND SLOW DEGREES OF FREEDOM IN MOLECULAR DYNAMICS SIMULATIONS. **Willy Wriggers**, Federica Castellani, P. Thomas Vernier, Julio A. Kovacs

1583-Plat 11:15 AM
INSIGHTS INTO THE DYNAMICS OF THE HIV-1 ENV GLYCAN SHIELD. **Thomas Lemmin**, Cinque Soto, Peter D. Kwong

1584-Plat 11:30 AM
WE CAN PREDICT THE EFFECTS OF KINASE DOMAIN MUTATIONS USING MOLECULAR DYNAMICS AND MACHINE LEARNING. **E. Joseph Jordan**, Ravi Radhakrishnan

1585-Plat 11:45 AM
LARGE SCALE MOLECULAR DYNAMICS SIMULATIONS OF THREE CLASSICAL CADHERINS INVOLVED IN CELL ADHESION. **Brandon Neel**, Collin Nisler, Raul Araya-Secchi, Marcos Sotomayor

1586-Plat 12:00 PM
TOWARDS A RATIONAL DESIGN OF MACROLIDE ANTIBIOTICS IN ORDER TO COMBAT BACTERIAL RESISTANCE. **Anna Pavlova**, Jerry M. Parks, Adegboyega K. Oyelere, James C. Gumbart

1587-Plat 12:15 PM
FAST FORWARD PROTEIN FOLDING. **Maxwell I. Zimmerman**, Gregory R. Bowman

1588-Plat 12:30 PM
TEMPERATURE DYNAMICS OF SINGLE MOLECULAR ANTIFREEZE PROTEIN. **Rio Okada**, Tatsuya Arai, Daichi Fukami, Yuhuku Matsushita, Jae-won Chang, Hiroshi Sekiguchi, Noboru Ohta, Tadashi Mori, Masaki Nishijima, Keisuke Miyazawa, Takeshi Fukuma, Keigo Ikezaki, Sakae Tsuda, Yuji C. Sasaki

Platform
Mitochondria in Cell Life and Death

10:45 AM - 12:45 PM, ROOM R08/09

Co-Chairs
Devasena Ponnalagu, Drexel University College of Medicine
Veronica S. Eisner, University of Chile

1589-Plat 10:45 AM
CHARCOT-MARIE-TOOTH TYPE2A MFN2 DOMAIN-SPECIFIC MUTANTS DEFERENTIALLY ALTER MITOCHONDRIAL FUSION DYNAMICS AND MOTILITY. **Veronica Eisner**, Diego Troncoso, Pamela Rojas, Josefa Vial, Mauricio Castro, Sergio Henríquez, Rita Horvath

1590-Plat 11:00 AM
YEAST VDAC2 HAS PORE FORMING ACTIVITY: FUNCTIONAL CONSEQUENCES. Maria Carmela Di Rosa, Andrea Magri, Simona Reina, **Vito De Pinto**

1591-Plat 11:15 AM
OXIDATIVE STRESS INDUCED BY VDAC OPENING IN CANCER CELLS DEPENDS ON CYTOSOLIC
FREE TUBULIN AND IS BLOCKED BY ROS SCAVENGING AND SUPPRESSION OF SUPEROXIDE FORMATION BY COMPLEX III. Diana Fang, Kareem Heslop, Morgan Morris, David DeHart, Monika Beck Gooz, John J. Lemasters, **Eduardo N. Maldonado**

1592-Plat 11:30 AM
MANIPULATION OF AMYLOID PRECURSOR PROTEIN PROCESSING IMPACTS BRAIN BIOENERGETICS AND GLUCOSE METABOLISM. **John A. Findlay**, D. Lee Hamilton, Sarmi Sri, Mariana Vargas-Caballero, Michael L J Ashford, Peter J S Smith

1593-Plat 11:45 AM
MITOCHONDRIAL NM23-H4/NDPK-D AND OPA1: PARTNERS IN SHAPING MITOCHONDRIA AND INITIATING MITOPHAGY? **Uwe Schlattner**, Céline Desbourdes, Małgorzata Tokarska-Schlattner, Valerian E. Kagan

1594-Plat 12:00 PM
EMERGING ROLE OF THE MITOCHONDRIAL OUTER MEMBRANE TRANSLOCATOR PROTEIN (TSPO) IN HEART FAILURE AND MITOCHONDRAI QUALITY CONTROL. Phung N. Thai, Daniel Daugherty, Bert J. Frederich, Samuel Galice, Wenbin Deng, Donald M. Bers, Saul Schaefer, **Elena N. Dedkova**

1595-Plat 12:15 PM
DYSREGULATION OF MITOCHONDRIAL PERMEABILITY TRANSITION PORE (MPTP) IS ASSOCIATED WITH ENHANCED ROS PRODUCTION IN SKELETAL MUSCLE OF AN ALS MOUSE MODEL. **Yajuan Xiao**, Jianxun Yi, Chehade Karam, Xuejun Li, Kamal Dhakal, Dosuk Yoon, Jingsong Zhou

1596-Plat 12:30 PM
AN ALTERNATIVE SPLICE VARIANT OF CHLORIDE INTRACELLULAR CHANNEL 5 PROTEIN, (CLIC5B) REGULATES CARDIAC MITOCHONDRIAL LOCALIZATION AND FUNCTION OF CLIC5. **Devasena Ponnalagu**, Ahmed Tafsirul Hussain, Shubha Gururaja Rao, Harpreet Singh

Platform
General Protein-Lipid Interactions II

10:45 AM - 12:45 PM, ROOM 206/207

Co-Chairs
Jeanne Stachowiak, University of Texas at Austin
James Sturgis, LISM - CNRS/AMU, France

1597-Plat 10:45 AM
LIPID PERTURBATION BY MEMBRANE PROTEINS AND THE LIPOPHOBIC EFFECT. Jean-Pierre Duneau, Jon Khao, **James N. Sturgis**

1598-Plat 11:00 AM
THE MYRISTOYL MODIFICATION OF C-SRC ALTERS THE LATERAL ORGANIZATION OF HOST HETEROGENOUS RAFT-LIKE MEMBRANES. **Mridula Dwivedi**, Tom Mejuch, Herbert Waldmann, Roland Winter

1599-Plat 11:15 AM
THE USE OF FLUORESCENTLY LABELED LIPIDS TO DETERMINE DYNAMICS OF PROTEIN MEDIATED *IN VITRO* LIPID TRANSFER. **Max Lönnfors**, Aby Grabon, Kaitlyn R. McGrath, Ashutosh Tripathi, Marta G. Lete, Pentti Somerharju, Vytas A. Bankaitis

1600-Plat 11:30 AM
$PI(4,5)P_2$ CLUSTERING BY THE EBOLA VIRUS MATRIX PROTEIN VP40. **Jeevan B. GC**, Bernard S. Gerstman, Prem P. Chapagain

1601-Plat 11:45 AM
INTERACTION OF PH DOMAINS WITH PHOSPHATIDYLINOSITOL PHOSPHATES: STRUCTURES AND ENERGETICS BY SIMULATION. **Fiona B. Naughton**, Antreas C. Kalli, Mark S P Sansom

1602-Plat 12:00 PM
RUNNING AGAINST TIME - A KINETIC LIMIT FOR ENDOPHILIN ACTION DURING RAPID ENDOCYTOSIS. Kumud Raj Poudel, Hang Yu, Klaus Schulten, **Jihong Bai**

1603-Plat 12:15 PM
OPTOGENETIC CONTROL OF MEMBRANE TETHERING AND INTER-MEMBRANE COMMUNICATIONS. **Ji Jing**, Lian He, Yubin Zhou

1604-Plat 12:30 PM
MEMBRANE FISSION BY PROTEIN CROWDING. Wilton Snead, Carl Hayden, Avinash Gadok, Padmini Rangamani, **Jeanne Stachowiak**

Platform
Membrane Protein Dynamics

10:45 AM - 12:45 PM, ROOM 208/209

Co-Chairs
Christopher M. Yip, University of Toronto, Canada
Emmanuel Margeat, Centre de Biochimie Structurale, CNRS, France

1605-Plat 10:45 AM
MODULATED DYNAMICS OF PAM-A7 NACHR FROM X-RAY SINGLE MOLECULAR OBSERVATIONS. **Tomoyuki Baba**, Tai Kubo, Sumiko Ohashi, Keigo Ikezaki, Kazuhiro Mio, Hiroshi Sekiguchi, Yuji C. Sasaki

1606-Plat 11:00 AM
THE ROLE OF G-PROTEIN-COUPLED RECEPTOR ACTIVATION BY CONFORMATIONAL SELECTION AS REVEALED BY SINGLE-MOLECULE FLUORESCENCE. **Dennis D. Fernandes**, Libin Ye, Yuchong Li, Zhenfu Zhang, Gregory-Neal Gomes, R. Scott Prosser, Claudiu C. Gradinaru

1607-Plat 11:15 AM
MINDE MEMBRANE PATCH OSCILLATIONS OBSERVED BY HIGH-SPEED AFM. **Atsushi Miyagi**, Simon Scheuring, Beatrice Ramm, Petra Schwille

1608-Plat 11:30 AM
STRUCTURAL DYNAMICS OF SINGLE METABOTROPIC GLUTAMATE RECEPTORS IN SOLUTION. Anne-Marinette Cao, Fataneh Fatemi, Linnea Oloffson, Suren Felekyan, Claus Seidel, Philippe Rondard, Jean-Philippe Pin, **Emmanuel Margeat**

1609-Plat 11:45 AM
OPTIMAL PROBES: AN EFFICIENT METHOD TO SELECT DEER DISTANCE RESTRAINTS USING MACHINE LEARNING. **Shriyaa Mittal**, Diwakar Shukla

1610-Plat 12:00 PM
MULTISCALE DYNAMICS OF FLAVIVIRUS FUSION PEPTIDES - MEMBRANE INTERACTIONS VIA SIMULATION AND EXPERIMENTS. **Jan K. Marzinek**, Nirmalya Bag, Roland G. Huber, Daniel A. Holdbrook, Thorsten Wohland, Chandra Verma, Peter J. Bond

1611-Plat 12:15 PM
ENHANCED SIMULATIONS AND DRUG DISCOVERY OF A MUSCARINIC G-PROTEIN-COUPLED RECEPTOR. **Yinglong Miao**, J. Andrew McCammon

1612-Plat 12:30 PM
MULTISCALE GPCR ACTIVATION IN LIPID MEMBRANES PROBED BY SOLID-STATE NMR AND SCATTERING METHODS. **Xiaolin Xu**, Andrey V. Struts, Trivikram R. Molugu, Suchithranga M.D.C. Perera, Udeep Chawla, Soohyun K. Lee, Rami Musharrafieh, Amanda M. Johnson, Annie Huang, Thomas A. Knowles, Michael F. Brown

Career Center Workshop
Selling Yourself to the Life Sciences Industry

11:30 AM - 12:30 PM, ROOM 212/213

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.

Exhibitor Presentation
Bruker Corporation

11:30 AM - 1:00 PM, ROOM 218

BioScope Resolve - The Highest Resolution Imaging of Any BioAFM
The BioScope Resolve™ BioAFM provides the highest resolution imaging, most complete biomechanics capabilities, and fastest scanning of any bioAFM available. Specifically designed for integration onto inverted optical light and confocal microscopes, it enables investigation of a wide range of biological samples, from cells and tissues to molecular and protein structures. Our exhibitor presentation will talk about three aspects of the Bioscope Resolve BioAFM system that are advancing biological research around the world.

1. High Resolution Imaging - The unique mechanical stability and performance of the BioScope Resolve AFM on an optical microscope enables researchers to routinely resolve the major and minor grooves along the backbone of an individual DNA strand. With ScanAsyst®, high-resolution cell imaging has never been easier. This game-changing capability has allowed soft, flexible cell surface structures, such as microvilli, to be resolved for the first time on living cells by AFM.

2. Complete Cell Mechanics Data – Accurate, Repeatable. PeakForce QNM®, has become the preferred mode for nanomechanical mapping. With new algorithms, it delivers highest resolution property maps at pN forces on live cells. Together with "No Touch" tip calibration, PeakForce QNM delivers the fastest quantitative mechanical characterization of live cells, providing a complete force curve for every pixel at actuation rates from 125 Hz to 2 kHz. With our new FASTForce Volume covering rates from sub-Hz to 300 Hz, and PeakForce Tapping extending to 2 kHz, we provide the widest range of ramp rates for single points and imaging while maintaining pN force control. Our new RampScript™ allows the user to build, control and record complex nanomechanical measurements for use in protein pulling, ligand-receptor interaction, cell relaxation and viscoelastic probing.

3. Investigating Cell Dynamics – Without Compromise. Fast Tapping on living cells - Bioscope Resolve is the only BioAFM that enables fast scanning while simultaneously providing the large piezo scanner range necessary for capturing the dynamic behavior of living cells in real time (XYZ = 100µm x 100µm x 15µm). The Fast Tapping capabilities of Resolve are truly a step forward in conducting high-resolution AFM studies at timescales relevant to cellular processes. Together with the integration of advanced optical microscopy and environmental control, live cell studies have never been easier.

BioScope Resolve was designed by biologists who needed a flexible BioAFM system that could meet a wide range of biological application needs. From its Advanced Perfusing Incubator for long-term live-cell studies to its full sample-carrier support system, every feature of the BioScope Resolve is designed for maximum experiment flexibility.

Speaker
Ian Armstrong, Applications Scientist, ARM Unit, Bruker Corporation

Career Opportunities at Primarily Undergraduate Institutions Finding a Job and Finding Success

12:00 PM - 1:30 PM, ROOM 219

This session provides graduate students, postdocs, and current faculty with information and resources on career options at PUI's. Panelists are faculty members at PUI's who have been successful in their positions.

Panelists
Paul Urayama, Miami University
Elizabeth Yates, United States Naval Academy
Justin Link, Xavier University
Julio C. de Paula, Lewis and Clark College
Shelli Frey, Gettysburg College

Postdoc to Faculty Q&A Transitions Forum and Luncheon

12:00 PM - 2:00 PM, ROOM 222/223

This question-and-answer luncheon is designed for postdocs finishing and actively applying for academic faculty positions. Discussion will be led by a panel of new faculty in basic science and/or medical school departments and experienced faculty who have served as department chairs and/or part of faculty search committees. Topics for discussion include how to prepare the curriculum vitae, the interview process, networking, how to negotiate the job offer, and advice for new faculty as they balance research with their department obligations. Pre-registration was required for lunch. If you are interested in attending and did not register in advance, you are welcome to participate in the discussion on a space-available basis.

Speakers
Bradley Baker, Korea Institute of Science and Technology
Silvia Cavagnero, University of Wisconsin, Madison
Julio Cordero-Morales, University of Tennessee Health Science Center
Jose Faraldo-Gomez, NHLBI, NIH
Shai Silberberg, NINDS, NIH
Valeria Vasquez, University of Tennessee Health Science Center

Exhibitor Presentation Nanion Technologies GmbH

12:30 PM - 2:00 PM, ROOM 221

Measure More Membrane: Cells, Bilayers, and Transporter Activity
In this workshop we will showcase three versatile technologies: the *Port-a-Patch*, the world's smallest patch clamp rig, the *Orbit* product family, for parallel lipid bilayer recordings of reconstituted ion channels, and the *SURFE²R* product family, for label-free and direct measurements of transporter protein activity.

The *Port-a-Patch* is the smallest patch clamp rig in the world and supports high quality patch clamp recordings; accessible to electrophysiologists and non-electrophysiologists alike. Giga-seal recordings coupled with excellent voltage-clamp of the cellular membrane ensure high quality data. Versatile add-ons, such as internal perfusion, allow unprecedented experimental freedom, above and beyond the possibilities of conventional patch clamp.

The *Orbit 16* supports the parallel formation and recording from up to 16 lipid bilayers containing reconstituted ion channels or nanopores. Using Micro Electrode Cavity Array (MECA, Ionera) recording substrates, the bilayers are automatically formed by remotely actuated painting (Ionera-SPREAD), which will be demonstrated during this session. Based on the same principle, with the added possibility of active cooling and heating, the *Orbit mini* is a minimal footprint, turn-key system and allows 4 parallel lipid bilayer recordings.

SSM (solid supported membrane)-based electrophysiology is a technique whereby proteoliposomes, membrane vesicles, or membrane fragments containing the channel or transporter of interest are adsorbed to a lipid monolayer painted over a functionalized electrode. Automation of the SSM technology is accomplished by the *SURFE²R* product family and allows precise measurements and in-depth analysis of transporter and ion channel functions. Live experiments on the *SURFE²R* will be shown.

Join this workshop for live experiments and information about three outstanding platform families.

Speakers
Andrea Brüggemann, CSO, Nanion Technologies GmbH
Niels Fertig, CEO, Nanion Technologies GmbH
Gerhard Baaken, CEO, Ionera Technologies GmbH
Ekaterina Zaitseva, CSO, Ionera Technologies GmbH
Maria Barthmes, Product Manager, SURFE2R, Nanion Technologies GmbH

Bringing Mentees and Mentors Together in a National Network

1:00 PM - 2:15 PM, ROOM 214

Through an initiative funded by the National Institutes of Health (NIH), the National Research Mentoring Network (NRMN) is a nationwide consortium of science professionals and institutions collaborating to provide students and scientists across all career stages of research in the biomedical, behavioral, clinical, and social sciences with enhanced networking, professional development, research resources and mentorship experiences. NRMN includes a wide range of programs for mentors and mentees. This session will provide information on the resources available for mentees and mentors through NRMN and provide an opportunity to participate in the program.

Presenter
Harlan Jones, University of North Texas Health Science Center

Industry and Agency Opportunities Fair

1:00 PM - 3:00 PM, HALL B-2 & C

This fair will introduce attendees to companies and agencies that have employment and funding opportunities outside of academia. Stop by the fair to learn about the variety of opportunities available to scientists in industry and government and to talk one-on-one with representatives from participating organizations. Don't forget to check out the Career Development Center for current job opportunities available at many of the participating organizations.

NIH Grant Writing Workshop

1:00 PM - 3:00 PM, ROOM R01

Whether you are a first-time applicant or a scientist with long-standing NIH funding, it is important to stay abreast of the latest changes to the NIH extramural grant process. During this session NIGMS staff with expertise in biophysics will be providing details on the NIH grant review process as it stands in 2017, including the recently adopted requirement for rigor, reproducibility, and data management.

Speakers
Jean Chin, NIGMS
Susan Gregorick, NIGMS
Peter Preusch, NIGMS
James Mack, CSR

Exhibitor Presentation
Semrock Inc

1:30 PM - 3:00 PM, ROOM 218

Maximizing the Performance of Fluorescence Microscopes by Optical Filters
TIRF, Super-resolution & Multiphoton fluorescence microscopy techniques continue to gain in popularity. This tutorial will discuss ways of maximizing the performance of such imaging systems by utilizing applications specific optical filters.

SearchLight (https://searchlight.semrock.com/) is a free, online spectral plotting and analysis tool that allows for evaluation and optimization of microscopy systems. Latest developments with this premium modeling resource will be discussed.

Speaker
Prashant Prabhat, Business Line Leader, Semrock Inc

Snack Break

1:45 PM - 3:00 PM, HALL B-2 & C

Career Center Workshop
Looking Beyond Academia: Identifying Your Career Options Using MyIDP, Linkedin, and More

2:30 PM - 3:30 PM, ROOM 212/213

Not sure where your professional future lies or how to approach the process in an organized and strategic manner? This presentation provides a framework and resources for moving forward with confidence towards the next step in your professional future. In addition, it will provide specific examples of how to build out your knowledge of a new potential career field and forge valuable connections that can facilitate a successful transition.

Networking and Personal Branding
The Workshop

2:30 PM - 4:00 PM, ROOM 210

Navigating the complexities of a career in science is difficult. Making new, important discoveries takes hard work, perseverance, and luck. Along with these skills, career success increasingly hinges on complex social factors including establishing independent collaborations, peer and mentor support networks, and community name recognition. In this interactive workshop we will discuss the essential importance of networking in science careers, and of developing a recognizable personal brand to help promote developing scientists in the ever-competitive and complex job market.

Speakers
Lisa Fauci, Tulane University
Jennifer Ross, University of Massachusetts, Amherst
David Warshaw, University of Vermont

Education Committee Meeting

3:00 PM - 5:00 PM, ROOM 203

Symposium
Membrane Protein Biogenesis

4:00 PM - 6:00 PM, GREAT HALL A

Chair
Charles R. Sanders, Vanderbilt University

1613-Symp **4:00 PM**
THE SCARLET LETTER: CELLULAR RECOGNITION OF MISFOLDING-PRONE MEMBRANE PROTEINS. **Charles R. Sanders**

1614-Symp **4:30 PM**
THE ASSEMBLY OF BETA-BARREL PROTEINS INTO BACTERIAL OUTER MEMBRANES. **Trevor Lithgow**

1615-Symp **5:00 PM**
MECHANISTIC INSIGHTS INTO OUTER MEMBRANE PROTEIN FOLDING. **Sheena Radford**

1616-Symp **5:30 PM**
SOLVING THE MEMBRANE PROTEIN EXPRESSION PROBLEM. **Bil Clemons**

Symposium
Biophysics of Malaria Parasites

4:00 PM - 6:00 PM, GREAT HALL B

Chair
Paula da Fonseca, MRC Laboratory of Molecular Biology, United Kingdom

1617-Symp **4:00 PM**
CRYO-EM STRUCTURE OF THE *PLASMODIUM* PROTEASOME IN THE SEARCH OF NEW ANTIMALARIALS. **Paula da Fonseca**

1618-Symp **4:30 PM**
THE ROLE OF CELL ADHESION IN THE MALARIA LIFE CYCLE: FROM GLIDING SPOROZOITES TO ROLLING ADHESION OF INFECTED RED BLOOD CELLS. **Ulrich S. Schwarz**, Friedrich Frischknecht, Michael Lanzer, Anna Battista, Christine Lansche, Anil Kumar Dasanna

1619-Symp **5:00 PM**
MEASURING AND MODELLING HOST CELL SUBVERSION BY THE MALARIA PARASITE. **Leann Tilley**, Boyin Liu, Oliver Looker, Emma McHugh, Yao Zhang, Paul McMillan, Eric Hanssen, Sulin Zhang, Matt Dixon

No Abstract **5:30 PM**
MULTISCALE MODELING OF MALARIA. **George E. Karniadakis**

Platform
Biosensors

4:00 PM - 6:00 PM, ROOM R02/03

Co-Chairs
Vladislav Verkhusha, Albert Einstein College of Medicine
Jenny Yang, Georgia State University

1620-Plat **4:00 PM**
SINGLE-MOLECULE PROTEIN FINGERPRINTING WITH NANOPORES. **Laura Restrepo-Perez**, Misha Soskine, Shalini John, Aleksei Aksimentiev, Giovanni Maglia, Chirlmin Joo, Cees Dekker

1621-Plat **4:15 PM**
NOVEL LOCAL RYR1 JUNCTIONAL CALCIUM RESPONSES AND DYNAMICS BY IMPROVED CALCIUM SENSOR CATCHER. **Jenny Yang**, Florence Reddish, Cassie Miller, Rakshya Gorkali, Susan Treves, Francesco Zorzato

1622-Plat **4:30 PM**
HIGH-THROUGHPUT SPECTRAL AND LIFETIME-BASED FRET SCREENING IN LIVING CELLS TO IDENTIFY SMALL-MOLECULE EFFECTORS OF SERCA. **Tory M. Schaaf**, Kurt C. Peterson, Benjamin D. Grant, Samantha L. Yuen, Prachi Bawaskar, Ji Li, Joesph M. Muretta, Gregory D. Gillispie, David D. Thomas

1623-Plat **4:45 PM**
BRIGHT MONOMERIC NEAR-INFRARED FLUORESCENT PROTEINS FOR MULTISCALE IMAGING. Daria Shcherbakova, Mikhail Baloban, **Vladislav Verkhusha**

1624-Plat **5:00 PM**
THE INVESTIGATION OF DYNAMIC CHANGES OF THE PARTICLE SURFACE CHARGE WITH RESISTIVE-PULSE TECHNIQUE. **Yinghua Qiu**, Anna Dawid, Preston Hinkle, Yunfei Chen, Zuzanna Siwy

1625-Plat **5:15 PM**
ELECTROSTATIC CONTROL OF DNA HYDRIDIZATION KINETICS STUDIED WITH THE SINGLE-MOLECULE FIELD-EFFECT TRANSISTOR. **Sefi Vernick**, Scott M. Trocchia, Steven B. Warren, Erik F. Young, Delphine Bouilly, Ruben L. Gonzalez, Jr, Colin Nuckolls, Kenneth L. Shepard

1626-Plat **5:30 PM**
LOCKED NUCLEIC ACID THYMINE MONOMER PROBE IDENTIFIES FOUR SINGLE-NUCLEOTIDE VARIANTS BY MELTING TEMPERATURE. **Judy M. Obliosca**, Sara Y. Cheng, Yu-An Chen, Mariana F. Llanos, Yen-Liang Liu, Darren M. Imphean, David Bell, Jeffrey T. Petty, Pengyu Ren, Tim Yeh

1627-Plat **5:45 PM**
DETECTION OF DNA METHYLATION WITH AEROLYSIN NANOPORE. **Jie Yu**, Chan Cao, Jie Yang, Yi-tao Long

Platform
Ion Channels, Pharmacology, and Disease
4:00 PM - 6:00 PM, Room R04/05

Co-Chairs
Linlin Ma, University of South Australia
Harley Kurata, University of Alberta, Canada

1628-Plat **4:00 PM**
DISSECTING KCNQ CHANNEL PHARMACOLOGY USING VOLTAGE CLAMP FLUOROMETRY. **Robin Y. Kim**, Stephan A. Pless, Harley T. Kurata

1629-Plat **4:15 PM**
CONFORMATIONAL CHANGES OCCURRING IN THE ACIDIC POCKET DURING ASIC ACTIVITY. **Sabrina Vullo**, Gaetano Bonifacio, Stephan Kellenberger

1630-Plat **4:30 PM** **International Travel Awardee**
NOVEL HUMAN EAG CHANNEL ANTAGONISTS FROM SPIDER VENOMS. **Linlin Ma**, Yanni K. Chin, Zoltan Dekan, Maria Ikonomopoulou, Volker Herzig, Chun Y. Chow, Paul Alewood, Glenn F. King

1631-Plat **4:45 PM**
A NOVEL MEMBRANE POTENTIAL ASSAY TO IDENTIFY NAV1.7-SELECTIVE BLOCKERS. Tania Chernov-Rogan, Tianbo Li, Henry Verschoof, Kuldip Khakh, Steven Jones, Steve McKerrall, David H. Hackos, Dan Sutherlin, Charles J. Cohen, **Jun Chen**

1632-Plat **5:00 PM**
HIGH DIASTOLIC SODIUM INFLUX IN HEART FAILURE HAS DRUG-SENSITIVITIES LIKE LATE SODIUM CURRENT, BUT PRODUCES INWARD CURRENT AT DIASTOLIC POTENTIALS. **Zhandi Liao**, Kenneth S. Ginsburg, Daniel C. Bartos, Yanyan Jiang, Sanda Despa, Donald M. Bers

1633-Plat **5:15 PM**
VOLTAGE GATED PROTON CHANNEL EXPRESSION AND FUNCTION IN BREAST CANCER CELLS. Dan Bare, Vladimir V. Cherny, Abde M. Abukhdeir, Thomas E. DeCoursey, **Deri Morgan**

1634-Plat **5:30 PM**
BK CHANNEL ACTIVATION IN CHRONIC VASODILATION BY THIAZIDE-LIKE DIURETICS: ROLE OF THE BETA-1 AUXILIARY SUBUNIT. **Pedro Martín**, Agustín Asuaje, Valentina Pastore, Verónica Milesi

1635-Plat **5:45 PM**
DIFFERENTIAL K^+ CHANNELS EXPRESSION IN "CLASSICALLY" AND "ALTERNATIVELY" ACTIVATED MICROGLIA. **Hai M. Nguyen**, Eva M. Grössinger, Makoto Horiuchi, Kyle W. Davis, Lee-Way Jin, Izumi Maezawa, Heike Wulff

Platform
Electron Microscopy
4:00 PM - 6:00 PM, Room R06/07

Co-Chairs
Courtney Boyd, Imperial College London, United Kingdom
Petr Leiman, University of Texas Medical Branch of Galveston

1636-Plat **4:00 PM**
ENERGETICS OF SHEATH CONTRACTION IN CONTRACTILE INJECTION SYSTEMS. Alec D. Fraser, Michel Plattner, **Petr G. Leiman**

1637-Plat **4:15 PM**
CRYOEM STRUCTURE OF THE FULL LENGTH DYNAMIN-LIKE MXB AT 4.6 Å RESOLUTION. **Frances Joan D. Alvarez**, Shaoda He, Juan R. Perilla, Sooin Jang, Peter E. Prevelige Jr, Alan Engelman, Klaus Schulten, Sjors Scheres, Peijun Zhang

1638-Plat **4:30 PM**
AN ATOMIC MODEL FOR A COMPLETE MYOSIN MOLECULE WITHIN A NATIVE THICK FILAMENT. **Kenneth A. Taylor**, Zhongjun Hu, Dianne Taylor, Michael K. Reedy, Robert J. Edwards

1639-Plat **4:45 PM**
THE BACTERIAL FLAGELLAR FILAMENT RE-EXAMINED AT HIGH RESOLUTION. **Fengbin Wang**, Andrew Burrage, Daniel Kearns, Edward H. Egelman

1640-Plat **5:00 PM** **Education Travel Awardee**
USING CRYOEM TO UNDERSTAND HOW PHAGES EVADE BACTERIAL CRISPR DEFENSE SYSTEM. **Saikat Chowdhury**, MaryClare F. Rollins, Joshua Carter, Ryan Jackson, Lyn'Al Nosaka, Blake Wiedenheft, Gabriel C. Lander

1641-Plat **5:15 PM**
UNRAVELLING THE MECHANISM OF MEMBRANE ATTACK COMPLEX PORE CLOSURE. **Courtney Boyd**, Marina Serna, Scott Gardner, Agnel Praveen-Joseph, Maya Topf, B. Paul Morgan, Doryen Bubeck

1642-Plat **5:30 PM**
FUNCTIONAL STUDY OF THE RYANODINE RECEPTOR TYPE 1 USING CRYO-ELECTRON MICROSCOPY. **Amedee des Georges**, Oliver B. Clarke, Ran Zalk, Qi Yuan, Kendall J. Condon, Robert A. Grassucci, Wayne A. Hendrickson, Andrew R. Marks, Joachim Frank

1643-Plat **5:45 PM**
BACTERIOPHAGE T7 DNA TRANSLOCATION DURING INFECTION IS BOLSTERED BY THE HOST ATP SYNTHASE COMPLEX. **Dustin R. Morado**, Chunyan Wang, Bo Hu, Ian Molineux, Jun Liu

Platform
Membrane Pumps, Transporters, and Exchangers II

4:00 PM - 6:00 PM, ROOM R08/09

Co-Chairs
Vanessa Leone, NHLBI
Reinhard Seifert, Caesar Research Center, Germany

1644-Plat 4:00 PM
DESCRIBING THE THERMODYNAMICS OF THE SECONDARY TRANSPORTER BETP BY COUPLING SPECTROSCOPIC MEASUREMENTS TO MOLECULAR DYNAMICS SIMULATIONS. **Vanessa Leone**, Izabela Waclawska, Burkhard Endeward, Thomas Prisner, Christine Ziegler, Lucy R. Forrest

1645-Plat 4:15 PM
A NA^+/H^+ EXCHANGER REGULATED BY AN S4 VOLTAGE-SENSING DOMAIN AND A CYCLIC NUCLEOTIDE-BINDING DOMAIN. **Reinhard Seifert**, Florian Windler, Wolfgang Bönigk, Heinz-Gerd Körschen, U. Benjamin Kaupp

1646-Plat 4:30 PM
MOLECULAR MECHANISM OF ELECTROGENIC SODIUM/PROTON ANTIPORT. **Oliver Beckstein**, David L. Dotson, Mathieu Coincon, Yandong Huang, Chiara Lee, Povilas Uzdavinys, Emmanuel Nji, Shoko Yashiro, Wei Chen, Alexander D. Cameron, Jana Shen, David Drew

1647-Plat 4:45 PM
MOLECULAR MECHANISM OF CL^-/H^+ COUPLING IN A CLC ANTIPORTER. Yanyan Xu, Malvin Vien, Chungwen Liang, Alessio Accardi, **Simon Bernèche**

1648-Plat 5:00 PM
INSIGHTS INTO THE GATING MECHANISM OF EXCITATORY AMINO ACID TRANSPORTERS-ASSOCIATED ANION CHANNELANION CHANNEL. **Delany Torres-Salazar**, Horacio Poblete, Aneysis Gonzalez-Suarez, Ariela Vergara-Jaque, Jennie Garcia-Olivares, Jeffrey Comer, Susan G. Amara

1649-Plat 5:15 PM INTERNATIONAL TRAVEL AWARDEE
MOLECULAR INSIGHTS ON THE RECOGNITION OF SUBSTRATES BY THE PROMISCUOUS EFFLUX PUMP ACRB. **Ivana Malvacio**, Rosella Ombrato, Paolo Ruggerone, Attilio V. Vargiu

1650-Plat 5:30 PM
VOLTAGE-GATED CALCIUM CHANNELS AS DETECTING TOOLS OF PSYCHOACTIVE DRUGS. Iwona Ruchala, Alan Harris, Louis J. De Felice, **Jose M. Eltit**

1651-Plat 5:45 PM
HOMOLOGY MODELING AND LIGAND OPTIMIZATION FOR THE HUMAN AMINO ACID EXCHANGER LAT-1 (SLC7A5). **Claire Colas**, Avner Schlessinger

Platform
Cell Mechanics, Mechanosensing, and Motility II

4:00 PM - 6:00 PM, ROOM 206/207

Co-Chairs
Alexandra Surcel, Johns Hopkins University School of Medicine
Benjamin Prosser, University of Pennsylvania School of Medicine

1652-Plat 4:00 PM
MECHANICAL RESPONSE OF NESPRIN-2G TO CYTOSKELETAL FORCES REGULATES LINC COMPLEX-DEPENDENT MECHANOTRANSDUCTION. **Hengameh Shams**, Gant Luxton, Mohammad R. K. Mofrad

1653-Plat 4:15 PM
NUCLEAR CONSTRICTION SEGREGATES MOBILE NUCLEAR PROTEINS AWAY FROM CHROMATIN. **Charlotte R. Pfeifer**, Jerome Irianto, Rachel R. Bennett, Yuntao Xia, Irena L. Ivanovska, Andrea J. Liu, Roger A. Greenberg, Dennis E. Discher

1654-Plat 4:30 PM
MICRORHEOLOGY OF ASTROCYTES AND GLIOMAS AND CONTRIBUTION OF INTERMEDIATE FILAMENTS TO THEIR MECHANICS. **Alibert Charlotte**, Atef Asnacios, Bruno Goud, Jean-Baptiste Manneville

1655-Plat 4:45 PM
MODELLING THE FLOW OF DYNAMICALLY CROSS-LINKED BIOPOLYMER NETWORKS. **Arjan E. Boerma**, Patrick R. Onck, Erik van der Giessen, Stefanos Papanikolaou

1656-Plat 5:00 PM
DICTYOSTELIUM MECHANICS ACCURATELY IDENTIFIES NEW TARGETABLE DRUG SPACE FOR PANCREATIC CANCER DELINEATED BY MYOSIN IIS, FILAMINS, AND ALPHA-ACTININS, COLLECTIVELY COMPRIMISING THE MECHANOBIOME. **Alexandra Surcel**, Eric Schiffhauer, Dustin Thomas, Qingfeng Zhu, Robert Anders, Douglas Robinson

1657-Plat 5:15 PM
MYOFIBRIL ORGANIZATION IN CARDIOMYOCYTES IS GUIDED BY THE MAXIMAL TENSILE STRESS DIRECTION. **Hongyan Yuan**, Bahador Marzban

1658-Plat 5:30 PM
MICROTUBULE BUNDLES IN THE ADULT CARDIOMYOCYTE. **Patrick Robison**, Alexey I. Bogush, Benjamin L. Prosser

Platform
Protein-Small Molecule Interactions

4:00 PM - 6:00 PM, ROOM 208/209

Co-Chairs
Roman Osman, Mount Sinai School of Medicine
Michelle A. Sahai, Weill Cornell Medical College

1659-Plat 4:00 PM
COMBINED IN VITRO AND IN SILICO APPROACHES TO THE ASSESSMENT OF STIMULANT PROPERTIES OF NOVEL PSYCHOACTIVE SUBSTANCES. **Michelle A. Sahai**, Colin Davidson, George Khelashvili, Vincenzo Barrese, Neelakshi Dutta, Harel Weinstein, Jolanta Opacka-Juffry

1660-Plat 4:15 PM
WEIGHTED ENSEMBLE OF PATHWAYS FOR LIGAND UNBINDING FROM T4 LYSOZYME. **Ariane Nunes-Alves**, Daniel M. Zuckerman, Guilherme M. Arantes

1661-Plat 4:30 PM
EXPLORING NEW PHARMACOLOGICAL PERSPECTIVES OF FUSICOCCIN, A STABILIZER OF 14-3-3 - TARGET PROTEIN COMPLEX. **Andrea Saponaro**, Alessandro Porro, Antonio C. Sanjuan, Chiara Donadoni, Marco Nardini, Gerhard Thiel, Anna Moroni

1662-Plat 4:45 PM EDUCATION TRAVEL AWARDEE
DEVELOPING A NOVEL CLASS OF CLC CHLORIDE-CHANNEL INHIBITORS. **Anna K. Koster**, Chase Wood, Rhiannon Thomas-Tran, Tanmay S. Chavan, Jonas Almqvist, Kee-Hyun Choi, Justin Du Bois, Merritt Maduke

1663-Plat 5:00 PM
MAPPING CHOLESTEROL BINDING SITES ON THE HUMAN DOPAMINE TRANSPORTER. **Talia Zeppelin**, Xavier Periole, Birgit Schiøtt

1664-Plat **5:15 PM**
UNDERSTANDING THE BINDING MECHANISM OF RYANODINE TO THE OPEN- AND CLOSED STATES OF THE RYANODINE RECEPTOR PORE. **Williams E. Miranda**, Van A. Ngo, Laura L. Perissinotti, S. R. Wayne Chen, Sergei Y. Noskov

1665-Plat **5:30 PM**
MESOSCOPIC PROPERTIES AND MOLECULAR MECHANISMS OF IAPP AMYLOID INHIBITION AND REMODELING WITH SMALL MOLECULES. Aleksandr Kakinen, Bo Wang, **Xinwei Ge**, Raffaele Mezzenga, Thomas P. Davis, Feng Ding, Pu Chun Ke

1666-Plat **5:45 PM**
CONFORMATIONAL PLASTICITY OF THE MAGE-A3 PROTEIN AS A THERAPEUTIC STRATEGY IN MULTIPLE MYELOMA. **Roman Osman**, Hearn J. Cho, Opher Gileadi

Publications Committee Meeting

6:00 PM - 10:00 PM, HILTON, BRIDGE ROOM

Workshop
Beyond Calcium: Imaging Voltage and Other Ions

7:30 PM - 9:30 PM, ROOM R02/03

Chair
William R. Kobertz, University of Massachusetts Medical School

1667-Wkshp **7:30 PM**
FLUORESCENT VISUALIZATION OF CELLULAR EFFLUX. **William R. Kobertz**

1668-Wkshp **8:00 PM**
CRITICAL EVALUATION OF FRET-BASED BIOSENSOR PERFORMANCE: IMPLICATIONS FOR MEASURING ION CONCENTRATIONS. **Amy E. Palmer**

1669-Wkshp **8:30 PM**
LIGHT UP THE BRAIN WITH GENETICALLY ENCODED SENSORS OF NEURAL ACTIVITY. **Lin Tian**

1670-Wkshp **9:00 PM**
FUNCTIONAL CORTICAL CONNECTOMICS THROUGH CO-EXPRESSION OF GENETICALLY EXPRESSED VOLTAGE AND CALCIUM INDICATORS. Sam Barnes, Chenchen Song, **Thomas Knöpfel**

Workshop
Next Generation Biophysics Enabled by Precision Chemical Biology Tools

7:30 PM - 9:30 PM, ROOM R04/05

Chair
Stephen G. Sligar, University of Illinois

1671-Wkshp **7:30 PM**
NANODISCS AS A PRECISION TOOL FOR BIOPHYSICS AND CHEMICAL BIOLOGY. **Stephen G. Sligar**

No Abstract **8:00 PM**
GLYCANS AS CELLULAR ID'S. **Laura Kiessling**

No Abstract **8:30 PM**
TMP-TAG: A CHEMICAL SURROGATE TO THE FLUORESCENT PROTEINS FOR LIVE CELL IMAGING. **Virginia Cornish**

1672-Wkshp **9:00 PM**
MOLECULAR TOOLS AND NANODEVICES BUILT FROM DNA. **Tim Liedl**

Workshop
Single-Particle CryoEM: A How-To Guide

7:30 PM - 9:30 PM, ROOM R06/07

Chair
Bridget Carragher, New York Structural Biology Center

1673-Wkshp **7:30 PM**
USING EM TO UNDERSTAND THE STRUCTURE AND FUNCTION OF MOLECULAR MACHINES. **Bridget Carragher**

1674-Wkshp **8:00 PM**
BEST PRACTICES IN DATA COLLECTION AND DDD MOVIE PROCESSING FOR CRYO-EM. **John Rubinstein**

1675-Wkshp **8:30 PM**
OPTIMIZATION OF A CRYO-EM STRUCTURAL MODEL REPRESENTATION. **Wah Chiu**

1676-Wkshp **9:00 PM**
STRUCTURE DETERMINATION OF MULTI-PROTEIN COMPLEXES USING CRYO-EM. **Lori A. Passmore**, Christopher J. Russo

Workshop
Biological Networks from Experiment to Modeling and Back

7:30 PM - 9:30 PM, ROOM R08/09

Chair
Jennifer Reed, University of Wisconsin-Madison

1677-Wkshp **7:30 PM**
USING A GENOME-SCALE MODEL AND GENOMIC LIBRARY TO DISCOVER THE FUNCTIONS OF METABOLIC GENES. Shu Pan, Kiel Nikolakakis, Edward Ruby, **Jennifer Reed**

1678-Wkshp **8:00 PM**
COORDINATION OF METABOLISM THROUGH METABOLITE-PROTEIN INTERACTIONS. **Uwe Sauer**

1679-Wkshp **8:30 PM**
DECIPHERING THE STOCHASTIC KINETICS OF GENE REGULATION. **Ido Golding**

1680-Wkshp **9:00 PM**
MODELING CYTOPLASMIC MECHANICS IN RAPIDLY MOVING CELLS. **Julie Theriot**

SOBLA (The Society for Latinoamerican Biophysicists) Meeting

8:00 PM - 10:00 PM, ROOM 214

TUESDAY POSTER SESSIONS

1:45 PM–3:45 PM, B-2 & C

Below is the list of poster presentations of abstracts submitted by October 3.
The list of late abstracts scheduled for Tuesday is available in the Program Addendum and the posters can be viewed on boards beginning with L.
All abstracts are available through the desktop planner and mobile app.

Posters should be mounted beginning at 6:00 PM on Monday and must be removed NO LATER THAN 4:30 PM on Tuesday evening. Posters will be on view until 10:00 PM on Monday, 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.

On Tuesday the Exhibit Hall will close completely at 4:30 PM to accommodate the tear down of exhibits. **ALL POSTERS MUST BE REMOVED BY THIS TIME.** Posters remaining on boards after that time will be discarded. Posters being presented on Wednesday may be mounted beginning at 7:00 AM on Wednesday.

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

Board Numbers	Category
B1 – B30	Protein Structure and Conformation III
B31 – B47	Protein-Small Molecule Interactions I
B48 – B63	Protein Dynamics and Allostery III
B64 – B81	Membrane Protein Structures I
B82 – B94	Protein Assemblies II
B95 – B121	Intrinsically Disordered Proteins (IDP) and Aggregates II
B122 – B144	RNA Structures and Dynamics
B145 – B156	Protein: DNA Interactions: Chromatin and Other Structures
B157 – B168	Chromatin and the Nucleoid II
B169 – B188	Membrane Physical Chemistry I
B189 – B208	Membrane Active Peptides and Toxins I
B209 – B224	Membrane Structure III
B225 – B252	Protein-Lipid Interactions: Structures
B253 – B264	General Protein-Lipid Interactions III
B265 – B280	Exocytosis and Endocytosis II
B281 – B297	Calcium Signaling II
B298 – B312	Cardiac, Smooth, and Skeletal Muscle Electrophysiology II
B313 – B322	Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating III
B323 – B338	TRP Channels III
B339 – B357	Ion Channels, Pharmacology, and Disease I
B358 – B374	Other Channels I
B375 – B401	Ligand-gated Channels I
B402 – B413	Cardiac Muscle Regulation II
B414 – B428	Kinesins, Dyneins, and Other Microtubule-based Motors II
B429 – B445	Cytoskeletal Assemblies and Dynamics
B446 – B469	Cell Mechanics, Mechanosensing and Motility III
B470 – B485	Mitochondria in Cell Life and Death II
B486 – B495	Light Energy Harvesting, Trapping, and Transfer
B496 – B508	Molecular and Cellular Neuroscience
B509 – B520	EPR and NMR: Spectroscopy and Imaging
B521 – B536	Molecular Dynamics III
B537 – B543	Computational Methods and Bioinformatics II
B544 – B555	Optical Spectroscopy: CD, UV-VIS, Vibrational, Fluorescence I
B556 – B564	Force Spectroscopy and Scanning Probe Microscopy I
B565 – B593	Biosensors
B594 – B604	Biophysics Education

It is the responsibility of the poster presenters to remove print materials from the board after their presentations. Please do not leave materials or belongings under poster boards or in the poster area. Posters will not be collected or stored for pick-up at a later time. The Biophysical Society is not responsible for any articles left in the poster area.

Protein Structure and Conformation III (Boards B1–B30)

1681-Pos **Board B1**
PROBING SUBSTRATE SEQUESTRATION IN CARRIER PROTEINS USING VIBRATIONAL SPECTROSCOPY LABELS. **Caroline A. McKeon**, Samuel C. Epstein

1682-Pos **Board B2**
IDENTIFICATION OF FLUOXETINE-SEROTONIN TRANSPORTER INTERACTIONS USING CROSSLINKING-MASS SPECTROMETRY (CX-MS). **Elizabeth Castellano**

1683-Pos **Board B3**
INSIGHTS INTO SUBSTRATE UNFOLDING AND ALLOSTERIC REGULATION OF INSULIN DEGRADING ENZYME. **Felicia H. Jiang**, Wei-Jen Tang, Esmael J. Haddadian

1684-Pos **Board B4**
SECA FUNCTIONS *IN VIVO* AS A 1M6N-LIKE DIMER TO PROMOTE PROTEIN TRANSPORT. **Tithi Banerjee**

1685-Pos **Board B5**
COMPARISON OF POLARIZABLE CONTINUUM & QUANTUM MECHANICS/MOLECULAR MECHANICS MODELS WITH SERIES OF TRIPEPTIDES (AXA). Allen Walker, Lillian Zhu, Esmael Jafari Haddadian, **Ahmed Lakhani**

1686-Pos **Board B6**
IDENTIFICATION OF KEY STRUCTURAL FEATURES DETERMINING THE BINDING OF ALPHA GLOBIN AND ENDOTHELIAL NITRIC OXIDE SYNTHASE. **TC Stevenson Keller IV**, Nicole K. Swope, Brant E. Isakson, Linda Columbus

1687-Pos **Board B7**
MOLECULAR LEVEL INSIGHT INTO A UNIQUE SURFACE PROTEIN GLYCOSYLATION PATHWAY: STRUCTURE OF THE *ACTINOMYCES ORIS* LCP ENZYME THAT MEDIATES SURFACE PROTEIN GLYCOSYLATION. **Brendan R. Amer**, Michael R. Sawaya, Brandon Liauw, Janine Fu, Hung Ton-That, Robert T. Clubb

1688-Pos **Board B8**
RATIONAL DEVELOPMENT OF HBV CAPSID INHIBITORS AIDED BY MOLECULAR DYNAMICS. Maksym Korablyov, Anna Pavlova, Christophe Chipot, **James C. Gumbart**

1689-Pos **Board B9**
CHARACTERIZATION OF THE FULL-LENGTH, HUMAN BECLIN-1 PURIFIED FROM *ESCHERICHIA COLI*. **Matthew Ranaghan**, Colin Garvie, Doug Daniels, Beth Levine, Jose Perez

1690-Pos **Board B10**
DIFFERENT COVALENT IMMOBILIZATION STRATEGIES INFLUENCING THE FIBRONECTIN'S CONFORMATION AND BIOACTIVITY. **Stephanie Vanslambrouck**, Pascale Chevallier, Andree-Anne Guay-Begin, Gaetan Laroche

1691-Pos **Board B11** **International Travel Awardee**
STRUCTURAL DYNAMICS IN THE MYOSIN 7A SINGLE A-HELIX DOMAIN. **Matthew Batchelor**, Marcin Wolny, Peter J. Knight, Emanuele Paci, Arnout P. Kalverda, Michelle Peckham

1692-Pos **Board B12** **Education Travel Awardee**
PROTEIN ENERGY NETWORK MODELS TO CLASSIFY AND PREDICT FUNCTIONALLY LINKED INTERFACES OF PROTEINS FROM FUNCTIONALLY UNCORRELATED INTERFACES. **Isha D. Mehta**, Brian W. Beck

1693-Pos **Board B13**
ASSEMBLY OF A MULTIMERIC ALLOSTERIC PROTEIN FROM ITS ISOLATED COMPONENTS CHARACTERIZED BY ISOTHERMAL TITRATION CALORIMETRY (ITC). **Antonio Tsuneshige**

1694-Pos **Board B14**
BUILDING A BETTER PHOSPHOLAMBAN: CHARACTERIZING AND OPTIMIZING THE STRUCTURAL DYNAMICS OF DOMAIN IB PLN MUTANTS TO TUNE SERCA FUNCTION. **Kim N. Ha**, Mara Exline, Sarah E. Nelson, Gianluigi Veglia

1695-Pos **Board B15**
CHARGE NEUTRALIZATION, NOT SALT BRIDGES, STABILIZES ALPHA HELICES IN REPEATING BLOCKS OF ACIDIC AND BASIC RESIDUES. **Ammon E. Posey**, Tyler S. Harmon, Rohit V. Pappu

1696-Pos **Board B16**
MULTI-STATE MODELING OF BIOMOLECULES BY SATISFACTION OF SPATIAL RESTRAINTS FROM SINGLE-PARTICLE ELECTRON MICROSCOPY IMAGES. **Ilan E. Chemmama**, Charles H. Greenberg, Andrej Sali

1697-Pos **Board B17**
IDENTIFICATION AND CHARACTERIZATION OF A REPRESSED TROPONIN I-LIKE EPITOPE STRUCTURE IN THE C-TERMINAL REGION OF TROPONIN T. **Taylor Heilig**, J.-P. Jin

1698-Pos **Board B18**
NMR STUDIES OF CONFORMATIONAL SELECTION OF HNRNP H ON RNA SPLICING. **Liang-Yuan Chiu**, Srinivas Penumutchu, Blanton S. Tolbert

1699-Pos **Board B19**
CHARACTERIZATION OF A NOVEL FRET PROBE IN A CROWDED ENVIRONMENT USING TIME-RESOLVED ANISOTROPY. **Hannah Leopold**, Megan Currie, Jacob Schwarz, Arnold J. Boersma, Erin D. Sheets, Ahmed A. Heikal

1700-Pos **Board B20**
CRYTOCHROME AND NUCLEAR RECEPTORS - EXPANDING THE ROLE OF A CANONICAL CIRCADIAN REPRESSOR. **Colby Sandate**

1701-Pos **Board B21**
QUO VADIS, BIOMACROMOLECULAR STRUCTURE QUALITY. **Radka Svobodova Varekova**, Vladimir Horsky, David Sehnal, Veronika Bendova, Lukas Pravda, jaroslav Koca

1702-Pos **Board B22**
ACETYL-GROUP SENSING THROUGH MODULATION OF CONFORMATIONAL DYNAMICS IN AN ARYLALKYLAMINE N-ACETYLTRANSFERASE. **Adam A. Aboalroub**, Ashleigh Bachman, Ioannis Gelis

1703-Pos **Board B23**
INTERDOMAIN CONFORMATIONAL CHANGES IN VISUAL ARRESTIN UPON BINDING TO DIFFERENT FORMS OF RHODOPSIN. **Wei-Lin Ou**, Ned Van Eps, Takefumi Morizumi, Aidin R. Balo, Oliver P. Ernst

1704-Pos **Board B24**
EFFECTS OF $G_{\alpha i}$ MYRISTOYLATION ON RIC-8A GEF ACTIVITY. **Levi J. McClelland**, Stephen R. Sprang

1705-Pos **Board B25**
USING SINGLE MOLECULE FRET TO EXAMINE THE IMPACT OF ENZYMATIC DEGLYCOSYLATION ON THE STRUCTURE OF IMMUNOGLOBULIN G ANTIBODIES. **Alan J. Mlotkowski**, Brandon Roman, Mark S. Piraino, Cathrine A. Southern

1706-Pos **Board B26**
MONITORING MACROMOLECULAR CROWDING VIA FRET USING WAVELENGTH-DEPENDENT FLUORESCENCE LIFETIME MEASUREMENTS. **Jacob Schwarz**, Megan Currie, Hannah Leopold, Arnold J. Boersma, Ahmed A. Heikal, Erin D. Sheets

1707-Pos **Board B27**
THE THERMODYNAMICS OF DIVALENT METALS BINDING TO TAURINE/A-KETOGLUTARATE-DEPENDENT OXYGENASE (TAUD). **Mingjie Li**

1708-Pos **Board B28**
DISCRIMINATING RESIDUE SUBSTITUTIONS BETWEEN TWO, SINGLE PROTEINS WITH A SUB-NANOPORE. **Zhuxin Dong**

1709-Pos **Board B29**
EFFECTIVE ON-DEMAND MINING OF STRUCTURAL DATABASES. **Lukas Pravda**, David Sehnal, Radka Svobodova Varekova, Jaroslav Koca

1710-Pos **Board B30**
INTERCONNECTION BETWEEN PARALLEL ASSEMBLY PATHWAYS IN LARGE RIBOSOME SUBUNIT BIOGENESIS. **Riley C. Gentry**, Eda Koculi

Protein-Small Molecule Interactions I (Boards B31–B47)

1711-Pos **Board B31**
KINETICS AND PATHWAYS OF EXTREMELY LONG LIGAND RELEASE EVENTS REVEALED BY WEXPLORE AND CONFORMATION SPACE NETWORKS. Samuel D. Lotz, **Alex Dickson**

1712-Pos **Board B32**
MACHINE LEARNING GUIDED LIGAND-PROTEIN SIMULATION APPROACH ELUCIDATES THE BINDING MECHANISM OF ABSCISIC ACID. **Saurabh Shukla**, Moeen Meigooni, Chuankai Zhao, Diwakar Shukla

1713-Pos **Board B33**
HYDRATION EFFECTS ON BINDING EQUILIBRIA: ROLE OF DESOLVATION ENERGY. **Daryl K. Eggers**

1714-Pos **Board B34**
A STRUCTURE BASED FRAMEWORK TO IDENTIFY NOVEL TARGETS OF FDA APPROVED KINASE INHIBITORS. **Hammad Naveed**

1715-Pos **Board B35**
A SYNTHETIC PEPTIDE FROM THE N-TERMINAL OF HEXOKINASE I PREVENTS THE INTERACTION BETWEEN VDAC1 AND SOD1 G93A MUTANT RECOVERING THE VIABILITY OF AN ALS CELL MODEL. Andrea Magri, Ramona Belfiore, Loredana Leggio, Francesca Guarino, **Angela Messina**

1716-Pos **Board B36**
MULTI-CONFORMER HIERARCHICAL VIRTUAL SCREENING WORKFLOW TO IDENTIFY POTENTIAL K-RAS INHIBITORS. **Amit K. Gupta**, Priyanka Prakash, John A. Putkey, Alemayehu A. Gorfe

1717-Pos **Board B37**
DATABASE OF CA PROTEIN-LIGAND BINDING GIBBS ENERGIES, ENTHALPIES, ENTROPIES, VOLUMES, AND CRYSTAL STRUCTURES. **Vaida Linkuvienė**, Asta Zubrienė, Vaida Paketurytė, Alexey Smirnov, Vytautas Petrauskas, Daumantas Matulis

1718-Pos **Board B38**
COMPARISON OF THE RGD- AND AGDV-CONTAINING PEPTIDE INTERACTIONS WITH THE PLATELET INTEGRIN ALPHAIIBBETA3. **Rustem I. Litvinov**, Olga Kononova, Dmitry S. Blokhin, Vladimir V. Klochkov, Valeri Barsegov, Joel S. Bennett, John W. Weisel

1719-Pos **Board B39**
BRUSHED POLYETHYLENE GLYCOL AND PHOSPHORYLCHOLINE AS PROMISING GRAFTING AGENTS AGAINST PROTEIN BINDING. **Bo Wang**, Thomas Blin, Aleksandr Käkinen, Xinwei Ge, Emily H. Pilkington, John F. Quinn, Michael R. Whittaker, Thomas P. Davis, Pu Chun Ke, Feng Ding

1720-Pos **Board B40**
INSIGHTS INTO A LOW PROMISCUOUS AMINOGLYCOSIDE MODIFYING ENZYME, AMINOGLYCOSIDE *N3* ACETYLTRANSFERASE-VIA. **Fnu Prashasti**

1721-Pos **Board B41**
THE ROLE OF SOLVENT EFFECT ON THE LIGAND BINDING PROPERTIES OF THE THERMOSTABLE VARIANTS OF AMINOGLYCOSIDE NUCLEOTIDYLTRANSFERASE 4`(ANT4). **Seda Kocaman**

1722-Pos **Board B42**
DEVELOPMENT OF AN *IN VITRO* FRET BASED INHIBITORY ASSAY FOR THE COILED-COILED INTERACTION BETWEEN MBD2CC AND P66ACR1. **Victor C. Ekehchiadi**

1723-Pos **Board B43**
THE BINDING OF METHYLENE BLUE TO *PLASMODIUM FALCIPARUM* GLUTATHIONE REDUCTASE. **Judith H. Prieto**

1724-Pos **Board B44**
LIGAND-ADOPTING MECHANISM OF THE P53-BINDING POCKET OF THE ONCOPROTEIN MDMX. **Zheng Su**, Lingyun Qin, Rong Chen, Fei Yang, Jingjing Zhou, Huili Liu

1725-Pos **Board B45**
BIOCHEMICAL AND BIOPHYSICAL CHARACTERIZATION OF A SMALL MOLECULE INTERACTION WITH THE RAS-RELATED PROTEIN CDC42. Djamali Muhoza, Alix Montoya-Beltrand, **Paul D. Adams**

1726-Pos **Board B46** **International Travel Awardee**
SHARK-DERIVED SINGLE DOMAIN ANTIBODIES TARGETING APOLIPOPROTEIN E. **Shane E. Gordon**, Michael Foley, Matthew A. Perugini

1727-Pos **Board B47**
MOLECULAR DYNAMICS AND DOCKING STUDIES ON NEUROTENSIN RECEPTOR. **Rejwan Ali**, Yasmeen Beasley, Tetyana Skazko, Mostafa Sadoqi, Mihaly Mezei

Protein Dynamics and Allostery III (Boards B48–B63)

1728-Pos **Board B48**
A WEB-BASED INTERFACE FOR THE IDENTIFICATION OF ALLOSTERIC LIGAND BINDING SITES. **Nabina Paudyal**, Alemayehu A. Gorfe

1729-Pos **Board B49**
DEFINING AND EXPLORING ALLOSTERIC MUTATIONS. **Igor N. Berezovsky**

1730-Pos **Board B50**
TRANSCRIPTIONAL REGULATION BY LOCKING AND UNLOCKING THE INTRINSIC DISORDER IN NFKB. **Wei Chen**, Clarisse G. Ricci, J. Andrew McCammon, Elizabeth A. Komives

1731-Pos **Board B51**
CONSTRUING THE DYNAMIC COMPLEXITY AT A PLAUSIBLE IKK2-NEMO INTERFACE. **Jamie M. Schiffer**, Thuy Tien Nguyen, Ozlem Demir, Garret Chan, Rommie E. Amaro, Gourisankar Ghosh

1732-Pos **Board B52**
WHAT MAKES ENZYMES WORK? EXPLORING PROTEIN DYNAMICS IN *P-T-X* . Qi Huang, Jocelyn M. Rodgers, Russell J. Hemley, **Toshiko Ichiye**

1733-Pos **Board B53**
EXTREME BIOPHYSICS: ENZYMES UNDER PRESSURE. **Qi Huang**, Jocelyn M. Rodgers, Russell J. Hemley, Toshiko Ichiye

1734-Pos **Board B54**
IMPROVED RELAXATION MODE ANALYSIS OF A HEN EGG-WHITE LYSOZYME PROTEIN. **Naoyuki Karasawa**, Ayori Mitsutake, Hiroshi Takano

1735-Pos **Board B55**
IMPORTANCE OF PROTEIN VIBRATION DIRECTIONALITY ON FUNCTION. **Katherine A. Niessen**, Mengyang Xu, Yanting Deng, Edward H. Snell, Andrea G. Markelz

1736-Pos **Board B56**
CONFORMATIONAL EVOLUTION OF THREE REGULATOR OF G-PROTEIN SIGNALING PROTEINS (RGS4, RGS8, RGS19) IN MICROSECOND-SCALE SIMULATIONS. **Hossein Mohammadiarani**, Harish Vashisth

1737-Pos **Board B57**
COMPARATIVE STRUCTURAL DYNAMIC ANALYSIS OF GTPASES. **Hongyang Li**, Xin-Qiu Yao, Barry Grant

1738-Pos **Board B58**
THE MOLECULAR MECHANISM OF ENTROPIC ALLOSTERY OF HEMOGLOBIN. **Takashi Yonetani**, Kenji Kanaori

1739-Pos **Board B59**
STEERED MOLECULAR DYNAMIC SIMULATIONS REVEAL CRITICAL RESIDUES FOR (UN)BINDING OF SUBSTRATES, INHIBITORS AND A PRODUCT OF THE MALARIAL PFM1AAP. **Daniel S. Moore**, John P. Dalton, Irina G. Tikhonova

1740-Pos **Board B60**
DYNAMIC ALLOSTERY IN REGULATED ENTRY OF NEWCASTLE DISEASE VIRUS INTO HOST CELLS. **Nalvi D. Duro**, Sameer Varma

1741-Pos **Board B61**
THE ALLOSTERY LANDSCAPE: QUANTIFYING THERMODYNAMIC COUPLINGS IN BIOMOLECULAR SYSTEMS. Michel A. Cuendet, Harel Weinstein, **Michael V. LeVine**

1742-Pos **Board B62**
HOW DOES A LIGAND EXPLORE THE DEEP CHANNEL OF NEUROLYSIN? A CONFORMATIONAL DYNAMICS STUDY WITH WEXPLORE AND ELASTIC NETWORK MODELING. **Arzu Uyar**, Vardan Karamyan, Alex Dickson

1743-Pos **Board B63**
VARIABLE DYNAMICS OF IGG4 MONOCLONAL ANTIBODY CONTROLLED BY SINGLE POINT MUTATIONS. **Ettayapuram Ramaprasad Azhagiya Singam**, Shahid Uddin, Jose Casas-Finet, Donald J. Jacobs

Membrane Protein Structures I (Boards B64–B81)

1744-Pos **Board B64**
IMPROVING EXPRESSION IN YEAST OF A1 ADENOSINE RECEPTOR USING CHIMERIC RECEPTORS - DESIGN AND OPTIMIZATION OF THE HOST/PROTEIN PLATFORM FOR THERAPEUTIC DEVELOPMENT. **Abhinav R. Jain**, Anne S. Robinson

1745-Pos **Board B65**
A PRACTICAL METHOD TO PREPARE GLP-1 RECEPTOR. **Zhongping Hu**, Fan Yang, Nian Cheng, Zhengding Su

1746-Pos **Board B66**
PREDICTING MEMBRANE PROTEIN EXPRESSION IN YEAST FROM SEQUENCE-DERIVED FEATURES. **Samuel J. Schulte**, Shyam Saladi, William M. Clemons

1747-Pos **Board B67**
STATISTICAL MODELS ROBUSTLY PREDICT MEMBRANE PROTEIN EXPRESSION IN *E. COLI*. **Shyam Saladi**, Alexander E. Chu, William M. Clemons

1748-Pos **Board B68**
ESTABLISHING *RHODOBACTER SPHAEROIDES* FOR EXPRESSION OF LARGE MITOCONDRIAL MEMBRANE COMPLEX YME1L FOR CRYO-EM STRUCTURAL STUDIES. **Cristina Puchades**, Luke Rockland Wiseman, Gabriel Lander

1749-Pos **Board B69**
INVESTIGATION OF AFFINITIES AND STRUCTURES OF MEMBRANE PROTEIN-PROTEIN INTERACTIONS USING COMPARABLE SAMPLES. **Jennifer Martin**, Marissa Kieber, Linda Columbus

1750-Pos **Board B70**
SANS STUDIES OF MEMBRANE PROTEIN INCORPORATION AND CRYSTALLIZATION IN THE LIPIDIC CUBIC PHASE. **Thomas E. Cleveland**, Paul Butler

1751-Pos **Board B71**
CRYSTALLOGENESIS OF MEMBRANE PROTEINS MEDIATED BY POLYMER-BOUNDED LIPID NANODISCS. **Jana Broecker**, Bryan T. Eger, Oliver P. Ernst

1752-Pos **Board B72**
STRUCTURE OF THE STRA6 RECEPTOR FOR RETINOL UPTAKE. **Jonathan Kim**

1753-Pos **Board B73**
BIOSYNTHETIC PRODUCTION OF AN ISOTOPICALLY LABELLED RETINAL IN *E. COLI*. **Rachel Munro**, Meaghan Ward, So Young Kim, Keon Ah Lee, Kwang-Hwan Jung, Vladimir Ladizhansky, Leonid Brown

1754-Pos **Board B74**
EXPLORING COMPLEXES OF RHODOPSIN AND BINDING PARTNERS IN VIRTUAL REALITY. **Aidin R. Balo**, Ned Van Eps, Aditya Dhoot, Merry Wang, Oliver P. Ernst

1755-Pos **Board B75**
STRUCTURE OF AN INWARD PROTON TRANSPORTING ANABAENA SENSORY RHODOPSIN MUTANT: MECHANISTIC INSIGHTS. **Hartmut Luecke**, Bamboo Dong, Lissete Sanchez Magraner

1756-Pos **Board B76**
SPECTROSCOPIC INVESTIGATION OF THE PROTONPUMP CSR AND ITS LEAKY DERIVATIVES. **Roman Fudim**, Arend Vogt, Peter Hegemann

1757-Pos **Board B77** **Education Travel Awardee**
CONSTRUCTION OF A GPR3 HOMOLOGY MODEL USING CONFORMATIONAL MEMORIES. **Paula Morales**, Dow P. Hurst, Patricia H. Reggio

1758-Pos **Board B78**
COMPUTATIONAL ANALYSIS OF OMPG GATING. **Alan Perez-Rathke**, Christina Chisholm, Min Chen, Jie Liang

1759-Pos **Board B79**
PROTEOME-WIDE MODELING OF TRANSMEMBRANE ALPHA-HELICAL HOMODIMERS BY TMDOCK. **Andrei L. Lomize**, Irina D. Pogozheva

1760-Pos **Board B80**
FIRST MEMBRANE-BOUND, ATOMIC LEVEL STRUCTURE OF THE TERNARY EXTRINSIC COAGULATION COMPLEX. **Melanie Muller**, Emad Tajkhorshid

1761-Pos **Board B81**
DETERMINE THE SUBSTRATE-REGULATED TONB-DEPENDENT TRANSPORTER AND TONB INTERACTIONS. **Lishan Liu**, David Cafiso

Protein Assemblies II (Boards B82–B94)

1762-Pos **Board B82** **Education Travel Awardee**
CONSTRUCTING AN IN SILICO MODEL OF THE GRAM-NEGATIVE CELLULAR ENVELOPE. **Curtis Balusek**, James C. Gumbart

1763-Pos **Board B83**
EXTENDING *UPSIDE*, A NEAR-ATOMIC LEVEL MODEL FOR FAST PROTEIN FOLDING, FOR PREDICTING PROTEIN-PROTEIN INTERACTIONS. **Nabil F. Faruk**, John Jumper, Benoit Roux, Tobin R. Sosnick

1764-Pos **Board B84**
A STRUCTURAL VIEW OF THE DISSOCIATION OF ESCHERICHIA COLI TRYPTOPHANASE. **Abraham H. Parola**, Keren Green, Nasrin Qasem, Garik Gdalevsky, Anna Kogan, Yehuda Goldgur, Ofra Lotan, Orna Almog

1765-Pos **Board B85**
IMPROVED EPHA2 SAM: SHIP2 SAM DOMAIN ASSOCIATION BY INCREASING THE SOLVATION OF THE PROTEINS IN MOLECULAR DYNAMICS SIMULATION. **Zhenlu Li**, Matthias Buck

1766-Pos **Board B86**
A MOLECULAR SIMULATION METHOD TO PREDICT THE SELF-ASSEMBLY OF HELIX BUNDLES IN BIOLOGICAL MEMBRANES. **Jingjing Huang**, Regis Pomes

1767-Pos **Board B87**
PH RESPONSIVE PEPTIDE SELF-ASSEMBLIES: A MECHANISM AS OLD AS VIRUSES. **Maité Paternostre**, Franck Artzner

1768-Pos **Board B88**
CHARACTERIZATION OF CHMP POLYMERS AT THE MESOSCALE. **Maryam Alqabandi**, Nicola De Franceschi, Nolwenn Miguet, Christophe Caillat, Stephanie Mangenot, Winfried Weissenhorn, Patricia Bassereau

1769-Pos **Board B89**
ALL TUBULINS ARE NOT THE SAME: REVERSIBLE DISSOCIATION OF AB-TUBULIN DIMERS DIFFER DEPENDING ON THE SOURCE OF TUBULIN. **Felipe Montecinos-Franjola**, Sumit Chatuverdi, Peter Schuck, Dan L. Sackett

1770-Pos **Board B90**
STRUCTURE FUNCTION STUDIES OF A NOVEL HUMAN TSH BETA VARIANT. **Mihaly Mezei**, Ramkumarie Baliram, Rejwan M. Ali, Terry F. Davies, Rauf Latif

1771-Pos **Board B91**
HIJACKING HIS-TAGS TO MAKE FUNCTIONAL MULTI-PROTEIN COMPLEXES. **Elizabeth R. Haglin**, Ariane Briegel, Lynmarie K. Thompson

1772-Pos **Board B92**
THE TWO FACES OF PEPTIDE SELF-ASSEMBLY. MinJun Lee, Young-Beom Jo, Jeseong Yoon, **Seokmin Shin**

1773-Pos **Board B93**
MOLECULAR DYNAMICS STUDIES OF NON-ENVELOPED VIRUS CELL ENTRY MECHANISMS. Shivangi Nangia, Allyn R. Brice, **Eric R. May**

1774-Pos **Board B94**
ARTIFICIAL PEPTIDE-BASED MEMBRANES AND THEIR INTERACTION WITH LIPID SYSTEMS. Karin Kornmueller, Bernhard Lehofer, Gerd Leitinger, Heinz Amenitsch, **Ruth Prassl**

Intrinsically Disordered Proteins (IDP) and Aggregates II (Boards B95–B121)

1775-Pos **Board B95**
EFFECT OF PEPTIDE CONJUGATES OF CARBOXYLIC ACIDS TO THE AGGREGATION OF AMYLIN. **Jayson Vedad**, Adam A. Profit, Ruel Z. B. Desamero

1776-Pos **Board B96**
AGGREGATION INDUCED CONFORMATION CHANGES DETERMINE AMYLIN MEMBRANE AFFINITY. **Barun K. Maity**, Anoop Rawat, Bappaditya Chandra, Anirban Das, Sudipta Maiti

1777-Pos **Board B97**
ROLES OF SITE-SPECIFIC DEAMIDATION IN ISLET AMYLOID POLYPEPTIDE SELF-ASSEMBLY AND TOXICITY SITE-SPECIFIC DEAMIDATION IN ISLET AMYLOID POLYPEPTIDE SELF-ASSEMBLY AND CYTOTOXICITY. Phuong Trang Nguyen, Ximena Zottig, **Steve Bourgault**

1778-Pos **Board B98**
STRAIN-SPECIFIC PROPAGATION BY AN AMYLOID-BETA DODECAMER. **Dexter N. Dean**, Pradipta K. Das, Pratip Rana, Ryan P. Campbell, Preetam Ghosh, Sarah E. Morgan, Vijay Rangachari

1779-Pos **Board B99**
BUILDING BIGGER: MODELING LARGE-SCALE PROTEIN INTERACTIONS IN AMYLOIDOSIS. **Michael Bergman**

1780-Pos **Board B100**
COMPARISON OF STABILITIES OF FIBRILS OF THE AMYLOID-BETA PEPTIDES. Timir Sil, **Kanchan Garai**

1781-Pos **Board B101**
REGULATION OF BACE1 MRNA EXPRESSION IN ALZHEIMER'S DISEASE BY GREEN TEA CATECHINS AND BLACK TEA THEAFLAVINS. **Ryan J. Geiser**, Shelby E. Chastain, Melissa A. Moss

1782-Pos **Board B102** **International Travel Awardee**
SECONDARY STRUCTURE FLIPPING CONNECTED TO SALT-BRIDGE FORMATION CONVERTS TOXIC AMYLOID-B_{40} OLIGOMERS TO FIBRILS. **Bappaditya Chandra**, Debanjan Bhowmik, Barun Kumar Maity, Kaustubh R. Mote, Debabrata Dhara, Kallol Bera, Anirban Das, Ravindra Venkatramani, Sudipta Maiti, Perunthiruthy K. Madhu

1783-Pos **Board B103**
EFFECT OF A PARAMAGNETIC SPIN LABEL ON AMYLOID-BETA STRUCTURAL ENSEMBLE. **Sukanya Sasmal**, James Lincoff, Teresa Head-Gordon

1784-Pos **Board B104**
DISORDERED AMYLOID-BETA PROTEIN PROBED BY SINGLE-MOLECULE FRET. **Fanjie Meng**, Jae-Yeol Kim, Hoi Sung Chung

1785-Pos **Board B105**
ALZHEIMER'S PROTECTIVE CROSS-INTERACTION BETWEEN WILD-TYPE AND A2T VARIANTS CHANGES AB_{42} DIMER STRUCTURE. **Payel Das**, Anita Chacko, Georges Belfort

1786-Pos **Board B106**
SEQUENCE SPECIFIC QUANTITATIVE HYDROXYL RADICAL FOOTPRINTING REVEALS STRUCTURAL DETAILS OF AMYLOID-ß (1-42) PEPTIDE OLIGOMERIZATION. Janna Kiselar, Andrew Nix, Anant Paravastu, Rosenberry L. Terrone, **Alexandra L. Klinger**

1787-Pos **Board B107**
MEMBRANE BILAYERS HELP TO STABILIZE AND ARE AFFECTED BY AB-FIBRILS ON THE SURFACE; A MOLECULAR DYNAMICS STUDY. Sachin R. Natesh, Karl F. Freed, **Esmael J. Haddadian**

1788-Pos **Board B108**
PROBING THE MECHANISM OF GLYCOSAMINOGLYCAN-MEDIATED AMYLOID ASSEMBLY WITH A NON-AMYLOIDOGENIC PEPTIDE MODEL. **Mathew Sebastiao**, Isabelle Marcotte, Steve Bourgault

1789-Pos **Board B109**
PROBING THE BINDING OF AB PEPTIDES TO LIPID BILAYERS. **Christopher Lockhart**, Dmitri K. Klimov

1790-Pos **Board B110**
BETA-AMYLOID OLIGOMER FORMATION IN PHYSIOLOGICAL SOLUTIONS - A STUDY BY SINGLE-MOLECULE FLUORESCENCE RESONANCE ENERGY TRANSFER. Jun Han, Erwen Mei, Mei-Ping Kung, Hank F. Kung, Jian-Min Yuan, **Hai-Lung Dai**

1791-Pos **Board B111**
STATISTICAL THERMODYNAMIC MODELING OF EARLY AB OLIGOMER FORMATION. **Nicholas P. van der Munnik**, Tao Wei, Melissa A. Moss, Mark J. Uline

1792-Pos **Board B112**
STRAIN SPECIFIC PROPAGATION OF AN AMYLOID BETA OLIGOMER IN ALZHEIMER DISEASE. **Vijay Rangachari**

1793-Pos **Board B113**
AGGREGATION OF AMYLOID PROTEINS AT THE SURFACE-LIQUID INTERFACE. **Siddhartha Banerjee**, Mohtadin Hashemi, Zhengjian Lv, Sibaprasad Maity, Jean-Christophe Rochet, Yuri Lyubchenko

1794-Pos **Board B114**
BIOPHYSICAL INSIGHT INTO THE ANTI AMYLOIDOGENIC BEHAVIOR OF CYSTEINE. **Masihuz Zaman**, Rizwan Hasan Khan

1795-Pos **Board B115**
AMYLOID BETA AGGREGATION IN THE PRESENCE OF NATURALLY -DERIVED INHIBITORS. **Carol K. Hall**, Yiming Wang, David C. Latshaw II

1796-Pos **Board B116**
CROSS-REACTIVITY OF ALPHA-SYNUCLEIN WITH OTHER CELLULAR COMPONENTS CAN DRAMATICALLY MODULATE AMYLOID FORMATION. **Pernilla Wittung-Stafshede**

1797-Pos **Board B117**
USING THE SCN VIBRATIONAL PROBE GROUP TO DETERMINE THE MEMBRANE-BOUND STRUCTURAL DISTRIBUTION OF N-TERMINALLY ACETYLATED ALPHA-SYNUCLEIN. **Kavita D. Shroff**, Kristen E. Fiore, Casey H. Londergan

1798-Pos **Board B118** **CPOW Travel Awardee**
DETERMINING THE ROLE OF N-TERMINAL ACETYLATION ON A-SYNUCLEIN FUNCTION. **Siobhan Toal**, Adam Trexler, David DeWitt, Mark Brown, Elizabeth Rhoades

1799-Pos **Board B119**
GENERATING A MODEL FOR CALMODULIN INDUCED FOLDING IN THE DISORDERED REGULATORY DOMAIN OF CALCINEURIN. **Dinesh K. Yadav**

1800-Pos **Board B120**
ROLE OF DISORDERED PROTEIN ENSEMBLES IN PROTEIN-PROTEIN INTERACTIONS: CALCINEURIN AS A MODEL SYSTEM. **Trevor Creamer**

1801-Pos **Board B121**
CHEMICAL SHIFT ASSIGNMENT OF THE REGULATORY DOMAIN OF CALCINEURIN USING NMR SPECTROSCOPY. **John Hunt**

RNA Structures and Dynamics (Boards B122–B144)

1802-Pos **Board B122**
PRESSURE EFFECTS ON SELF-ASSEMBLY OF GMP, GUANOSINE 5'-MONOPHOSPHATE. **Balasubramanian Harish**, Mimi Gao, Roland Winter, Catherine Royer

1803-Pos **Board B123**
PREFERENTIAL INTERACTIONS OF CHARGED AND NEUTRAL COSOLUTES WITH A MODEL RNA HAIRPIN. **Jacob C. Miner**, Angel E. Garcia

1804-Pos **Board B124**
RNA COMPACTION IN THE PRESENCE OF POLYVALENT CATIONS. **Liya F. Oster**, Richard Sportsman, Christian Beren, Hongcheng Yao, Jae-Ho Shin, Charles Knobler, William Gelbart

1805-Pos **Board B125**
HOW COUNTERION IDENTITY IMPACTS THE PATHWAY OF RNA TERTIARY FOLDING. **Robb Welty**, Kathleen B. Hall

1806-Pos **Board B126**
ACCURATE DETERMINATION OF THE RNA THREE-WAY JUNCTIONS VIA SINGLE-MOLECULE HIGH-PRECISION FRET MEASUREMENTS. **Olga Doroshenko**, Hayk Vardanyan, Aiswaria Prakash, Stanislav Kalinin, Simon Sindbert, Oleg Opanasyuk, Christian Hanke, Sabine Müller, Holger Gohlke, Claus A.M. Seidel

1807-Pos **Board B127**
FRET, SAXS AND MOLECULAR SIMULATIONS RESOLVE THE SOLUTION STRUCTURES OF THREE COEXISTING CONFORMERS OF FLEXIBLE RNA FOUR-WAY JUNCTION. **Hayk Vardanyan**, Simon Sindbert, Stanislav Kalinin, Christian A. Hanke, Tomasz Soltynski, Grzegorz Lach, Danilo Springstubbe, Bettina Apel, Edward Snell, Thomas D. Grant, Jan Lipfert, Sabine Müller, Janusz M. Bujnicki, Holger Gohlke, Claus A.M. Seidel

1808-Pos **Board B128**
SINGLE-MOLECULE ELECTRIC SNAPSHOTS OF RNA TERTIARY PSEUDOKNOT FOLDING PATHWAY. Xinyue Zhang, Ruicheng Shi, Andrew J. Burcke, **Li-Qun Gu**

1809-Pos **Board B129**
FOLDING HETEROGENEITY IN HIV-1 FRAMESHIFTING HAIRPIN. **Dustin B. Ritchie**, Collin Tittle, Negar Rezajooei, Logan Rouleau, Tonia R. Cappellano, William Sikkema, Michael T. Woodside

1810-Pos **Board B130** **CID Travel Awardee**
STRUCTURAL INSIGHTS TO THE 3' UTR OF GAIT ELEMENTS. **Nancy Wells**, Blanton S. Tolbert

1811-Pos **Board B131** **International Travel Awardee**
LIGAND-DIRECTED CONFORMATIONAL DYNAMICS OF THE ADENINE-SENSING RIBOSWITCH THERMOSTAT. **Sven Warhaut**, Klara Rebecca Mertinkus, Philipp Höllthaler, Boris Fürtig, Mike Heilemann, Martin Hengesbach, Harald Schwalbe

1812-Pos **Board B132**
DYNAMIC EQUILIBRIUM OF THE TPP RIBOSWITCH AS OBSERVED BY MFD FRET. **Junyan Ma**, Soheila Rezaei, Feng Ding, Hugo Sanabria

1813-Pos **Board B133**
FOLDING AND CATALYSIS OF THE *GLMS* RIBOZYME RIBOSWITCH STUDIED AT THE SINGLE-MOLECULE LEVEL. **Andrew Savinov**, Steven M. Block

1814-Pos **Board B134**
MECHANISTIC INSIGHTS INTO FUNCTIONAL PROTEIN-RNA INTERACTIONS INVOLVED IN VIRAL REPLICATION. **Blanton S. Tolbert**

1815-Pos **Board B135**
REDOX EDITING OF RNA: A NOVEL ENDOGENOUS MODIFICATION TYPE WITH TRANSITION METAL COFACTOR (COPPER). **Josef H. Wissler**

1816-Pos **Board B136**
DISTINCT CHAIN ORGANIZING PRINCIPLES OF PROTEINS AND RNA. **Lei Liu**, Changbong Hyeon

1817-Pos **Board B137**
3D STRUCTURE PREDICTION OF NONCODING RNA AND SINGLE STRANDED DNA. **Jian Wang**, Yi Xiao

1818-Pos **Board B138**
HOMOLOGY MODELING OF RNA USING HIERARCHICAL NATURAL MOVES. **Xiong An Lee**, Adelene Y.L Sim

1819-Pos **Board B139**
COARSE-GRAINED MODELING OF RNA FOR BIOLOGY AND NANOTECHNOLOGY. **Petr Sulc**, Flavio Romano, Thomas Ouldridge, Jonathan Doye, Ard Louis

1820-Pos **Board B140**
COARSE-GRAINED MODEL OF RNA CAPTURES EXCESS ION ATMOSPHERE BETWEEN CONFORMATIONAL BASINS. **Udayan Mohanty**

1821-Pos **Board B141** **Education Travel Awardee**
MULTISTEP FOLDING KINETICS OF GROUP I INTRON RNA STUDIED BY MG^{2+}-CONCENTRATION JUMP SIMULATIONS. **Naoto Hori**, Natalia A. Denesyuk, D Thirumalai

1822-Pos **Board B142**
SIMULATING THE MELTING OF THE SALMONELLA 4-U RNA THERMOMETER USING REPLICA EXCHANGE MOLECULAR DYNAMICS TO ASSESS FORCE-FIELD ACCURACY. **Parisa Ebrahimi**, Alan Chen

1823-Pos **Board B143**
SPATIAL MODELING OF CYTOSOLIC DIFFUSION AND DEGRADATION OF INFLUENZA A VIRUS EXPLAINS MEASURED NUCLEAR ENTRY EFFICIENCY. Andreas Herrmann, **Edda Klipp**

1824-Pos **Board B144**
NUCLEIC ACIDS ON GRAPHENE NANOPARTICLE SURFACES. **Srivathsan V. Ranganathan**

Protein: DNA Interactions: Chromatin and Other Structures (Boards B145–B156)

1825-Pos **Board B145**
ASYMMETRIC DNA UNWRAPPING DRIVES SEQUENTIAL DIMER RELEASE IN NUCLEOSOMES. Yujie Chen, **Joshua Tokuda**, Traci Topping, Steve Meisburger, Suzette Pabit, Lisa Gloss, Lois Pollack

1826-Pos **Board B146**
SEQUENCE DEPENDENCE IN SALT BASED NUCLEOSOME UNWRAPPING USING SAXS. **Alexander Mauney**, Joshua Tokuda, Yujie Chen, Lisa Gloss, Traci Topping, Oscar Gonzalez, Lois Pollack

1827-Pos **Board B147**
INVESTIGATING THE HISTONE REPLACEMENT PATHWAY IN SPERM USING TPM. **Elizabeth D. White**, Adam Smith, Obinna Ukogu, Hilary Bediako, Moumita Dasgupta, Ashley Carter

1828-Pos **Board B148**
THE MOLECULAR MECHANISM OF NUCLEOSOME BREATHING. **David Winogradoff**, Aleksei Aksimentiev

1829-Pos **Board B149**
DNA IN TIGHT SPACES: LINKING STRUCTURE, STABILITY AND PROTECTION IN PROTAMINE PACKAGED DNA. **Jason E. DeRouchey**

1830-Pos **Board B150**
INVESTIGATING THE MECHANICS OF PROTAMINE-INDUCED DNA CONDENSATION IN SPERM. **Hilary Bediako**, Adam D. Smith, Obinna Ukogu, Moumita Dasgupta, Elizabeth White, Ashley R. Carter

1831-Pos **Board B151**
HOLLIDAY JUNCTION STRUCTURE DEVELOPMENT FOR SINGLE-MOLECULE VISUALIZATION. **Mate Gyimesi**, Zoltan Kovacs, Mihaly Kovacs

1832-Pos **Board B152**
MITOCHONDRIAL PROTEIN ABF2P INTERCALATES, BENDS, LOOPS, AND COMPACTS DNA. **Divakaran Murugesapillai**, Arka Chakraborty, Sébastien Lyonnais, Maria Solà, Mark C. Williams

1833-Pos **Board B153**
TOWARDS ROLLING-CIRCLE REPLICATION AT THE SINGLE-MOLECULE LEVEL. **Cesar L. Pastrana**, Carolina Carrasco, Parvez Akthar, Sanford H. Leuba, Saleem A. Khan, Fernando Moreno-Herrero

1834-Pos **Board B154**
SUPERFAMILY 1 HELICASE PIF1 CAN PUSH REPLICATION PROTEIN A ALONG SINGLE STRANDED DNA AND INTO DUPLEX DNA. **Joshua E. Sokoloski**, Roberto Galletto, Timothy M. Lohman

1835-Pos **Board B155**
HOW PROTEIN DEFORMATION AFFECTS DNA LOOP TOPOLOGY AND GEOMETRY. **Pamela J. Perez**, Wilma K. Olson

1836-Pos **Board B156**
TOPOISOMERASE POISON DISTURBS RELAXATION OF MECHANICAL STRESSES DURING GATING MOTION OF DNA-BINDING CORE. **Nan-Lan Huang**, Michael K. Gilson

Chromatin and the Nucleoid II (Boards B157–B168)

1837-Pos **Board B157**
COMPACTION AND SEGREGATION OF SISTER CHROMATIDS BY LOOP-EXTRUDING ENZYMES. **Anton Goloborodko**, Maxim Imakaev, John F. Marko, Leonid Mirny

1838-Pos **Board B158**
POLYMER MODELS INTEGRATE INVERTED NUCLEAR GEOMETRY WITH CONVENTIONAL HI-C COMPARTMENTALIZATION. **Martin J. Falk**, Natalia M. Naumova, Geoffrey Fudenberg, Yana N. Feodorova, Job Dekker, Leonid A. Mirny, Irina Solovei

1839-Pos **Board B159**
DISTINCT ROLES OF H3 AND H2A TAILS IN LINKER DNA DYNAMICS. Zhenhai Li, Jinzen Ikebe, Shun Sakuraba, **Hidetoshi Kono**

1840-Pos **Board B160**
EXTENT OF NUCLEOSOME DESTABILIZATION GOVERNS YEAST HMGB CELLULAR FUNCTION. **Micah J. McCauley**, Ran Huo, Nicole Becker, Molly Nelson Holt, Uma Muthurajan, Ioulia Rouzina, Karolin Luger, L. James Maher, Nathan Israeloff, Mark Williams

1841-Pos **Board B161**
AS A NUCLEUS ENTERS A SMALL PORE, CHROMATIN STRETCHES AND MAINTAINS INTEGRITY EVEN WITH DNA BREAKS. **Jerome Irianto**, Yuntao Xia, Charlotte R. Pfeifer, Roger A. Greenberg, Dennis E. Discher

1842-Pos **Board B162**
INTERPHASE CHROMATIN DYNAMICS IN RESPONSE TO LOCAL DNA DAMAGE. **Jonah Eaton**, Alexandra Zidovska

1843-Pos **Board B163**
ANALYZING DNA DOUBLE-STRAND BREAK REPAIR PROCESSES WITH HIGH-RESOLUTION LOCALIZATION MICROSCOPY AND PERSISTENT TOPOLOGY. **Andreas Hofmann**, Matthias Krufczik, Michael Hausmann, Dieter W. Heermann

1844-Pos **Board B164**
AN ACTIVE CHAIN MODEL TO CONSIDER THE CROSSTALK BETWEEN THE STRUCTURE AND FUNCTION OF CHROMATIN: EFFECTS OF HETEROGENEITY. **Yuichi Togashi**

1845-Pos **Board B165**
INVESTIGATING PHYSICAL INTERACTIONS OF THE LIQUID-LIKE NUCLEOLUS WITH INTERPHASE CHROMATIN. **Christina Caragine**, Shannon Haley, Alexandra Zidovska

1846-Pos **Board B166**
INFLUENCE OF LOCAL DNA AND PROTEIN FEATURES ON LARGE-SCALE PROPERTIES OF CHROMATIN. **Stefjord Todolli**, Nicolas Clauvelin, Wilma K. Olson

1847-Pos **Board B167**
LINKING THE ACTIVE UNDULATIONS OF NUCLEAR ENVELOPE WITH SURFACE FLUCTUATIONS OF THE CHROMATIN GLOBULE. **Fang-Yi Chu**, Shannon Haley, Alexandra Zidovska

1848-Pos **Board B168**
HOW TO OPEN A NUCLEOSOME. **Katalin Toth**, Yoriko Lill, Kathrin Lehmann, Alexander Gansen, Jörg Langowski

Membrane Physical Chemistry I (Boards B169–B188)

1849-Pos Board B169
OXIDATION OF POLYUNSATURATED PHOSPHOLIPID DECREASES THE CHOLESTEROL CONTENT AT WHICH CHOLESTEROL BILAYER DOMAINS START TO FORM IN PHOSPHOLIPID-CHOLESTEROL MEMBRANES. **Laxman Mainali**, Mariusz Zareba, Witold K. Subczynski

1850-Pos Board B170
MIXING OF OXIDIZED AND BILAYER PHOSPHOLIPIDS. **Radha Ranganathan**, Jasmeet Singh, Melissa Ghafarian

1851-Pos Board B171 Education Travel Awardee
DIRECT IMAGING OF LIQUID DOMAINS BY CRYOTEM IN SUBMICRON VESICLES. **Caitlin E. Cornell**, Long Gui, Kelly K. Lee, Sarah L. Keller

1852-Pos Board B172
PROBE PARTITION BETWEEN LIQUID-DISORDERED (LD) AND LIQUID-ORDERED (LO) PHASES AND INVESTIGATION OF NANODOMAIN SIZES. **Thais A. Enoki**, Frederick A. Heberle, Gerald W. Feigenson

1853-Pos Board B173
CHEMICAL GRADIENTS TRIGGER AND GUIDE MOVEMENT OF GIANT LIPID VESICLES. **Baharan Ali Doosti**, Tatsiana Lobovkina

1854-Pos Board B174
MODELING TISSUE SPECIFIC PLASMA MEMBRANES IN SILICO. **Helgi I. Ingolfsson**, Timothy S. Carpenter, Felice C. Lightstone

1855-Pos Board B175
PHOSPHOLIPID HEAD GROUPS PROVIDE DIFFERENTIALLY STABLE MEMBRANE ENVIRONMENTS FOR VITAMIN E. **Andres T. Cavazos**, Michaela E. Bell, Zachary L. Leach, Jacob J. Kinnun, Stephen R. Wassall

1856-Pos Board B176
PHYSICAL CHEMICAL PROPERTIES OF SILVER NANOPARTICLES STABILIZED WITH POLYETHER-BLOCK-AMIDE INTERACTING WITH CELLULAR MEMBRANE MODELS AT THE AIR-WATER INTERFACE. **Luciano Caseli**, Gustavo B. Soriano, Roselaine S. Oliveira, Fernanda F. Camilo

1857-Pos Board B177
MEMBRANE PERMEATION OF GASOTRANSMITTERS. **Christopher N. Rowley**

1858-Pos Board B178
EFFECTS OF ESTER AND ETHER LINKAGE IN PHOSPHOLIPIDS ON $L_D + L_O$ DOMAIN SIZE TRANSITION FOR A FOUR-COMPONENT LIPID BILAYER MIXTURE. **Wen-Chyan Tsai**, Gerald W. Feigenson

1859-Pos Board B179
OXIDATION OF CHOLESTEROL CHANGES THE PERMEABILITY OF LIPID MEMBRANES. **Waldemar T. Kulig**, Heikki Mikkolainen, Agnieszka Olzynska, Piotr Jurkiewicz, Lukasz Cwiklik, Tomasz Rog, Martin Hof, Ilpo Vattulainen, Pavel Jungwirth

1860-Pos Board B180 Education Travel Awardee
PRE-TRANSITION EFFECTS MEDIATE FORCES OF ASSEMBLY BETWEEN TRANSMEMBRANE PROTEINS: RECENT RESULTS ON THE ORDERPHOBIC EFFECT. **Shachi Katira**, Kranthi K. Mandadapu, David Chandler

1861-Pos Board B181
MOLECULAR DYNAMICS SIMULATIONS REVEAL THE IMPACT OF COMPOSITIONAL ASYMMETRY IN LIPID MEMBRANES ON PHASE BEHAVIOR AND LEAFLET INTERACTIONS. **Michael D. Weiner**, Gerald W. Feigenson

1862-Pos Board B182
THE MECHANISM OF COPPER-INDUCED PEROXIDATION. **Dov A. Lichtenberg**, Ilya Pinchuk

1863-Pos Board B183
$F^{4,5}$GWALP PARTITIONING, ORIENTATION, AND EFFECT ON BENDING MODULI IN MODELS OF THE PLASMA MEMBRANE. **Rebecca D. Usery**, Thais A. Enoki, Vanessa P. Nguyen, Barrera N. Francisco, Gerald W. Feigenson

1864-Pos Board B184
NON-MONOTONIC EFFECT OF SOLUTES ON MISCIBILITY TRANSITION TEMPERATURES; SIMPLE EXPLANATION OF CLOSED-LOOP PHASE DIAGRAMS. **Michael Schick**, David W. Allender

1865-Pos Board B185
PHYSIOCHEMICAL CHARACTERIZATION OF ARCHAEAL EXOSOMES. **Alexander P. Bonanno**, Michelle Jiang, Noah Gilly, Parkson L.-G. Chong

1866-Pos Board B186
WATER DYNAMICS AT THE BILAYER INTERFACE IS SIMILAR TO THAT WITHIN THE SECY TRANSLOCON. **Venkatramanan Krishnamani**, Sara Capponi, Stephen H. White

1867-Pos Board B187
PROGRESS TOWARDS A MEMBRANE-BOUND STRUCTURE OF THE ITK/NEF COMPLEX. **Rebecca Eells**, Kindra Whitlatch, Frank Heinrich, Mathias Lösche, Thomas E. Smithgall

1868-Pos Board B188
VISCOELASTIC MEASUREMENTS OF HYDROXYCHOLESTEROL PHOSPHOLIPID MONOLAYERS. Nikki Hoang, Lyle H. Nyberg, **Benjamin L. Stottrup**

Membrane Active Peptides and Toxins I (Boards B189–B208)

1869-Pos Board B189
INTERACTION OF AUREIN 1.2 AND CHARGED LIPID BILAYERS. **Shuo Qian**, Durgesh Rai

1870-Pos Board B190
MOLECULAR BASIS FOR THE ROLE OF CATIONIC RESIDUES IN ANTIMICROBIAL PEPTIDE INTERACTIONS. **Amy Rice**, Jeff Wereszczynski

1871-Pos Board B191
DAPTOMYCIN INDUCES TRANSIENT MEMBRANE-PERMEABILIZATION. Wei-Chin Hung, **Ming-Tao Lee**, Meng-Hsuan Hsie, Hsiung Chen, Yu-Yung Chang, Huey W. Huang

1872-Pos Board B192
INSERTION PROCESS OF DIFFERENT AMPHIPATHIC A-HELICAL AMPS INTO LIPID BILAYERS OBSERVED IN UNBIASED ATOMIC MOLECULAR DYNAMICS SIMULATIONS. **Tangzhen Zhao**, Yukun Wang, Dan Hu, Jakob Ulmschneider

1873-Pos Board B193 International Travel Awardee
EFFECTS OF LIPID COMPOSITIONS ON THE ENTRY OF CELL PENETRATING PEPTIDE OLIGOARGININE INTO SINGLE VESICLES. **Sabrina Sharmin**, Md Zahidul Islam, Masahito Yamazaki, Hideo Dohra

1874-Pos Board B194
MODULATING EFFECT OF HISTIDINE ON SHORT ARGININE- AND TRYPTOPHAN-BASED ANTIMICROBIAL PEPTIDES. **Lorant Janosi**

1875-Pos Board B195 CID Travel Awardee
DEVELOPMENT OF CELL-WALL DEFICIENT BACTERIA FOR THE CHARACTERIZATION OF HISTONE-DERIVED ANTIMICROBIAL PEPTIDES THROUGH CONFOCAL MICROSCOPY. **Dania M. Figueroa**, Donald E. Elmore

1876-Pos Board B196
MEMBRANE ACTIVE PEPTIDES AS A POTENTIAL THERAPEUTIC OPTION FOR ENVELOPED VIRUSES. **Shantanu Guha**

1877-Pos **Board B197**
MEMBRANE BINDING AND ANTIMICROBIAL ACTIVITY OF A CATIOINC, PORPHYRIN-BINDING PEPTIDE. David Shirley, Christina L. Chrom, **Gregory A. Caputo**

1878-Pos **Board B198**
MEMBRANE INSERTION OF A DINUCLEAR RUTHENIUM COMPLEX AND IMPLICATIONS FOR ANTIBACTERIAL ACTIVITY. **Daniel K. Weber**, Marc-Antoine Sani, Matthew T. Downton, J. Grant Collins, Frances Separovic, F. Richard Keene

1879-Pos **Board B199**
^{2}H NMR STUDIES OF BACTERIA: HOW DOES THE PEPTIDOGLYCAN LAYER MODIFY THE INTERACTION BETWEEN ANTIMICROBIAL PEPTIDES AND THE LIPID MEMBRANE. **Nury P. Santisteban**, Michael R. Morrow, Valerie K. Booth

1880-Pos **Board B200**
LIPID CLUSTERING BY ANTIMICROBIAL POLYMERS AND LECTINS. Anja Stulz, Winfried Römer, Karen Lienkamp, Heiko Heerklotz, **Maria Hoernke**

1881-Pos **Board B201**
HOW ANTIMICROBIAL PEPTIDES PERMEABILIZE MEMBRANES WITH AND WITHOUT PORE FORMATION. **Jakob P. Ulmschneider**

1882-Pos **Board B202**
THE SYNERGISTIC EFFECTS OF LIPIDS AND PEPTIDES ON MEMBRANE DYNAMICS. **Elizabeth Kelley**, Andrea Woodka, Paul Butler, Michihiro Nagao

1883-Pos **Board B203**
MODE OF ACTION OF ANTIMICROBIAL PEPTIDES: LONG AND SHORT AMPHIPATHIC ALPHA-HELIXES USE DIFFERENT MECHANISMS. **Erik Strandberg**, Ariadna Grau-Campistany, Hector Zamora-Carreras, Marie-Claude Gagnon, Philipp Mühlhäuser, Parvesh Wadhwani, Jochen Bürck, Johannes Reichert, Michele Auger, Jean-Francois Paquin, M. Angeles Jiménez, Marta Bruix, Francesc Rabanal, Anne S. Ulrich

1884-Pos **Board B204**
SIMULATIONS OF MEMBRANE DISRUPTING PEPTIDES PORES VERSUS SURFACE BINDING. **B. Scott Perrin, Jr.**, Riqiang Fu, Myriam L. Cotten, Richard W. Pastor

1885-Pos **Board B205**
SIMULATION AND DATABASE-GUIDED ANTIMICROBIAL PEPTIDE EVOLUTION. **Charles H. Chen**, Charles G. Starr, Gregory Wiedman, William C. Wimley, Jakob P. Ulmschneider, Martin B. Ulmschneider

1886-Pos **Board B206**
DISCOVERING NOVEL ANTIMICROBIAL PEPTIDES USING HIGH-THROUGHPUT SCREENING IN THE PRESENCE OF HUMAN ERYTHROCYTES. **Charles G. Starr**, Jing He, William C. Wimley

1887-Pos **Board B207**
DEVELOPMENT OF REFINED BACTERIAL SPHEROPLAST ANALYSES TO CHARACTERIZE HYBRID ANTIMICROBIAL PEPTIDES. **Heidi M. Wade**, Louise E O Darling, Donald E. Elmore

1888-Pos **Board B208**
REAL-TIME CHARACTERIZATION OF AN ANTIMICROBIAL MECHANISM-OF-ACTION WITH NONLINEAR OPTICAL SCATTERING. **Michael J. Wilhelm**, Bruk Mensa, Mohammad Sharifian Gh., William F. DeGrado, Hai-Lung Dai

Membrane Structure III (Boards B209–B224)

1889-Pos **Board B209**
LIQUID MEMBRANE FLUCTUATIONS DRIVE ORDERED MONOLAYER DOMAIN ALIGNMENT AND RAFT STACKING. **Timur R. Galimzyanov**, Veronika V. Alexandrova, Petr I. Kuzmin, Peter Pohl, Sergey A. Akimov

1890-Pos **Board B210**
MECHANICAL PROPERTIES OF MODEL ERYTHROCYTES MEMBRANES FROM HEALTHY AND HEREDITARY SPHEROCYTOSIS SUBJECTS. **Bruna R. Casadei**, Amanda C. Caritá, Valéria F. Dutra, Eneida de Paula, Rumiana Dimova, Maria S. Figueiredo, Karin A. Riske

1891-Pos **Board B211**
LIPIDS REGULATED THROUGH MEMBRANE TOPOGRAPHY REVEALED BY SINGLE PARTICLE TRACKING. **Xinxin Woodward**, Abir Maarouf Kabbani, Christopher V. Kelly

1892-Pos **Board B212**
ARCHAEAL-INSPIRED LIPIDS EXHIBIT LOW MEMBRANE PERMEABILITY DUE TO ENTROPIC EFFECTS. Geoffray Leriche, Karthikeyan Diraviyam, Young Hun Kim, Takaoki Koyanagi, Olivia Eggenberger, Thomas B. H. Schroeder, Michael Mayer, Jerry Yang, **David Sept**

1893-Pos **Board B213**
LATERAL HETEROGENEITY OF CHOLESTEROL ON BINARY LIPID MIXTURES OF POPC/CHOL: A MOLECULAR DYNAMICS STUDY. **Fernando Favela-Rosales**, Arturo Galván-Hernández, Jorge Hernández-Cobos, Iván Ortega-Blake

1894-Pos **Board B214**
GIANT VESICLES FABRICATED FROM PAPER. **Anand B. Subramaniam**

1895-Pos **Board B215**
MANIPULATION OF PHASE-LIKE DOMAINS WITHIN INTACT B CELL PLASMA MEMBRANES AND VISUALIZATION OF THEIR COMPOSITION USING SUPER-RESOLUTION MICROSCOPY. **Marcos F. Nunez**, Matthew B. Stone, Sarah L. Veatch

1896-Pos **Board B216**
BENDING MODULUS OF BOLALIPIDS UNDER THE U-SHAPES DIFFUSION. **Sergei I. Mukhin**, Daniyar Gabdullin

1897-Pos **Board B217**
DIFFERENT STATIC AND SIMILAR KINETIC PHASE BEHAVIOR SEEN FOR MONOOLEIN AND A SISTER COMPOUND. Andrew D. Folkerts, **Paul E. Harper**

1898-Pos **Board B218**
HYSTERESIS AND THE CHOLESTEROL-DEPENDENT MELTING TRANSITION OF THE MARTINI MODEL. **Alexis Webb**, Clement Arnarez, Edward Lyman

1899-Pos **Board B219**
ULTRADONUT TOPOLOGY OF THE NUCLEAR ENVELOPE. Mehdi Torbati, Tanmay P. Lele, **Ashutosh Agrawal**

1900-Pos **Board B220**
STABILIZATION OF CELL MEMBRANE STRUCTURES BY CURVATURE-INDUCING PROTEINS. **Morgan Chabanon**, Padmini Rangamani

1901-Pos **Board B221**
SOLUBILIZATION OF LIPID MEMBRANES BY STYRENE-MALEIC ACID COPOLYMERS: IMPORTANCE OF POLYMER COMPOSITION AND PH. **Stefan Scheidelaar**, Juan J. Dominguez, Jonas M. Dorr, Martijn C. Koorengevel, Cornelis A. van Walree, J. Antoinette Killian

1902-Pos **Board B222**
NANOSCOPIC LIPID DOMAINS CHARACTERIZED BY ISCAT MICROSCOPY. **Matthew C. Blosser**, Helena L. E. Coker, Mark I. Wallace

1903-Pos **Board B223**
OPTIMIZING CONDITIONS FOR THE ISOLATION OF MEMBRANE PROTEINS BY STYRENE-MALEIC ACID COPOLYMERS: A CASE STUDY ON E. COLI INNER MEMBRANES. **Jonas M. Doerr**, Martijn C. Koorengevel, J. Antoinette Killian

1904-Pos **Board B224**
MEMBRANE PROTEIN EXTRACTION BY STYRENE-MALEIC ACID COPOLYMERS IS INDEPENDENT OF SUBCELLULAR LOCALIZATION BUT IS INFLUENCED BY MEMBRANE ORGANIZATION. **Jonas M. Doerr**, Juan J. Dominguez Pardo, Marleen H. van Coevoorden-Hameete, Casper C. Hoogenraad, J. Antoinette Killian

Protein-Lipid Interactions: Structures (Boards B225–B252)

1905-Pos **Board B225**
COMPUTATIONAL CHARACTERISATION OF THE MODULATION OF MEMBRANE PROTEINS BY LIPIDS. **Carmen Domene**, Javier Iglesias Fernandez, Richard Naftalin, Peter J Quinn

1906-Pos **Board B226**
MOLECULAR DYNAMICS SIMULATIONS OF G-PROTEIN COUPLED RECEPTOR LIPID INTERACTIONS. **George Hedger**, Hsin-Yung Yen, Idlir Liko, Carol V. Robinson, Christian Siebold, Mark S. P. Sansom

1907-Pos **Board B227**
RATIONAL DESIGN OF NEW ANTIMICROBIAL PEPTIDES TARGETING GRAM NEGATIVE BACTERIA. **Loan K. Huynh**, Goutam Gupta

1908-Pos **Board B228**
DIRECT OBSERVATION OF UNIDIRECTIONAL CHOLESTEROL FLIPPING ON THE SURFACE OF P-GLYCOPROTEIN. **Sundar Thangapandian**, Emad Tajkhorshid

1909-Pos **Board B229**
P-GP LIPID UPTAKE PATHWAYS DETERMINED BY COARSE-GRAIN MOLECULAR DYNAMIC SIMULATION. **Estefania Barreto Ojeda**, Valentina Corradi, Ruo-Xu Gu, Peter Tieleman

1910-Pos **Board B230** **International Travel Awardee**
LIPID TRANSFER MECHANISM OF CETP BETWEEN HDL AND LDL: A COARSE-GRAINED SIMULATION STUDY. **Venkata Reddy Chirasani**, Sanjib Senapati

1911-Pos **Board B231**
ROLE OF BOUND PHOSPHOLIPIDS IN STRUCTURAL STABILITY AND FUNCTIONALITY OF CHOLESTERYL ESTER TRANSFER PROTEIN. **Prasanna Diddige Revanasiddappa**, Revathi Shankar, Sanjib Senapati

1912-Pos **Board B232**
OXIDATION STATE AND PH DEPENDENCE OF CYTOCHROME C BINDING TO CARDIOLIPIN-CONTAINING LIPOSOMES. **Bridget Milorey**, Reinhard Schweitzer-Stenner

1913-Pos **Board B233**
ALANINE CHARGE SCREENING DEMONSTRATES CYTOCHROME *C* UNFOLDING ON CARDIOLIPIN MEMBRANE SURFACES. **Margaret M. Elmer-Dixon**, Bruce E. Bowler

1914-Pos **Board B234**
EXPLORING THE STABILITY AND CARDIOLIPIN AFFINITY OF CYTOCHROME *C*'S DOMAIN SWAPPED DIMER CONFORMATION. **Harmen B. Steele**, Levi J. McClelland, J.B. Alexander Ross, Bruce E. Bowler

1915-Pos **Board B235**
SELECTIVE PROBING OF NON-NATIVE CARDIOLIPIN-BOUND CONFORMATIONS OF FERRICYTOCHROME C VIA FERROCYANIDE-MEDIATED PHOTOREDUCTION. **Dmitry Malyshka**, Reinhard Schweitzer-Stenner

1916-Pos **Board B236** **International Travel Awardee**
BIOPHYSICAL INSIGHTS INTO THE MEMBRANE INTERACTION OF THE CORE AMYLOID-FORMING AB40 FRAGMENT K16-K28 AND ITS ROLE IN THE PATHOGENESIS OF ALZHEIMER'S DISEASE. **Swapna Bera**, Kyle Korshavn, Rajiv Kar, Mi Hee Lim, Ayyalusamy Ramamoorthy, Anirban Bhunia

1917-Pos **Board B237** **Education Travel Awardee**
STRUCTURAL ANALYSIS OF TAU PEPTIDE INTERACTIONS WITH LIPID MEMBRANES USING FOURIER TRANSFORM INFRARED SPECTROSCOPY. **Paige Engen**, Larry Masterson

1918-Pos **Board B238**
STRUCTURE AND DYNAMICS OF NANOPORE-CONFINED MEMBRANE PROTEINS ARE AFFECTED BY BILAYER LIPID COMPOSITION. Alexander A. Nevzorov, Morteza Jafarabadi, Antonin Marek, **Alex I. Smirnov**

1919-Pos **Board B239**
MEMBRANE TARGETING OF TIRAP IS NEGATIVELY REGULATED BY PHOSPHORYLATION IN ITS PHOSPHOINOSITIDE-BINDING MOTIF. **Daniel G. S. Capelluto**, Wen Xiong, Xiaolin Zhao, Shuyan Xiao, Jeffrey F. Ellena, Geoffrey S. Armstrong, Carla V. Finkielstein

1920-Pos **Board B240**
STRUCTURE, DYNAMICS, AND FUNCTION OF THE MEMBRANE ASSOCIATED SRC FAMILY KINASE HCK. **Matthew P. Pond**, Rebecca Eells, Lydia Blachowicz, Frank Heinrich, Francisco Bezanilla, Gianluigi Veglia, Mathias Lösche, Benoît Roux

1921-Pos **Board B241**
HUMAN BETA DEFENSIN TYPE 3 INTERACTION WITH CHEMOKINE RECEPTOR CXCR4. **Liqun Zhang**, Aaron Weinberg, Zhiming Feng

1922-Pos **Board B242**
SPHINGOMYELIN MODULATES STRUCTURE OF APOLIPOPROTEIN A-I IN ALZHEIMER'S DISEASE. Vanshika Singh, Vinit Sansanwal, **Subhabrata Kar**

1923-Pos **Board B243**
KINETIC OFF-RATES OF MEMBRANE ASSOCIATED PROTEINS MEASURED IN UNROOFED CELLS. **Eric N. Senning**, Nicolas Reyes, Sharona E. Gordon

1924-Pos **Board B244**
THE USE OF MEMBRANE FUSION TO UNDERSTAND THE ROLE OF LUNG SURFACTANT PROTEIN B IN LIPID TRAFFICKING. **Kayla Kroning**, Otonye Braide

1925-Pos **Board B245**
DELIVERY OF LUNG SURFACTANT SP-C BASED NANOSTRUCTURES TO RESPIRATORY AIR-LIQUID INTERFACIAL FILMS SURFACTANT SP-C-BASED NANOSTRUCTURES TO RESPIRATORY AIR-LIQUID INTERFACIAL FILMS. Nuria Roldan, Antonio Cruz, Andrea Sanz, Marta Bruix, Jesús Pérez-Gil, **Begoña Garcia-Alvarez**

1926-Pos **Board B246**
LIPID BILAYER ASSOCIATION OF THE ALTERNATIVELY TRANSLATED REGION OF PTEN-LONG. **Anne-Marie Bryant**, Arne Gericke

1927-Pos **Board B247**
PTEN BINDING MECHANISM WITH COMPOSITIONALLY DIVERSE LIPID MODEL MEMBRANES. Brittany M. Neumann, Katrice E. McLoughlin, Vanessa Pinderi, Rakesh Harishchandra, Alonzo Ross, **Arne Gericke**

1928-Pos **Board B248**
STRUCTURE, DYNAMICS, AND INTERACTIONS OF GPI-ANCHORED HUMAN GLYPICAN-1 HAVING N-GLYCANS AND HEPARAN SULFATES IN MEMBRANES. **Hongjing Ma**, Jumin Lee, Wonpil Im

1929-Pos **Board B249**
ASSEMBLY OF MATRIX PROTEIN 1 OF INFLUENZA A VIRUS AND ITS ROLE IN BUDDING PROCESS. Liudmila A. Shilova, Anna S. Lyushnyak, Denis G. Knyazev, Natalia V. Fedorova, Liudmila A. Baratova, **Oleg V. Batishchev**

1930-Pos **Board B250**
TUBULIN ON BIOMIMETIC MITOCHONDRIAL MEMBRANES: STRUCTURAL FEATURES AND LIPID DISCRIMINATION. **David P. Hoogerheide**, Sergei Yu. Noskov, Daniel Jacobs, Hirsh Nanda, Tatiana K. Rostovtseva, Sergey M. Bezrukov

1931-Pos **Board B251**
MEMBRANE BOUND STRUCTURES OF PERIPHERAL MEMBRANE BINDING PROTEINS TIM3 AND TIM1 PRODUCED BY MOLECULAR DYNAMICS INFORMED ANALYSIS OF X-RAY SCATTERING EXPERIMENTS. **Daniel Kerr**, Zhiliang Gong, Greg Tietjen, Javier Baylon, Luke Hwang, J. Michael Henderson, Binhua Lin, Mati Meron, Wei Bu, Mark Schlossman, Emad Tajkhorshid, Erin Adams, Ka Yee Lee[10]

1932-Pos **Board B252**
CURVATURE MEDIATED INTERACTIONS IN HIGHLY CURVED MEMBRANES. **Afshin Vahid Belarghou**, Anđela Šarić, Timon Idema

General Protein-Lipid Interactions III (Boards B253–B264)

1933-Pos **Board B253**
MOLECULAR MECHANISM OF LIPID SCRAMBLING BY OPSIN. **George Khelashvili**, Kalpana Pandey, Harel Weinstein, Anant K. Menon

1934-Pos **Board B254**
AN OPSIN MONOMER SCRAMBLES PHOSPHOLIPIDS &lt. **Kalpana Pandey**, Birgit Ploier, Michael Goren, George Khelashvili, Anant Menon

1935-Pos **Board B255**
ROLE OF SOFT MATTER IN G-PROTEIN-COUPLED RECEPTOR SIGNALING. **Udeep Chawla**, Suchithranga M.D.C Perera, Andrey V. Struts, Michael C. Pitman, Michael F. Brown

1936-Pos **Board B256**
AUTOMATED IDENTIFICATION OF CHOLESTEROL INTERACTION SITES ON G-PROTEIN COUPLED RECEPTORS BY COARSE-GRAINED SIMULATION. **Eric Rouviere**, Cément Arnarez, Edward Lyman

1937-Pos **Board B257**
SINGLE MOLECULE STUDIES OF A MEMBRANE-BOUND, MASTER KINASE CIRCUIT... DETECTING INTERACTIONS OF TWO MASTER KINASE PAIRS ON THE MEMBRANE, PDK1-AKT1 AND PDK1-PKC ALPHA. **Brian P. Ziemba**, Joseph J. Falke

1938-Pos **Board B258**
LIPIDS, NEUROTRANSMITTERS AND THEIR RECEPTORS. Hanna Juhola, Fabio Lolicato, Pekka Postila, Ilpo Vattulainen, **Tomasz Rog**

1939-Pos **Board B259**
ROLE OF HYDROPHILIC GROOVE OF THE TMEM16 PROTEIN IN LIPID SCRAMBLING. **George Khelashvili**, Byoung Cheol Lee, Maria Falzone, Anant K. Menon, Alessio Accardi, Harel Weinstein

1940-Pos **Board B260**
REGULATION OF MEMBRANE BINDING BY THE C2-DOMAIN OF CYTOPLASMIC PHOSPHOLIPASE A2 BY CERAMIDE-1-PHOSPHATE AND CALCIUM. Xiuhong Zhai, Yong-Guang Gao, Ivan A. Boldyrev, Lucy Malinina, Dinshaw J. Patel, Julian G. Molotkovsky, Charles A. Chalfant, **Rhoderick E. Brown**

1941-Pos **Board B261**
NON-NATIVE METAL IONS REVEAL THE ROLE OF ELECTROSTATICS IN SYNAPTOTAGMIN 1-MEMBRANE INTERACTION. **Sachin Katti**, Atul Srivastava, Bin Her, Alexander B. Taylor, Tatyana Igumenova

1942-Pos **Board B262**
MOLECULAR DETAILS OF THE PH DOMAIN OF ACAP1 PROTEIN BINDING TO PIP2-CONTAINING MEMBRANES. **Chun Chan**, Lanyuan Lu, Fei Sun, Jun Fan

1943-Pos **Board B263**
ACTIVATION OF PI3K BY RAS: SINGLE MOLECULE STUDIES OF THE ACTIVATION MECHANISM. **Thomas Buckles**, Brian Ziemba, John E. Burke, Glenn Masson, Roger Williams, Joseph J. Falke

1944-Pos **Board B264**
QUANTITATION OF CARDIOLIPIN BINDING TO HUMAN AUTOPHAGY (MITOPHAGY)-RELATED ATG-8 PROTEINS. Zuriñe Antón, Ane Landajuela, Javier H. Hervás, L. Ruth Montes, Sonia Hernández-Tiedra, **Felix M Goni**, Guillermo Velasco, Alicia Alonso

Exocytosis and Endocytosis II (Boards B265–B280)

1945-Pos **Board B265**
MEMBRANE DEFECTS RECRUIT C-TERMINUS OF COMPLEXIN TO SYNAPTIC VESICLES. **Jiajie Diao**

1946-Pos **Board B266**
SOLUBLE BETA-AMYLOID MODIFIES PRESYNAPTIC MEMBRANE CHOLESTEROL AND RIGIDITY. **Qi Zhang**

1947-Pos **Board B267**
CHARACTERIZING THREE COMPONENT HETEROMERIC COMPLEXES MEDIATED BY OTOFERLIN, A MULTIVALENT MEMBRANE FUSION PROTEIN, USING A NOVEL SINGLE-MOLECULE ASSAY. **Colin Johnson**, Nicole Hams

1948-Pos **Board B268**
SNARE PROTEINS ENTROPICALLY EXPAND MEMBRANE FUSION PORES. **Sathish Thiyagarajan**, Zhenyong Wu, Oscar D. Bello, Sarah M. Auclair, Wensi Vennekate, Shyam S. Krishnakumar, Erdem Karatekin, Ben O'Shaughnessy

1949-Pos **Board B269**
EXAMINATION OF ANTIGEN-INDUCED ENDOCYTIC STRUCTURE FORMATION IN B LYMPHOCYTES. **Thaddeus M. Davenport**, Andrea M. Dickey, Kem A. Sochacki, Justin W. Taraska

1950-Pos **Board B270**
BULKY LIGANDS AS ENTROPIC INHIBITORS OF RECEPTOR UPTAKE BY ENDOCYTOSIS. **Andre C.M. DeGroot**, David J. Busch, Carl C. Hayden, Aaron T. Alpar, Jeanne C. Stachowiak

1951-Pos **Board B271**
MOLECULAR MECHANISMS OF V-SNARE FUNCTION IN SECRETORY GRANULE EXOCYTOSIS. **Misty Marshall**, Per-eric Lund, Sebastian Barg

1952-Pos **Board B272**
A C1-C2 MODULE IN MUNC13 INHIBITS CALCIUM-DEPENDENT NEUROTRANSMITTER RELEASE. **Jeremy Dittman**, Francesco Michelassi, Haowen Liu, Zhitao Hu

1953-Pos **Board B273**
HOMOLOGOUS C2A DOMAINS OF MYOFERLIN AND DYSFERLIN HAVE DISTINCT LIPID BINDING SPECIFICITIES. **Faraz Harsini**, Anne Rice, Sukanya Chebrolu, Kerry Fuson, Andrei Turtoi, R. Bryan Sutton

1954-Pos **Board B274**
CALCIUM-MEDIATED DOCKING AND FUSION OF PURIFIED DENSE CORE VESICLES WITH RECONSTITUTED MEMBRANES. **Alex Kreutzberger**, Volker Kiessling, Binyong Liang, Patrick Seelheim, J. David Castle, Lukas K. Tamm

1955-Pos **Board B275**
FUSION PORE SELECTIVITY IN CHROMAFFIN CELLS. **Joannalyn Delacruz**, Meng Huang, Joan Lenz, Manfred Lindau, Shailendra Rathore

1956-Pos **Board B276**
DISSECTING THE BIOMECHANICAL FEEDBACK BETWEEN PLASMA MEMBRANE CURVATURE AND ENDOCYTIC PROTEINS IN MAMMALIAN CELLS USING NANOSTRUCTURED SUBSTRATES. **Jessica R. Marks**, Guiseppe Calafiore, Stefano Cabrini, David Drubinn

1957-Pos **Board B277**
SIMULATION-GUIDED OPTIMIZATION OF ELECTRODE ARRAYS FOR ELECTROCHEMICAL IMAGING OF QUANTAL EXOCYTOSIS. **Seyedmehdi Orouji**, Kevin D. Gillis

1958-Pos **Board B278**
DEVELOPMENT OF BIOPHYSICAL MARKERS THAT QUANTIFY METASTATIC POTENTIALS OF PROSTATE CANCER CELLS USING TSUNAMI MICROSCOPE. **Yen-Liang Liu**, Aaron M. Horning, Evan P. Perillo, Cong Liu, Mirae Kim, Rohan Vasisht, Hannah Horng, Andrew K. Dunn, Chun-Liang Chen, Hsin-Chih Yeh

1959-Pos **Board B279**
INVOLVEMENT OF ACTIN DYNAMICS IN ENDOCYTOTIC PROCESS REVEALED BY FAST-SCANNING ATOMIC FORCE MICROSCOPE. **Aiko Yoshida**, Nobuaki Sakai, Yoshitsugu Uekusa, Yanshu Zhang, Masahiro Kumeta, Shige H. Yoshimura

1960-Pos **Board B280** **Education Travel Awardee**
EFFECTS OF MEMBRANE TENSION ON SNARE-MEDIATED SINGLE FUSION PORES. **Natasha Dudzinski**, Erdem Karatekin

Calcium Signaling II (Boards B281–B297)

1961-Pos **Board B281**
STUDYING THE EFFECTS OF GLUCAGON-MODULATORS ON THE ACTIVITY OF SECOND MESSENGERS IN SUBCELLULAR COMPARTMENTS OF PANCREATIC ISLET CELLS. **Alessandro Ustione**, Jing Hughes, Subhadra Gunawardana, David W. Piston

1962-Pos **Board B282**
NOVEL APPROXIMATION OF A STATIONARY SINGLE-CHANNEL CA^{2+} NANODOMAIN. **Victor Matveev**

1963-Pos **Board B283**
CALCIUM MICRODOMAINS AND MODULATION IN MECHANOSENSORY HAIR CELLS. **Holly A. Holman**

1964-Pos **Board B284**
TARGETED OPTOGENETIC ACTIVATION OF CALCIUM TRANSIENTS IN DEVELOPING SKELETAL MUSCLE CELLS. Stephane Sebille, Oualid Ayad, Christian Cognard, Patrick Bois, **Aurelien Chatelier**

1965-Pos **Board B285**
PLASMA MEMBRANE ORAI1 AND SEPTIN ORGANIZATION DURING CALCIUM SIGNALLING. Zachary Katz, Chan Zhang, Ariel Quintana, Björn Lillemeier, **Patrick Hogan**

1966-Pos **Board B286**
LEAD TIGHTLY ASSOCIATES TO NEURONAL CALCIUM SENSOR (NCS) PROTEIN DREAM AND PROMOTES STRUCTURAL CHANGES ANALOGOUS TO CALCIUM BOUND DREAM. **Samiol Azam**, Jaroslava Miksovska

1967-Pos **Board B287**
REWIRING CALCIUM SIGNALING FOR GENOME EDITING AND TRANSCRIPTIONAL REPROGRAMMING. **Nhung T. Nguyen**, Lian He, Yi Liang, Yun Huang, Yubin Zhou

1968-Pos **Board B288**
CALMODULIN INTERACTS AND REGULATES ENZYME ACTIVITY OF THE MAMMALIAN SPERM PHOSPHOLIPASE C. Michail Nomikos, Angelos Thanassoulas, Brian L. Calver, Maria Theodoridou, Luke Buntwal, Zili Sideratou, George Nounesis, **F. Anthony Lai**

1969-Pos **Board B289**
AMINO ACID CONTRIBUTIONS TO BINDING ACROSS PAIRED EF-HANDS IN CALMODULIN. **Suzanna Bennett**, Margaux Miller, Thomas Middendorf, Richard Aldrich

1970-Pos **Board B290**
AUTOMATED CHARACTERIZATION OF DYNAMIC PARAMETERS OF INTRACELLULAR CALCIUM SIGNALS. **Laurent MacKay**

1971-Pos **Board B291**
NOVEL APPROACH TO STUDY SERCA FUNCTION *IN SITU*. **Elisa Bovo**, Siddharth Bhayani, Olga Raguimova, Seth L. Robia, Aleksey V. Zima

1972-Pos **Board B292**
STIMULATORY AND INHIBITORY EFFECTS OF PKC ISOZYMES ARE MEDIATED BY SERINE/THREONINE PKC SITES OF THE $CAV2.3A_1$ SUBUNITS. **Ganesan L. Kamatchi**, Senthilkumar Rajagopal, Brittney K. Burton

1973-Pos **Board B293**
DYNAMIC SUBSTRATE GATING IN CAMKII BY AUTOPHOSPHORYLATION. Derrick E. Johnson, Swarna S. Ramaswamy, **Andy Hudmon**

1974-Pos **Board B294** **Education Travel Awardee**
SINGLE-CELL INVESTIGATION OF THE ROLE OF CALCIUM BURSTS IN HUMAN IMMUNE CELLS. **Emmet A. Francis**, Volkmar Heinrich

1975-Pos **Board B295**
ATRIAL SPCEIFIC PITX2 INSUFFICIENCYINCREASES THE FREQUENCY OF CALCIUM SPARKS, WAVES, AND AFTER-DEPOLARIZATIONS IN MOUSE ATRIAL MYOCYTES. Carmen Tarifa, Adela Herraiz-Martinez, Alexander Vallmitjana, Selma A. Serra, Diego Franco, Raul Benitez, **Leif Hove-Madsen**

1976-Pos **Board B296**
CONTRIBUTION OF MITOCHONDRIAL CALCIUM UPTAKE TO INTRACELLULAR CALCIUM HOMEOSTASIS STUDIED WITH ORGANELLE-TARGETTED PROBES IN SKELETAL MUSCLE FIBERS. **Carlo Reggiani**, Marta Canato, Paola Capitanio, Lina Cancellara, Feliciano Protasi

1977-Pos **Board B297**
NECROPTOSIS EXECUTION IS MEDIATED BY PLASMA MEMBRANE NANOPORES THAT ARE INDEPENDENT OF CALCIUM. **Uris L. Ros Quincoces**, Ana J. Garcia-Saez

Cardiac, Smooth, and Skeletal Muscle Electrophysiology II (Boards B298–B312)

1978-Pos **Board B298**
ATTENUATION OF CONDUCTION SLOWING DURING GLOBAL ISCHEMIA IN GUINEA PIG HEARTS THROUGH INCREASED EXTRACELLULAR CALCIUM. **Gregory S. Hoeker**, Steven Poelzing

1979-Pos **Board B299**
EXTRACELLULAR ATP TRIGGERS ACTION POTENTIALS IN VENTRICULAR CARDIOMYOCYTES. **Kyungsoo Kim**, Frank Raucci, Sabine Huke, Bjorn C. Knollmann

1980-Pos **Board B300**
THE COMPARISON OF VOLUNTARY AND FORCED EXERCISES ON CARDIAC FUNCTION OF DCM MODEL MICE. **Masami Sugihara**, Ryo Kakigi, Takashi Murayama, Takashi Sakurai, Takashi Miida, Sachio Morimoto, Nagomi Kurebayashi

1981-Pos **Board B301**
ALTERATION OF ACTION POTENTIAL DURING EARLY ISCHEMIA IN THE HEART. **Rimantas Treinys**, Regina Mačianskienė, Mante Almanaityte, Jonas Jurevicius

1982-Pos **Board B302**
BETA-ADRENERGIC AND ATP SENSITIVE POTASSIUM CHANNEL EFFECTS ON VENTRICULAR ACTION POTENTIAL DURATION: ALTERATIONS WITH EXERCISE TRAINING. **Xinrui Wang**, Robert H. Fitts

1983-Pos **Board B303**
IONIC CURRENT CHANGES DURING ACTION POTENTIALS IN PORCINE POST-MI HEART FAILURE MODEL. **Bence Hegyi**, Julie Bossuyt, Leigh G. Griffiths, Rafael Shimkunas, Zana Coulibaly, Kenneth S. Ginsburg, Leighton T. Izu, Tamás Bányász, Donald M. Bers, Ye Chen-Izu

1984-Pos **Board B304**
SODIUM HOMEOSTASIS DYNAMICALLY REGULATES SINOATRIAL NODE PACEMAKER ACTIVITY. **Stefano Morotti**, Christian Rickert, Joshua St. Clair, Nicholas Ellinwood, Catherine Proenza, Eleonora Grandi

1985-Pos **Board B305**
LOSS OF CAVEOLIN-3 CAUSES HEART RHYTHM ABNORMALITIES BY AFFECTING CA^{2+}-VOLTAGE COUPLING IN THE MOUSE SINOATRIAL NODE. **Di Lang**, Aleah Warden, Timothy Kamp, Alexey Glukhov

1986-Pos **Board B306**
ELECTRICALLY DORMANT SINOATRIAL NODAL CELLS (SANC) ARE AWAKENED BY INCREASED CAMP-DEPENDENT PHOSPHORYLATION OF COUPLED-CLOCK PROTEINS. **Kenta Tsutsui**, Mary S. Kim, Ashley N. Wirth, Oliver J. Monfredi, Bruce D. Ziman, Rostislav Byshkov, Alexander A. Maltsev, Victor A. Maltsev, Edward G. Lakatta

1987-Pos **Board B307**
A SEXY APPROACH TO PACEMAKING. **Ursula Doris**, Sunil Logantha, Maria Petkova, Yu Zhang, Sanjay Kharche, Halina Dobrzynski, Joseph Yanni

1988-Pos **Board B308**
A METHODOLOGY TO IMPROVE HUMAN VENTRICULAR MODELS FOR THE INVESTIGATION OF CARDIAC ARRHYTHMIAS. **Jesús Carro**, José F Rodríguez-Matas, Esther Pueyo

1989-Pos **Board B309**
MEMORY AND STABILITY OF THE CARDIAC ACTION POTENTIAL REPOLARIZATION IN THE SPACE OF ITS ALLOWED STATES: A SINGLE CELL SIMULATION STUDY. **Massimiliano Zaniboni**

1990-Pos **Board B310**
AN INTEGRATED MODEL OF HUMAN BETA-ADRENERGIC SIGNALING AND VENTRICULAR ELECTROPHYSIOLOGY REVEALS CONTRIBUTORS TO POSITIVE INOTROPY. **Jingqi Gong**, W. Clayton Thompson, Cynthia J. Musante, Eric A. Sobie

1991-Pos **Board B311**
CAPACITIVE MEMORY SUPPRESSES ALTERNANS AND PROMOTES SPONTANEOUS ACTIVITY IN A FRACTIONAL-ORDER MINIMAL CARDIOMYOCYTE MODEL. Tien Comlekoglu, **Seth H. Weinberg**

1992-Pos **Board B312**
ACTIVATION OF TRPM3 IN PERIVASCULAR SENSORY NERVES INDUCES DILATION OF MOUSE RESISTANCE ARTERIES. **Lucia Alonso-Carbajo**, Yeranddy A. Alpizar, Justyna Startek, Jose Ramón López-López, Maria Teresa Pérez-García, Karel Talavera

Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating III (Boards B313–B322)

1993-Pos **Board B313**
KV2.1/KV6.4 HETEROTETRAMERS ARE FUNCTIONAL IN TWO STOICHIOMETRIC CONFIGURATIONS. Glenn Regnier, **Dirk J. Snyders**

1994-Pos **Board B314**
LIPID-DEPENDENT GATING OF KV CHANNELS AND EXCITABILITY CHANGE OF CEREBELLAR PURKINJE NEURONS IN AN NPC1 MODEL MOUSE. **Qiu-Xing Jiang**, Hui Zheng Zheng, Hong Xing, Gaya Yadav, Yuqing Li

1995-Pos **Board B315**
TRABECTEDIN RE-EDUCATES RESTING PERITONEAL MACROPHAGES INTO M1 SUBTYPE. **Diego A. Peraza**, Marina Mojena, Alicia de la Cruz, Teresa Gonzalez, Lisardo Bosca, Carlos M. Galmarini, Carmen Valenzuela

1996-Pos **Board B316**
SLO3 CHANNEL IS ESSENTIAL FOR FERTILIZED EGG DEVELOPMENT BY CONTROLLING CRITICAL MOLECULES FOR MITOSIS. Qiong-Yao Tang, Ye Liu, Zheng Xu, Fang-Fang Zhang, Fei-Fei Zhang, Yan Li, Jose M. Eltit, Diomedes E. Logothetis, **Zhe Zhang**

1997-Pos **Board B317**
ROLE OF TANK-BINDING KINASE IN NEURODEGENERATION PRODUCED BY SPINOCEREBELLAR ATAXIA TYPE 13. **Yalan Zhang**, Luis Varela, Tamas Horvath, Leonard Kaczmarek

1998-Pos **Board B318** **International Travel Awardee**
HIV-TAT INDUCES A DECREASE IN I_{KR} AND I_{KS} *VIA* REDUCTION IN PHOSPHATIDYLINOSITOL-(4,5)-BISPHOSPHATE AVAILABILITY. Zeineb Es-Salah-Lamoureux, Mariam Jouni, **Olfat A. Malak**, Nadjet Belbachir, Zeina Reda Al Sayed, Marine Gandon-Renard, Guillaume Lamirault, Chantal Gauthier, Isabelle Baró, Flavien Charpentier, Kazem Zibara, Patricia Lemarchand, Bruno Beaumelle, Nathalie Gaborit, Gildas Loussouarn

1999-Pos **Board B319**
FLAVONOIDS AS NATURAL MODULATORS OF MITOCHONDRIAL POTASSIUM CHANNEL. **Piotr Bednarczyk**, Anna Kicinska, Wieslawa Jarmuszkiewicz, Renata Debowska, Adam Szewczyk

2000-Pos **Board B320**
MECHANOSENSITIVITY OF MITOCHONDRIAL POTASSIUM CHANNELS. **Piotr Koprowski**, Agnieszka Kielbasa, Bogusz Kulawiak, Adam Szewczyk

2001-Pos **Board B321**
IDENTIFICATION OF LARGE-CONDUCTANCE CALCIUM-REGULATED K CHANNEL IN HUMAN DERMAL MITOCHNDRIA. **Adam Szewczyk**, Anna Kicinska, Bartlomiej Augustynek, Bogusz Kulawiak, Wieslawa Jarmuszkiewicz, Piotr Bednarczyk

2002-Pos **Board B322**
SINGLE-CHANNEL RECORDINGS OF K^+ CHANNELS EXPRESSED IN *SACCHAROMYCES CEREVISIAE*. **Maria A. Tejada**, Karen Molbaek, Halim Cazimi, Peter Ellekvist, Kirstine Calloe, Claus H. Nielsen, Per Amstrup Pedersen, Dan A. Klaerke

TRP Channels III (Boards B323–B338)

2003-Pos **Board B323**
TRPC5 CHANNELS ARE INHIBITED BY WT PRESENILIN1 BUT NOT THE ALZHEIMER'S DISEASE MUTANT M146V. Sukhjinder Kaur, Zuleen Chia-Chang, Paris Hanson, Laura Yorke, **Zafir Buraei**

2004-Pos **Board B324**
ATYPICAL TRP CHANNEL PHARMACOLOGY IN SCHISTOSOMES. Swarna Bais, Corbett T. Berry, Xiaohong Liu, Bruce D. Freedman, **Robert M. Greenberg**

2005-Pos **Board B325**
PHARMACOLOGY OF DROSOPHILA MELANOGASTER TRPA1 ISOFORMS. **Brett Boonen**

2006-Pos **Board B326**
NOVEL ROLE OF PUFAS AS ESSENTIAL COFACTORS FOR TRPV4 FUNCTION. **Rebeca C. Caires**, Valeria Vasquez, Julio F. Cordero-Morales

2007-Pos **Board B327**
THE VGLUT3^{ICRE};ROSA26^{AI14} MOUSE MODEL AS A TOOL FOR STUDYING TRPM8^{+} SENSORY NEURONS. **Theanne N. Griffith**, Javier E. Marquina-Solis, Adrian C. Thompson, Blair A. Jenkins, Ellen A. Lumpkin

2008-Pos **Board B328**
ANALOG-TO-DIGITAL CONVERSION OF DIFFERENTIAL METABOTROPIC INPUTS TO LATERAL SEPTAL NEURONS BY THE COMBINED ACTION OF TRPC4 AND GIRK. **Michael X. Zhu**, Jin-bin Tian

2009-Pos **Board B329**
CROSSTALK OF PAIN AND PLEASURE: TRPV1 IS A NOVEL OXYTOCIN RECEPTOR. Yelena Nersesyan, Lusine Demirkhanyan, Tyler Dawson, Swapna Asuthkar, Deny Cabezas-Bratesco, Sebastian Brauchi, **Eleonora Zakharian**

2010-Pos **Board B330**
THE ROLE OF TRPC CHANNELS IN ISCHEMIC NEURONAL CELL DEATH. **Jaepyo Jeon**, Guanghua Sun, Jinbin Tian, Sung-Ming Ting, Jaroslaw Aronowski, Michael X. Zhu

2011-Pos **Board B331**
SPECIES DIFFERENCES IN URINARY BLADDER SMOOTH MUSCLE TRPM4 CHANNEL ACTIVITY: COMPARISON BETWEEN RAT, GUINEA PIG, AND MAN. **Georgi V. Petkov**

2012-Pos **Board B332**
TRPV1 ACTIVATION STIMULATES BROWN ADIPOSE TISSUE ACTIVATION AND ENHANCES MITOCHONDRIAL BIOGENESIS TO COUNTERACT DIET-INDUCED OBESITY. **Padmamalini Baskaran**, Zhaojie Zhang, Baskaran Thyagarajan

2013-Pos **Board B333**
TRPV1 EXPRESSION IN ADIPOSE TISSUES DETERMINES METABOLIC ACTIVITY AND ENERGY EXPRESSION TO COUNTER DIET-INDUCED OBESITY. **Baskaran Thyagarajan**, Padmamalini Baskaran

2014-Pos **Board B334**
ANALYSIS OF ROLE OF TRPV1 IN EXERCISE, ENERGY INTAKE AND OBESITY. Baskaran Thyagarajan, Padmamalini Baskaran, **Vivek Krishnan**

2015-Pos **Board B335**
EFFECTS OF AN ACTIVATOR OF TRPM7, NALTRIBEN, ON MAGNESIUM INFLUX OF RAT VENTRICULAR MYOCYTES. **Michiko Tashiro**, Hana Inoue, Masato Konishi

2016-Pos **Board B336** **International Travel Awardee**
DISSECTING LOCAL AND SYSTEMIC EFFECTS OF TRPV1 ON BLADDER CONTRACTILITY IN DIABETES. **Bizhan R. Sharopov**, Kseniya L. Gulak, Igor B. Philyppov, Anna V. Sotkis, Yaroslav M. Shuba

2017-Pos **Board B337**
A PUTATIVE NUCLEAR/NUCLEOLAR SIGNAL SEQUENCE DIRECTS THE LOCALIZATION OF TRPM7 KINASE. **Ceredwyn E. Hill**, Adenike Ogunrinde, Christiane Whetstone, Evalina Williamson

2018-Pos **Board B338**
TRPV1 CONTRIBUTES TO ACROLEIN-INDUCED TOXICITY. **Yeranddy A. Alpizar**, Brett Boonen, Maarten Gees, Pieter Uvin, Thomas Voets, Dirk De Ridder, Wouter Everaerts, Karel Talavera

Ion Channels, Pharmacology, and Disease I (Boards B339–B357)

2019-Pos **Board B339**
STATE- AND USE-DEPENDENT BINDING OF KCNQ CHANNEL OPENERS. **Caroline K. Wang**, Alice W. Wang, Harley Kurata

2020-Pos **Board B340**
FUNCTIONAL ANNOTATION OF KCNQ1 VARIANTS OF UNKNOWN SIGNIFICANCE USING AUTOMATED ELECTROPHYSIOLOGY. **Carlos G. Vanoye**, Reshma R. Desai, Katarina L. Fabre, Jens Meiler, Charles R. Sanders, Alfred L. George

2021-Pos **Board B341**
THE EFFECTS OF EXTRACELLULAR PROTONS ON THE HERG POTASSIUM CHANNEL. **Stacey L. Wilson**, Neil V. Marrion, Jules C. Hancox

2022-Pos **Board B342**
THE ROLES OF SELECTED PORE RESIDUES IN PHARMACOLOGICAL INHIBITION OF THE HERG POTASSIUM CHANNEL BY A MINIMALLY STRUCTURED BLOCKER. **Matthew V. Helliwell**, Jules C. Hancox, Yi H. Zhang, Christopher E. Dempsey

2023-Pos **Board B343**
LAMPREY CFTR, AN EVOLUTIONARY ANCESTOR OF HUMAN CFTR, EXHIBITS NUMEROUS BIOPHYSICAL DISSIMILARITIES FROM HUMAN CFTR. **Guiying Cui**, Brandon B. Stauffer, Barry R. Imhoff, Amit Gaggar, Nael A. McCarty

2024-Pos **Board B344**
SMALL MOLECULE INDUCED CHANGES IN THE TRAFFICKING OF THE CYSTIC FIBROSIS CONDUCTANCE REGULATOR. **Zhihui Zhang**, David Heidary, Chris Richards

2025-Pos **Board B345**
CHARACTERIZATION OF CFTR ACTIVATORS AND INHIBITORS BY THE USE OF A PLANAR PATCH CLAMP SYSTEM. Andrea Brüggemann, Soren Friis, Tim Strassmeier, **Markus Rapedius**, Tom Goetze, Ilka Rinke, Claudia Haarmann, Nina Brinkwirth, Atsushi Ohtsuki, Takayuki Oka, Michael George, Niels Fertig

2026-Pos **Board B346**
DISCOVERY OF NAV1.7 MODULATORS FROM MARKETED DRUGS USING HIGH THROUTHPUT AUTOMATED ELECTROPHYSIOLOGICAL SYSTEM IONWORKS BARRACUDA. **Xueqin Chen**, Sui Fang, Qiang Ding, Zhaobing Gao

2027-Pos **Board B347**
STRUCTURE-BASED DISCOVERY OF POTENTIAL TWO-PORE-DOMAIN POTASSIUM CHANNEL TASK-3 (K_{2P}9.1) MODULATORS. David Ramírez, Julio Caballero, Leandro Zúñiga, Bárbara Arévalo, Aytug Kiper, Susanne Rinne, Niels Decher, **Wendy Gonzalez**

2028-Pos **Board B348**
PHARMACOLOGICAL CHARACTERIZATION OF THE NMDA-B-C IN PARALLEL BY AUTOMATED PATCH CLAMP. **Ilka Rinke**, Søren Friis, Claudia Haarmann, Alison Obergrussberger, Michael George, Andrea Brüggemann, Niels Fertig

2029-Pos **Board B349**
A TRADITIONAL CHINESE MEDICINE DRUG (TMYX) CONTROLS HEART RATE BY MODULATION OF THE PACEMAKER (F) CHANNELS. Manuel Paina, Chiara Piantoni, Luca Carnevali, Anthony Frosio, Annalisa Bucchi, Andrea Barbuti, Liu Sheng, Wang Yanyan, Yi Wang, Dario DiFrancesco, **Mirko Baruscotti**

2030-Pos **Board B350**
COMPUTATIONAL INVESTIGATIONS OF KATP CHANNEL PORE BLOCKERS. **Xingyu Chen**, Eva-Maria Zangerl-Plessl, Anna Stary-Weinzinger

2031-Pos **Board B351**
RATIONAL DESIGN OF KCA2 CHANNEL ACTIVATORS. **Heesung Shim**, Brandon Brown, Hai M. Nguyen, Vladimir Yarov-Yarovoy, Heike Wulff

2032-Pos **Board B352**
INVESTIGATION OF THE ION CHANNELS TMEM16A AND TRPC5 AND THEIR MODULATION BY INTRACELLULAR CALCIUM. Nina Brinkwirth, Søren Friis, Tom Goetze, Markus Rapedius, **James Costantin**, Andrea Brüggemann, Michael George, Niels Fertig

2033-Pos **Board B353**
STRUCTURAL DYNAMICS OF THE MSCL C-TERMINAL DOMAIN. **Adam D. Martinac**, Navid Bavi, Marien D. Cortes, Omid Bavi, Takeshi Nomura, Boris Martinac, Eduardo Perozo

2034-Pos **Board B354**
EXPRESSION AND CHARACTERIZATION OF WILDTYPE AND MUTANT FORMS OF HUMAN CONNEXIN31 USING *XENOPUS* OOCYTES. **Rasheed Bailey**, Husain Bneed, Dawn Fernandez, Shelby Rarick, Shahd Kadhim, Martha Skerrett

2035-Pos **Board B355**
MODULATION OF GABA(A) RECEPTORS BY GENERAL ANESTHETICS : A COMBINATORIC MODEL PREDICTS TWENTY YEARS OF CONCENTRATION-RESPONSE DATA (WITH A FEW INTERESTING EXCEPTIONS).
Grace Brannigan

2036-Pos **Board B356**
SUBTYPE SELECTIVITY OF TETS ON GABA-A RECEPTORS. **Brandon Pressly**, Hai M. Nguyen, Heike Wulff

2037-Pos **Board B357**
ANALYSIS OF PARTIAL AND COMPLETE BLOCK OF AMANTADINE AND RIMANTADINE IN INFLUENZA A M2 S31N BY ELECTROPHYSIOLOGY AND CURVE FITTING METHODS. **Kelly L. McGuire**, David D. Busath

Other Channels I (Boards B358–B374)

2038-Pos **Board B358**
VOLTAGE- AND CURRENT CLAMP ON INDUCED PLURIPOTENT CARDIOMYOCYTES WITH AUTOMATED PATCH CLAMP. **Mads PG Korsgaard**

2039-Pos **Board B359**
BIOPHYSICAL INSIGHT INTO THE SUBSTRATE PERMEATION THROUGH THE MAJOR OUTER MEMBRANE CHANNELS OF *ACINETOBACTER BAUMANNII*. **Satya Prathyusha Bhamidimarri**, Michael Zahn, Jigneshkumar Dahyabhai Prajapati, Ulrich Kleinekathoefer, Bert van den Berg, Mathias Winterhalter

2040-Pos **Board B360**
THREE-STEP GATING TRIGGERED BY CONFORMATIONAL CHANGES OF THE MOTOR CHANNEL COMMON TO VIRAL DNA PACKAGING MOTOR OF T3, T4, SPP1, AND PHI29. **Zhouxiang Ji**, Shaoying Wang, Farzin Haque, Peixuan Guo

2041-Pos **Board B361**
PROBING THE ION PERMEABILITY OF THE BACTERIAL TRANSLOCON WITH A LOCKED TRANSLOCATION INTERMEDIATE AT THE SINGLE MOLECULE LEVEL. **Denis G. Knyazev**, Roland Kuttner, Mirjam Zimmermann, Christine Siligan, Peter Pohl

2042-Pos **Board B362**
A DESIGNER PEPTIDE TOXIN ISOLATED BY PHAGE DISPLAY THAT INHIBITS THE HUMAN VOLTAGE-GATED PROTON CHANNEL, HHV1. **Kelleigh Kennedy**, Ruiming Zhao, Qufei Li, Eduardo Perozo, Gerardo A. De Blas, Martin A. Pavarotti, Rodolfo Arias, Luis S. Mayorga, Steve A.N. Goldstein

2043-Pos **Board B363**
IDENTIFICATION OF ACTIVATING AND INHIBITING GATING MODIFIER TOXINS THAT TARGET THE S3-S4 LOOP OF THE HUMAN PROTON CHANNEL, HHV1. **Ruiming Zhao**, Kelleigh Kennedy, Qufei Li, Eduardo Perozo, Steve A. N. Goldstein

2044-Pos **Board B364**
HCN3 CHANNEL EXPRESSION IN HUMAN LEUKOCYTES. **Chiara Piantoni**, Angelica Gualdoni, Claudia Bazzini, Raffaella Milanesi, Miryam Adelfio, Annalisa Bucchi, Andrea Barbuti, Matteo Pecchiari, Mirko Baruscotti, Dario DiFrancesco

2045-Pos **Board B365**
SILICA NANOPARTICLES INDUCE CALCIUM-PERMEABLE PORES IN PLASMA MEMBRANES. **Alicia Sanchez**, Kateryna Demydenko, Peter Hoet, Karel Talavera

2046-Pos **Board B366**
HOW TO GET LARGE DRUGS THROUGH SMALL PORES? EXPLOITING THE PORINS PATHWAY IN PSEUDOMONAS AERUGINOSA. Susruta Samanta, Tommaso D'Agostino, Ishan Ghai, Monisha Pathania, Silvia Acosta Gutierrez, Mariano Andrea Scorciapino, Igor Bodrenko, Richard Wagner, Bert van den Berg, Mathias Winterhalter, **Matteo Ceccarelli**

2047-Pos **Board B367**
MOLECULAR TRANSPORT THROUGH LARGE DIAMETER DNA ORIGAMI CHANNELS. **Swati Krishnan**, Friedrich Simmel

2048-Pos **Board B368**
FINGERPRINTING AND DIFFERENTIATION OF SMALL PROTEINS WITH A LARGE CHANNEL OF BACTERIOPHAGE PHI29 DNA PACKAGING MOTOR. **Zhouxiang Ji**, Shaoying Wang, Zhengyi Zhao, Zhi Zhou, Farzin Haque, Peixuan Guo

2049-Pos **Board B369**
PERTURBATION OF BILAYER SURFACE TENSION DIFFERENTIALLY MODULATES MECHANOSENSITIVE ION CHANNELS. **Navid Bavi**, Charles D. Cox, Omid Bavi, Boris Martinac

2050-Pos **Board B370**
NOVEL PROPERTIES OF LRRC8-MEDIATED VRAC CURRENTS. Antonella Gradogna, Héctor Gaitán-Peñas, Lara Laparra-Cuervo, Carles Solsona, Víctor Fernández-Dueñas, Alejandro Barrallo-Gimeno, Francisco Ciruela, Melike Lakadamyali, Raúl Estévez, **Michael Pusch**

2051-Pos **Board B371**
TRANSPORT OF SMALL AMINO ACIDS BY THE OUTER MEMBRANE PROTEIN OPRG OF *PSEUDOMONAS AERUGINOSA*. **Patrick Seelheim**, Raghavendar Reddy Sanganna Gari, Iga Kucharska, Lukas K. Tamm

2052-Pos **Board B372**
FILTERING WITH THE ELECTRIC FIELD: A STORY ON PROTEIN CHANNELS ELECTROSTATICS. **Silvia Acosta-Gutierrez**, Giuliano Malloci, Igor Bodrenko, Mariano Andrea Scorciapino, Matteo Ceccarelli

2053-Pos **Board B373**
HYDROPHOBIC GATING AND FUNCTIONAL ANNOTATION OF ION CHANNEL STRUCTURES BY MOLECULAR DYNAMICS SIMULATIONS. **Gianni Klesse**, Jemma Trick, Sivapalan Chelvaniththilan, Prafulla Aryal, Jayne Wallace, Stephen Tucker, Mark S.P. Sansom

2054-Pos **Board B374**
EVOLUTIONARY ANALYSIS DISCRIMINATES BETWEEN ALTERNATIVE ASIC STRUCTURES. Marina Kasimova, Timothy Lynagh, Daniele Granata, Stephan Pless, **Vincenzo Carnevale**

Ligand-gated Channels I (Boards B375–B401)

2055-Pos **Board B375**
IDENTIFICATION AND CHARACTERIZATION OF THE BINDING POCKET FOR NEGATIVE ALLOSTERIC MODULATORS IN AMPA RECEPTORS. **Charlotte Stenum-Berg**, Sergei C. Abiega, Christine L. Thisted, Anders S. Kristensen

2056-Pos **Board B376**
PHOSPHORYLATION IN AMPA RECEPTOR CARBOXY-TERMINUS: STRUCTURE, FUNCTION, AND LIPID REGULATION. **Caitlin E. Nurik**, Suma Devi, Sana Shaikh, Drew Dolino, Darren Boehning, Vasanthi Jayaraman, James Howe

2057-Pos **Board B377**
MULTIPLE SUBCONDUCTANCE STATES OF TARPED AMPA RECEPTORS REVEALED BY SLOW DISSOCIATION OF ANTAGONIST. Ian Coombs, Andrij Tarasiuk, Lauren Marconi, **Chris Shelley**, Mark Farrant, Stuart G. Cull-Candy

2058-Pos **Board B378**
AMPA RECEPTOR MODULATION BY STARGAZIN. **Sana A. Shaikh**, Drew M. Dolino, Garam Lee, Sudeshna Chatterjee, David M. MacLean, Charlotte Flatebo, Christy F. Landes, Vasanthi Jayaraman

2059-Pos **Board B379**
DESIGN OF A GLUTAMATE-ACTIVATED POTASSIUM CHANNEL UPON FUSION OF THE LIGAND-BINDING DOMAIN OF THE MAMMALIAN AMPA RECEPTOR GLUA1 TO THE CHANNEL PORE OF THE VIRAL ATCV-1 KCV K^+ CHANNEL. **Michael Schoenrock**, Alina Poci, Gerhard Thiel, Bodo Laube

2060-Pos **Board B380**
CRYO-ELECTRON MICROSCOPY REVEALS STRUCTURAL BASIS OF KAINATE SUBTYPE GLUTAMATE RECEPTOR DESENSITIZATION. **Sagar Chittori**, Joel R. Meyerson, Alan Merk, Prashant Rao, Tae H. Han, Mihaela Serpe, Mark L. Mayer, Sriram Subramaniam

2061-Pos **Board B381**
REDUCED STRUCTURAL DYNAMICS IN KAINATE RECEPTORS THROUGH AUXILIARY PROTEIN MODULATION. **Douglas B. Litwin**, David M. MacLean, Vasanthi Jayaraman

2062-Pos **Board B382**
FUNCTIONAL COUPLING OF BACTERIAL BINDING PROTEIN WITH THE CHANNEL PORE OF AN IONOTROPIC GLUTAMATE RECEPTOR. **Max Bernhard**, Bodo Laube

2063-Pos **Board B383**
PROBING THE CHANNEL GATING OF A GLUTAMATE RECEPTOR WITH PHOTOACTIVE UNNATURAL AMINO ACIDS. Mette Poulsen, Anahita Poshtiban, Viktoria Klippenstein, Valentina Ghisi, **Andrew Plested**

2064-Pos **Board B384**
INVESTIGATING COUPLING BETWEEN PROTON SENSORS AND CHANNEL MOTIONS IN ACID-SENSING ION CHANNELS. **Maria Musgaard**, David M. MacLean, Douglas B. Litwin, Vasanthi Jayaraman, Philip C. Biggin

2065-Pos **Board B385**
ACID SENSING ION CHANNELS HAVE AGONIST-DEPENDENT DEACTIVATION. **David M. MacLean**, Vasanthi Jayaraman

2066-Pos **Board B386**
MOLECULAR BASIS FOR INHIBITION OF ACID-SENSING ION CHANNELS BY IBUPROFEN. **Timothy Lynagh**, Jose L. Romero-Rojo, Stephan A. Pless

2067-Pos **Board B387**
STOICHIOMETRY OF TOXIN BINDING TO ACID-SENSING ION CHANNELS. **Christian B. Borg**, Timothy Lynagh, Linda M. Haugaard-Kedström, Kristian Strømgaard, Stephan A. Pless

2068-Pos **Board B388**
CHANNEL OPEN PROBABILITY CONTROLS ALLOSTERIC MODULATION OF POTENCY AND EFFICACY. **Riley E. Perszyk**, Kevin K. Ogden, Katie L. Strong, Dennis C. Liotta, Stephen F. Traynelis

2069-Pos **Board B389**
EFFECTS OF LIGAND CONFORMATIONS AND HETERO-LIGANDED STATES ON P2X2 RECEPTORS. **Federica Gasparri**, Jesper Wengel, Thomas Grutter, Stephan Pless

2070-Pos **Board B390**
POINT MUTANTS OF ATP-GATED P2X RECEPTORS CAST DOUBT ON THE INCLUSIVENESS OF THE RESERVOIR THEORY OF APPARENT PORE DILATION. **Laura Janks**

2071-Pos **Board B391**
INTERACTION OF PURINERGIC P2X4 AND P2X7 RECEPTOR SUBUNITS. **Fritz Markwardt**, Markus Schneider, Kirsten Prudic, Anja Pippel, Manuela Klapperstück, Christa Müller, Michaela Stolz, Michaela Schumacher, Günther Schmalzing

2072-Pos **Board B392**
A NOVEL, SPECTROSCOPIC WINDOW INTO NUCLEOTIDE ACTIVATION OF KATP CHANNELS. **Michael C. Puljung**, Natascia Vedovato, Frances M. Ashcroft

2073-Pos **Board B393**
INDEPENDENT ACTIVATION OF ION CONDUCTION PORES IN THE DOUBLE-BARRELED CA^{2+}-ACTIVATED CL^- CHANNEL TMEM16A. **Andy K. M. Lam**, Novandy K. Lim, Raimund Dutzler

2074-Pos **Board B394**
MUTAGENESIS STUDY OF THE CA^{2+} SENSITIVITY OF SK2 CHANNELS. **Young Woo Nam**, Benjamin J. Whitmore, Razan S. Orfali, MIAO ZHANG

2075-Pos **Board B395**
ROLE OF INDIVIDUAL CAMP BINDING SITES ON RELIEVING THE AUTOINHIBITION IN HCN CHANNELS. **Mallikarjuna Rao Sunkara**, Jana Kusch, Klaus Benndorf

2076-Pos **Board B396**
MONITORING THE CONFORMATIONAL CHANGES OF INDIVIDUAL CYCLIC NUCLEOTIDE-GATED ION CHANNELS BY HIGH-SPEED ATOMIC FORCE MICROSCOPY. **Martina Rangl**, Atsushi Miyagi, Julia Kowal, Henning Stahlberg, Crina M. Nimigean, Simon Scheuring

2077-Pos **Board B397**
IDENTIFICATION OF AN ODORANT-BINDING SITE RESIDUE IN AN OLFACTORY RECEPTOR OF THE MALARIA VECTOR MOSQUITO. **Suhaila Rahman**, Charles W. Luetje

2078-Pos **Board B398**
MODULATING O2 PERMEABILITY OF THE CENTRAL PORE OF RH50 BY IN SILICO SITE DIRECTED MUTAGENESIS. **Eric Shinn**, Emad Tajkhorshid

2079-Pos **Board B399**
SYMMETRY MATCH IN DESIGN OF MULTIVALENT INHIBITORS OF ANTHRAX TOXIN. **Sanaz Momben Abolfath**, Halle Welch, Vladimir A Karginov, Ekaterina Nestorovich

2080-Pos **Board B400**
IDENTIFICATION AND ENERGETIC CHARACTERIZATION OF GAS PERMEATION PATHWAYS THROUGH A PLANT WATER CHANNEL. **Ahmad Raeisi Najafi**, Paween Mahinthichaichan, Emad Tajkhorshid

2081-Pos **Board B401**
MODELING ION SELECTIVITY IN TRANSMEMBRANE DOMAIN OF THE NMDA RECEPTOR. Samaneh Sayede Mesbahi, Jon W. Johnson, **Maria Kurnikova**

Cardiac Muscle Regulation II (Boards B402–B413)

2082-Pos **Board B402**
EFFECT OF STIMULATION FREQUENCY MODIFICATION ON KINETIC PARAMETERS OF EXPLANTED HUMAN MYOCARDIUM. **Jae-Hoon Chung**, Nima Milani-Nejad, Tallib Karaze, Ahmet Kilic, Peter Mohler, Paul Janssen

2083-Pos **Board B403**
THE EFFECT OF RIBONUCLEOTIDE REDUCTASE OVEREXPRESSION ON CARDIOMYOCYTE METABOLISM. **Jason D. Murray**, Farid Moussavi-Harami, Michael Regnier

2084-Pos **Board B404**
CARDIAC FATTY ACID BINDING PROTEIN (FABP3) DEPLETES SR CALCIUM LOAD IN VENTRICULAR MYOCYTES. Wenjie Li, Shaoran Zhang, Siwei Zhou, Lingling Jiang, **Wei Wang**

2085-Pos **Board B405** **International Travel Awardee**
OPTOGENETICS DESIGN OF MECHANISTICALLY-BASED STIMULATION PATTERNS FOR CARDIAC DEFIBRILLATION. **Claudia Crocini**, Cecilia Ferrantini, Raffaele Coppini, Marina Scardigli, Ping Yan, Leslie M. Loew, Godfrey L. Smith, Elisabetta Cerbai, Corrado Poggesi, Francesco S. Pavone, Leonardo Sacconi

2086-Pos **Board B406**
OPTOGENETIC MODULATION OF CARDIOMYOCYTE EXCITABILITY. **Ramona Kopton**, Eva Rog-Zielinska, Urszula Siedlecka, Jonas Wietek, Peter Hegemann, Peter Kohl, Franziska Schneider

2087-Pos **Board B407** **International Travel Awardee**
ANTIHYPERTROPHIC EFFECTS OF DIAZOXIDE INVOLVES CHANGES IN MIR-132 EXPRESSION IN ADULT RAT CARDIOMYCYTES. **Gayathri Narasimhan**, Elba Carrillo, Ascencion Hernández, Maria C. García, Jorge A. Sanchez

2088-Pos **Board B408**
DESIGNING CALCIUM BINDING PROTEINS AS THERAPEUTICS AGAINST MUSCLE DISEASES. **Svetlana Tikunova**, Sandor Gyorke, Frank Brozovich, Brandon Biesiadecki, Paul Janssen, Mark Ziolo, Jonathan Davis

2089-Pos **Board B409**
EFFECTS OF GHRELIN AND DES-ACYL GHRELIN ON DOXORUBICIN-INDUCED CARDIAC TOXICITY. **Miki Nonaka**, Nagomi Kurebayashi, Takashi Murayama, Masami Sugihara, Seiji Shiraishi, Kanako Miyano, Hiroshi Hosoda, Shosei Kishida, Kenji Kangawa, Takashi Sakurai, Yasuhito Uezono

2090-Pos **Board B410**
HUMAN AC8 OVEREXPRESSION INCREASES THE CA^{2+} MEDIATED ENSEMBLE AND IMPARTS IMPROVED RHYTHMICITY TO THE SINOATRIAL NODE *IN VIVO* AND *EX VIVO*. **Jack M. Moen**, Michael G. Matt, Syevda G. Sirenko, Kirill V. Tarasov, Ismayil Ahmet, Chris Ramirez, Oliver Monfredi, Kenta Tsutsui, Bruce Ziman, Yael Yaniv, Edward G. Lakatta

2091-Pos **Board B411**
ASSESSMENT OF THYROID HORMONE INDUCED HEMODYNAMIC ALTERATIONS AND CARDIAC IRREGULARITIES FOLLOWING ANTITHYROID DRUG TREATMENT AND THYROXIN USAGE RECOVERY. **Nancy S. Saad**, Kyle Floyd, Steven Repas, Paul Janssen, Mohammad Elnakish

2092-Pos **Board B412**
FUNCTIONAL REGULATION OF SMALL CONDUCTANCE CALCIUM ACTIVATED POTASSIUM CHANNEL ON ATRIAL MYOCYTES BY HYDROGEN SULFIDE IN DIABETES MELLITUS. **Dai-Min Zhang**, Shao-Liang Chen

2093-Pos **Board B413**
TREK-1 HAS A PROTECTIVE ROLE AGAINST GLOBAL ISCHEMIA-REPERFUSION-INDUCED CARDIAC INJURY. Cory Parks, Andreas Schwingshackl, **Salvatore Mancarella**

Kinesins, Dyneins, and Other Microtubule-based Motors II (Boards B414–B428)

2094-Pos **Board B414**
COOPERATIVITY OF KINESIN MOTOR PROTEINS UNDER EXTERNAL LOADS. **Qian Wang**, Margaret Cheung, Michael Diehl, José Onuchic, Biman Jana, Anatoly Kolomeisky

2095-Pos **Board B415**
CARGO TRANSPORT BY TEAMS OF KINESIN-1 MOTORS IS SLOWED DOWN BY MACROMOLECULAR CROWDING. Guilherme Nettesheim, Gabriel Jaffe, Stephen J. King, **George T. Shubeita**

2096-Pos **Board B416**
KINESIN PROCESSIVITY IS DETERMINED BY A KINETIC RACE FROM A VULNERABLE ONE-HEAD-BOUND STATE. **Keith J. Mickolajczyk**, William O. Hancock

2097-Pos **Board B417**
HIGH RESOLUTION THREE-DIMENSIONAL TRACKING WITH OPTICAL TWEEZERS REVEALS PROTOFILAMENT SWITCHING OF THE KINESIN-8 KIP3. **Michael Bugiel**, Erik Schaeffer

2098-Pos **Board B418**
A COMPARATIVE SINGLE-MOLECULE STUDY BETWEEN THE MECHANICAL STABILITY OF KINESIN KIF16B ATTACHMENT TO LIPID MEMBRANES AND TO MICROTUBULES. **Serapion Pyrpassopoulos**, Henry Shuman, E. Michael Ostap

2099-Pos **Board B419**
ALLOSTERY WIRING MAP FOR KINESIN ENERGY TRANSDUCTION AND ITS EVOLUTION. Jessica Richard, Elizabeth D. Kim, Hoang Nguyen, Catherine D. Kim, **Sunyoung Kim**

2100-Pos **Board B420**
ALTERED MECHANICAL PROPERTIES OF KINESINS WITH MUTATIONS THAT CAUSE HEREDITARY SPASTIC PARAPLEGIA. Chelsea Kelland, Khari Gilmore, Lauren Thornton, Liautaud Prophete, **Thomas M. Huckaba**

2101-Pos **Board B421**
EG5 INHIBITORS HAVE CONTRASTING EFFECTS ON MICROTUBULE STABILITY AND SPINDLE INTEGRITY DEPENDING ON THEIR MODES OF ACTION. **Geng-Yuan Chen**, You-Jung Kang, A. Sophia Gayek, Wiphu Youyen, Erkan Tüzel, Ryoma Ohi, William O. Hancock

2102-Pos **Board B422**
REGULATION OF ACTIVITY OF THE KINESIN-5 CIN8. **Larisa Gheber**, Alina Goldstein, Ofer Shapira, Ervin Valk, Mart Loog, Nurit Siegler, Darya Goldman

2103-Pos **Board B423**
NONCANONICAL MICROTUBULE INTERACTION OF YEAST KINESIN-5 CIN8. **Kayla Bell**, Hyo Keun Cha, Ardian S. Wibowo, Charles V. Sindelar, Jared C. Cochran

2104-Pos **Board B424**
EXPLORING THE MECHANISM OF MICROTUBULE DEPOLYMERIZATION BY THE KINESIN 13 KLP10A AND IT'S PHOSPHOREGULATION. **Matthieu P.m.h. Benoit**, Daniel J. Diaz-Valencia, Ana B. Asenjo, Gary J. Gerfen, David J. Sharp, Hernando J. Sosa

2105-Pos **Board B425**
ANALYSIS OF THE MOTILITY PROPERTIES OF THE KINESIN-4 FAMILIY MEMBERS KIF7 AND KIF27. **Yang Yue**, T. Lynne Blasius, Stephanie Zhang, Benjamin Walker, Jared C. Cochran, Kristen J. Verhey

2106-Pos **Board B426**
PHOTO REGULATION OF KINESIN MOTOR ACTIVITY UTILIZING PHOTOCHROMIC DRONPA-LOOP11 FUSION PROTEIN. **Kohei Uchida**, Shinsaku Maruta

2107-Pos **Board B427**
CHARACTERISTIC PROPERTIES OF NOVEL PHOTOCHROMIC INHIBITOR OF KINESIN EG5 COMPOSED OF SPIROPYRAN DERIVATIVE OF NOVEL PHOTOCHROMIC INHIBITOR OF KINESIN EG5 COMPOSED OF SPIROPYRAN DERIVATIVE. **Kei Sadakane**, Mao Takaichi, Ryoma Yamamoto, Shinsaku Maruta

2108-Pos **Board B428**
TIGHT COUPLING BETWEEN THE HEAT DISSIPATION AND MOLECULAR MOTOR'S TRANSPORT PROPERTIES IN NONEQUILIBRIUM STEADY STATE. **Wonseok Hwang**, Changbong Hyeon

Cytoskeletal Assemblies and Dynamics (Boards B429–B445)

2109-Pos **Board B429**
FROM RIBOSOME TO SARCOMERE - TITIN DYNAMICS IN STRIATED MUSCLE CELLS. **Michael Gotthardt**, Franziska Rudolph, Judith Huettemeister, Katharina da Sliva Lopes, Lily Yu, Nora Bergmann, Claudia Fink, Eva Wagner, Stephan Lehnart, Carol Gregorio

2110-Pos **Board B430**
MYOSIN II-DEPENDENT SUPPRESSION OF PODOSOMES BY AN ARNO-ARF1 SIGNALING AXIS. **Nisha Mohd Rafiq**, Zi Zhao Lieu, TingTing Jiang, Cheng-han Yu, Paul Matsudaira, Gareth Jones, Alexander Bershadsky

2111-Pos **Board B431**
LOCAL PULSES OF RHOA ACTIVATION ASSEMBLE POLARIZED NETWORK ARCHITECTURES FOR EFFICIENT ACTOMYOSIN CONTRACTILITY. **François B. Robin**, Jonathan M. Michaux, Edwin M. Munro

2112-Pos **Board B432**
LIFETIME OF MEMBRANE-CYTOSKELETON BONDS IS MEDIATED BY RHO-GTPASES IN A CANCER CELL. **Vivek Rajasekharan**, Varun K. A. Sreenivasan, Jeffrey N. Myers, Fred A. Pereira, Brenda Farrell

2113-Pos **Board B433**
SUBCELLULAR SPATIAL CONTROL OF NON-MUSCLE MYOSIN 2 REDISTRIBUTION AND STRESS FIBER STRAIN BY MOLECULAR TATTOO. **Adam I. Horvath**, Boglarka H. Varkuti, Miklos Kepiro, Gyorgy Hegyi, Mihaly Kovacs, Andras Malnasi-Csizmadia

2114-Pos **Board B434**
AN POTOGENENTIC TOOLKIT FOR REVERSIBLE LABELING AND REMOTE MANIPULATION OF CYTOSKELETON IN SITU. **Qian Zhang**, Lian He, Guolin Ma, Yubin Zhou

2115-Pos **Board B435**
MECHANICS AND DYNAMICS OF CATION-INDUCED ACTIN BUNDLES. **Nicholas Castaneda**, Tianyu Zheng, Hector Rivera-Jacquez, Qun Huo, Hyeran Kang

2116-Pos **Board B436**
CAMKII CONTROL OF ACTIN CYTOSKELETAL DYNAMICS. **Shahid M. Khan**, Justin E. Molloy

2117-Pos **Board B437**
MODELING THE COOPERATIVITY OF TROPOMYOSIN BINDING TO ACTIN FILAMENTS. **Glen M. Hocky**, Jenna R. Christensen, David R. Kovar, Gregory A. Voth

2118-Pos **Board B438**
COORDINATING ROLE OF IQGAP1 IN THE REGULATION OF MULTIVESICULAR ENDOSOMAL COMPARTMENT DYNAMICS. **Volker Schweikhard**, Edward Samson, David Tsao, Tyler McLaughlin, Michael Diehl

2119-Pos **Board B439**
COMPONENT TURNOVER IN THE CYTOKINETIC RING MAINTAINS ORGANIZATIONAL HOMEOSTASIS AND TENSION PRODUCTION. **Shuyuan Wang**, Sathish Thiyagarajan, Ting G. Chew, Junqi Huang, Saravanan Palani, Anton Kamnev, Ying Gu, Snezhana Oliferenko, Mohan Balasubramanian, Ben O'Shaughnessy

2120-Pos **Board B440**
WHAT SILENCES THE SPINDLE CHECKPOINT? A SINGLE PARTICLE STUDY. Kwaku N. Opoku, Lori Koch, Susan Biggins, **Charles L. Asbury**

2121-Pos **Board B441**
LOCAL LOAD-BEARING BY KINETOCHORE-FIBERS IN THE MAMMALIAN SPINDLE PROVIDES MECHANICAL ISOLATION AND REDUNDANCY. **Mary Williard Elting**, Dylan B. Udy, Manu Prakash, Sophie Dumont

2122-Pos **Board B442**
INTEGRATED MODEL OF CYTOKINETIC RING CONSTRICTION AND SEPTATION IN FISSION YEAST REPRODUCES EXPERIMENTAL VALUES OF RING TENSION. **Shuyuan Wang**, Sathish Thiyagarajan, Ben O'Shaughnessy

2123-Pos **Board B443**
PHYSICAL DETERMINANTS OF BIPOLAR MITOTIC SPINDLE ASSEMBLY AND STABILITY IN FISSION YEAST. Robert Blackwell, Christopher Edelmaier, Oliver Sweezy-Schindler, Adam Lamson, Zachary Gergely, Eileen O'Toole, Ammon Crapo, Loren Hough, Richard McIntosh, Matthew Glaser, **Meredith Betterton**

2124-Pos **Board B444**
FLAGELLAR LENGTH CONTROL CAN BE ACHIEVED THROUGH A SIMPLE DIFFUSION-BASED MECHANISM. **Nathan L. Hendel**, Wallace F. Marshall

2125-Pos **Board B445**
THE FLAGELLA BEAT OF CHLAMYDOMONAS HAS DISTINCTLY REGULATED STATIC AND DYNAMIC COMPONENTS, WHICH ACCORD WITH CURVATURE CONTROLLED DYNEIN ACTIVITY. **Veikko F. Geyer**, Pablo Sartori, Frank Jülicher, Jonathon Howard

Cell Mechanics, Mechanosensing and Motility III (Boards B446–B469)

2126-Pos **Board B446**
AS THE BEATING HEART STIFFENS IN DEVELOPMENT, SO DOES THE NUCLEAR LAMINA. **Sangkyun Cho**, Stephanie Majkut, Amal Abbas, Ken Vogel, Jerome Irianto, Christina Y. Chen, Manorama Tewari, Andrea Liu, Benjamin Prosser, Dennis E. Discher

2127-Pos **Board B447**
UNDERSTANDING THE ROLE OF STIFFNESS IN PATHOLOGICAL CARDIAC FIBROBLAST SIGNALING. **Tova Christensen**, Kristi Anseth, Leslie Leinwand

2128-Pos **Board B448**
MECHANOBIOLOGY OF THE LIGAMENT TO BONE INSERTION. **Aisa Biria**, Shreyas Mandre, Madhusudhan Venkadesan

2129-Pos **Board B449**
ELECTRON MICROSCOPY OF THE COMPLEX FORMED BY HEAVY MEROMYOSIN AND C-PROTEIN. Charlotte Scarff, Alba Fuentes Balaguer, Donald Winkelmann, **John Trinick**

2130-Pos **Board B450**
MECHANOSENSITIVE ADHESION EXPLAINS STEPPING MOTILITY IN AMOEBOID CELLS. **Calina A. Copos**, Robert D. Guy, Sam Walcott, Juan Carlos del Alamo, Alex Mogilner

2131-Pos **Board B451**
A COMPUTATIONAL FRAMEWORK TO ACCURATELY PREDICT ENTHALPY AND CONFIGURATIONAL ENTROPY LANDSCAPES OF MULTIVALENT INTERACTIONS OF CELL MIMETICS. **Aravind R. Rammohan**, Matthew Mckenzie, Ravi Radhakrishnan, Natesan Ramakrishnan

2132-Pos **Board B452**
IN VITRO RECONSTITUTION OF TISSUE HOMEOSTASIS AND STOCHASTIC CELL FATE CHOICE. **Kyogo Kawaguchi**, Allon M. Klein

2133-Pos **Board B453**
KETAMINE PROMOTES NEURITE GROWTH AND RECOVERS DEXAMETHASONE-INDUCED MOBILITY DECREASE IN CULTURED HIPPOCAMPAL CELLS. **Andreas W. Henkel**, Zoran B. Redzic, Mohammed S. Al-Qallaf

2134-Pos **Board B454**
LEFT-RIGHT SYMMETRY BREAKING DURING EARLY DEVELOPMENT OF C. ELEGANS. **Anagha Datar**, Saroj Nandi, Frank Jülicher, Stephan Grill

2135-Pos **Board B455**
ROBUST EARLY EMBRYOGENESIS OF *CAENORHABDITIS ELEGANS* DUE TO MECHANICAL CUES AND PROPER CELL DIVISION TIMING. **Rolf Fickentscher**, Philipp Struntz, Matthias Weiss

2136-Pos **Board B456**
ASSESSING CELL-SUBSTRATE INTERACTION WITH DISSIPATION MONITORING FUNCTION OF THE QCM-D. **Jennifer Chen**, Lynn Penn, Ning Xi, Jun Xi

2137-Pos **Board B457**
THE ROLE OF GLOBAL AND LOCAL MECHANICAL SIGNALS IN MODULATING CELL SPREADING. **Magdalena Stolarska**, Aravind Rammohan

2138-Pos **Board B458**
FORCE LOCALIZATION AND CELL SHAPE IN EPITHELIAL MONOLAYERS. **Erik Schaumann**, Margaret Gardel

2139-Pos **Board B459**
REAL-TIME IDENTIFICATION OF CELL MECHANICAL PROPERTIES. **Alice Bartolozzi**, Alessandro Soloperto, Gemma Palazzolo, Michele Basso, Francesco Difato, Massimo Vassalli

2140-Pos **Board B460**
THE EXPRESSION AND DEGRADATION OF SM22-ALPHA/TRANSGELIN ARE REGULATED BY MECHANICAL TENSION IN THE CYTOSKELETON. **Rong Liu**, M. Moazzem Hossain, J.-p. Jin

2141-Pos **Board B461**
COMPRESSIVE STRESS STALLS GROWTH AND DECREASES CYTOPLASMIC DIFFION. **Morgan Delarue**, Greg Brittingham, Oskar Hallatschek, Liam Holt

2142-Pos **Board B462**
CELLULAR DUROTAXIS FROM DIFFERENTIALLY PERSISTENT MOTILITY. Elizaveta A. Novikova, Matthew Raab, Dennis E. Discher, **Cornelis Storm**

2143-Pos **Board B463**
CHARACTERIZATION OF THE FRUSTRATED DIFFERENTIATION OF MESENCHYMAL STEM CELLS INDUCED BY NORMADIC MIGRATION BETWEEN STIFF AND SOFT REGION OF GEL MATRIX. **Satoru Kidoaki**, Hiroyuki Ebata, Rumi Sawada, Kousuke Moriyama, Thasaneeya Kuboki, Yukie Tsuji, Ken Kono, Kazusa Tanaka, Saori Sasaki

2144-Pos **Board B464**
CELLS AS STRAIN-CUED AUTOMATA. **Brian Cox**

2145-Pos **Board B465**
MITOCHONDRIAL FLUCTUATIONS AS A MEASURE OF BIOMECHANICAL PROPERTIES OF MURINE CELLS. **Wenlong Xu**, Elaheh Alizadeh, Jordan Castle, Ashok Prasad

2146-Pos **Board B466**
SUBSTRATE CHEMISTRY AND MORPHOLOGY INFLUENCE THE VALVULAR INTERSTITIAL CELLS MECHANOBIOLOGY. **Luisa Ulloa Severino**, Rosaria Santoro, Maurizio Pesce, Loredana Casalis, Denis Scaini

2147-Pos **Board B467**
HYDRATION CONTROL IN BRAIN EXTRACELLULAR MATRIX: ASTROCYTES, PERYCITES, AND FIBROBLASTS ADJUST THEIR CONTRACTILE RESPONSES TO LOCAL WATER ACTIVITY. **Maria P. McGee**, Mary Kearns, Michael Morykwas, Louis Argenta

2148-Pos **Board B468**
GROWING UP OR GROWING OLD? **Nash D. Rochman**

2149-Pos **Board B469**
FOCAL ADHESION KINASE REGULATORY INTERACTIONS QUANTIFIED BY TIRF-FRET. **Taylor J. Zak**, Allen Samarel, Seth Robia

Mitochondria in Cell Life and Death II (Boards B470–B485)

2150-Pos **Board B470**
POPULATION DYNAMICS OF MITOCHONDRIA IN MAMMALIAN CELLS. Kellianne Kornick, **Moumita Das**

2151-Pos **Board B471**
MGR2 DEPLETION AFFECTS PROTEIN IMPORT AND MITOCHONDRIAL METABOLISM. Kevin Damri, Oygul Mirzalieva, Ruth Hartke, **Pablo M. Peixoto**

2152-Pos **Board B472**
GDAP1 REGULATION BY OXIDATIVE STRESS. Sreeram Ravi, Andrew P. VanDemark, **Kirill Kiselyov**

2153-Pos **Board B473**
INVESTIGATION OF THE INTERACTIONS OF THE SS-31 PEPTIDES WITH CARDIOLIPIN VARIANTS: A POTENTIAL THERAPEUTIC FOR BARTH SYNDROME. Murugappan Sathappa, Wayne Mitchell, Adrian Coscia, Kevin Boyd, Eric May, Hazel H. Szeto, **Nathan N. Alder**

2154-Pos **Board B474**
REGULATION OF CYTOCHROME C BY PHOSPHORYLATION: MITOCHONDRIAL RESPIRATION AND APOPTOSIS. **Maik Hüttemann**, Gargi Mahapatra, Icksoo Lee, Lawrence I. Grossman, Asmita Vaishnav, Carlos T. Moraes, Qinqin Ji, Arthur R. Salomon, Brian FP Edwards

2155-Pos **Board B475**
BCL-2 OR BCL-XL OVEREXPRESSION STIMULATES LACTIC FERMENTATION WITHOUT AFFECTING WHOLE CELL RESPIRATION. **Laurent Dejean**, Nawras Samaan, Ali Abed, Bushra Mahmood, Jessica Wilson, Preet Kaur, Hooi Chong

2156-Pos **Board B476**
WOLBACHIA: INTERACTIONS WITH MITOCHONDRIA INSIDE THE CELL. Cristina Uribe-Alvarez, Natalia Chiquete-Félix, Antonio Peña, **Salvador Uribe-Carvajal**

2157-Pos **Board B477**
QUANTITATIVE MODELING OF PYRUVATE DEHYDROGENASE AND ITS IMPACT IN SUBSTRATE SELECTION, MITOCHONDRIAL RESPIRATION AND REDOX. **Sonia Cortassa**, Steven J. Sollott, Miguel A. Aon

2158-Pos **Board B478**
ALTERNATE PATHWAYS FOR INORGANIC PHOSPHATE UPTAKE INTO MITOCHONDRIA. **Erin Seifert**, Valentina Debattisti, Gyorgy Hajnoczky

2159-Pos **Board B479** **CPOW Travel Awardee**
DUAL ROLE OF INORGANIC POLYPHOSPHATE (POLYP) IN THE REGULATION OF MITOCHONDRIA-DEPENDENT CELL DEATH. **Maria de la Encarnacion Solesio Torregrosa**, Mitchell Marta-Ariza, Fernando Goni, Evgeny V Pavlov

2160-Pos **Board B480**
THE OUTER MEMBRANE POTENTIAL GENERATION BY THE ELECTROGENIC PHOSPHORYL GROUP TRANSFER IN MITOCHONDRIA. **Victor V. Lemeshko**

2161-Pos **Board B481**
USING ENGINEERED RECOMBINANT TUBULIN SOTYPES TO STUDY VDAC REGULATION. **Philip A. Gurnev**, David P. Hoogerheide, Minhajuddin Sirajuddin, Lucie Bergdoll, Jeff Abramson, Tatiana K. Rostovtseva, Sergey M. Bezrukov

2162-Pos **Board B482**
MITOCHONDRIAL VDAC AS AN ELECTROMECHANICAL PROBE OF LIPID-DEPENDENT MEMBRANE BINDING OF ALPHA-SYNUCLEIN. **Tatiana K. Rostovtseva**, Daniel Jacobs, David P. Hoogerheide, Amandine Rovini, Sergey M. Bezrukov

2163-Pos **Board B483**
NEW INSIGHTS INTO THE MOLECULAR STRUCTURE AND REGULATION OF THE MITOCHONDRIAL PERMEABILITY TRANSITION PORE. **Nelli Mnatsakanyan**, Han-A Park, Jing Wu, Paige Miranda, Elizabeth A. Jonas

2164-Pos **Board B484**
MITOCHONDRIAL PERMEABILITY TRANSITION PORE AND NUMBER OF OPENINGS. **Nasrin Afzal**, W. Jonathan Lederer, M. Saleet Jafri

2165-Pos **Board B485** **CPOW Travel Awardee**
DIRECT MODULATION OF THE MITOCHONDRIAL PERMEABILITY TRANSITION PORE BY OLIGOMERIC ALPHA-SYNUCLEIN CAUSES TOXICITY IN PD. **Marthe Ludtmann**, Plamena Angelova, Minee-Liane Choi, Mathew Horrocks, Artyom Baev, Daniel Little, Michael Devine, Paul Gissen, Evgeny Pavlov, David Klenerman, Andrey Abramov, Sonia Gandhi

Light Energy Harvesting, Trapping, and Transfer (Boards B486–B495)

2166-Pos **Board B486**
SLOW AND FAST FLUORESCENCE QUENCHING OF LHCII IN *CHLAMYDOMONAS REINHARDTII* CELLS. **Roberta Croce**, Lijin Tian, Emine Dinc, Laura M. Roy

2167-Pos **Board B487**
ALLOPHYCOCYANIN FROM *GRACILARIA CHILENSIS* AND ITS RECOMBINANT. A COMPARATIVE BIOPHYSICAL AND SPECTROSCOPIC STUDY. **Jorge A. Dagnino-Leone**, Marta Bunster, Jose Martinez-Oyanedel, Maria Victoria Hinrichs

2168-Pos **Board B488**
ORANGE CAROTENOID PROTEIN PICOSECOND DYNAMICS CHANGES WITH PHOTO AND CHEMICAL ACTIVATION. **Yanting Deng**, Mengyang Xu, Haijun Liu, Robert E. Blankenship, Andrea G. Markelz

2169-Pos **Board B489**
LIGHT-HARVESTING COMPLEX II IN CONTROLLED ARCHITECTURES: VISUALIZING CHANGES IN FLUORESCENCE LIFETIMES. **Peter G. Adams**, Cvetelin Vasilev, C. Neil Hunter, Matthew P. Johnson

2170-Pos **Board B490**
THE PICOSECOND KINETICS OF NON-PHOTOCHEMICAL QUENCHING IN LEAVES IN THE PRESENCE OF OPEN AND CLOSED REACTION CENTERS. **Herbert van Amerongen**, Shazia Farooq

2171-Pos **Board B491**
MIMICKING NATURAL PHOTOSYNTHSIS: ULTRAFAST CHARGE TRANSFER IN PPCA RU(BPY)$_3$ COMPLEXES. **Matthew O'Malley**

2172-Pos **Board B492**
PHOTOINDUCED CHARGE AND ENERGY TRANSFER IN COMPLEXES OF C-TYPE CYTOCHROMES WITH WATER-SOLUBLE PORPHYRINS. **Oleksandr Kokhan**, Daniel R. Marzolf, C. Alexander Hudson, Aidan M. McKenzie

2173-Pos **Board B493**
OPTICAL AND ELECTROCHEMICAL PROPERTIES OF SYNTHETIC CHLOROPHYLL OLIGOMERS CONNECTED WITH AMIDE BOND. **Tomohiro Tatebe**, Hitoshi Tamiaki

2174-Pos **Board B494**
DEPHASING TIMES IN THE PHYCOBILIPROTEIN ANTENNA COMPLEXES PE545 AND PE555. Maria I. Mallus, Suryanarayanan Chandrasekaran, **Ulrich Kleinekathöfer**

2175-Pos **Board B495**
USING A LIGHT-DRIVEN PROTON PUMP PROTEIN TO DEVELOP A REDUCTION-OXIDATION REACTION CELL. **U-Ting Chiu**, Ling Chao

Molecular and Cellular Neuroscience (Boards B496–B508)

2176-Pos **Board B496**
MECHANISMS OF FRACTIONAL CALCIUM CURRENTS THROUGH TRPV1 CHANNELS IN PRIMARY SENSORY NEURONS. **Zhuan Zhou**

2177-Pos **Board B497**
A BENEFIT OF RANDOMNESS IN SYNAPTIC VESICLE RELEASE. **Calvin Zhang**, Charles S. Peskin

2178-Pos **Board B498**
GLUCOKINASE MEDIATED GLUCOSENSING IN HYPOTHALAMIC NEURONS. **Jennifer McFarland**, Kendra Seckinger, Mark Rizzo

2179-Pos **Board B499**
RECEPTOR LEVEL DISSECTION OF COMMON VERSUS DISCRETE VESICLE RELEASE PATHWAYS FROM PRIMARY VAGAL AFFERENT TERMINALS. **James H. Peters**

2180-Pos **Board B500**
ASSOCIATIVE MEMORY CELLS ARE RECRUITED TO ENCODE TRIPLE SENSORY SIGNALS VIA SYNAPSE FORMATION. **Jin H. Wang**, Jing Feng, Wei Lu

2181-Pos **Board B501**
BILOBALIDE PROTECTS AGAINST FOCAL CEREBRAL ISCHEMIA REPERFUSION INJURY BY INHIBITING OF CELL DEATH PATHWAYS AND PROMOTING OF ANGIOGENESIS. **Yongqiu Zheng**, Mingjiang Yao, Frank Yi, Bin Yang, Xiaodi Fan, Jianxun Liu, Matthew Orange, Hua Zhu

2182-Pos **Board B502**
USING LIGHT-SHEET MICROSCOPY TO UNDERSTAND EVOKED MOTOR SEQUENCE GENERATION. **Amicia D. Elliott**, Feici Diao, Sarav Shah, Daniel Yasoshima, Yicong Wu, Hari Shroff, Benjamin White

2183-Pos **Board B503**
STRUCTURAL POLYMORPHISM OF AMYLOID FIBRILS IN ALZHEIMER'S DISEASE. Liu Jiliang, John Badger, Biel Roig Solvas, **Lee Makowski**

2184-Pos **Board B504**
MODULATION OF AMYLOID PEPTIDE OLIGOMERIZATION AND TOXICITY BY EXTRACELLULAR HSP70. **Antonio De Maio**, Isabel Rivera, David M. Cauvi, Nelson Arispe

2185-Pos **Board B505**
CALCIUM CALMODULIN REGULATES ZINC MEDIATED CHANGES IN THE STRUCTURE, SELF-ASSOCIATION, AND ACTIVITY OF CAMKII. Laurel Hoffman, Lin Li, Emil Alexov, M. Neal Waxham, **Hugo Sanabria**

2186-Pos **Board B506** **CPOW Travel Awardee**
GENETIC RESCUE OF MITOCHONDRIAL CALCIUM EFFLUX IN ALZHEIMER'S DISEASE PRESERVES MITOCHONDRIAL FUNCTION AND PROTECTS AGAINST NEURONAL CELL DEATH. **Pooja Jadiya**, Alyssa A. Lombardi, Jonathan P Lambert, Timothy S. Luongo, Jin Chu, Domenico Praticò, John W. Elrod

2187-Pos **Board B507**
CHRONIC COCAINE SELF-ADMINISTRATION POTENTIATES THE DOPAMINE-INDUCED HYPEREXCITABILITY GATED BY INHIBITION OF KCNQ/KV7 CHANNELS. **Priyodarshan Goswamee**, Jeffrey Parrilla-Carrero, William Buchta, Peter W. Kalivas, Arthur C. Riegel

2188-Pos **Board B508**
SMALL FLUORESCENT PROBES SHOW IGLURS ARE IN THE SYNAPSES OF TRANSFECTED NEURONS UNDER BASAL CONDITIONS. **Sang Hak Lee**, En Cai, Chaoyi Jin, Pinghua Ge, Yuji Ishitsuka, Kai Wen Teng, Andre A. de Thomaz, Duncan Lee Nall, Murat Baday, Okunola Jeyifous, Daniel Demonte, Christopher M. Dundas, Sheldon Park, Willian Green, Paul R. Selvin

EPR and NMR: Spectroscopy and Imaging (Boards B509–B520)

2189-Pos **Board B509**
SATURATION-RECOVERY EPR SPIN-LABELING METHOD FOR QUANTIFICATION OF LIPIDS IN DOMAINS OF BIOLOGICAL MEMBRANES. **Laxman Mainali**, Witold Subczynski

2190-Pos **Board B510**
SIMULATING ELECTRON PARAMAGNETIC RESONANCE SPECTRA OF SLOW-MOTION SYSTEMS IN THE TIME DOMAIN. **Peter Martin**, Stefan Stoll, David Thomas

2191-Pos **Board B511**
MOLECULAR BREAKDOWN OF DOUBLE ELECTRON-ELECTRON RESONANCE DATA WITH ATOMISTIC SIMULATIONS. **Fabrizio Marinelli**, Jose' Faraldo-Gomez

2192-Pos **Board B512**
LPS BINDING TO LPTA. Kathryn M. Schultz, Tanner J. Lundquist, Matthew A. Fischer, **Candice S. Klug**

2193-Pos **Board B513**
ANTIFREEZE MECHANISM STUDY OF ICE GROWTH INHIBITION BY SPIN LABELED ICE BINDING PROTEINS. **Adiel Perez**, Antonia Flores, Yong Ba

2194-Pos **Board B514**
ANTIFREEZE MECHANISTIC STUDY OF ICE BINDING PROTEINS (IBPS) THROUGH VT EPR STUDY ON SPIN LABELED IBPS. **Justin Quon**, Antonia Flores, Adiel Perez, Yong Ba

2195-Pos **Board B515**
EPR STRUCTURAL DYNAMICS OF CALMODULIN-RYR PEPTIDE COMPLEX. **Cheng Her**, Jesse E. McCaffrey, Christine B. Karim, David D. Thomas

2196-Pos **Board B516**
HIGH-RESOLUTION STRUCTURAL DYNAMICS OF BIFUNCTIONALLY SPIN-LABELED MYOSIN BY EPR OF ORIENTED MUSCLE FIBERS. **Yahor Savich**, Benjamin P. Binder, Peter D. Martin, Andrew R. Thompson, David D. Thomas

2197-Pos **Board B517**
THE ALPHA-SYNUCLEIN FIBRIL FOLD - COMPARING MODELS FROM ELECTRON PARAMAGNETIC RESONANCE AND NMR. Pravin Kumar, Maryam Hashemi Shabestari, Nathalie Schilderink, Ine M.J. Segers-Nolten, Mireille M.A.E. Claessens, Vinod Subramaniam, **Martina Huber**

2198-Pos **Board B518**
STRUCTURAL DIMERIZATION ANALYSIS OF THE G44V CRGA MUTANT FROM THE M. TUBERCULOSIS DIVISOME. **Joshua A. Taylor**, Haujun Qin, Yisuel Shin, Krishna Sarva, Malini Rajagopalan, Timothy Cross

2199-Pos **Board B519**
MOLECULAR INSIGHTS INTO BIOMOLECULAR STRUCTURE AND DYNAMICS BY ^{14}N NMR. Maria Concistre, James A. Jarvis, Ibraheem M. Haies, Ilya Kuprov, Marina Carravetta, **Philip T.F. Williamson**

2200-Pos **Board B520**
STRUCTURAL DETERMINATION OF A PEPTIDE RESIDUE OF A PROTEIN OF IMMUNOLOGICAL INTEREST NMR. **Diego M. López**, Adriana J. Bermudez, Yuly E. Sánchez

Molecular Dynamics III (Boards B521–B536)

2201-Pos **Board B521**
INCREASING THE PERFORMANCE AND EXTENSIBILITY OF COLLECTIVE VARIABLE SIMULATIONS. Giacomo Fiorin, **Jérôme Hénin**

2202-Pos **Board B522**
MAKING CLASSICAL AND HYBRID (QM/MM) MOLECULAR DYNAMICS EASY AND FAST WITH QWIKMD. **João V. Ribeiro**, Rafael C. Bernardi, Till Rudack, Klaus Schulten

2203-Pos **Board B523**
A FLEXIBLE, GPU - POWERED FAST MULTIPOLE METHOD FOR REALISTIC BIOMOLECULAR SIMULATIONS IN GROMACSA FLEXIBLE, GPU - POWERED FAST MULTIPOLE METHOD FOR REALISTIC BIOMOLECULAR SIMULATIONS IN GROMACS. **Bartosz Kohnke**, R.Thomas Ullmann, Carsten Kutzner, Andreas Beckmann, David Haensel, Ivo Kabadshow, Holger Dachsel, Berk Hess, Helmut Grubmüller

2204-Pos **Board B524**
TOWARDS DYNAMIC PHARMACOPHORE MODELS BY COARSE GRAIN MOLECULAR DYNAMICS. **Nicholas Michelarakis**, Zara A. Sands, Mark S.P. Sansom, Phillip J. Stansfeld

2205-Pos **Board B525**
COUPLINGS BETWEEN LOCAL AND GLOBAL CONFORMATIONAL CHANGES IN PROTON-COUPLED OLIGOPEPTIDE TRANSPORTERS. **Mahmoud Moradi**, Kalyan C. Immadisetty, Jeevapani Hettige

2206-Pos **Board B526**
SYSTEMATIC PARAMETERIZATION OF LIGNIN FOR THE CHARMM FORCE FIELD. **Josh V. Vermaas**, Loukas Petridis, Gregg T. Beckham, Michael F. Crowley

2207-Pos **Board B527**
SIMULATED FORCED UNBINDING OF CLUSTERED PROTOCADHERINS. **Sanket P. Walujkar**, Raul Araya-Sechhi, Marcos Sotomayor

2208-Pos **Board B528**
EXPLORING REACTION PATHWAYS FOR PEPTIDYLPROLYL-ISOMERASE. **Hiroshi Fujisaki**, Yasushige Yonezawa, Motoyuki Shiga, Luca Maragliano, Shin-ichi Tate

2209-Pos **Board B529**
MECHANICS OF CADHERIN UNBINDING USING COARSE-GRAINED MODELS. **Lahiru N. Wimalasena**

2210-Pos **Board B530**
INFLUENCE OF AN IONIC LIQUID ON TRP-CAGE STRUCTURE AND XAA-PRO DIPEPTIDE CONFORMATIONAL SAMPLING. **Joseph L. Baker**, Alexanndra Heyert, Susan Knox, Gerrick E. Lindberg

2211-Pos **Board B531**
EXPLORING THE INTERACTION BETWEEN MLP1 AND NAB2 FOR MRNA QUALITY CONTROL PURPOSES. **Mohammad Soheilypour**, Mohaddeseh Peyro, Hengameh Shams, Mohammad Mofrad

2212-Pos **Board B532**
ALLOSTERIC COUPLING OF NUCLEOTIDE TURNOVER TO BIMOLECULAR RECOGNITION IN KINESIN MOTORS AND G PROTEIN SWITCHES. **Barry J. Grant**

2213-Pos **Board B533**
TSX AS A NUCLEOSIDE CHANNEL. **Shreyas S. Kaptan**, Bert van den Berg, Ulrich Kleinekathöfer

2214-Pos **Board B534**
GLYCOSAMINOGLYCAN SEQUENCE INFLUENCE ON IDURONATE RING PUCKERING. Bruno DeMaria, Courtney Burkham, Samantha Mansberger, Owen Ganter, **Olgun Guvench**

2215-Pos **Board B535**
MOLECULAR DYNAMICS REVEALS NEW INSIGHTS INTO ACTIVATION OF THE INSULIN-FAMILY PROTEINS AND THEIR BINDING SPECIFICITY TO THE INSULIN RECEPTOR. **Anastasios Papaioannou**, Serdar Kuyucak, Zdenka Kuncic

2216-Pos **Board B536**
EXPLOITING TUMOR ACIDITY IN DESIGNING A NOVEL CANCER TARGETING AGENT. **Chitrak Gupta**, Blake Mertz

Computational Methods and Bioinformatics II (Boards B537–B543)

2217-Pos **Board B537**
EXTENDING RULE-BASED MODELING TO THE SPATIAL DOMAIN WITH VIRTUAL CELL (VCELL). James C. Schaff, Dan Vasilescu, Ion I. Moraru, Leslie M. Loew, **Michael L. Blinov**

2218-Pos **Board B538**
CLOUD COMPUTING FOR ALL-TO-ALL PROTEIN-PROTEIN DOCKING ON AZURE HPC. **Masahito Ohue**, Yuki Yamamoto, Takanori Hayashi, Yuri Matsuzaki, Yutaka Akiyama

2219-Pos **Board B539**
ACCELERATION OF CARDIAC SIMULATIONS FOR CLOUD COMPUTING RESOURCES. **Delvin Huynh**, Yuanfang Xie, Daisuke Sato

2220-Pos **Board B540**
RE-DOCKING BY ANALYZING THE PROFILE OF PROTEIN-PROTEIN INTERACTION. **Yosuke Amano**, Wataru Nemoto, Nobuyuki Uchikoga

2221-Pos **Board B541**
A DOCKING BASED APPROACH TO ANALYZE INTERACTION SURFACES OF VIRUS-HOST PROTEIN-PROTEIN INTERACTIONS. **Yuri Matsuzaki**, Jaak Simm, Nobuyuki Uchikoga, Yutaka Akiyama

2222-Pos **Board B542**
IN SILICO SCREENING FOR CHEMICAL SCAFFOLDS AS SUITABLE NATURAL INHIBITORS OF KINESIN EG5 DIVULGES MORELLOFLAVONE, A BIFLAVONOID, AS POTENTIAL ANTICANCER COMPOUND. **Tomisin Happy Ogunwa**, Takayuki Miyanishi

2223-Pos **Board B543**
DEVELOPMENT OF POSTPROCESSING METHOD OF PROTEIN-LIGAND DOCKING USING INTERACTION FINGERPRINT. **Nobuaki Yasuo**, Masakazu Sekijima

Optical Spectroscopy: CD, UV-VIS, Vibrational, Fluorescence I (Boards B544–B555)

2224-Pos **Board B544**
NEW THIOL-REACTIVE EU-COMPLEX FOR DISTANCE MEASUREMENTS BY LRET. **Felix Faschinger**, Mirjam Zimmermann, Guenther Knoer, Hermann Gruber

2225-Pos **Board B545**
A NOVEL FRET TECHNIQUE TO CHARACTERIZE THE OLIGOMERIZATION STATE OF PROTEIN-PROTEIN INTERACTIONS. **Philipp J. Heckmeier**, Mark G. Teese, Dieter Langosch

2226-Pos **Board B546**
OPTIMIZING A TIME-RESOLVED SPECTROMETER FOR ALL TIME SCALES. **Christian Litwinski**, Sebastian Tannert, Manoel Veiga, Felix Koberling, Marcus Sackrow, Michael Wahl, Olaf Schulz, Marcelle Koenig, Rainer Erdmann

2227-Pos **Board B547**
HYPERSPECTRAL MEASUREMENTS ALLOW SEPARATION OF FRET SIGNALS FROM NON-UNIFORM BACKGROUND FLUORESCENCE. **Savannah J. West**, Chase Hoffman, Naga S. Annamdevula, Kenny T. Trinh, Thomas C. Rich, Silas J. Leavesley

2228-Pos **Board B548**
FLUORESCENT PROTEINS FOR SUPER-RESOLUTION MICROSCOPY. **Karin Nienhaus**, Gerd U. Nienhaus

2229-Pos **Board B549**
WIDE SCALE INVESTIGATION OF PROTEIN INTERACTIONS BY AUTOMATION OF FLUORESCENT POLARIZATION AND FLUCTUATION ANALYSIS. **Tuan A. Nguyen**, Grace H. Taumoefolau, Youngchan Kim, Henry L. Puhl, Steven S. Vogel

2230-Pos **Board B550**
COMPARISON STUDY ON FLUORESCENCE QUENCHING ABILITY OF DNA WRAPPED SINGLE- AND MULTI-WALLED CARBON NANOTUBES. **Shusuke Oura**, Katsuki Izumi, Kazuo Umemura

2231-Pos **Board B551**
USING REAL-TIME QUANTIFICATION OF AUTOFLUORESCENCE SPECTRUM SHAPE TO DISTINGUISH BETWEEN METABOLIC RESPONSES INVOLVING NADH-UTILIZING PATHWAYS. **Paul Urayama**, Symeon Stefan, Dylan Palo, Madhu Gaire, Nazar Al Aayedi

2232-Pos **Board B552**
SPATIALLY-RESOLVED FLUORESCENCE LIFETIME MEASUREMENT FOR OPTICAL INTERROGATION OF ELECTRICALLY DYNAMIC BIOLOGICAL SYSTEMS. Vaughn Spurrier, Wenli Dai, Eric Gauchat, **Devin Harrison**, Evan Kiefl, Andrés Moya-Rodríguez, Amar Risbud, Alan Selewa, Hallie Sussman, Yifan Zhou, Justin Jureller, Adam Hammond

2233-Pos **Board B553**
EDIBLE LUMINESCENT PROBES AS SENSORS OF FOOD QUALITY: IDENTIFICATION AND SELECTION. **Rahul Chib**, Bogumil Zelent, Yan Wang, An Le, Maria G. Corradini, Richard D. Ludescher

2234-Pos **Board B554**
CONFOCAL RAMAN MICROSCOPY TRACKS CUTANEOUS DELIVERY OF FLUFENAMIC ACID USING LIPOPHILIC VERSUS HYDROPHILIC PENETRATION ENHANCERS. **Yelena Pyatski**, Qihong Zhang, Richard Mendelsohn, Carol R. Flach

2235-Pos **Board B555**
INVESTIGATION INTO THE PHYSICO-CHEMICAL AND PHYTOCHEMICAL PROPERTIES OF COLA LEPIDOTA (K. SCHUM) SEED. **Sarah O. Oni**, O A. Oladimeji, R O. Owoade, R E. Obon, A K. Akinlabi

Force Spectroscopy and Scanning Probe Microscopy I (Boards B556–B564)

2236-Pos **Board B556**
APOBEC3G TRANSITIONS FROM A MOBILE TO STATIC BINDING STATE THROUGH DIMERIZATION MEDIATED BY THE N-TERMINAL CYTIDINE DEAMINASE DOMAIN. **Michael Morse**, Ran Huo, Linda Chelico, Ioulia Rouzina, Mark Williams

2237-Pos **Board B557**
BIOPHYSICAL MECHANISMS OF VON WILLEBRAND FACTOR-COLLAGEN INTERACTIONS. **X. Frank Zhang**, Yan Xu, Thomas A.J. McKinnon, Wei Zhang

2238-Pos **Board B558**
A COMPUTATIONALLY DESIGNED PROTEIN-LIGAND INTERACTION IS MECHANICALLY ROBUST. William J. Van Pattten, Robert Walder, Ayush Adhikari, Rashmi Ravichandran, Christine E. Tinberg, David Baker, **Thomas T. Perkins**

2239-Pos **Board B559**
HETEROBIFUNCTIONAL POLYPROTEIN FOR EFFICIENT CHARACTERIZATION OF MECHANICALLY LABILE PROTEINS. **Marc-Andre LeBlanc**, Devin T. Edwards, Robert Walder, David Rabuka, Thomas T. Perkins, Marcelo C. Sousa

2240-Pos **Board B560**
INVESTIGATING THE SCALING BEHAVIOR OF MULTIDOMAIN PROTEINS UNDER FORCE USING SINGLE MOLECULE AND ENSEMBLE FORCE-CLAMP SPECTROSCOPY. Kirill Shmilovich, Narayan P. Dahal, Luai R. Khoury, **Ionel Popa**

2241-Pos **Board B561**
DISULFIDE BONDING IN THE CONTRACTILE WORK OF TITIN. **Jaime Andres Rivas Pardo**, Edward Eckels, Jessica Valle-Orero, Julio M. Fernadez

2242-Pos **Board B562**
PROTEINS WITH HIGH STRUCTURAL SIMILARITY CAN HAVE DIFFERENT MECHANICAL UNFOLDING BEHAVIORS. **Chengzhi He**, Chunguang Hu, Xiaodong Hu, Xiaotang Hu, Hongbin Li

2243-Pos **Board B563**
STRUCTURAL AND MECHANISTIC INSIGHTS INTO THE COPPER-MODULATED UNFOLDING PATHWAYS OF AZURIN. Anju Yadav, Sanjoy Paul, Ravindra Venkatramani, **Sri Rama Koti Ainavarapu**

2244-Pos **Board B564**
MECHANICAL MODULATION OF PROTEASE ACTIVITY CAPTURED AT THE SINGLE-MOLECULE LEVEL. **David Giganti**, Ainhoa Lezamiz Herrero, Guillaume Stirnemann

Biosensors (Boards B565–B593)

2245-Pos **Board B565**
HIGH RESOLUTION KETONE MEASURING METHOD USING ENZYME REACTIONS AND ELECTRICAL CHEMICAL ANALYSIS. **Naoyuki Yokoyama**, Takeshi Sugimoto, Satoshi Hashizume, Emi Kagami

2246-Pos **Board B566** **International Travel Awardee**
MICROVOLUME DIELECTRIC SPECTROSCOPY AND MOLECULAR DYNAMICS OF AMINO ACIDS. **Daniel Havelka**, Ondrej Krivosudsky, Jiri Prusa, Michal Cifra

2247-Pos **Board B567**
TUNING POLYMER-PROTEIN INTERACTION WITH SALT. **Monasadat Talarimoghari**, Aleksandra Dylewska, Marcel Hoffmann, Gerhard Baaken, Dalila Chouikhi, Jean-Francois Lutz, Jan C. Behrends

2248-Pos **Board B568**
A NOVEL CAPACITIVE BIOSENSOR FOR THE DETECTION OF SMALL MOLECULE S-NITROSOTHIOLS. Nikki M. Meyer, Spencer Burton, James N. Bates, Benjamin Gaston, Stephen J. Lewis, **James M. Seckler**

2249-Pos **Board B569**
MULTIPARAMETRIC CHARACTERIZATION OF SINGLE, UNLABELED PROTEINS IN SOLUTION. **Jared Houghtaling**, Michael Mayer

2250-Pos **Board B570**
MECHANOTRANSDUCTION AT THE NUCLEAR ENVELOPE. **Théophile Déjardin**, Patricia Davidson, Cynthia Seiler, Philippe Girard, Damien Cuvelier, Cécile Sykes, Edgar Gomes, Cadot Bruno, Nicolas Borghi

2251-Pos **Board B571**
A FLUORESCENT PROTEIN VOLTAGE SENSOR IN THE ENDOPLASMIC RETICULUM. **Masoud Sepehri Rad**, Lawrence B. Cohen, Bradley J. Baker

2252-Pos **Board B572**
A BIOINSPIRED SURFACE CHEMISTRY FOR SOLID-STATE NANOPORES MODIFICATION. **Qimeng Huang**, Yunsheng Deng, Yue Zhao, Lei Zhao, Weihua Hu, Deqiang Wang

2253-Pos **Board B573**
ORGANELLE-TARGETING OF APOLLO-NADP$^+$ REQUIRES CAREFUL SELECTION OF FLUORESCENT PROTEINS TO MAINTAIN PH INDEPENDENCE. **William D. Cameron**, Jonathan Rocheleau

2254-Pos **Board B574**
ENERGY LANDSCAPE MODELING OF ESCAPE TIME DISTRIBUTIONS REVEALS THE MOLECULAR MECHANISM OF A-SYNUCLEIN TRANSLOCATION THROUGH A VDAC NANOPORE. **David P. Hoogerheide**, Philip A. Gurnev, Tatiana K. Rostovtseva, Sergey M. Bezrukov

2255-Pos **Board B575**
STRUCTURAL INVESTIGATIONS OF QUIET OUTER MEMBRANE PROTEIN G NANOPORES. **Raghavendar Reddy Sanganna Gari**, Patrick Seelheim, Binyong Liang, Lukas Tamm

2256-Pos **Board B576**
SELECTIVE DETECTION OF PROTEIN HOMOLOGUES BY OUTER MEMBRANE PROTEIN G. **Bib Yang**, Monifa AV Fahie, Hui Wang, Patanachai Limpikirati, Richard Vachet, Sankaran Thayumanavan, Min Chen

2257-Pos **Board B577**
CHARACTERIZATION OF PROTEIN AGGREGATION BY SOLID-STATE NANOPORE. **Mitu C. Acharjee**, Jiali Li

2258-Pos **Board B578**
HYBRID NANOPORE FOR MOLECULAR SENSING APPLICATIONS. **Uppiliappan Rengarajan**, Hiofan Hoi, Manisha Gupta, Carlo Montemagno

2259-Pos **Board B579**
TRANSLOCATION AND BINDING IN THE RECOGNITION OF SHORT OLIGONUCLEOTIDES BY A BIOLOGICAL NANOPORE. **Mordjane A. Boukhet**, Ibrahim Halimeh, Gerhard Baaken, Jan C. Behrends

2260-Pos **Board B580**
COMPARISON OF MULTI-DYES QUENCHING BY SINGLE-WALLED CARBON NANOTUBES DISPERSION WITH SINGLE-STRANDED DNA AND DOUBLE-STRANDED DNA. **Ying Tan**, Katsuki Izumi, Kazuo Umemura

2261-Pos **Board B581** **International Travel Awardee**
DIRECT IDENTIFICATION OF ADENINE, THYMINE, CYTOSINE AND GUANINE USING AEROLYSIN NANOPORE. **Chan Cao**, Matteo Dal Peraro, Yitao Long

2262-Pos **Board B582**
CONTROLLING THE CAPTURE PROCESS OF 50BP DNA BY SOLID-STATE NANOPORES. **Martin Charron**, Aidan Baker-Murray, Vincent Tabard-Cossa

2263-Pos **Board B583**
OBSERVATION OF ADSORPTION PROCESS OF SINGLE STRANDED DNA TO SINGLE-WALLED CARBON NANOTUBES SURFACES BY FLUORESCENCE QUENCHING. **Shizuma Sato**, Gilbert Bustamante, Jing Yong Ye, Kazuo Umemura

2264-Pos **Board B584**
AFM-BASED NANOSENSOR AND SUPER-RESOLUTION IMMUNOFLUORESCENCE STUDIES: A CORRELATIVE APPROACH TO ASSESS THE ROLE OF HER2 CANCER BIOMARKER. **Elena Ambrosetti**, Alessandro Bosco, Loredana Casalis

2265-Pos **Board B585**
ELECTRONIC DETECTION OF SINGLE CANCER CELLS WITH GRAPHENE FIELD EFFECT TRANSISTORS. **James Froberg**, Prajakta Kulkarni, Sanku Mallik, Yongki Choi

2266-Pos **Board B586**
REGULATION OF GLUCOKINASE IN PANCREATIC BETA CELLS. **Kendra M. Seckinger**

2267-Pos **Board B587**
ON-CHIP LIQUID BIOPSY: PROGRESS IN ISOLATION OF EXOSOMES FOR EARLY DIAGNOSIS OF CANCER. **Sung Cheol Kim**, Navneet Dogra, Benjamin H. Wunsch, Joshua T. Smith, Stacey M. Gifford, Gustavo Stolovitzky, Huan Hu, Pablo Meyer

2268-Pos **Board B588** **Education Travel Awardee**
NOVEL BIOSENSOR DESIGN REVEALS THE ROLE AND REGULATION OF GEF-H1 IN CELL MIGRATION. **Mihai L. Azoitei**, Jungsik Noh, Maria J. Sandi, Philippe Roudot, Robert Rottapel, Gaudenz Danuser, Klaus M. Hahn

2269-Pos **Board B589** **Education Travel Awardee**
MULTIFUNCTIONAL HIGH-THROUGHPUT SINGLE-CELL ANALYSIS USING RECONFIGURABLE AMPLIFIER ARRAY. **Kevin A. White**, Geoffrey Mulberry, Brian N. Kim

2270-Pos **Board B590**
3D PRINTED REAL-TIME PCR MACHINE FOR INFECTIOUS DISEASE DIAGNOSTICS. **Geoffrey Mulberry**, Kevin A. White, Brian N. Kim

2271-Pos **Board B591**
DEVELOPMENT OF A SURFACE PLASMON RESONANCE AND PLASMON-WAVEGUIDE RESONANCE COMBINED CHIP FOR STUDYING THE TRANSPORT BEHAVIORS OF CELL MEMBRANE TRANSPORTERS. Yu-Ting Lin, **Ling Chao**

2272-Pos **Board B592**
BROADLY ACCESSIBLE ASSAYS WITH SIGNAL AMPLIFICATION ACROSS LIPID BILAYERS. **Anirvan Guha**, Thomas B. H. Schroeder, Sarah Grunsfeld, Jerry Yang, Michael Mayer

2273-Pos **Board B593** **International Travel Awardee**
OPTICAL PROBES FOR IMAGING SIGNAL MEDIATING PHOSPHOLIPIDS. **Samsuzzoha Mondal**, Ananya Rakshit, Shafali Gupta, Ravindra Venkatramani, Ankona Datta

Biophysics Education (Boards B594–B604)

2274-Pos **Board B594**
RESPONSIVE WEB-BASED MOLECULE VIEWER FOR 3D COMMUNICATION, COLLABORATION, AND VIRTUAL REALITY. **Merry Wang**, Aditya Dhoot, Andrew Kimoto, David Parker, Michael Zyracki, Malte Tinnus, Peter Jones, Drew Hylbert, Dion Amago, Florencio Mazzoldi

2275-Pos **Board B595**
A RATIOMETRIC METHOD TO MEASURE VISCOSITY INSIDE MESOPOROUS SILICA PARTICLES USING PROTEIN-BOUND FLUORESCENT PROBE. **Pegah S. Nabavi Zadeh**, Björn Åkerman

2276-Pos **Board B596**
MAKING A PUZZLE MICROSCOPE AS A STRATEGY TO RECRUIT HIGH SCHOOL GIRLS AND MINORITIES IN BIOPHYSICS. **Yuly E. Sanchez**

2277-Pos **Board B597**
COMBINING MOLECULAR VISUALIZATION WITH BENCH METHODS IN A HYPOTHESIS-DRIVEN UNDERGRADUATE BIOCHEMISTRY LAB COURSE. Thomas Holt, Rebecca Roberts, **Julia R. Koeppe**, Paul A. Craig

2278-Pos **Board B598** **Education Travel Awardee**
EXPANDING THE SCOPE OF SINGLE MOLECULE FRET SPECTROSCOPY TOWARDS PRIMARILY UNDERGRADUATE INSTITUTIONS. **Jesse Howe**, Gregory Walters, Kambiz Hamadani

2279-Pos **Board B599**
LIGHT, IMAGING, VISION: AN INTERDISCIPLINARY UNDERGRADUATE COURSE. **Philip Nelson**

2280-Pos **Board B600**
DEVELOPMENT OF A NON-RADIOACTIVE AMINOACYLATION ASSAY FOR QUALITY CONTROL OF PURIFIED AND RECONSTITUTED IN VITRO TRANSLATION SYSTEMS. **Judith Flores**, Jesse Howe, LIzbeth Reyes, Kambiz M. Hamadani

2281-Pos **Board B601**
A HANDS-ON FRESHMAN SEMINAR COURSE IN DNA ORIGAMI. **Ryan Shriver**, Sarah Veatch

2282-Pos **Board B602**
STORM-LITE: AN INEXPENSIVE TOOL TO DEMONSTRATE STOCHASTIC SUPER RESOLUTION MICROSCOPY TECHNIQUES IN THE CLASSROOM. **Anthony Wu**, Lark Moreno, Maxim Prigozhin, Sharlene Denos

2283-Pos **Board B603**
TEACHING SOME CONCEPTS OF TRANSPORT MECHANISM TO MIDDLE SCHOOL STUDENTS IN VALLEDUPAR COLOMBIA. Eliana M. Ramos, **Claudia A. Blanco**, Yuly E. Sánchez

2284-Pos **Board B604**
WHAT'S WRONG WITH THE HODGKIN-HUXLEY MODEL? AN EXERCISE IN CRITICAL THINKING. **H. Richard Leuchtag**

Wednesday, February 15, 2017

Daily Program Summary

All rooms are located in the *Ernest N. Morial Convention Center* unless noted otherwise.

8:00 AM-11:00 AM	**New Council Meeting**	**Room 222**
8:00 AM-3:00 PM	**Poster Viewing**	**Hall B-2 & C**
8:15 AM-10:15 AM	**Symposium: Protein Dynamics and Allostery** **Chair:** *Martin Weik, Insitut de Biologie Instructionale, France* PICOSECOND DYNAMICS OF PHOTOSWITCHABLE FLUORESCENT PROTEINS REVEALED BY TIME-RESOLVED SERIAL FEMTOSECOND CRYSTALLOGRAPHY. *Martin Weik* COUPLED RESIDUE-RESIDUE DYNAMICS IN PROTEIN ALLOSTERIC MECHANISMS. *Donald Hamelberg* ENTROPY IN MOLECULAR RECOGNITION BY PROTEINS. *Joshua Wand* HARNASSING THE AWESOME POWER OF ^{19}F NMR. *Angela Gronenborn*	**Great Hall A**
8:15 AM-10:15 AM	**Symposium: Computational Cardiology** **Chair:** *Adam P. Hill, Victor Chang Cardiac Research Institute, Australia* USING CLINICAL DATASETS TO OPTIMISE MODELS OF HUMAN VENTRICULAR ELECTROPHYSIOLOGY: IMPLICATIONS FOR IN SILICO DRUG SCREENING. *Adam P. Hill* TOWARDS IN SILICO DRUG TRIALS USING HUMAN MULTISCALE CARDIAC MODELS. *Blanca Rodriguez* YOUR PERSONAL VIRTUAL HEART. *Natalia Trayanova* PREDICTIVE COMPUTATIONAL PHARMACOLOGY: FROM ATOM TO RHYTHM. *Colleen E. Clancy*	**Great Hall B**
8:15 AM-10:15 AM	**Platform: TRP Channels**	**Room R02/03**
8:15 AM-10:15 AM	**Platform: Membrane Structure II: Simulations**	**Room R04/05**
8:15 AM-10:15 AM	**Platform: Protein Assemblies**	**Room R06/07**
8:15 AM-10:15 AM	**Platform: Single-Molecule Spectroscopy**	**Room R08/09**
8:15 AM-10:15 AM	**Platform: Exocytosis and Endocytosis**	**Room 206/207**
8:15 AM-10:15 AM	**Platform: Nucleic Acid Structure & Dynamics**	**Room 208/209**
10:30 AM-12:30 PM	**Poster Presentations and Late Posters**	**Hall B-2 & C**
1:00 PM-3:00 PM	**Symposium: Channel Gating Mechanisms** **Chair:** C*atherine Henzler-Wildman, University of Wisconsin* DYNAMIC COUPLING BETWEEN THE GATES IN THE NAK CHANNEL. *Katherine Henzler-Wildman* STRUCTURE OF THE TPC1 CHANNEL FROM *ARABIDOPSIS THALIANA*. *Youxing Jiang* GATING PATHWAYS FOR A PENTAMERIC LIGAND-GATED ION CHANNEL SOLVED BY ATOMISTIC STRING METHOD SIMULATIONS. *Toby W. Allen* FINE TUNING HCN CHANNEL ACTIVITY. *Anna Moroni*	**Great Hall A**
1:00 PM-3:00 PM	**Symposium: Anomalous Dynamics in Biological Systems** **Chair:** *Diego Krapf, Colorado State University* ANOMALOUS DIFFUSION AND COMPARTMENTALIZATION ON THE SURFACE OF MAMMALIAN CELLS. *Diego Krapf* ZOOMING IN ON ANOMALOUS DIFFUSION WITH VARIABLE-LENGTHSCALE FLUORESCENCE CORRELATION SPECTROSCOPY. *Cecile Fradin* ANOMALOUS DIFFUSION IN MEMBRANES AND THE CYTOPLASM OF BIOLOGICAL CELLS. *Ralf Metzler* THE GENOME IN THE NUCLEUS: SNAKY, SOFT, AND WELL-ORGANIZED. *Yuval Garini*	**Great Hall B**
1:00 PM-3:00 PM	**Platform: Ligand-gated Channels II**	**Room R02/03**
1:00 PM-3:00 PM	**Platforms: Protein-Lipid Interactions: Structures**	**Room R04/05**
1:00 PM-3:00 PM	**Platform: Intrinsically Disordered Proteins (IDP) and Aggregates II**	**Room R06/07**
1:00 PM-3:00 PM	**Platform: Cardiac Muscle Regulation**	**Room R08/09**
1:00 PM-3:00 PM	**Platform: Calcium Signaling/Intercellular Calcium Channels and Sparks and Waves**	**Room 206/207**
1:00 PM-3:00 PM	**Platform: Protein Structure and Conformation III**	**Room 208/209**

Notes

Wednesday, February 15

New Council Meeting

8:00 AM - 11:00 AM, ROOM 222

Poster Viewing

8:00 AM - 3:00 PM, HALL B-2 & C

Symposium
Protein Dynamics and Allostery

8:15 AM - 10:15 AM, GREAT HALL A

Chair
Martin Weik, Insitut de Biologie Instructionale, France

NO ABSTRACT 8:15 AM
PICOSECOND DYNAMICS OF PHOTOSWITCHABLE FLUORESCENT PROTEINS REVEALED BY TIME-RESOLVED SERIAL FEMTOSECOND CRYSTALLOGRAPHY**. Martin Weik**

2285-SYMP 8:45 AM
COUPLED RESIDUE-RESIDUE DYNAMICS IN PROTEIN ALLOSTERIC MECHANISMS. **Donald Hamelberg**

2286-SYMP 9:15 AM
ENTROPY IN MOLECULAR RECOGNITION BY PROTEINS. **Joshua Wand**

NO ABSTRACT 9:45 AM
HARNASSING THE AWESOME POWER OF ^{19}F NMR. **Angela Gronenborn**

Symposium
Computational Cardiology

8:15 AM - 10:15 AM, GREAT HALL B

Chair
Adam P. Hill, Victor Chang Cancer Research Institute, Australia

2287-SYMP 8:15 AM
USING CLINICAL DATASETS TO OPTIMISE MODELS OF HUMAN VENTRICULAR ELECTROPHYSIOLOGY: IMPLICATIONS FOR IN SILICO DRUG SCREENING. **Adam P. Hill**, Stefan A. Mann, Mohammad S. Imtiaz, Matthew D. Perry, Jamie I. Vandenberg

2288-SYMP 8:45 AM
TOWARDS IN SILICO DRUG TRIALS USING HUMAN MULTISCALE CARDIAC MODELS. **Blanca Rodriguez**

NO ABSTRACT 9:15 AM
YOUR PERSONAL VIRTUAL HEART. **Natalia Trayanova**

2289-SYMP 9:45 AM
PREDICTIVE COMPUTATIONAL PHARMACOLOGY: FROM ATOM TO RHYTHM. **Colleen E. Clancy**

Platform
TRP Channels

8:15 AM - 10:15 AM, ROOM R02/03

Co-Chairs
Theanne Griffith, Columbia University
Leon D. Islas, National Autonomous University of Mexico

2290-PLAT 8:15 AM
PERMEATION, GATING, AND MODULATION OF THE TRPA1 CHANNEL IN LONG-TIMESCALE MOLECULAR DYNAMICS SIMULATIONS. **Heidi Koldsø**, Morten Ø. Jensen, Vishwanath Jogini, David E. Shaw

2291-PLAT 8:30 AM EDUCATION TRAVEL AWARDEE
ION PERMEATION MECHANISM IN TRPV6 CA^{2+} CHANNEL.
Serzhan Sakipov, Alexander I. Sobolevsky, Maria Kurnikova

2292-PLAT 8:45 AM
LOCALIZATION OF AN ALTERNATIVE ION PERMEATION PATHWAY IN TRPM3. **Katharina Held**, Annelies Janssens, Thomas Voets, Joris Vriens

2293-PLAT 9:00 AM
DYNAMIC SOLVATION OF PROTEIN CAVITIES UNDERLIES TRPV1 GATING. **Marina Kasimova**, Aysenur Yazici, Daniele Granata, Tibor Rohacs, Vincenzo Carnevale

2294-PLAT 9:15 AM
EXPLORING FUNCTIONAL ROLES OF TRPV1 INTRACELLULAR DOMAINS WITH UNSTRUCTURED PEPTIDE-INSERTION SCREENING. Linlin Ma, **Fan Yang**, Simon Vu, Jie Zheng

2295-PLAT 9:30 AM
STRUCTURAL INSIGHT INTO THE MOLECULAR MECHANISM OF TRPA1 INHIBITION AND ACTIVATION. **Amrita Samanta**, Janna Kiselar, Seungil Han, Vera Moiseenkova Bell

2296-PLAT 9:45 AM
INHIBITION OF TRPM3 ION CHANNELS BY G-PROTEIN BETA-GAMMA SUBUNITS. **Yevgen Yudin**, Doreen Badheka, Istvan Borbiro, Aysenur Yazici, Tooraj Mirshahi, Tibor Rohacs

2297-PLAT 10:00 AM
PHOTOPHARMACOLOGICAL MODULATION OF LIPID-GATED TRPC CHANNELS AS A STRATEGY TO GOVERN NEURONAL EXCITABILITY. **Oleksandra Tiapko**, Gema Guedes de la Cruz, Toma Glasnov, Helmut Kubista, Michaela Lichtenegger, Klaus Groschner

Platform
Membrane Structure II: Simulations

8:15 AM - 10:15 AM, ROOM R04/05

Co-Chairs
Noah Trebesch, University of Illinois at Urbana-Champaign
Kevin J. Hallock, Boston University

2298-PLAT 8:15 AM
CURVATURE-INDUCED LIPID SORTING IN PLASMA MEMBRANE TETHERS. **Svetlana Baoukina**, Helgi I. Ingolfsson, Siewert J. Marrink, D. Peter Tieleman

2299-PLAT 8:30 AM
CALCULATING MEMBRANE AREA COMPRESSIBILITY FROM MD SIMULATIONS: A NOVEL COMPUTATIONAL FRAMEWORK. **Milka Doktorova**, George Khelashvili, Harel Weinstein

2300-PLAT 8:45 AM
CALCIUM-INDUCED SCULPTURING OF THE PLASMA MEMBRANE: LIPID MICROCLUSTERS CAST BY ANIONIC LIPIDS. Michael J. Hallock, Alex Greenwood, Yan Wang, James H. Morrissey, Emad Tajkhorshid, Chad Rienstra, **Taras V. Pogorelov**

2301-PLAT 9:00 AM
MICROSCOPIC CHARACTERIZATION OF MEMBRANE INSERTION AND DYNAMICS OF AN ISOPRENOID LIPID. **Po-Chao Wen**, Emad Tajkhorshid

2302-PLAT 9:15 AM
ATOMISTIC MODELING OF ORGANELLE-SCALE MEMBRANE STRUCTURES OF ARBITRARY SIZE, LIPID COMPOSITION, AND GEOMETRIC COMPLEXITY. **Noah Trebesch**, Emad Tajkhorshid

2303-PLAT 9:30 AM
NANOSCALE STRUCTURE OF LIPID BILAYERS REVEALED BY IN-SILICO AND EXPERIMENTAL SMALL ANGLE NEUTRON SCATTERING. **Mitchell Dorrell**, Frederick Heberle, John Katsaras, Edward Lyman

2304-Plat 9:45 am
ENERGY LANDSCAPE OF PORE FORMATION IN BILAYER LIPID MEMBRANE. **Sergey A. Akimov**, Pavel E. Volynsky, Timur R. Galimzyanov, Peter I. Kuzmin, Konstantin V. Pavlov, Oleg V. Batishchev

2305-Plat 10:00 am
ATOMISTIC SIMULATIONS PROVIDE INSIGHT INTO ELECTRON PARAMAGNETIC RESONANCE PROBE BEHAVIOR. Gary Angles, **Sally C. Pias**

Platform
Protein Assemblies
8:15 am - 10:15 am, Room R06/07

Co-Chairs
Tanuj Sapra, University of Zurich, Switzerland
Nadia Izadi Pruneyre, Institut Pasteur, CNRS, France

2306-Plat 8:15 am
IN SITU MECHANICAL INTERROGATION OF SINGLE NUCLEAR LAMINS SUGGESTS THE LAMINA IS A ROBUST FRAMEWORK. **Tanuj Sapra**, Zhao Qin, Markus Buehler, Ohad Medalia

2307-Plat 8:30 am
NANO-SPACE VIDEO IMAGING REVEALS STRUCTURAL DYNAMICS OF FIBROUS PROTEIN ASSEMBLY AND RELEVANT ENZYMES. **Takahiro Watanabe-Nakayama**, Noriyuki Kodera, Hiroki Konno, Kenjiro Ono, David B. Teplow, Masahito Yamada, Toshio Ando

2308-Plat 8:45 am
HYDROPHOBIC INTERFACES, KEY REGIONS FOR ASSEMBLY OF TRANSMEMBRANE PROTEINS: A STUDY OF *E.COLI* AQUAPORIN Z. **Victoria Schmidt**, James N. Sturgis

2309-Plat 9:00 am
HYDROGEN-DEUTERIUM EXCHANGE MASS SPECTROSCOPY TO DETERMINE STRUCTURE AND STRUCTURAL DYNAMICS OF PROTEIN COMPLEXES. **Emanuele Paci**

2310-Plat 9:15 am
MOLECULAR COEVOLUTION OF FLI PROTEINS PROVIDES A GUIDE TO ACCURATE MODELS OF FLAGELLAR PROTEIN COMPLEXES AND DYNAMICS. **Faruck Morcos**

2311-Plat 9:30 am Education Travel Awardee
CHARACTERIZATION OF THE CONFORMATIONAL ENSEMBLE OF POLYGLUTAMINE PEPTIDES VIA METADYNAMICS MD SIMULATIONS AND UV RESONANCE RAMAN SPECTROSCOPY. **Riley J. Workman**, David Punihaole, Ryan S. Jakubek, Jeffry D. Madura

2312-Plat 9:45 am
A NEW PAIRWISE SHAPE-BASED SCORING FUNCTION TO CONSIDER LONG-RANGE INTERACTIONS FOR PROTEIN-PROTEIN DOCKING. Yumeng Yan, **Shengyou Huang**

2313-Plat 10:00 am
STRUCTURAL BASIS OF THE SIGNALING THROUGH A BACTERIAL MEMBRANE RECEPTOR HASR DECIPHERED BY AN INTEGRATIVE APPROACH. **Nadia Izadi Pruneyre**

Platform
Single-Molecule Spectroscopy
8:15 am - 10:15 am, Room R08/09

Co-Chairs
Allison H. Squires, Boston University
Yongli Zhang, Yale University

2314-Plat 8:15 am Education Travel Awardee
SINGLE-MOLECULE DISSECTION OF THE ROLE OF DIRECTIONALITY IN PROTEIN DEGRADATION BY CLP PROTEOLYTIC MACHINES. **Hema Chandra Kotamarthi**, Adrian Olivares, Benjamin Stein, Robert Sauer, Tania Baker

2315-Plat 8:30 am
REGULATED SNARE FOLDING AND MEMBRANE FUSION. **Yongli Zhang**

2316-Plat 8:45 am
DIRECT MEASUREMENT OF SEQUENCE-DEPENDENT TRANSITION PATH TIMES AND CONFORMATIONAL DIFFUSION IN DNA DUPLEX FORMATION. **Krishna Neupane**, Feng Wang, Michael Woodside

2317-Plat 9:00 am
DIRECT SINGLE-MOLECULE MEASUREMENTS OF PHYCOCYANOBILIN PHOTOPHYSICS IN MONOMERIC C-PHYCOCYANIN. **Allison H. Squires**, Quan Wang, W.E. Moerner

2318-Plat 9:15 am
SIMULATION OF FRET DYES ALLOWS DIRECT COMPARISON AGAINST EXPERIMENTAL DATA. **Ines Reinartz**, Claude Sinner, Alexander Schug

2319-Plat 9:30 am
SINGLE-MOLECULE PEPTIDE FINGERPRINTING. Jetty van Ginkel, Mike Filius, Malwina Szczepaniak, Pawel Tulinski, Anne S. Meyer, **Chirlmin Joo**

2320-Plat 9:45 am
AN IN VITRO SAMPLE GENERATION PIPELINE FOR HIGH-THROUGHPUT SINGLE-MOLECULE FRET BASED SCREENING OF PROTEINS. **Kambiz M. Hamadani**, Madeleine Jensen, Wu Peng, Jamie H. D. Cate, Susan Marqusee

2321-Plat 10:00 am Education Travel Awardee
INVESTIGATION OF DNA BINDING, NUCLEOLYSIS AND PRODUCT RELEASE SPECIFICITY OF RNA GUIDED ENDONUCLEASE CRISPR-CPF1 FAMILY REVEALS IMPORTANT DIFFERENCES FROM CAS9-RNA. **Digvijay Singh**, John Mallon, Ramreddy Tipanna, Anustup Poddar, Olivia Yang, Scott Bailey, Taekjip Ha

Platform
Exocytosis and Endocytosis
8:15 am - 10:15 am, Room 206/207

Co-Chairs
Misty Marshall, Uppsala University, Sweden
Comert Kural, The Ohio State University

2322-Plat 8:15 am
MEASUREMENT OF THE MOBILITY OF LUMENAL AND MEMBRANE PROTEINS OF INDIVIDUAL SECRETORY GRANULES. **Prabhodh S. Abbineni**, Kevin P. Bohannon, Mary A. Bittner, Daniel Axelrod, Ronald W. Holz

2323-Plat 8:30 am
DRUNKEN MEMBRANES. LOW DOSES OF SHORT-CHAIN ALCOHOLS INHIBIT EXOCYTOSIS IN A PROTEIN-FREE MODEL SYSTEM. **Dixon J. Woodbury**, Jason Paxman, Brady Hunt, David Hallan, Samuel R. Zarbock

2324-Plat 8:45 am CPOW Travel Awardee
LIPID DYNAMICS AND THE ANTHRAX TOXIN INTRACELLULAR JOURNEY. Nnanya Kalu, Laura Lucas, Clare Kenney, **Ekaterina M. Nestorovich**

2325-Plat 9:00 am
ACTIONS OF RAB27B GTPASE ON CENTRAL EXCITATORY SYNAPTIC TRANSMISSION. Meredith M. Njus, Geoff Murphy, Stephen I. Lentz, Stephen A. Ernst, **Edward L. Stuenkel**

2326-Plat 9:15 am
MOLECULAR MECHANISM OF FUSION PORE FORMATION. **Satyan Sharma**, Manfred Lindau

2327-Plat 9:30 am
CHROMAFFIN CELL SYNAPTOTAGMIN ISOFORMS FORM FUNCTIONALLY AND SPATIALLY SEPARABLE GRANULE POOLS. Tejeshwar Rao, Alexandra Ranski, Peter Dahl, Julia Bourg, Edwin Chapman, Sarah Veatch, David Giovannucci, **Arun Anantharam**

2328-Plat 9:45 am
DISTINCT EFFECTS OF ENDOSOMAL ESCAPE AND ENDOSOMAL TRAFFICKING ON GENE DELIVERY VIA ELECTROTRANSFECTION. **Lisa D. Cervia**, Chun-Chi Chang, Liangli Wang, Fan Yuan

2329-Plat 10:00 am
DYNAMICS OF CLATHRIN-MEDIATED ENDOCYTOSIS WITHIN A DEVELOPING ORGANISM. **Joshua P. Ferguson**, Nathan M. Willy, Spencer P. Heidotting, Scott D. Huber, Matthew J. Webber, Comert Kural

Platform
Nucleic Acid Structure & Dynamics
8:15 am - 10:15 am, Room 208/209

Co-Chairs
Michele Di Pierro, Rice University
Greg Morrison, University of Houston

2330-Plat 8:15 am
CONFORMATIONS OF SINGLE-STRANDED NUCLEIC ACIDS IN SOLUTION. **Alex Plumridge**, Steve Meisburger, Lois Pollack

2331-Plat 8:30 am
THE CONFORMATIONS OF CONFINED POLYMERS IN AN EXTERNAL POTENTIAL. **Greg Morrison**, Dave Thirumalai

2332-Plat 8:45 am
SINGLE MOLECULE VISUALIZATION OF TOPOLOGY-MEDIATED INTERACTIONS IN SUPERCOILED DNA. **Shane Scott**, Zhi Ming Xu, Fedor Kouzine, Daniel Berard, Cynthia Shaheen, Laura Saunders, Barbara Gravel, Catherine Leroux, Christopher Cayen-Cyr, David Levens, Craig Benham, Sabrina Leslie

2333-Plat 9:00 am
EXPLORING DNA AND RNA STRUCTURES IN SOLUTION WITH INFRARED SPECTROSCOPY. **Allison L. Stelling**, Hashim Al-Hashimi

2334-Plat 9:15 am International Travel Awardee
PORE TRANSLOCATION OF DNA CHAINS WITH PHYSICAL KNOTS. **Antonio Suma**, Cristian Micheletti

2335-Plat 9:30 am
SINGLE MOLECULE FLUORESCENCE STUDIES ON NUCLEOSOME DYNAMICS. **Kathrin Lehmann**, Alenxander Gansen, Katalin Toth, Jörg Langowski

2336-Plat 9:45 am
SHAPE-PROGRAMMED HIERARCHICAL SELF-ASSEMBLY OF DESIGNED DNA BUILDING BLOCKS INTO MASSIVE THREE-DIMENSIONAL FINITE-SIZE OBJECTS. **Klaus Franz Wagenbauer**, Christian Sigl, Hendrik Dietz

2337-Plat 10:00 am
THE ENERGY LANDSCAPE OF HUMAN CHROMOSOMES. **Michele Di Pierro**

Symposium
Channel Gating Mechanisms
1:00 pm - 3:00 pm, Great Hall A

Chair
Katherine Henzler-Wildman, University of Wisconsin

2338-Symp 1:00 pm
DYNAMIC COUPLING BETWEEN THE GATES IN THE NAK CHANNEL. **Katherine Henzler-Wildman**

2339-Symp 1:30 pm
STRUCTURE OF THE TPC1 CHANNEL FROM *ARABIDOPSIS THALIANA*. Jiangtao Guo, Weizhong Zeng, **Youxing Jiang**

2340-Symp 2:00 pm
GATING PATHWAYS FOR A PENTAMERIC LIGAND-GATED ION CHANNEL SOLVED BY ATOMISTIC STRING METHOD SIMULATIONS. Bogdan Lev, Samuel Murail, Frédéric Poitevin, Brett A. Cromer, Marc Baaden, Marc Delarue, **Toby W. Allen**

2341-Symp 2:30 pm
FINE TUNING HCN CHANNEL ACTIVITY. **Anna Moroni**

Symposium
Anomalous Dynamics in Biological Systems
1:00 pm - 3:00 pm, Great Hall B

Chair
Diego Krapf, Colorado State University

2342-Symp 1:00 pm
ANOMALOUS DIFFUSION AND COMPARTMENTALIZATION ON THE SURFACE OF MAMMALIAN CELLS. **Diego Krapf**

2343-Symp 1:30 pm
ZOOMING IN ON ANOMALOUS DIFFUSION WITH VARIABLE-LENGTHSCALE FLUORESCENCE CORRELATION SPECTROSCOPY. **Cecile Fradin**

2344-Symp 2:00 pm
ANOMALOUS DIFFUSION IN MEMBRANES AND THE CYTOPLASM OF BIOLOGICAL CELLS. **Ralf Metzler**

2345-Symp 2:30 pm
THE GENOME IN THE NUCLEUS: SNAKY, SOFT AND WELL-ORGANIZED. **Yuval Garini**

Platform
Ligand-gated Channels II
1:00 pm - 3:00 pm, Room R02/03

Co-Chairs
Jelena Baranovic, Leibniz-Institut für Molekulare Pharmakologie (FMP), Germany
James A. Brozik, University of New Mexico

2346-Plat 1:00 pm International Travel Awardee
ANALYSIS OF GATING OF ACID-SENSING ION CHANNELS (ASICS) UNDER RAPID AND SLOW PH CHANGES. **Omar Alijevic**, Jan Kucera, Stephan Kellenberger

2347-Plat 1:15 pm
A SELECTIVITY FILTER AT THE LOWER END OF ASIC1A. **Timothy Lynagh**, Emelie Flood, Celine Boiteux, Matthias Wulf, Janne M. Colding, Vitaly V. Komnatnyy, Toby W. Allen, Stephan A. Pless

2348-Plat 1:30 pm
SINGLE MOLECULE KINETIC MEASUREMENTS AND HIDDEN MARKOV MODELS FOR P2X1 RECEPTORS. **James A. Brozik**, Adam O. Barden, Ashish Bhattari, Brian N. Webb, Andrew J. Thompson

2349-Plat 1:45 pm
STRUCTURAL BASIS AND MOLECULAR MECHANISM UNDERLYING P2X7 RECEPTOR ANTAGONISM. **Akira Karasawa**, Toshimitsu Kawate

2350-Plat 2:00 pm
BLUE NATIVE PAGE EVIDENCE THAT PLASMA MEMBRANE-BOUND HUMAN ENAC CHANNELS SHARE A TRIMERIC ARCHITECTURE WITH FULL-LENGTH HUMAN ASIC1 AND ASIC2. **Anke Dopychai**, Ralf Hausmann, Linda Krüger, Stefan Gründer, Günther Schmalzing

2351-Plat 2:15 pm
MAPPING THE FLEXIBILITY OF AMPA TYPE IONOTROPIC GLUTAMATE RECEPTORS. **Jelena Baranovic**, Andrew JR Plested

2352-Plat 2:30 pm
PROBING A MOLECULAR LOCK IN A PRIMITIVE NMDA RECEPTOR. **Alvin Yu**, Robert Alberstein, Alecia Thomas, Richard Grey, Mark L. Mayer, Albert Lau

2353-Plat 2:45 pm
INVESTIGATING THE SCRAMBLING MECHANISM OF TMEM16 SCRAMBLASES. **Mattia Malvezzi**, Rabia Iqbal, Ashley Brown, Anant Menon, Alessio Accardi

Platforms
Protein-Lipid Interactions: Structures
1:00 pm - 3:00 pm, Room R04/05

Co-Chairs
Steven R. Van Doren, University of Missouri
Olivier Soubias, NIH

2354-Plat 1:00 pm
TRANSIENT INTERACTIONS OF METALLOPROTEINASES WITH BILAYERS, CAPTURED BY PARAMAGNETIC NMR, INCLUDE DUAL MODES OF BINDING, ELECTROSTATIC RECRUITING, AND ALLOSTERY. **Steven R. Van Doren**, Stephen H. Prior, Yan G. Fulcher, Jia Xu, Tara C. Marcink, Rama K. Koppisetti

2355-Plat 1:15 pm
OXIDIZED LIPIDS: THEIR ROLE IN REGULATION OF MITOCHONDRIAL APOPTOSIS. Artur Dingeldein, Jörgen Aden, Tobias Sparrman, Radek Sachl, Sarka Pokorna, Martin Hof, **Gerhard Gröbner**

2356-Plat 1:30 pm
SPECTROSCOPIC INVESTIGATION OF A-SYNUCLEIN 71-82, A PEPTIDE DERIVED FROM A PROTEIN INVOLVED IN PARKINSON'S DISEASE. **Benjamin Martial**, Émilie Bruneau, Laurie Bédard, Thierry Lefèvre, Michèle Auger

2357-Plat 1:45 pm
DETERMINANTS OF LIPID SPECIFICITY FOR THE FVII MEMBRANE BINDING DOMAIN. **Melanie Muller**, Emad Tajkhorshid

2358-Plat 2:00 pm
STRUCTURE OF THE SAR1 LATTICE AND ITS ROLE IN COPII VESICLE FORMATION AND SCISSION. **Peter Randolph**, Hanaa Hariri, Scott Stagg

2359-Plat 2:15 pm
ROLE OF PIP2-DEPENDENT MEMBRANE INTERACTIONS IN VINCULIN ACTIVATION, MOTILITY AND FORCE TRANSMISSION. **Sharon L. Campbell**, Peter M. Thompson, Srinivas Ramachandran, Lindsay Case, Nikolay Dokholyan, Caitlin Tolbert, Clare M. Waterman

2360-Plat 2:30 pm
FLEXIBILITY DICTATES FUNCTION IN AN EXCEPTIONAL CURVATURE SENSING HELIX. **Erin R. Tyndall**, Edward Kim, Kumaran S. Ramamurthi, Fang Tian

2361-Plat 2:45 pm
RHODOPSIN DIMERIZATION IN MEMBRANE BILAYERS REVEALED BY SMALL ANGLE NEUTRON SCATTERING. **Olivier Soubias**, Jonathan D. Nickels, Walter E. Teague, Kirk G. Hines, Kevin L. Weiss, John Katsaras, Klaus Gawrisch

Platform
Intrinsically Disordered Proteins (IDP) and Aggregates II
1:00 pm - 3:00 pm, Room R06/07

Co-Chairs
Lisa Muiznieks, The Hospital For Sick Children, Canada
Sigrid Milles, Institut de Biologie Structurale, France

2362-Plat 1:00 pm
SINGLE-MOLECULE SPECTROSCOPY REVEALS THE ROLE OF TWO-DIMENSIONAL CROWDING IN DISORDERED PROTEIN FOLDING. **Priya R. Banerjee**, Mahdi Moosa, Ashok Deniz

2363-Plat 1:15 pm International Travel Awardee
A TALE OF TWO AMYLOIDOGENIC INTRINSICALLY DISORDERED PROTEINS: INTERPLAY OF TAU AND A-SYNUCLEIN. **Karishma Bhasne**, Sanjana Sebastian, Samrat Mukhopadhyay

2364-Plat 1:30 pm
TARDIGRADE DISORDERED PROTEINS MEDIATE DESICCATION TOLERANCE. **Thomas C. Boothby**, Samantha Piszkiewicz, Aakash Mehta, Alexandra Brozena, Hugo Tapia, Doug Koshland, Alex Holehouse, Rohit Pappu, Bob Goldstein, Gary Pielak

2365-Plat 1:45 pm
CONTROLLING THE BIOPHYSICAL PROPERTIES AND FUNCTIONALITY OF PHASE-SEPARATED ELASTIN-BASED DROPLETS THROUGH AMINO ACID SEQUENCE MUTATIONS. **Lisa D. Muiznieks**, Fred W. Keeley, Régis Pomès

2366-Plat 2:00 pm Education Travel Awardee
MODELING THE EARLY STAGES OF AGGREGATION IN DISORDERED ELASTIN-LIKE PROTEINS. **Yue Zhang**, Valeria Zai-Rose, Cody J. Price, Gene L. Bidwell III, John J. Correia, Nicholas C. Fitzkee

2367-Plat 2:15 pm
WHAT ENCODES COUPLED FOLDING AND BINDING REACTIONS: IDPS OR PARTNER PROTEINS? **Michael D. Crabtree**, Carolina A. T. F. Mendonca, Quenton Bubb, Sarah L. Shammas, Jane Clarke

2368-Plat 2:30 pm
THE MEASLES VIRUS PHOSPHOPROTEIN: AN INTRINSICALLY DISORDERED CHAPERONE THAT REGULATES NUCLEOCAPSID ASSEMBLY. **Sigrid Milles**, Malene Ringkjøbing Jensen, Guillaume Communie, Damien Maurin, Guy Schoehn, Rob WH Ruigrok, Martin Blackledge

2369-Plat 2:45 pm
RAMACHANDRAN MAP ANALYSIS OF THE MONOMERIC AB1-40 AND AB1-42 PEPTIDES BY SOLUTION NMR. **Julien Roche**

Platform
Cardiac Muscle Regulation

1:00 PM - 3:00 PM, ROOM R08/09

Co-Chairs
Paul Janssen, The Ohio State University
Gaetano Santulli, Columbia University

2370-PLAT 1:00 PM
CARDIAC EXCITABILITY AT THE INTERCALATED DISC IS MAINTAINED VIA A SMALL ISOFORM OF OBSCURIN. **Heather R. Manring**, Maegen A. Ackermann

2371-PLAT 1:15 PM
CONTRACTILE FORCE AND KINETICS IN FAILING VERSUS NON-FAILING HUMAN MYOCARDIUM. Jae-Hoon Chung, Brit Martin, Benjamin Canan, Mohammad Elnakish, Nancy Saad, Ahmet Kilic, Mei-Pian Chen, Nima Milani-Nejad, Peter Mohler, Vadim Fedorov, **Paul Janssen**

2372-PLAT 1:30 PM
ADAPTIVE VENTRICULAR REMODELLING AFTER MYOCARDIAL INFARCTION INVOLVES TITIN-BASED CARDIOMYOCYTE STIFFENING AND ELEVATED TITIN TURNOVER. **Sebastian Kötter**, Malgorzata Kazmierowska, Christian Andresen, Katharina Bottermann, Maria Grandoch, Simone Gorressen, Andre Heinen, Jens M. Moll, Jürgen Scheller, Axel Gödecke, Jens W. Fischer, Joachim P. Schmitt, Martina Krüger

2373-PLAT 1:45 PM
MECHANISTIC ROLE OF TYPE 1 INOSITOL 1,4,5-TRISPHOSPHATE RECEPTOR IN THE REGULATION OF VASCULAR TONE IN HEART FAILURE. **Gaetano Santulli**, Jessica Gambardella, Steven Reiken, Qi Yuan, Ryutaro Nakashima, Frances M. Forrester, Alain Lacampagne, Andrew Marks

2374-PLAT 2:00 PM
TROPONIN I TYROSINE PHOSPHORYLATION MODULATES CARDIAC CONTRACTION. Elizabeth A. Brundage, Vikram Shettigar, Hussam E. Salhi, Jonathan P. Davis, Mark T. Ziolo, **Brandon Biesiadecki**

2375-PLAT 2:15 PM
ACETYLATION OF K326 AND K328 ON ACTIN BOOSTS CONTRACTILE PROPERTIES OF MUSCLE *IN VITRO* AND *IN VIVO*. **William Schmidt**, Meera C. Viswanathan, D. Brian Foster, Anthony Cammarato

2376-PLAT 2:30 PM
DIRECT SINGLE MOLECULE VISUALIZATION OF CARDIAC MYBP-C N-TERMINAL FRAGMENT INTERACTIONS WITH SUSPENDED THIN FILAMENTS. **Alessio V. Inchingolo**, Michael J. Previs, Samantha E. Beck Previs, Neil M. Kad, David M. Warshaw

2377-PLAT 2:45 PM
THE ROLE OF METHYLGLYOXAL ON THE CARDIAC MYOFILAMENT. **Maria Papadaki**, Ronald Holewinski, Marisa Stachowski, Jonathan Kirk

Platform
Calcium Signaling/Intercellular Calcium Channels and Sparks and Waves

1:00 PM - 3:00 PM, ROOM 206/207

Co-Chairs
Ming-Feng Tsai, Brandeis University
David Jacobson, Vanderbilt University

2378-PLAT 1:00 PM
HIGH-THROUGHPUT SCREENS TO DISCOVER INHIBITORS OF LEAKY RYANODINE RECEPTOR CALCIUM CHANNELS. Robyn T. Rebbeck, Megan V. Ryan, Gregory D. Gillispie, David D. Thomas, Donald M. Bers, **Razvan L. Cornea**

2379-PLAT 1:15 PM
IMPROVEMENTS OF THE KINETICS OF RED FLUORESCENT CALCIUM INDICATORS. **Silke Kerruth**, Catherine Coates, Katalin Torok

2380-PLAT 1:30 PM
PARTICLE-BASED APPROACHES TO CLEARING CALCIUM: A PROTEIN LANDSCAPE MODEL OF THE SARCO/ENDOPLASMIC RETICULUM CALCIUM-ATPASE (SERCA) PUMP FOR SUB-CELLULAR STOCHASTIC MODELS. **Sophia P. Hirakis**, Thomas M. Bartol, Terrence J. Sejnowski, Rommie E. Amaro

2381-PLAT 1:45 PM
CA^{2+} SIGNALS ORIGINATE FROM IMMOBILE IP_3 RECEPTORS AT ER-PM JUNCTIONS. **Nagendra Babu Thillaiappan**, Alap P. Chavda, Stephen C. Tovey, David L. Prole, Colin W. Taylor

2382-PLAT 2:00 PM
CHARACTERIZATION OF DIFFERENT LOCALIZED CA^{2+} SIGNALS IN SKELETAL MUSCLE FIBERS. **Mikhail Svirin**, Tihomir Georgiev, Enrique Pérez Jaimovich, Rainer H A Fink

2383-PLAT 2:15 PM
ROLE OF ORAI PROTEINS IN ACTIVATION OF ENDOGENOUS TRPC1-COMPOSED CHANNELS. **Alexey Shalygin**, Anton Skopin, Dmitrii Kolesnikov, Lyubov Glushankova, Elena Kaznacheyeva

2384-PLAT 2:30 PM
THE TWO-PORE DOMAIN K^+ CHANNEL TALK-1 PROVIDES A COUNTERCURRENT THAT FACILITATES ENDOPLASMIC RETICULUM CA^{2+} LEAK. **Nicholas Vierra**, Prasanna Dadi, Sarah Milian, David Jacobson

2385-PLAT 2:45 PM
SAFETY UPGRADES OF THE MITOCHONDRIAL CALCIUM UNIPORTER. **Ming-Feng Tsai**, Christopher Miller

Platform
Protein Structure and Conformation III

1:00 PM - 3:00 PM, ROOM 208/209

Co-Chairs
Nathan S. Babcock, Simon Fraser University, Canada
Michael Nilges, Pasteur Institute, France

2386-PLAT 1:00 PM CPOW TRAVEL AWARDEE
TRAPPING ON-PATHWAY INTERMEDIATES FOR LARGE SCALE CONFORMATIONAL CHANGES WITH COARSE-GRAINED SIMULATIONS. **Laura Orellana**, Özge Yoluk, Oliver Carrillo, Modesto Orozco, Erik Lindahl

2387-PLAT 1:15 PM
STUDYING BIOMOLECULAR INTERACTIONS: A HYBRID APPROACH. Sean A. McKenna, Manuel Koch, Janusz M. Bujnicki, Joerg Stetefeld, **Trushar R. Patel**

2388-PLAT 1:30 PM
THE MOLTEN GLOBULE STATE OF MALTOSE BINDING PROTEIN: STRUCTURAL CHARACTERIZATION BY EPR SPECTROSCOPY. Benjamin Selmke, Chen Nickolaus, Peter Borbat, Jack H. Freed, **Wolfgang E. Trommer**

2389-PLAT 1:45 PM
MODEL COMPARISON TO IDENTIFY STRUCTURAL HETEROGENEITY IN PROTEIN X-RAY CRYSTALLOGRAPHY. **Nathan S. Babcock**, David A. Sivak, Daniel Keedy, James S. Fraser

2390-PLAT 2:00 PM
SINGLE MOLECULE IDENTIFICATION AGAINST PROTEOMES USING SUB-NANOMETER PORES. **Eamonn Kennedy**, Mikhail Kolmogorov, Zhuxin Dong, Pavel Pevzner, Greg Timp

2391-PLAT 2:15 PM
STRUCTURAL BASIS FOR SUBSTRATE RECOGNITION BY THE ANKYRIN REPEAT DOMAIN OF DHHC17 PALMITOYLTRANSFERASE. **Raffaello Verardi**, Jin-Sik Kim, Anirban Banerjee

2392-PLAT 2:30 PM
INTEGRATIVE STRUCTURAL BIOLOGY OF A TYPE II SECRETION PSEUDOPILUS. Benjamin Bardiaux, Aracelys Lopez-Castilla, Xiong Yu, Edward H. Egelman, Nadia Izadi-Pruneyre, Olivera Francetic, **Michael Nilges**

2393-PLAT 2:45 PM
FIRST PROTEIN SCATTERING MEASUREMENTS AT LIX BEAMLINE. **Shirish N. Chodankar**

WEDNESDAY POSTER SESSIONS

10:30 AM–12:30 PM, Hall B-2 & C

Below is the list of poster presentations of abstracts submitted by October 3.
The list of late abstracts scheduled for Wednesday is available in the Program Addendum and the posters can be viewed on boards beginning with L. All abstracts are available through the desktop planner and mobile app.

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

Board Numbers	Category
B1 – B15	Protein Structure and Conformation IV
B16 – B30	Aggregates, Chaperones, and Mechanical Forces
B31 – B46	Protein-Small Molecule Interactions II
B47 – B64	Protein Dynamics and Allostery IV
B65 – B87	Membrane Protein Structures II
B88 – B114	Membrane Protein Dynamics
B115 – B129	Intrinsically Disordered Proteins (IDP) and Aggregates III
B130 – B147	DNA Replication, Recombination, and Repair
B148 – B161	Protein: DNA Interactions:Dynamics
B162 – B184	Membrane Physical Chemistry II
B185 – B207	Membrane Active Peptides and Toxins II
B208 – B219	General Protein-Lipid Interactions IV
B220 – B234	Membrane Receptors and Signal Transduction II
B235 – B253	Mechanosensation
B254 – B266	Calcium Signaling III
B267 – B279	Intercellular Calcium Channels and Calcium Sparks and Waves II
B280 – B288	Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating IV
B289 – B296	Ion Channel Regulatory Mechanisms II
B297 – B310	Ion Channels, Pharmacology, and Disease II
B311 – B326	Other Channels II
B327 – B345	Ligand-gated Channels II
B346 – B360	Cardiac Muscle Mechanics and Structure II
B361 – B375	Actin Structure, Dynamics, and Associated Proteins
B376 – B394	Microtubules, Structure, Dynamics and Associated Proteins
B395 – B404	Bacterial Mechanics, Cytoskeleton and Motility
B405 – B418	Membrane Pumps
B419 – B427	Genetic Regulatory Systems
B428 – B454	Electron Microscopy
B455 – B464	Diffraction and Scattering Techniques
B465 – B479	Optical Microscopy and Super Resolution Imaging: Novel Approaches and Analysis III
B480 – B493	Optical Spectroscopy: CD, UV-VIS, Vibrational, Fluorescence II
B494 – B503	Force Spectroscopy and Scanning Probe Microscopy II
B504 – B510	Biosurfaces
B511 – B526	Biomaterials

It is the responsibility of the poster presenters to remove print materials from the board after their presentations. Please do not leave materials or belongings under poster boards or in the poster area. Posters will not be collected or stored for pick-up at a later time. The Biophysical Society is not responsible for any articles left in the poster area.

Protein Structure and Conformation IV (Boards B1–B15)

2394-Pos **Board B1**
DEVELOPMENT AND COMPARISON OF ENHANCED SAMPLING METHODS FOR BIOMOLECULAR SIMULATION. **James Lincoff**, Sukanya Sasmal, Teresa Head-Gordon

2395-Pos **Board B2**
STRUCTURAL CHARACTERISTICS OF THE RNASE H DOMAIN IN HIV-1 REVERSE TRANSCRIPTASE. **Ryan L. Slack**, Naima G. Sharaf, Angela M. Gronenborn, Rieko Ishima

2396-Pos **Board B3**
EFFECTS OF ALS MUTATIONS ON STRUCTURE, DYNAMICS, AND FUNCTION OF UBIQUILIN-2. **Carlos A. Castaneda**, Thuy P. Dao

2397-Pos **Board B4**
ENERGY LANDSCAPES OF A MECHANICAL PRION AND THEIR IMPLICATIONS FOR THE MOLECULAR MECHANISMS OF LONG-TERM MEMORY. **Mingchen Chen**

2398-Pos **Board B5**
METHYL-LABELING ASSISTED NMR STRUCTURE DETERMINATION OF A 66 KDA GROWTH FACTOR-RECEPTOR COMPLEX. **Andrew Hinck**, Morkos A. Henen, Christian Zwieb, Ravindra Kodali, Cynthia S. Hinck

2399-Pos **Board B6**
SOLUTION NMR STRUCTURES OF THE C-TERMINAL DOMAIN OF *TETRAHYMENA* CYTOSKELETAL PROTEIN TCB2 REVEAL DISTINCT CALCIUM-INDUCED STRUCTURAL REARRANGEMENTS. **Adina M. Kilpatrick**, Jerry E. Honts, Heidi M. Sleister, C. Andrew Fowler

2400-Pos **Board B7**
UNDERSTANDING EFFECT OF GERANYLATION OF $TRNA^{LYS}$ ON RIBOSOME BINDING: A COMPUTATIONAL STUDY. **Sweta Vangaveti**, Phensinee Haruehanroengra, Rui Wang, Srivathsan V. Ranganathan, Jia Sheng

2401-Pos **Board B8**
NANO-MECHANICAL STUDIES OF COLLAGEN: THE INFLUENCE OF IONIC STRENGTH, PH AND COLLAGEN SOURCES ON MOLECULAR FLEXIBILITY. **Naghmeh Rezaei**, Aaron Lyons, Nancy R. Forde

2402-Pos **Board B9**
STRUCTURAL CHARACTERIZATION OF CWSA IN A LIPID BILAYER WITH SSNMR. **Rongfu Zhang**

2403-Pos **Board B10**
DETERMINATION OF THE SOLUTION STRUCTURE OF ISOLATED HISTONE H2A-H2B HETERODIMER BY USING CS-ROSETTA. **Tsutomu Yamane**, Yoshihito Moriwaki, Hideaki Ohtomo, Mitsunori Ikeguchi, Mitsunori Ikeguchi, Jun-ichi Kurita, Masahiko Sato, Aritaka Nagadoi, Hideaki Shimojo, Yoshifumi Nishimura

2404-Pos **Board B11**
QUANTITATIVE NMR ANALYSIS OF CONCURRENT PHOSPHORYLATION EVENTS AND PHOSPHORYLATION-RELATED STRUCTURAL CHANGES IN UNSTRUCTURED CYTOPLASMIC DOMAIN OF T-CELL RECEPTOR CD3Γ SUBUNIT. **Innokentiy Maslennikov**, Christian Klammt, Johan Kufs, Amy Blount, Barbara Varsonofieva, Bjoern Lillemeier

2405-Pos **Board B12**
DIFFERENT APPLICATIONS FOR CAS IN FUNCTIONAL CLASSIFICATION OF PROTEIN INTERFACES. **Cameron J. Jones**, Sanjana Sudarshan, Isha D. Mehta, Brian W. Beck

2406-Pos **Board B13**
FUSION PROTEIN, DNAJB1-PRKACA, AS A CANCER DRIVER. **Tsan-Wen Lu**, Michael Cianfrocco, Ping Zhang, Susan Taylor

2407-Pos **Board B14**
EFFECT OF PHOSPHORYLATION ON SUPERTERTIARY STRUCTURE AND LIGAND BINDING AFFINITY ON SCAFFOLD PROTEINS. **Brié N. Levesque**, Fang Wu, Mark E. Bowen

2408-Pos **Board B15**
TOXIC METAL IONS PROMOTE SELF-ASSOCIATION AND REPLACE STRUCTURAL ZINC IONS IN THE REGULATORY REGION OF PROTEIN KINASE C. **Taylor R. Cole**, Samuel G. Erickson, Min Woo Sung, Andreas Holzenburg, Tatyana I. Igumenova

Aggregates, Chaperones, and Mechanical Forces (Boards B16–B30)

2409-Pos **Board B16**
USING SINGLE MOLECULE CHEMO-MECHANICAL UNFOLDING TO PROBE THE EFFECT OF ENVIRONMENTAL CONDITIONS ON PROTEIN FOLDING. **Emily J. Guinn**, Bharat Jagannathan, Susan Marqusee

2410-Pos **Board B17**
PROTEIN AGING: LOSS OF FOLDING CONTRACTION DUE TO OXIDATION OF CRYPTIC SIDE CHAINS. **Jessica Valle Orero**, Jaime Andres Rivas-Pardo, Rafael Tapia-Rojo, Ionel Popa, Daniel J. Echelman, Julio M. Fernandez

2411-Pos **Board B18**
THERMODYNAMICS AND KINETICS OF GLOBULAR POLYMERS UNDER AN APPLIED FORCE. **Samuel Bell**, Eugene M. Terentjev

2412-Pos **Board B19**
MECHANO-INDUCED UNFOLDING OF VON WILLEBRAND FACTOR: A CLINICAL EXAMPLE OF PROTEIN DESTABILIZATION. **Camilo A. Aponte Santamaria**, Svenja Lippok, Judith J. Mittag, Tobias Obser, Reinhard Schneppenheim, Carsten Baldauf, Frauke Gräter, Ulrich Budde, Joachim Rädler

2413-Pos **Board B20**
MECHANICAL ARCHITECTURE AND GENESIS OF BACTERIAL PILUS DOMAINS REVEALED BY SINGLE-MOLECULE FORCE SPECTROSCOPY. Alvaro Alonso-Caballero, **Raul Perez-Jimenez**

2414-Pos **Board B21**
MULTISCALE MODELING OF PROTEIN UNFOLDING AND TRANSLOCATION BY AAA+ CHAPERONES IN THE DEGRADATION PATHWAY. Andrea N. Kravats, Sam Tonddast-Navaei, Abdolreza Javidialesaadi, **George Stan**

2415-Pos **Board B22** **Education Travel Awardee**
EVIDENCE FOR CHAPERONE FUNCTION IN MECHANOSENSATION. **Miranda Collier**, Georg Hochberg, Cameron Turtle, Carin De Villiers, Katja Gehmlich, Justin L.P. Benesch

2416-Pos **Board B23** **Education Travel Awardee**
PROMISCUOUS HISTONE MIS-ASSEMBLY IS ACTIVELY PREVENTED BY CHAPERONES. **Haiqing Zhao**

2417-Pos **Board B24**
PROTEIN KINASE RECOGNITION AND SORTING BY THE HSP90 KINOME-SPECIFIC COCHAPERONE CDC37. **Ioannis Gelis**, Dimitra Keramisanou, Adam Aboalroub

2418-Pos **Board B25**
TRACKING STRUCTURAL CHANGES IN THE UCS DOMAIN OF THE MYOSIN CHAPERONE UNC-45 BY FLUORESCENCE SPECTROSCOPY. **Andres Oberhauser**, Paul Nicholls

2419-Pos **Board B26**
UNFOLDING EFFICACY OF THE IMMUNOGLOBULIN DOMAIN I27 CONTROLLED BY FORCE DIRECTIONALITY IN PROTEIN REMODELING BY CLP ATPASE CHAPERONES. **Abdolreza Javidialesaadi**, George Stan

2420-Pos **Board B27**
METASTABILITIES IN THE HUMAN PRION PROTEIN N-TERMINAL BETA-SHEET ARE DICTATED BY THE 129 POLYMORPHISM. S. Alexis Paz, Eric Vanden-Eijnden, **Cameron Abrams**

2421-Pos **Board B28**
DEFECTIVE AXONAL TRANSPORT AND ALZHEIMER'S DISEASE CORRELATIONS: A MOLECULAR MOTOR POINT OF VIEW. **Marcelo Nakaema**

2422-Pos **Board B29**
CHARACTERIZATION OF HUMAN IGG1 FC REGION STABILITY AND AGGREGATION PROPENSITY. **Evan A. Wells**, Anne S. Robinson

2423-Pos **Board B30**
UTILISING FLUORESCENCE MICROSCOPY TO VISUALISE THE DYNAMICS AND INTERACTIONS OF MOLECULAR CHAPERONES AND A-SYNUCLEIN. **Quill Bowden**, Alex MacMillan, Tobias Rosenkranz, Till Böcking

Protein-Small Molecule Interactions II (Boards B31–B46)

2424-Pos **Board B31**
BIOMOLECULAR INTERACTION DETERMINATION AND QUANTIFICATION BY MICROSCALE THERMOPHORESIS. **Wyatt Strutz**, Govind Shah

2425-Pos **Board B32**
DOES THE PRESENCE OF A CO-SOLVENT ALTER THE AFFINITY OF A HYDROPHOBIC DRUG TO ITS TARGET? **Caroline Senac**, Patrick Fuchs, Wladimir Urbach, Nicolas Taulier

2426-Pos **Board B33**
CONVENIENT BIOLOGICAL INTERACTION ANALYSIS WITH A REGENERATIVE STREPTAVIDIN CHIP. **Lukas Traxler**, Claudia Knoglinger, Kristyna Posledni, Andreas Zich, Bianca Ruttmann, Gloria Friedl, Peter Hinterdorfer, Hermann J. Gruber

2427-Pos **Board B34**
PORPHYRIN INDUCED MULTIMERIZATION OF SOLUTION-STATE PROTEINS. **Daniel R. Marzolf**, Coleman M. Swaim, Aidan M. McKenzie, Christopher A. Hudson, Nathan T. Wright, Oleksandr Kokhan

2428-Pos **Board B35**
IN SILICO DISCOVERY OF A PROTEIN-PROTEIN INTERACTION INHIBITOR FOR INFLUENZA VIRUSES. **Gregory Mohl**, David Busath

2429-Pos **Board B36**
BINDING OF ANTIBIOTICS TO THE MULTIDRUG EFFLUX PUMP ACRB OF E. COLI INVESTIGATED BY MOLECULAR DOCKING. **Giuliano Malloci**, Giovanni Serra, Andrea Bosin, Attilio Vittorio Vargiu, Paolo Ruggerone

2430-Pos **Board B37**
EXPLORING FOLATE-SMALL MOLECULE INTERACTIONS IN BACTERIAL CELLS. **Deepika K. Nambiar**, Robert Shew, Bryan Schwarz, Michael Duff, Timkhite Kulu-Berhane, Elizabeth Howell

2431-Pos **Board B38**
ATTENUATING THE TOXICITY OF AMYLOID-BETA AGGREGATION WITH SPECIFIC SPECIES. **Ryan Limbocker**, Benedetta Mannini, Michele Perni, Sean Chia, Gabriella Heller, Francesco S. Ruggeri, Johnny Habchi, Georg Meisl, Pavan K. Challa, Michael Zasloff, Tuomas P. J. Knowles, Michele Vendruscolo, Christopher M. Dobson

2432-Pos **Board B39**
DETERMINATION OF LIGAND MIGRATION PATHWAYS IN HUMAN CYTOGLOBIN. **Antonija Tangar**, Michael Goncalves, Sophie Bernad, Valerie Derrien, Pierre Sebban, Jaroslava Miksovska

2433-Pos **Board B40**
MOLECULAR RECOGNITION MECHANISM OF HEMATOPOIETIC PROSTAGLANDIN D SYNTHASE WITH ITS COFACTOR AND SUBSTRATE. **Keisuke Asada**, Shigeru Shimamoto, Tomohiro Oonoki, Takahiro Maruno, Yuji Kobayashi, Kosuke Aritake, Yoshihiro Urade, Yuji Hidaka

2434-Pos **Board B41**
LIPOCALIN-TYPE PROSTAGLANDIN D SYNTHASE POSSESSES TWO BINDING SITES FOR ITS PRODUCT. **Shigeru Shimamoto**, Yusuke Nakagawa, Takahiro Maruno, Yuji Kobayashi, Kosuke Aritake, Urade Yoshihiro, Yuji Hidaka

2435-Pos **Board B42**
STRUCTURAL, THERMODYNAMIC AND PHOSPHATIDYLINOSITOL 3-PHOSPHATE BINDING PROPERTIES OF PHAFIN2. **Tuo-Xian Tang**

2436-Pos **Board B43**
TARGETING MICROTUBULES IN LEISHMANIA USING A COMBINED COMPUTATIONAL & EXPERIMENTAL APPROACH. **Andrew Kalenkiewicz**, Phil Cruz, Michael Dolan, Dan L. Sackett

2437-Pos **Board B44**
EFFECTS OF AZOLE
DRUGS ON CONFORMATIONAL DYNAMICS AND ENERGETICS ASSOCIATED WITH DIATOMIC LIGAND
PHOTORELEASE AND MIGRATION WITHIN BACTERIAL FLAVOHEMOGLOBINS. **David Butcher**, Myriam Moussaoui, Laura Baciou, Jaroslava Miksovska

2438-Pos **Board B45**
AN EFFICIENT PROTEIN SYSTEM FOR SCREENING SPECIFIC MDMX AND MDM2 INHIBITORS. **Rong Chen**, Jingjing Zhou, Lingyun Qin, Zhengding Su

2439-Pos **Board B46**
LIGAND BINDING STUDIES OF A PLASMID ENCODED DIHYDROFOLATE REDUCTASE BY ^{19}F NMR BINDING STUDIES OF A PLASMID ENCODED DIHYDROFOLATE REDUCTASE BY ^{19}F NMR. **Gabriel J. Fuente Gomez**, MICHAEL DUFF, Elizabeth Howell

Protein Dynamics and Allostery IV (Boards B47–B64)

2440-Pos **Board B47**
MECHANISM OF ALLOSTERIC REGULATION OF SUBSTRATE SPECIFICITY IN PROTEIN KINASE C. **Nagarajan Vaidehi**, Hyun Deok Song, Titu Devamani, Ruth Sommese, Sivaraj Sivaramakrishnan

2441-Pos **Board B48**
REGULATION OF PROTEASOMAL CATALYTIC ACTIVITY BY ALTERING ITS PROTEIN-PROTEIN INTERACTIONS. **Pawel A. Osmulski**, Przemyslaw Karpowicz, Matthew B. Giletto, Corey L. Jones, Kristin E. Cano, Dmitri Ivanov, Tim H. Huang, Elzbieta Jankowska, Jetze Tepe, Maria Gaczynska

2442-Pos **Board B49**
INCORPORATION OF MULTI-STATE INFORMATION IMPROVES MOLECULAR MODELLING OF DYNAMIC ALLOSTERY: A CASE STUDY OF PDZ DOMAINS COMPUTATIONAL QUANTITATIVE CHARACTERIZATION OF ENTROPIC SIGNALING PATHWAYS IN PROTEINS: A CASE STUDY ON HUMAN PDZ2 DOMAIN OF PTP1E. **Mohsen Botlani**, Sameer Varma

2443-Pos **Board B50**
DYNAMICAL MECHANISMS OF ALLOSTERIC MODULATIONS BY SMALL MOLECULES ON LEUKOCYTE FUNCTION-ASSOCIATED ANTIGEN-1. **Jung-Hsin Lin**

2444-Pos **Board B51**
THE STRUCTURAL AND DYNAMIC EFFECTS OF INHIBITOR BINDING TO PROTEIN KINASE C BII. **Shashank Jariwala**, Sivaraj Sivaramakrishnan, Barry J. Grant

2445-Pos **Board B52**
STUDYING SOLVATION OF SMALL BIOMOLECULES VIA MOLECULAR DYNAMICS USING A POLARIZABLE FORCE FIELD. **Saurabh Belsare**, Alexander Esser, Dominik Marx, Teresa Head-Gordon

2446-Pos **Board B53** **Education Travel Awardee**
MOLECULAR ALLOSTERY IN DENGUE NS3 HELICASE ALONG THE ATP HYDROLYSIS CYCLE. **Russell B. Davidson**, Brian J. Geiss, Martin McCullagh

2447-Pos **Board B54**
HOW THE BARRIERLESS FOLDING HELPS DNA RECOGNITION: THEORETICAL INVESTIGATION ON ULTRAFAST FOLDING PROTEIN ENGRAILED HOMEODOMAIN. **Xiakun Chu**, Victor Muñoz

2448-Pos **Board B55**
THE FOLDING MECHANISM AND KINETICS OF THE DOMAINS OF A-SPECTRIN: RESULTS FROM A VARIATIONAL MODEL. **Daniel Gavazzi**, John J. Portman

2449-Pos **Board B56**
FREE ENERGY LANDSCAPES OF METABOTROPIC GLUTAMATE RECEPTOR LIGAND-BINDING DOMAINS. **Tyler J. Wied**, Albert Y. Lau

2450-Pos **Board B57**
QUANTIFYING ALLOSTERIC COMMUNICATION VIA CORRELATIONS IN STRUCTURE AND DISORDER. **Sukrit Singh**, Gregory R. Bowman

2451-Pos **Board B58**
ALLOSTERIC REGULATION OF VINCULIN ACTIVATION BY ALPHA-ACTININ. **Hengameh Shams**, Mohammad R. k. Mofrad

2452-Pos **Board B59**
CORRELATED MOTIONS IN THE DHFR-NADPH COMPLEX. **Craig J. Earley**, Paul F. Maxson, Arish Murda Rakshasa, Heather A. Carlson, Michael G. Lerner

2453-Pos **Board B60**
STATIC AND DYNAMIC ROLES OF PROTEINS IN PROLINE ISOMERIZATION REACTIONS. **Toshifumi Mori**, Shinji Saito

2454-Pos **Board B61**
MECHANISM OF ALLOSTERIC COMMUNICATION IN GPCR ACTIVATION FROM MICROSECOND SCALE MOLECULAR DYNAMICS SIMULATIONS. **Supriyo Bhattacharya**, Nagarajan Vaidehi

2455-Pos **Board B62**
DECIPHERING GENERAL CHARACTERISTICS OF RESIDUES CONSTITUTING ALLOSTERIC COMMUNICATION PATHS. **Girik Malik**, Anirban Banerji, Andrzej Kloczkowski

2456-Pos **Board B63**
REWEIGHTING THE APO TO THE HOLO ENSEMBLE. **Chen Li**

2457-Pos **Board B64**
OPPOSING INTERMOLECULAR TUNING OF CA^{2+} AFFINITY FOR CALMODULIN BY TARGET PEPTIDES. **Margaret S. Cheung**, Pengzhi Zhang, Swarnendu Tripathi

Membrane Protein Structures II (Boards B65–B87)

2458-Pos **Board B65**
COMPARING AND CONTRASTING FLUOROTRYPTOPHAN SUBSTITUTIONS FOR ^{19}F MEMBRANE PROTEIN NMR SPECTROSCOPY. Calem Kenward, Kyungsoo Shin, Muzaddid Sarker, Carley Bekkers, **Jan K. Rainey**

2459-Pos **Board B66**
IN SITU SOLID-STATE NMR SPECTROSCOPY OF APP TRANSMEMBRANE DOMAIN (TM) STRUCTURE AND DIMERIZATION IN NATIVE *E. COLI* MEMBRANES. **Xiaoyan Ding**, Riqiang Fu, Fang Tian

2460-Pos **Board B67**
STRUCTURAL AND DYNAMICAL BASIS OF PROTEIN KINASE C ALPHA REGULATION BY THE C-TERMINAL TAIL. Yuan Yang, Julia A. Callender, Alexandra C. Newton, **Tatyana I. Igumenova**

2461-Pos **Board B68** **Education Travel Awardee**
SITE-DIRECTED SPIN LABELING EPR SPECTROSCOPY OF THE CYTOPLASMIC TAIL OF INFLUENZA A M2. **Alice L. Herneisen**, Grace Kim, Kathleen P. Howard

2462-Pos **Board B69**
POLARITY AND CHARGE AS DETERMINANTS FOR TRANSLOCASE REQUIREMENT FOR MEMBRANE PROTEIN INSERTION. **Balasubramani Hariharan**, Raunak Soman, Ross E. Dalbey

2463-Pos **Board B70**
BIP BINDING AFFECTS INTEGRATION OF TRANSMEMBRANE DOMAINS. **Mirjam Zimmermann**, Marco Janoschke, Martin Spiess

2464-Pos **Board B71**
ELUCIDATING THE UNCOUPLING OF ATP HYDROLYSIS AND CA^{2+} TRANSPORT IN SERCA BY SARCOLIPIN. **Erin Birdsall**, Alysha Dicke, Gianluigi Veglia

2465-Pos **Board B72**
NMR RESOLVES PHOSPHOLAMBAN'S ALLOSTERIC REGULATION OF THE SARCOPLASMIC RETICULUM CA^{2+}-ATPASE. **Sarah E. D. Nelson**, Vitaly V. Vostrikov, Tata Gopinath, Gianluigi Veglia

2466-Pos **Board B73**
CHARACTERIZING THE COMPLEX OF SARCOLIPIN AND SERCA USING SOLID-STATE NMR SPECTROSCOPY. **Alysha A. Dicke**, Tata Gopinath, Gianluigi Veglia

2467-Pos **Board B74**
UNDERSTANDING THE ROLE OF THE N-TERMINAL CRGA INTERACTIONS WITH FTSZ IN THE *MYCOBACTERIUM TUBERCULOSIS* DIVISOME. **Yiseul Shin**, Riqiang Fu, Huajun Qin, Joshua Taylor, Malini R. Rajagopalan, Timothy A. Cross

2468-Pos **Board B75**
MOLECULAR DYNAMICS SIMULATIONS OF THE PREDICTED *E. COLI* FTSB-FTSL TETRAMERIC COMPLEX. **Gladys Diaz Vazquez**, Samson Condon, Qiang Cui, Alessandro Senes

2469-Pos **Board B76**
CHARACTERIZATION OF THE FTSBL MEMBRANE PROTEIN COMPLEX BY SINGLE MOLECULE TIRF MICROSCOPY. **Claire R. Armstrong**, Ambalika Khadria, Rahul Chadda, Aaron Hoskins, Janice L. Robertson, Alessandro Senes

2470-Pos **Board B77**
ASSESSMENT OF PROTEIN-PROTEIN INTERACTIONS IN THE FTSBLQ COMPLEX USING FLUORESCENCE *IN VITRO*. **Elizabeth Caselle**, Samuel Craven, Alessandro Senes

2471-Pos **Board B78**
CONTRIBUTION OF INDIVIDUAL PORE RESIDUES TO MG^{2+} PERMEATION AND DIVALENT CATION SELECTIVITY IN CORA. **Nicolaus Schmandt**, Margaret Milewski, Eduardo Perozo

2472-Pos **Board B79**
EFFECT OF GABRA1 CYTOPLASMIC PEPTIDE ON A REGULATORY PROTEIN. **Norbert W. Seidler**

2473-Pos **Board B80**
STRUCTURAL CHARACTERIZATION OF THE HUMAN KCNQ1 VOLTAGE-SENSING DOMAIN BY NMR. **Keenan C. Taylor**, Hui Huang, Charles R. Sanders

2474-Pos **Board B81**
EXPLORING THE MOVEMENT OF S4 BY INTERMOLECULAR FRET OF GENETICALLY-ENCODED VOLTAGE INDICATORS. Lee Min Leong, Bok Eum Kang, **Bradley Baker**

2475-Pos **Board B82**
DYNAMIC STUDIES OF SWEET FAMILY SUGAR TRANSPORTERS THROUGH NMR SPECTROSCOPY. **Ampon Sae Her**, Maureen Leninger, James Banigan

2476-Pos **Board B83**
STRUCTURAL SNAPSHOTS OF EFF-1 MEDIATED MEMBRANE FUSION. **Mariano Dellarole**, Annalisa Meola, Gérard Pehau-Arnaudet, François Bontems, Mario J. Borgnia, Thomas Krey, Niels Volkmann, Dorit Hanein, Félix A. Rey

2477-Pos **Board B84**
3D TOPOLOGICAL STRUCTURAL STUDIES OF ANTIMICROBIAL PEPTIDES BY SOLID_STATE NMR SPECTROSCOPY. **Yongae Kim**, Ji-Ho Jeong, Ji-Sun Kim

2478-Pos **Board B85** **International Travel Awardee**
STRUCTURAL CHARACTERIZATION OF HUMAN PULMONARY SURFACTANT PROTEIN SP-D BY ATOMIC FORCE MICROSCOPY. **Raquel Arroyo**, Alejandro Martin-Gonzalez, Mercedes Echaide, Jan Rosenbaum, Fernando Moreno-Herrero, Jesus Perez-Gil

2479-Pos **Board B86**
PERMEABILITY OF PULMONARY SURFACTANT MEMBRANES IS MODULATED BY PROTEINS SP-B AND SP-C. **Marta Martínez-Calle**, Elisa Parra, Bárbara Olmeda, Jesús Pérez-Gil

2480-Pos **Board B87**
TOXIC AND NON-TOXIC FORMS OF MEMBRANE PORATION ARE MEDIATED BY STRUCTURALLY DISTINCT STATES OF ISLET AMYLOID POLYPEPTIDE. **Melissa Birol**, Sunil Kumar, Elizabeth Rhoades, Andrew Miranker

Membrane Protein Dynamics (Boards B88–B114)

2481-Pos **Board B88**
PARAMETERIZATION OF CYSTEINE PALMITOYL, CYSTEINE FARNESYL, CYSTEINE GERANYLGERANYL AND GLYCINE MYRISTOYL FOR THE MARTINI FORCEFIELD. **Yoav Atsmon Raz**, Peter D. Tieleman

2482-Pos **Board B89**
BINDING, FOLDING, AND INSERTION OF A B-HAIRPIN PEPTIDE AT A LIPID BILAYER SURFACE: MOLECULAR DYNAMICS SIMULATIONS. **Keon Reid**, James Kindt

2483-Pos **Board B90**
SIMULATIONS OF BAMA IN A NATIVE OUTER-MEMBRANE MODEL AND ENERGETICS OF LATERAL OPENING. **Karl Lundquist**, James C. Gumbart

2484-Pos **Board B91**
HEXAMERIC E5 PROTEIN OF HUMAN PAPILLOMAVIRUS TYPE 16 FORMS A LOW SELECTIVE ION CHANNEL - A COMPUTATIONAL ANALYSIS. **Dhani R. Mahato**, Wolfgang B. Fischer

2485-Pos **Board B92**
TRANSPORT OF VITAMIN B12 AND ITS CONJUGATE WITH PEPTIDE NUCLEIC ACID THROUGH THE *E. COLI* BTUB OUTER MEMBRANE PROTEIN EXPLORED WITH STEERED MOLECULAR DYNAMICS. **Tomasz Pieńko**, Joanna Trylska

2486-Pos **Board B93**
AUGMENTATION OF INTERACTIONS BETWEEN DIMERS STABILIZES HIGHER ORDER OLIGOMERS OF MEMBRANE-BOUND K-RAS: A SINGLE MOLECULE PERSPECTIVE. **Suparna Sarkar-Banerjee**, Abdallah Sayyed-Ahmad, Priyanka Prakash, Kwang-Jin Cho, M. N. Waxham, John F. Hancock, Alemayehu A. Gorfe

2487-Pos **Board B94**
MOLECULAR MODELING AND SOLUTION NMR STUDIES OF THE STRUCTURE AND DYNAMICS OF K-RAS AT A LIPID MEMBRANE CONTAINING PIP2. **Matthias Buck**, ZhenLu Li, Shufen Cao

2488-Pos **Board B95**
SITE-DIRECTED SPIN-LABEL EPR SPECTROSCOPY OF M2 PROTEIN IN LIPID BILAYERS OF DIFFERENT CURVATURE GENERATION PROPENSITY. **Douglas S. Arbuckle**, Kathleen P. Howard, Tyler Alexander, Catherine Crouch

2489-Pos **Board B96**
PULSED EPR STUDIES OF BIDIRECTIONAL ALLOSTERIC SIGNALING IN THE TONB DEPENDENT TRANSPORTER, BTUB. **Arthur K. Sikora**, Benesh Joseph, Morgan Matson, Jacob Staley, David Cafiso

2490-Pos **Board B97**
OLIGOMERIZATION AND RAFT PARTITIONING INCREASE PLASMA MEMBRANE LOCALIZATION OF TRANSMEMBRANE PROTEINS. **Joseph H. Lorent**, Ilya Levental

2491-Pos **Board B98**
IMPORTANCE OF DIMERIZATION IN FACILITATING THE FUNCTIONAL DYNAMICS OF NEUROTRANSMITTER: SODIUM SYMPORTERS. **Mert Gur**, Mary H. Cheng, Elia Zomot, Ivet Bahar

2492-Pos **Board B99**
MAPPING CEACAM 1-4L'S NANOSCALE SPATIAL DISTRIBUTION, STRUCTURE, DYNAMICS, AND ASSOCIATION WITH LIPID ORDERED DOMAINS BY SUPER-RESOLUTION MICROSCOPY. **Amine Driouchi**, Scott Gray-Owen, Christopher M. Yip

2493-Pos **Board B100**
TEMPERATURE-SENSITIVE GATING OF TRPV1 CHANNEL AS PROBED BY ATOMISTIC SIMULATIONS. Anton O. Chugunov, Pavel E. Volynsky, Nikolay A. Krylov, Dmitry E. Nolde, **Roman G. Efremov**

2494-Pos **Board B101**
MOLECULAR MODELLING OF HEXAMER AND TETRAMER FORMS OF THE ORAI CALCIUM CHANNEL. **Tugba N. Ozturk**, Guillaume Lamoureux

2495-Pos **Board B102**
TIME-RESOLVED WIDE-ANGLE X-RAY SCATTERING REVEALS PROTEIN QUAKE IN RHODOPSIN ACTIVATION. **S. M.D.C. Perera**, X. Xu, A. V. Struts, U. Chawla, S. Boutet, S. Carbajo, M.D. Seaberg, M.S. Hunter, J.M. Martin-Garcia, J.D. Coe, M. O. Wiedorn, G. Nelson, S. Chamberlain[10], D. P. Deponte, R. Fromme, T. D. Grant[10,11], R. A. Kirian, P. Fromme, M. F. Brown

2496-Pos **Board B103**
DYNAMIC HYDROGEN-BONDING NETWORKS IN PHOTOSYSTEM II. **Federico Guerra**, Ana-Nicoleta Bondar

2497-Pos **Board B104**
PROTEORHODOPSIN HYDRATION AND DYNAMICS IS GOVERNED BY SURROUNDING ENVIRONMENT. **Sadegh Faramarzi**, Jun Feng, Blake Mertz

2498-Pos **Board B105**
THE BLUE-LIGHT QUENCHING EFFECT OF PROTEORHODOPSIN. **Carl E. Eckert**, Jagdeep Kaur, Clemens Glaubitz, Josef Wachtveitl

2499-Pos **Board B106**
CHARACTERIZATION OF RHODOPSIN'S ACTIVATION MECHANISM USING MULTI-BASIN STRUCTURE-BASED MODELS. **Letty Salas**, Tod D. Romo, Alan Grossfield

2500-Pos **Board B107**
ENERGY LANDSCAPE MODEL AND SPATIAL MOTION MODELS IN RHODOPSIN ACTIVATION. **Suchithranga M.D.C. Perera**, Udeep Chawla, Andrey V. Struts, Michael F. Brown

2501-Pos **Board B108**
ACTIVATION OF GPCR RHODOPSIN INVESTIGATED BY SOLID-STATE NMR SPECTROSCOPY. **Andrey V. Struts**, Xiaolin Xu, Trivikram R. Molugu, Mike C. Pitman, Samira Faylough, Charitha Guruge, Carolina L. Nascimento, Nasri Nesnas, Michael F. Brown

2502-Pos **Board B109**
MANIPULATING THE DIMERIC INTERFACE OF HUMAN CONE OPSINS. **William D. Comar**

2503-Pos **Board B110**
INVESTIGATING THE GATING MECHANISM OF G PROTEIN-ACTIVATED INWARD RECTIFYING POTASSIUM CHANNELS. **Harald Bernsteiner**, Anna Stary-Weinzinger

2504-Pos **Board B111**
SINGLE PROTEIN TRACKING OF P450-REDUCTASE IN AN ENDOPLASMIC RETICULUM BIOMIMETIC REVEALS A NADPH DEPENDENT INTERACTION WITH THE MEMBRANE. **James A. Brozik**, Carlo Barnaba, Adam O. Barden, Linda Agyen, Sean L. Sheridan

2505-Pos **Board B112** **Education Travel Awardee**
A EUKARYOTIC SENSOR FOR MEMBRANE LIPID SATURATION. **Roberto Covino**, Stephanie Ballweg, Claudius Stordeur, Jonas B. Michaelis, Kristina Puth, Florian Wernig, Amir Bahrami, Andreas M. Ernst, Gerhard Hummer, Robert Ernst

2506-Pos **Board B113**
ANALYSIS OF THE DYNAMICS OF A MULTI-DRUG EXPORTER ACRB IN THE ABSENCE AND PRESENCE OF SUBSTRATES. **Tomoki Matsuda**, Seiji Yamasaki, Kunihiko Nishino, Takeharu Nagai, Akihito Yamaguchi

2507-Pos **Board B114**
PREPARATION OF NICOTINIC ACETYLCHOLINE RECEPTOR DETERGENT COMPLEXES FOR STRUCTURAL STUDIES: ASSESSMENT OF PURITY, FUNCTIONALITY AND AGGREGATION ANALYSIS. **Bianca N. Valdés Fernández**, Hui Wei, Luis López Cruz, Francis Reilly Andujar, Rafael Cordero Villamil, Bryan Cobo Torres, Orlando Gonzalez Martinez, Jose A. Lasalde Dominicci

Intrinsically Disordered Proteins (IDP) and Aggregates III (Boards B115–B129)

2508-Pos **Board B115**
MULTIPLY-PHOSPHORYLATED INTRINSICALLY DISORDERED SIGNALING MOLECULES CAN EXHIBIT EMERGENT COOPERATIVITY AND SEQUENTIAL BINDING. **Lara Clemens**, Omer Dushek, Jun Allard

2509-Pos **Board B116**
PHOSPHORYLATION INDUCES SEQUENCE-SPECIFIC CONFORMATIONAL SWITCHES IN THE RNA POLYMERASE II C-TERMINAL DOMAIN. **Scott A. Showalter**, Eric B. Gibbs

2510-Pos **Board B117** **Education Travel Awardee**
INTERPLAY AMONG BINDING, PHOSPHORYLATION AND DENATURATION IN DISORDERED 4E-BP2 AS PROBED BY SINGLE MOLECULE FLUORESCENCE. **Zhenfu Zhang**, Alaji Bah, Julie D. Forman-Kay, Claudiu C. Gradinaru

2511-Pos **Board B118**
SEQUENCE DETERMINANTS OF THE CONFORMATIONAL PROPERTIES OF AN INTRINSICALLY DISORDERED PROTEIN PRIOR TO AND UPON MULTISITE PHOSPHORYLATION. **Erik W. Martin**, Alex S. Holehouse, Rohit V. Pappu, Tanja Mittag

2512-Pos **Board B119**
DESIGN OF SUPERCHARGED PROTEINS TO IMPART ALLOSTERIC BEHAVIOR AND THEIR USE IN BIOSENSING. **Peter Schnatz**, Joseph Brisendine, Derek Kosciolek, David Crouse, Ronald Koder

2513-Pos **Board B120**
LIKE CHARGE REGIONS (LCRS) ARE ONE OF THE KEY REGULATORS OF NUCLEOCYTOPLASMIC TRANSPORT. **Mohaddeseh Peyro**, Mohammad Soheilypour, Mohammad R. K. Mofrad

2514-Pos **Board B121**
THE INTRINSICALLY DISORDERED TAIL OF FTSZ IMPACTS POLYMERIZATION AND BACTERIAL CELL DIVISION THROUGH SEQUENCE-ENCODED CHARGE PATTERNING. **Megan C. Cohan**, Ammon Posey, Steven Grigsby, Alex S. Holehouse, Anuradha Mittal, Paul J. Buske, Petra Levin, Rohit V. Pappu

2515-Pos **Board B122**
DISSECTING CONFORMATIONAL FEATURES AND BINDING MECHANISMS OF PHENYLALANINE-GLYCINE RICH NUCLEOPORINS. **Piau Siong Tan**, Iker Valle Aramburu, Swati Tyagi, Aritra Chowdhury, Edward A. Lemke

2516-Pos **Board B123**
POLYGLUTAMINE LENGTH DEPENDENT STRUCTURAL PROPERTIES AND PHASE BEHAVIOR OF HUNTINGTIN EXON 1. **Kiersten M. Ruff**, John B. Warner, Ammon E. Posey, Piau Siong Tan, Edward A. Lemke, Rohit V. Pappu, Hilal A. Lashuel

2517-Pos **Board B124**
MOLECULAR DYNAMICS STUDY OF EARLY STAGE KINETICS OF POLYGLUTAMINE AGGREGATION. **Jason Haaga**, C. Nadia Buckles, James D. Gunton

2518-Pos **Board B125**
CROWDING INDUCED COIL-GLOBULE TRANSITIONS OF INTRINSICALLY DISORDERED PROTEINS. **Youngchan Kim**, Jeetain Mittal

2519-Pos **Board B126**
THERMODYNAMIC PROPERTIES OF SYNB1-CYS-ELP-DRUG CARRIER AND THE ROLE OF OSMOLYTES. **Valeria Zai-Rose**, John J. Correia

2520-Pos **Board B127** **Education Travel Awardee**
TARDIGRADE INTRINSICALLY DISORDERED PROTEINS AS POTENTIAL EXCIPIENTS FOR BIOLOGICS. **Samantha Piszkiewicz**, Aakash Mehta, Thomas C. Boothby, William Daniel, Sergei Sheiko, Bob Goldstein, Gary J. Pielak

2521-Pos **Board B128**
EXPLORING THE UNEXPECTED GELATION OF TRIPEPTIDES IN A BINARY MIXTURE OF WATER AND ETHANOL. **David DiGuiseppi**, Stefanie Farrell, Nicolas Alvarez, Reinhard Schweitzer-Stenner

2522-Pos **Board B129**
EXPLORING THE EFFECTS ON THE CONFORMATIONAL PROPENSITY OF ALANINE IN THE UNBLOCKED TRIPEPTIDE GLYCYL-ANALYL-GLYCINE IN WATER/ETHANOL MIXTURES. **David DiGuiseppi**, Nina Kubatova, Gabrielle Lewis, Harald Schwalbe, Reinhard Schweitzer-Stenner

DNA Replication, Recombination, and Repair (Boards B130–B147)

2523-Pos **Board B130**
NEAR-ATOMIC STRUCTURAL MODEL FOR BACTERIAL DNA REPLICATION INITIATION COMPLEX AND ITS FUNCTIONAL INSIGHTS. **Masahiro Shimizu**, Yasunori Noguchi, Yukari Sakiyama, Hironori Kawakami, Tsutomu Katayama, Shoji Takada

2524-Pos **Board B131**
UPF1-LIKE HELICAES - SAME SUBFAMILY, YET SO DIFFERENT BEHAVIOR. Saurabh Raj, Joanne Kanaan, Hervé Le Hir, **Vincent Croquette**

2525-Pos **Board B132**
INVESTIGATING THE ENHANCEMENT OF XPD HELICASE PROCESSIVITY BY SINGLE-STRANDED BINDING PROTEIN RPA2. **Barbara Stekas**, Masayoshi Honda, Maria Spies, Yann Chemla

2526-Pos **Board B133**
PROBING THE NUCLEIC ACID BINDING PROPERTIES OF THE SINGLE-STRANDED DNA BINDING PROTEIN OF BACTERIOPHAGE T4 REPLICATION COMPLEX AT SINGLE NUCLEOTIDE RESOLUTION. **Benjamin R. Camel**, Katherine Meze, Davis Jose, Peter H. von Hippel

2527-Pos **Board B134**
DNA LOOPING MEDIATES NUCLEOSOME TRANSFER. **Lucy D. Brennan**, Robert A. Forties, Smita S. Patel, Michelle D. Wang

2528-Pos **Board B135**
THE INTERPLAY BETWEEN A BACTERIAL CHROMATIN PROTEIN AND DNA POLYMERASE. **Szu-Ning Lin**, Remus T. Dame, Gijs J. L. Wuite

2529-Pos **Board B136**
REAL-TIME FLUORESCENCE ASSAYS TO MONITOR DNA POLYMERASE ACTIVITIES. **Etienne Henry**, Ghislaine Henneke, Didier Flament

2530-Pos **Board B137**
DYNAMIC PROOFREADING IN THE BACTERIAL DNA POLYMERASE. **Hailey L. Gahlon**, Gengjing Zhao, Rafael Fernandez-Leiro, Meindert H. Lamers, David Rueda

2531-Pos **Board B138**
SINGLE-MOLECULE CHARACTERIZATION OF *E. COLI* POL III CORE CATALYTIC ACTIVITY. **M. Nabuan Naufer**, David A. Murison, Ioulia Rouzina, Penny J. Beuning, Mark C. Williams

2532-Pos **Board B139**
THE MECHANO-CHEMISTRY OF REVERSE TRANSCRIPTASE. **Omri Malik**, Hadeel Kahamis, Sergei Rudnizky, Ariel Kaplan

2533-Pos **Board B140**
AN ENHANCED, IN VIVO ASSAY FOR DNA MISMATCH REPAIR REVEALS DIFFERENT REPAIR MECHANISMS OF LAGGING STRAND MISMATCHES. **Eric A. Josephs**, Piotr E. Marszalek

2534-Pos **Board B141** **Education Travel Awardee**
ELUCIDATION OF THE STRUCTURE-FUNCTION RELATIONSHIP OF *S. CEREVISIAE* MUTS HOMOLOG MSH4 AND MSH5 WITH THE HOLLIDAY JUNCTION. **Sudipta Lahiri**

2535-Pos **Board B142**
MISMATCH REPAIR ON THE GO: EXTENDING THE MECHANICAL MODEL OF DNA MISMATCH REPAIR THROUGH SINGLE MOLECULE STUDY. **Pengyu Hao**, Ruoyi Qiu, Dorothy Erie, Keith Weninger

2536-Pos **Board B143**
DISSECTING THE MECHANISM OF THE HERA NURA DNA BREAK RESECTION COMPLEX USING NATIVE MASS SPECTROMETRY. **Zainab Ahdash**, Robert Byrne, Karl-Peter Hopfner, Argyris Politis

2537-Pos **Board B144**
ESTABLISHING A DNA ORIGAMI PLATFORM FOR SINGLE-MOLECULE FLUORESCENCE STUDIES OF DNA DOUBLE-STRAND BREAK REPAIR. **Kira Bartnik**, Alvaro H. Crevenna, Mauricio Pilo-Pais, Tim Liedl, Don C. Lamb

2538-Pos **Board B145**
GUIDING THE SELF-ASSEMBLY OF *RECA* PROTEIN FILAMENTS ON DNA SCAFFOLDS TO CREATE RATIONALLY DESIGNED NANOSTRUCTURES. **Daniel R. Schiffels**, Veronika Szalai, James A. Liddle

2539-Pos **Board B146** **Education Travel Awardee**
INSIGHTS INTO DAMAGED BASE DETECTION BY DNA GLYCOSYLASES: A COMPUTATIONAL STUDY OF ALKD. **Kevin Votaw**, Martin McCullagh

2540-Pos **Board B147** **International Travel Awardee**
DIRECT SINGLE MOLECULE IMAGING REVEALS HETEROGENEITY IN NUCLEOTIDE EXCISION REPAIR. **Luke Springall**, Michelle Simons, Craig D. Hughes, Bennet Van Houten, Neil M. Kad

Protein: DNA Interactions: Dynamics (Boards B148–B161)

2541-Pos **Board B148**
HUMAN SEX DETERMINATION AT THE EDGE OF AMBIGUITY: BIOPHYSICAL STUDIES OF CLINICAL MUTATIONS IN A MASTER TRANSCRIPTION FACTOR. **Michael A. Weiss**, Yen-Shan Chen, Joseph Racca, Nelson B. Phillips

2542-Pos **Board B149**
STRUCTURAL REGULATION OF CAP-INDEPENDENT TRANSLATION IN ENTEROVIRUS 71. **Michele Tolbert**, Christopher E. Morgan, Mei-Ling Li, Blanton S. Tolbert

2543-Pos **Board B150**
INVESTIGATING TRANSIENT EVENTS IN NUCLEOTIDE EXCISION REPAIR USING SINGLE-MOLECULE DARK FIELD IMAGING. **Jamie Barnett**, Jingyu Wang, Neil M. Kad

2544-Pos **Board B151**
EXPLORING MECHANISMS OF SITE SPECIFIC DNA CLEAVAGE WITH SINGLE MOLECULE SENSITIVITY. Raquel M. Ferreira, Sadie C. Piatt, **Allen C. Price**

2545-Pos **Board B152**
DYNAMIC STUDIES OF MUTS-MUTL-DNA COMPLEXES IN MISMATCH REPAIR. **Sharonda LeBlanc**, Jacob Gauer, Pengyu Hao, T'Yasah Walser, Keith Weninger, Dorothy Erie

2546-Pos **Board B153**
RESOLVING STRUCTURAL DYNAMICS AND DNA-BINDING OF APOBEC3G PROTEIN. **Suresh Gorle**, Lela Vukovic

2547-Pos **Board B154**
ROLE OF THREADING MOIETY SIZE AND CHIRALITY IN DETERMINING THE DNA BINDING CHARACTERISTICS OF THREADING INTERCALATORS. **Thayaparan Paramanathan**, Andrew Clark, Nicholas Bryden, Fredrik Westerlund, Per Lincoln, Micah J. McCauley, Ioulia Rouzina, Mark C. Williams

2548-Pos **Board B155**
DESIGN OF NOVEL MAGNETIC TWEEZERS AND ITS USE FOR STUDYING DNA-COMPACTING PROTEINS. **Roberto Jr Fabian**, Tyson Christopher, Anneliese Striz, Pamela L. Tuma, Ian L. Pegg, Abhijit Sarkar

2549-Pos **Board B156**
SINGLE-MOLECULE PICOMETER RESOLUTION NANOPORE TWEEZERS RESOLUTION NANOPORE TWEEZERS. **Jens H. Gundlach**, Ian M. Derrington, Andrew H. Laszlo, Jonathan M. Craig, Ian C. Nova, Henry Brinkerhoff, Mathew T. Noakes, Richard H. Ebright, Abhishek Mazumder

2550-Pos **Board B157**
INTERACTION OF ANTI-DNA ANTIBODY MRL4 WITH DNA STUDIED AT THE SINGLE-MOLECULE LEVEL. **Rustem I. Litvinov**, Tatiana A. Nevzorova, Qingze Zhao, Yakov A. Lomakin, Valerie Tutwiler, Prashant K. Purohit, John W. Weisel

2551-Pos **Board B158**
BEYOND DIFFUSION CONTROLLED KINETICS: HOW A PROTEIN IMPLEMENTS A FAST SEARCHING ON DNA UNTIL GET ITS SPECIFIC BINDING SITE? **Milagros Castellanos**, Victor Muñoz

2552-Pos **Board B159** **CID Travel Awardee**
INVESTIGATING BUFORIN II INTERACTIONS WITH NUCLEIC ACIDS UNDER CROWDED CONDITIONS. **Carla Perez**, Mala L. Radhakrishnan, Donald E. Elmore

2553-Pos **Board B160**
COMPUTATIONAL INVESTIGATION OF PROTON TRANSFER, PKA SHIFTS AND PH-OPTIMUM OF PROTEIN-DNA AND PROTEIN-RNA COMPLEXES. **Yunhui Peng**, Emil Alexov

2554-Pos **Board B161**
THERMODYNAMIC ADDITIVITY FOR IMPACTS OF BASE-PAIR SUBSTITUTIONS ON ASSOCIATION OF THE EGR-1 ZINC-FINGER PROTEIN WITH DNA. **Abhijnan Chattopadhyay**, Levani Zandarashvili, Ross H. Luu, Junji Iwahara

Membrane Physical Chemistry II (Boards B162–B184)

2555-Pos **Board B162**
MEMBRANES MATTER: PREDICTING DRUG TOXICITY. **R Lea Sanford**, Wesley Chao, Jeanne Chiaravalli-Giganti, Antonio Luz, J. Fraser Glickman, Olaf S. Andersen

2556-Pos **Board B163**
BIOMOLECULES, WATER AND ROOM-TEMPERATURE IONIC LIQUIDS: CHALLENGES AND OPPORTUNITIES IN BASIC SCIENCE AND APPLICATIONS. **Antonio Benedetto**

2557-Pos **Board B164**
THE PROPENSITY OF CERAMIDES TO SEGREGATE INTO CERAMIDES-RICH PHASE IN FLUID PHOSPHATIDYLCHOLINE BILAYER IS MARKEDLY INFLUENCED BY THEIR LONG-CHAIN SPHINGOID BASE. **Md. Abdullah Al Sazzad**, Tomokazu Yasuda, Michio Murata, J. Peter Slotte

2558-Pos **Board B165**
GRAPHENE OXIDE AND PHOSPHOLIPIDS AT THE AIR-WATER INTERFACE. Kassidy W. Rodriguez, Cain Valtierrez, **Joan C. Kunz**, Benjamin L. Stottrup

2559-Pos **Board B166**
DITHIOTHREITOL RAISES TRANSITION TEMPERATURES IN GIANT PLASMA MEMBRANE VESICLES. **Ruth Gerstle**, Rohan Desai, Sarah Veatch

2560-Pos **Board B167**
PROTONATION OF LONG CHAIN FATTY ACIDS AT THE MEMBRANE-WATER INTERFACE. Alina A. Pashkovskaya, Mario Vazdar, Olga Jovanovic, Peter Pohl, **Elena E. Pohl**

2561-Pos **Board B168**
THE CHANGES OF PHYSICAL PARAMETERS OF LIPID MEMBRANE CAUSED BY LIPID PEROXIDATION-DERIVED ALDEHYDES. **Ksenia Chekashkina**, Olga Jovanovic, Piotr Kuzmin, Elena Pohl, Bashkirov Pavel

2562-Pos **Board B169**
LIPID CONCENTRATION GRADIENT RESULTING FROM SHEAR FLOW ADVECTION OF MEMBRANE-BOUND PROTEINS. **Aurelia R. Honerkamp-Smith**, Raymond E. Goldstein

2563-Pos **Board B170**
ELECTROSTATIC CHARGING OF MEMBRANES BY ADENOSINE TRIPHOSPHATE. **Ryan Z. Lybarger**, Daniel J. Bose, Bruce D. Ray, Horia I. Petrache

2564-Pos **Board B171**
BENDING MODULUS OF MULTICOMPONENT LIPID MEMBRANES. **Pavel Bashkirov**, Ksenia Chekashkina, Piotr Kuzmin, Vadim Frolov

2565-Pos **Board B172**
QUANTIFYING THE RELATIONSHIP BETWEEN MONOVALENT CATION SIZE AND LIPID DOMAIN FORMATION IN ANIONIC-ZWITTERIONIC MIXED LIPID BILAYERS. Sai J. Ganesan, Hongcheng Xu, **Silvina Matysiak**

2566-Pos **Board B173**
EXAMINING THE TRANSLOCATION OF AMPHIPHILES ACROSS LIPID BILAYERS USING A GRAMICIDIN CHANNEL-BASED FLUORESCENT ASSAY. **Thasin Peyear**, Radda Rusinova, Olaf S. Andersen

2567-Pos **Board B174**
CALCIUM ION-MEDIATED PIP_2-CLUSTER FORMATION FROM ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS. **Kyungreem Han**, Richard M. Venable, Richard W. Pastor

2568-Pos **Board B175**
LIPID MEMBRANE STRUCTURAL AND MECHANICAL PROPERTIES MODULATED BY POLYGLUTAMINE AGGREGATES. Nawal K. Khadka, Fengyu She, Jianfeng Cai, **Jianjun Pan**

2569-Pos **Board B176**
CERAMIDE-INDUCED LAMELLAR GEL PHASES IN FLUID CELL LIPID EXTRACTS. **Felix M Goni**, Aritz Garcia-Arribas, Hasna Ahyayauch, Jesus Sot, Pablo L. Lopez-Gonzalez, Alicia Alonso

2570-Pos **Board B177**
EFFECTS OF CAROTENOIDS ON MEMBRANE BENDING RIGIDITY. **Rudy M. Méndez Reina**, Maria I. Pérez López, Chad Leidy, Manu Forero-Shelton

2571-Pos **Board B178**
STEREOCHEMISTRY AND PHASE BEHAVIOR IN HYDROXYCHOLESTEROL/PHOSPHOLIPID MONOLAYERS. **Vision B. Bagonza**, Blair E. Stewig, Caroline Wochnik, Joan C. Kunz, Benjamin L. Stottrup

2572-Pos **Board B179**
SURFACTANT PK_A CALCULATIONS USING MOLECULAR DYNAMICS SIMULATIONS. **W.F. Drew Bennett**, Joan-Emma Shea, Frank L. Brown

2573-Pos **Board B180**
MEMBRANE PERMEABILITY OF ASCORBIC ACID. **Christof Hannesschlaeger**, Peter Pohl

2574-Pos **Board B181**
HALLMARKS OF REVERSIBLE PHASE SEPARATION IN LIVING, UNPERTURBED CELL MEMBRANES. **Scott Rayermann**, Glennis Rayermann, Alex Merz, Sarah Keller

2575-Pos **Board B182**
SMALL-RESERVOIR ELECTROSTATICS. **Joel A. Cohen**

2576-Pos **Board B183**
THE PATHWAY OF SINGLET OXYGEN DIFFUSION THROUGH THE MEMBRANE
GOVERNS WHETHER DOUBLE BONDS OR AROMATIC RINGS OF A MOLECULE ARE DAMAGED. **Valery Sokolov**, Oleg Batischev, Sergey Akimov, Anna Gavrilchik, Arsenij Shcherbakov, Vsevolod Tashkin, Denus Knyazev, Peter Oihl

2577-Pos **Board B184**
SPHINGOMYELIN - CEREBROSIDE EXCHANGE IN LIPID MEMBRANE LATERAL DOMAIN SEGREGATION. **Emilio González-Ramírez**, Alicia Alonso, Felix M Goni

Membrane Active Peptides and Toxins II (Boards B185–B207)

2578-Pos **Board B185**
CALCIUM TIGHTLY REGULATES DISORDER-TO-ORDER TRANSITIONS INVOLVED IN THE SECRETION, FOLDING AND FUNCTIONS OF THE CYAA TOXIN OF BORDETELLA PERTUSSIS, THE CAUSATIVE AGENT OF WHOOPING COUGH. Darragh P. O'Brien, Sara E. Cannella, Dominique Durand, Véronique Y. Ntsogo Enguéné, Belen Hernandez, Mahmoud Ghomi, Orso Subrini, Audrey Hessel, Christian Malosse, Véronique Hourdel, Patrice Vachette, Julia Chamot-Rooke, Sébastien Brier, Daniel Ladant, **Alexandre Chenal**

2579-Pos **Board B186**
MONITORING OF BACILLUS THURINGIENSIS CRY3AA TOXIN PORE FORMATION USING ARTIFICIAL BILAYER ARRAY WITH FUSED BRUSH BORDER MEMBRANE VESICLES FROM COLORADO POTATO BEETLE LARVAE. **Ekaterina Zaitseva**, Gerhard Baaken, Victor M. Ruiz-Arroyo, Inmaculada García-Robles, Camila Ochoa-Campuzano, Galo A. Goig, Amparo C. Martínez-Ramírez, Carolina Rausell, Jan Behrends, Dolores Real

2580-Pos **Board B187** **Education Travel Awardee**
IMPACT OF DENDRIMER SURFACE CHEMISTRY ON ANTHRAX TOXIN CHANNEL BLOCKAGE: A SINGLE MOLECULE STUDY. **Goli Yamini**, Ekaterina M. Nestorovich

2581-Pos **Board B188**
EFFECTS OF ERYTHROCYTES TREATED WITH ALPHA HEMOLYSIN OF *E.COLI* ON ENDOTHELIAL CELLS. **Vanesa Herlax**, María Florencia Leal Denis, Cora Alvarez, Sophie Denise Lefevre, Nicolás Enrique, Sabina Maté, Verónica Milesi, Mariano Ostuni, Pablo Schwarzbaum

2582-Pos **Board B189**
REVERSIBLE PERMEABILIZATION OF CELL MEMBRANES VIA LYSENIN CHANNELS. **Nisha Shrestha**, Christopher A. Thomas, Devon Richtsmeier, Raquel Brown, Juliette Tinker, Daniel Fologea

2583-Pos **Board B190** **International Travel Awardee**
STUDYING BINDING, CONFORMATIONAL TRANSITION AND ASSEMBLY OF E.COLI CYTOLYSIN A PORE FORMING TOXIN BY SINGLE MOLECULE FLUORESCENCE. **Pradeep Sathyanarayana**, Satyaghosh Maurya, Ganapathy Ayappa, Sandhya S. Visweswariah, Rahul Roy

2584-Pos **Board B191**
ROLE OF THE TRYPTOPHAN-RICH MOTIF OF LISTERIOLYSIN O IN MEMBRANE BINDING. **Frances Separovic**, Miriam Kozorog, Marc-Antoine Sani, Gregor Anderluh

2585-Pos **Board B192**
DIMERIZATION, A KEY STEP FOR PORE FORMATION OF FRAGACEATOXIN C, AN ACTINOPORIN FROM THE SEA ANEMONE ACTINIA FRAGACEA. **Haydee Mesa Galloso**, Karelia H Delgado-Magnero, Uris Ros, Pedro A. Valiente, D. Peter Tieleman

2586-Pos **Board B193**
EVALUATION OF THE HYBRID RESOLUTION PACE MODEL FOR THE STUDY OF FOLDING, INSERTION AND PORE FORMATION OF MEMBRANE ASSOCIATED PEPTIDES. **Michael D. Ward**, Shivangi Nangia, Eric May

2587-Pos **Board B194**
MOLECULAR DYNAMICS SIMULATION OF BIOACTIVE B-CASEIN PEPTIDES IN A POPC LIPID BILAYER. EVALUATION OF THE CASEIN HYDROLYSATES HYDROPHOBICITY AT MEMBRANE INTERFACES. **Eduardo Jardón-Valadez**, Derik Castillo-Guajardo, Judith Jiménez-Guzmán, Mariano García-Garibay

2588-Pos **Board B195**
PREDICTION OF PASSIVE MEMBRANE PERMEABILITY AND TRANSLOCATION PATHWAYS OF BIOLOGICALLY ACTIVE MOLECULES. Andrei L. Lomize, **Irina D. Pogozheva**

2589-Pos **Board B196**
MECHANISM OF ACTION OF PH-TRIGGERED MEMBRANE ACTIVE PEPTIDES. **Sarah Y. Kim**

2590-Pos **Board B197**
SYNTHETIC VESICLES AS A PREDICTIVE TOOL FOR PERMEABILIZING ACTIVITY OF PEPTIDES IN BIOLOGICAL MEMBRANES. **Cameron Morris**, William C. Wimley

2591-Pos **Board B198**
IDENTIFICATION OF NOVEL PEPTIDE SEQUENCES WITH IMPROVED NUCLEAR DELIVERY OF PEPTIDE NUCLEIC ACID (PNA) SEQUENCES. **William B. Kauffman**, William C. Wimley

2592-Pos **Board B199**
HOW DO PEPTIDES AND NANOPARTICLES INTERACT WITH THE MEMBRANES OF E. COLI? INSIGHTS FROM MOLECULAR DYNAMICS. **Pin-Chia Hsu**, Damien Jefferies, Syma Khalid

2593-Pos **Board B200**
STREPTOCOCCAL M PROTEIN EPITOPE 10F5 GENERATES ANTIBODIES THAT REMAIN SIGNIFICANTLY BOND IN THE HEART VENTRICLES. **Marie Kelly-Worden**, Victoria Cuebas, Morenci Manning, Robin Gebhard, Mathew Osborne

2594-Pos **Board B201**
DRUG LIPIDATION IN MEMBRANES. Hannah M. Britt, Jackie A. Mosely, **John M. Sanderson**

2595-Pos **Board B202**
SELECTIVE DELIVERY OF AURISTATINS TO CANCER CELLS AND TUMORS USING PHLIP. Kelly E. Burns, Harvey Hensley, Matthew K. Robinson, **Damien Thévenin**

2596-Pos **Board B203**
SPONTANEOUS MEMBRANE TRANSLOCATING PEPTIDES: MECHANISMS AND MOTIFS. **Taylor Fuselier**, William C. Wimley

2597-Pos **Board B204**
CELL-PENETRATING PEPTIDE FOR TRANSCELLULAR TRANSPORT: MEMBRANE BINDING AND UPTAKE IN LIVE CELLS. **Alexander Komin**, Michael D. Paul, Alexander M. Luera, Peter C. Searson, Kalina Hristova

2598-Pos **Board B205**
CELL PENETRATING PEPTIDE MEDIATED TRANSPORT ACROSS MEMBRANES. **Xin Li**, Matthew Holden, Min Chen

2599-Pos **Board B206**
SYNTHETIC MOLECULAR EVOLUTION OF MEMBRANE-ACTIVE PEPTIDES. **William C. Wimley**

2600-Pos **Board B207** **CPOW Travel Awardee**
GUV AND LUV LEAKAGE: HOW ALL-OR-NONE AND GRADED LEAKAGE SCALE WITH VESICLE SIZE. Stefan Braun, Šárka Pokorná, Radek Šachl, Martin Hof, Heiko Heerklotz, **Maria Hoernke**

General Protein-Lipid Interactions IV (Boards B208–B219)

2601-Pos **Board B208**
MEMBRANE LIPID ASYMMETRY, A KEY PROPERTY OF THE MAMMALIAN PLASMA MEMBRANE, ALTERS THE INSERTION OF THE PHLIP PEPTIDE. **Haden Scott**

2602-Pos **Board B209**
LIPID HEADGROUPS MODULATE CONFORMATIONAL SWITCHING DURING MEMBRANE INSERTION OF CANCER-TARGETING PHLIP PEPTIDES. **Victor Vasquez-Montes**, Kelly E. Burns, Damien Thevenin, Alexey S. Ladokhin

2603-Pos **Board B210**
MODEL ASSESSMENT AND SIMULATION OF LIPID-PROTEIN INTERACTIONS. **Ronald D. Hills Jr**, Jacob Fosso-Tande, Cody Black

2604-Pos **Board B211**
SOLID-STATE NMR INVESTIGATIONS OF TRANSMEMBRANE HELIX INTERACTIONS. **Kelsey Knobbe**, Venkatesan Rajagopalan, Ashley Martfeld, Denise Greathouse, Roger Koeppe II

2605-Pos **Board B212**
INFLUENCE OF PAIRED HISTIDINE RESIDUES ON TRANSMEMBRANE HELIX ORIENTATION AND DYNAMICS. **Fahmida Afrose**, Denise V. Greathouse, Roger E. Koeppe II

2606-Pos **Board B213**
INTERFACIAL TRYPTOPHAN RESIDUES GOVERN TRANSMEMBRANE HELIX DYNAMICS. **Matthew J. McKay**, Ashley N. Martfeld, Anna A. De Angelis, Stanley J. Opella, Denise V. Greathouse, Roger E. Koeppe II

2607-Pos **Board B214**
RESPONSE OF GWALP23 TRANSMEMBRANE PEPTIDES TO INCORPORATION OF SPECIFIC PAIRS OF BURIED CHARGED ARGININE RESIDUES. **Karli A. Lipinski**, Ashley N. Martfeld, Denise V. Greathouse, Roger E. Koeppe II

2608-Pos **Board B215** **Education Travel Awardee**
MICROSECOND SIMULATIONS OF AMYLOID BETA FIBRIL NUCLEATION IN REVERSE MICELLES. **Gozde Eskici**, Paul Axelsen

2609-Pos **Board B216**
LIPID-PEPTIDE INTERACTION DYNAMICS WITH REACTION-DIFFUSION FLUORESCENCE CORRELATION SPECTROSCOPY. **Xiaosi Li**, Xiaojun Shi, Adam W Smith

2610-Pos **Board B217**
APELIN AND APELA, LIGANDS FOR THE SAME GPCR, DIFFER IN THEIR ISOFORM- AND HEADGROUP-DEPENDENT MICELLE INTERACTION. **Kyungsoo Shin**, Muzaddid Sarker, Shuya K. Huang, Jan K. Rainey

2611-Pos **Board B218**
MOLECULAR BASIS OF LIGAND BINDING BY THE ENDOSOMAL ADAPTOR PROTEIN TOM1. **Wen Xiong**, Ji Woong Choi, Xiaolin Zhao, Jeff F. Ellena, Daniel G. S. Capelluto

2612-Pos **Board B219**
QUANTIFYING THE ABILITY OF CLATHRIN TRISKELIA TO SENSE MEMBRANE CURVATURE. **Avinash Gadok**, Jeanne Stachowiak

Membrane Receptors and Signal Transduction II (Boards B220–B234)

2613-Pos **Board B220**
EVALUATION OF HIGH AFFINITY SCAFFOLDS FROM HIGH-THROUGHPUT DISCOVERY AND TARGETING DR5 AND TNFR1. **Tiffany L. Senkow**, Daniel R. Woldring, Max Kruziki, Benjamin J. Hackel, Jonathan N. Sachs

2614-Pos **Board B221**
SELECTIVE CHEMICAL LABELING OF TYPE II CANNABINOID RECEPTOR CB_2 FOR ^{19}F-NMR AND EPR STUDIES. Alexei Yeliseev, Lioudmila Zoubak, Kirk G. Hines, Walter E. Teague, Jr., **Klaus Gawrisch**

2615-Pos **Board B222**
MOLECULAR DETERMINANTS OF SB268652 MEDIATED ALLOSTERISM IN D2R AND D3R. **Ravi K. Verma**, Lei Shi

2616-Pos **Board B223**
IONIC LOCK: FUNCTIONAL ROLE IN ACTIVATION OF METABOTROPIC GLUTAMATE RECEPTOR 2. Yu Xu, **Amr Ellaithy**, Takeharu Kawano, Javier Gonzalez-Maeso, Diomedes Logothetis

2617-Pos **Board B224**
CONTRIBUTION OF MUTATIONS AND THE C-TERMINAL TAIL TO ADENOSINE A_{2A} RECEPTOR ACTIVITY AND STABILITY. **Kirsten N. Swonger**, Annie Tir, Anne S. Robinson

2618-Pos **Board B225**
EFFECT OF BILAYER THICKNESS ON RATE OF RECEPTOR-G PROTEIN COUPLING. **Drake C. Mitchell**, Michael P. Bennett

2619-Pos **Board B226**
A PHOTORECEPTOR MODEL CONSIDERING REGULATION OF IONIC HOMEOSTASIS. **Saya Ito**, Kazuma Sato, Yukiko Himeno, Yukari Takeda, Akira Amano

2620-Pos **Board B227**
SIMULATION ANALYSIS OF PHOTOTRANSDUCTION SYSTEMS IN RODS AND CONES. **Kazuma Sato**, Saya Ito, Yukari Hosoki, Yukari Takeda, Chieko Koike, Akira Amano

2621-Pos **Board B228**
CARDIAC GENE THERAPY WITH PHOSPHODIESTERASES PDE2A AND PDE4B AMELIORATES CARDIAC FUNCTION IN A MOUSE MODEL OF HEART FAILURE INDUCED BY CHRONIC ISOPROTERENOL INFUSION. **Jerome Leroy**

2622-Pos **Board B229**
EXTREMELY RAPID PALMITOYLATION OF SIGNALING PROTEINS DOWNSTREAM OF B-ADRENERGIC STIMULATION IN CARDIOMYOCYTES. **Jessica Jie Chen**, Askar Akimzhanov, Darren Boehning

2623-Pos **Board B230**
REGULATION OF PROTEIN KINASE D1 ACTIVITY AND TRANSLOCATION BY NITROSYLATION. **Maura Ferrero**, Ian P. Palmer, Matthew L. Stein, Lisa J. Gilardoni, Julie Bossuyt

2624-Pos **Board B231**
MG53 NEGATIVELY REGULATES NLRP3 TO INHIBIT INFLAMMATION ASSOCIATED WITH TISSUE INJURY. **Xinxin Wang**, Junwei Wu, Xinyu Zhou, Pei-hui Lin, Haichang Li, Hua Zhu, Tao Tan, Matthew Sermersheim, Renzhi Han, Jianguo Wen, Fangxia Guan, Jianjie Ma

2625-Pos **Board B232**
MEASUREMENT OF FORCES IN THE IMMUNOLOGICAL SYNAPSE. **Lukas Schrangl**, Janett Göhring, Florian Kellner, Melanie Köhler, Peter Hinterdorfer, Johannes Huppa, Gerhard J. Schütz

2626-Pos **Board B233**
INVITRO FORMATION OF A MULTI-PROTEIN COMPLEX INVOLVED IN TCR SIGNALING. **Asit K. Manna**

2627-Pos **Board B234**
THE HIV GP41 CONSERVED POCKET BINDING DOMAIN IS BIFUNCTIONAL, ALTERNATIVELY MEDIATING BOTH IMMUNOSUPPRESSION AND MEMBRANE FUSION. **Gal Kapach**, Yoel A. Klug, Etai Rotem, Benjamin Dubreuil, Yechiel Shai

Mechanosensation (Boards B235–B253)

2628-Pos **Board B235**
FROM FORCE TO FUNCTION - INVESTIGATING MECHANOSENSITIVE PIEZO RECEPTORS BY AFM. **Benjamin M. Gaub**, Daniel J. Mueller

2629-Pos **Board B236**
MOLECULAR DYNAMICS ANALYSIS ON THE FORCE TRANSMISSION PATHWAY VIA INTER-SUBUNIT PATHWAY FOR MECHANO-GATING OF BACTERIAL MECHANOSENSITIVE CHANNEL MSCL. **Yasuyuki Sawada**, Takeshi Nomura, Masahiro Sokabe

2630-Pos **Board B237**
HUMAN PIEZO1 MEMBRANE LOCALIZATION AND GATING KINETICS ARE MODULATED BY CHOLESETROL LEVELS. **Pietro Ridone**, Charles Cox, Massimo Vassalli, Elvis Pandzic, Philip Gottlieb, Boris Martinac

2631-Pos **Board B238**
ENANTIOMERIC FORMS OF ABETA PEPTIDES INHIBIT THE SHEAR STRESS RESPONSE OF PIEZO1. **Philip A. Gottlieb**, Mohammad M. Maneshi, Radhakrishnan Gnanasambandam, Susan Z. Hua, Frederick Sachs

2632-Pos **Board B239**
MECHANOSENSITIVITY OF COUPLED ACTIVE HAIR-CELL BUNDLES. **Tracy-Ying Zhang**, Seung Ji, Dolores Bozovic

2633-Pos **Board B240**
GENERALIZED FLUCTUATION-DISSIPATION THEOREM APPLIED TO ACTIVE HAIR BUNDLES. **Janaki K. Sheth**

2634-Pos **Board B241**
CHAOTIC BEHAVIOR OF OSCILLATORY HAIR CELLS. **Justin Faber**

2635-Pos **Board B242**
ELECTROPHYSIOLOGICAL CHARACTERIZATION OF MECHANOSENSITIVE CHANNELS IN THE NATIVE MEMBRANE OF CORYNEBACTERIUM GLUTAMICUM. **Yoshitaka Nakayama**, Kosuke Komazawa, Navid Bavi, Ken-ichi Hashimoto, Hisashi Kawasaki, Boris Martinac

2636-Pos **Board B243**
SPATIOTEMPORAL RELATIONSHIPS FOR THE THREE-STATE MECHANOSENSITIVE CHANNEL MSCS. Ugur Cetiner, **Sergei Sukharev**

2637-Pos **Board B244**
TEMPERATURE SENSITIVE MUTANTS OF THE MSCL MECHANOSENSITIVE CHANNEL PREVENT CELL GROWTH AT HIGH TEMPERATURE. Naoto Owada, Kohei Morita, Megumi Yoshida, **Kenjiro Yoshimura**

2638-Pos **Board B245**
EXPRESSION AND CHARACTERIZATION OF THE PUTATIVE MECHANOSENSITIVE TRANSMEMBRANE CHANNEL-LIKE PROTEIN 1. **Angela Ballesteros Morcillo**, Kenton Swartz

2639-Pos **Board B246**
TOWARDS A COMPLETE STRUCTURAL MODEL FOR THE ESSENTIAL INNER-EAR PROTEIN CADHERIN-23. Avinash Jaiganesh, Aniket Patel, **Pedro De-la-Torre**, Domenic Termine, Florencia Velez-Cortes, Marcos Sotomayor

2640-Pos **Board B247**
CO-MAPPING INTEGRIN MOLECULAR TENSION BOTH INSIDE AND OUTSIDE FOCAL ADHESIONS. **Yongliang Wang**, Xuefeng Wang

2641-Pos **Board B248**
LIGAND-DEPENDENT CONCENTRIC ACTOMYOSIN ARCS REGULATE TCR MECHANO-TRANSDUCTION AT THE IMMUNOLOGICAL SYNAPSE. **Jinsung Hong**, John A. Hammer

2642-Pos **Board B249**
INTRACELLULAR LOCAL THERMOGENESIS INITIATES STRESS GRANULE FORMATION. **Beini Shi**, Kohki Okabe, Takashi Funatsu

2643-Pos **Board B250**
UNDER PRESSURE: MECHANOSENSITIVY PROPERTIES OF THE BACTERIAL DIVISOME. Marta Dies, **Javier Buceta**

2644-Pos **Board B251**
PROSTATE CANCER CELLS ARE REPROGRAMMED TO NORMAL VIA ULTRASOUND-INDUCED MECHANOTRANSDUCTION. **Hakm Y. Murad**, Heng Yu, Daishen Luo, Gray Halliburton, Damir Khismatullin

2645-Pos **Board B252**
DESMOSOMES ARE SUBJECT TO MECHANICAL LOAD. Sindora Baddam, Paul Arsenovic, Nicole Duggan, Vani Narayanan, **Daniel E. Conway**

2646-Pos **Board B253**
PATTERNED CELL ALIGNMENT IN RESPONSE TO MACROSCALE CURVATURE. **Nathan D. Bade**, Randall Kamien, Richard Assoian, Kathleen Stebe

Calcium Signaling III (Boards B254–B266)

2647-Pos **Board B254** **Education Travel Awardee**
CALCIUM REGULATION OF CARDIAC BIOENERGETICS. **Andrew P. Wescott**, Liron Boyman, W. Jonathan Lederer, George S.B. Williams

2648-Pos **Board B255**
FUNCTIONAL BKCA CHANNEL IN HUMAN RESIDENT CARDIAC STEM CELLS EXPRESSING W8B2. Oualid Ayad, Aurelien Chatelier, Christophe Magaud, Jocelyn Bescond, Stephane Sebille, Christian Cognard, Jean Francois Faivre, **Patrick Bois**

2649-Pos **Board B256**
NOVEL MICROARCHITECTURE INDUCES FUNCTIONAL REMODELING OF THE CALCIUM SIGNALING MECHANISMS IN RESTRUCTURED IPSC-CARDIOMYOCYTES. **Nicole Silbernagel**, Benjamin Richter, Mona Jaggy, Sarah Bertels, Martin Bastmeyer, Nina D. Ullrich

2650-Pos **Board B257**
ROLE OF THE ENDOTHELIAL INOSITOL 1,4,5-TRISPHOSPHATE RECEPTOR IN BLOOD PRESSURE REGULATION. **Qi Yuan**

2651-Pos **Board B258** **International Travel Awardee**
TISSUE-SPECIFIC MITOCHONDRIAL DECODING OF CYTOPLASMIC CA^{2+} SIGNALS IS CONTROLLED BY THE STOICHIOMETRY OF MICU1/2 AND MCU. **Melanie Paillard**, György Csordás, Gergö Szanda, Tünde Golenár, Valentina Debattisti, Ádám Bartók, Cynthia Moffat, Erin L. Seifert, András Spät, György Hajnóczky

2652-Pos **Board B259**
INTERACTIONS BETWEEN TRANSMEMBRANE HELICES IN ORAI1 REGULATE CRAC CHANNEL GATING. **Priscilla S.W. Yeung**, Megumi Yamashita, Murali Prakriya

2653-Pos **Board B260**
CONTRIBUTION OF ORAI1 TO SEX-BASED DIFFERENCES IN CARDIAC EXCITATION-CONTRACTION COUPLING. **Fiona Bartoli**, Baptiste Rode, David J. Beech, Ana Maria Gomez, Jean Pierre Benitah, Jessica Sabourin

2654-Pos **Board B261**
ORAI1 MUTATIONS WITH DISTINCT CHANNEL GATING DEFECTS CAUSE TUBULAR AGGREGATE MYOPATHY. **Monica Bulla Didier**, Maud Frieden, Nicolas Demaurex

2655-Pos **Board B262**
THE ROLE OF EHD2 IN ORAI1-STIM1 INTERACTION. **Dora Bodnar**

2656-Pos **Board B263**
ROLE OF ZINC TRANSPORTERS IN MAMMALIAN HEART UNDER PHYSIOLOGICAL AND PATHOLOGICAL CONDITIONS. Aysegul Durak, Yusuf Olgar, Erkan Tuncay, Verda C. Bitirim, Evren Ozcinar, Mustafa Bahadır Inan, Kamil Can Akcali, Semir Ozdemir, Ahmet Ruchan Akar, **Belma Turan**

2657-Pos **Board B264**
TONIC ACTIVATION OF EXTRASYNAPTIC NMDA RECEPTORS DECREASES NEURONAL EXCITABILITY IN ALZHEIMER'S DISEASE TONIC ACTIVATION OF EXTRASYNAPTIC NMDA RECEPTORS DECREASES NEURONAL EXCITABILITY IN ALZHEIMER'S DISEASE. **David Gall**, Antonio Lobo-Antunes, Geneviève Dupont

2658-Pos **Board B265**
REGULATION OF AXON GROWTH BY ALPHA 7 NICOTINIC RECEPTOR CALCIUM TRANSIENTS AT THE GROWTH CONE. **E Bak**, J Jedrzejewska-Szmek, J King, K Blackwell, N Kabbani

2659-Pos **Board B266**
INORGANIC POLYPHOSPHATE PROTECTS NEURONS AGAINST GLUTAMATE-INDUCED EXCITOTOXICITY. Marta Maiolino, Vincenzo Lariccia, Salvatore Amoroso, Plamena R. Angelova, **Andrey Y. Abramov**

Intercellular Calcium Channels and Calcium Sparks and Waves II (Boards B267–B279)

2660-Pos **Board B267**
ATP RELEASE THROUGH GAP JUNCTION HEMICHANNELS INCREASES CA^{2+} SPARK OCCURRENCE VIA P2Y PURINOCEPTOR SIGNALING IN RAT VENTRICULAR MYOCYTES UNDER SHEAR STRESS. **Jun Wang**, Joon-Chul Kim, Sun-Hee Woo

2661-Pos **Board B268**
STRUCTURAL DYNAMICS OF CALMODULIN IN REGULATION OF CALCIUM RELEASE IN HEALTH AND DISEASE. **Megan R. McCarthy**, Robyn T. Rebeck, Razvan L. Cornea, David D. Thomas

2662-Pos **Board B269**
EFFECTS OF EXPRESSION LEVELS OF WT AND MUTANT RYR2 ON CA^{2+} HOMEOSTASIS IN HEK CELLS. **Nagomi Kurebayashi**, Takashi Murayama, Naoyuki Tetsuo, Ryosaku Ohta, Fumiyoshi Yamashita, Takashi Sakurai

2663-Pos **Board B270**
EFFECTIVE SUPPRESSION OF ARRHYTHMOGENIC CA WAVES BY FLECAINIDE IN VENTRICULAR MYOCYTES FROM CASQ2 -/- MICE DEPENDS ON CAMKII ACTIVITY. **Dmytro Kryshtal**, Nieves Gomez-Hurtado, Bjorn Knollmann

2664-Pos **Board B271**
CARDIAC SPECIFIC IP_3R OVER-EXPRESSION: IP3ICR CONTRIBUTION IN CA^{2+} SIGNALING. **Joaquim Blanch i Salvador**, Marcel Wullschleger, Marcel Egger

2665-Pos **Board B272**
DYNAMICAL INTERACTIONS OF EARLY AFTERDEPOLARIZATIONS WITH STRETCH ACTIVATED CHANNELS. **Dexter K. Luu**, Daisuke Sato, Yuanfang Xie

2666-Pos **Board B273**
MODELLING CALCIUM-INDUCED-CALCIUM-RELEASE FROM MEASUREMENTS OF RYR GATING. **Derek R. Laver**, Cherrie H. Kong, Mark B. Cannell

2667-Pos **Board B274**
MODULATION OF CA^{2+} SIGNALING IN HL-1 CARDIOMYOCYTES BY ARRHYTHMOGENIC RYR2 MUTANTS. **Naoyuki Tetsuo**, Nagomi Kurebayashi, Takashi Murayama, Takashi Sakurai

2668-Pos **Board B275**
HOW DOES CALCIUM OVERLOAD GENERATE CALCIUM WAVES IN HEART? **George S. B. Williams**, Andrew P. Wescott, Stephan E. Lehnart, W. J. Lederer

2669-Pos **Board B276**
MECHANISM OF SINOATRIAL NODE DYSFUNCTION IN A RYR2R420Q MOUSE MODEL OFCATECHOLAMINERGIC POLYMORPHIC VENTRICULAR TACHYCARDIA. **Yue-Yi Wang**, Pietro Mesirca, Elena Marqués-Sulé, Alexandra Zahradnikova Jr, Olivier Villejoubert, Pilar d'Ocon, Cristina Ruiz, Diana Domingo, Esther Zorio, Matteo E. Mangoni, Jean-Pierre Benitah, Ana Maria Gomez

2670-Pos **Board B277**
ABLATION OF THE RYR2-SER2030 PHOSPHORYLATION SITE LIMITS CHANGES IN RYR2 SENSITIVITY DURING ß-ADRENERGIC STIMULATION. **Duilio M. Potenza**, Radoslav Janicek, Miguel Fernandez-Tenorio, Hector H. Valdivia, Ernst Niggli

2671-Pos **Board B278**
MOLECULAR CLONING AND EXPRESSION OF CDNA ENCODING THE RYANODINE RECEPTOR TYPE 2 FROM *RATTUS NORVEGICUS* CEREBRAL ARTERY SMOOTH MUSCLE. Jianxi Liu, Guruprasad Kuntamallappanavar, Venkatasushma Kalava, **Alex Dopico**

2672-Pos **Board B279**
MCU AND EMRE BINDING IS MEDIATED THROUGH INTERMEMBRANE HELIX-HELIX INTERACTIONS. **Charles Phillips**

Voltage-gated K Channels and Mechanisms of Voltage Sensing and Gating IV (Boards B280–B288)

2673-Pos **Board B280**
STATE-DEPENDENT STRUCTURAL MODELING AND ATOMISTIC SIMULATIONS OF THE HERG POTASSIUM CHANNEL. Kevin R. DeMarco, Phuong T. Nguyen, Toby W. Allen, Vladimir Yarov-Yarovoy, Colleen E. Clancy, **Igor Vorobyov**

2674-Pos **Board B281**
EFFECT OF MEMBRANE COMPOSITION ON ION CONDUCTION IN A VOLTAGE-GATED POTASSIUM CHANNEL. **Niklaus B. Johner**, Simon Berneche

2675-Pos **Board B282**
K^+ OCCUPANCY IN THE CAVITY DETERMINES THE ION PERMEATION RATE THROUGH THE KV1.2 CHANNEL. **Takashi Sumikama**, Shigetoshi Oiki

2676-Pos **Board B283**
ON RESOLUTION OF THE SELECTIVITY/CONDUCTIVITY PARADOX FOR THE POTASSIUM ION CHANNEL. **Dmitry G. Luchinsky**, Will A.T. Gibby, Igor Kh Kaufman, Dogan A. Timucin, Peter V.E. McClintock

2677-Pos **Board B284**
WEIGHTED ENSEMBLE APPROACH TO *IN SILICO* MEASURE THE *I-V* RELATIONSHIP IN A K^+ ION CHANNEL. **Sara Capponi**, Joshua Adelman, John Rosenberg, Michael Grabe

2678-Pos **Board B285**
QUANTUM CALCULATIONS OF LARGE SEGMENTS OF A VOLTAGE SENSING DOMAIN OF A VOLTAGE GATED CHANNEL. **Alisher M. Kariev**, Michael E. Green

2679-Pos **Board B286**
QUANTUM CALCULATIONS OF SALT BRIDGES, THEIR IONIZATION STATE IN THE INTERIOR OF VOLTAGE SENSING DOMAINS OF VOLTAGE GATED CHANNELS, AND SOME CONSEQUENCES. Alisher M. Kariev, **Michael E. Green**

2680-Pos **Board B287**
TRUE OR FALSE? "THE ARGININES AND LYSINES OF THE S4 SEGMENT OF A VOLTAGE-SENSITIVE ION CHANNEL REPEL ONE ANOTHER ELECTROSTATICALLY". **H. Richard Leuchtag**

2681-Pos **Board B288**
FINDINGS FROM CONDENSED-STATE PHYSICS ON BRANCHED-CHAIN AMINO ACIDS APPLY TO VOLTAGE-SENSITIVE ION CHANNELS. **H. Richard Leuchtag**

Ion Channel Regulatory Mechanisms II (Boards B289–B296)

2682-Pos **Board B289**
TRANSPORT OF WATER AND IONS THROUGH A GRAPHENE NANOPORE IN AN ELECTRIC FIELD. **Anping Ji**, Zhongwu Li, Haojie Yang, Pinyao He, Yunfei Chen

2683-Pos **Board B290**
ION TRANSPORT AND DEHYDRATION IN SUBNANOSCALE PORES. **Subin Sahu**, Massimiliano Di Ventra, Michael Zwolak

2684-Pos **Board B291**
MOLECULAR DETERMINANTS OF STRUCTURAL COUPLING BETWEEN C-TYPE INACTIVATION AND INNER GATE OPENING IN K^+ CHANNELS. **Jing Li**, Jared Ostmeyer, Eduardo Perozo, Benoit Roux

2685-Pos **Board B292**
INVESTIGATION OF IONIC COULOMB BLOCKADE IN SUB-1 NM NANOPORES WITH MOLECULAR DYNAMICS SIMULATIONS. **Zhongwu Li**, Kun Li, Pinyao He, Haojie Yang, Anping Ji, Yunfei Chen

2686-Pos **Board B293**
GLUTAMATE RECEPTOR ION CHANNEL ACTIVATION MECHANISM REVEALED BY CRYO-EM MAPS. **Xiongwu Wu**, Bernard R. Brooks

2687-Pos **Board B294**
THE C-TERMINAL DOMAIN OF KV1.3 INTERACTS WITH KCNE4 TO FORM OLIGOMERIC CHANNELS. **Sara R. Roig**, Laura Solé, Albert Vallejo-Gracia, Daniel Sastre, Antonio Serrano-Albarrás, Clara Serrano-Novillo, Ramón Martínez-Mármol, Michael M. Tamkun, Antonio Felipe

2688-Pos **Board B295**
STRUCTURAL AND FUNCTIONAL RESPONSE OF A MECHANOSENSITIVE K2P K^+ CHANNEL TO ASYMMETRIC MEMBRANE TENSION. **Viwan Jarerattanachat**, Michael V. Clausen, Prafulla Aryal, Elisabeth P. Carpenter, Mark S.P. Sansom, Stephen J. Tucker

2689-Pos **Board B296**
FLUCTUATION-DRIVEN TRANSPORT IN BACTERIAL CHANNELS UNDER ACIDIC STRESS. María L. López, María Queralt-Martín, Vicente M. Aguilella, **Antonio Alcaraz**

Ion Channels, Pharmacology, and Disease II (Boards B297–B310)

2690-Pos **Board B297**
SODIUM VALPROATE REVERSES ELECTRICAL REMODELING OF ATRIAL MYOCYTES ISOLATED FROM CREM-IBΔC-X TRANSGENIC MICE. **C. Florentina Pluteanu**, Beatrix Scholz, Jan S. Schulte, Frank U. Müller

2691-Pos **Board B298**
HEART FAILURE IS ASSOCIATED WITH ACTIVATION OF THE UNFOLDED PROTEIN RESPONSE AND ELECTRICAL REMODELING THAT IS PARTIALLY REVERSED BY A PERK INHIBITOR. **Man Liu**, Guangbin Shi, Hong Liu, Samuel C. Dudley

2692-Pos **Board B299**
A *DE NOVO* LOSS-OF-FUNCTION MUTATION IN *KCNJ6* ASSOCIATED WITH IDIOPATHIC VENTRICULAR TACHYCARDIA. **Franck Potet**, Ruth McGowan, Karen McLeod, Alfred L Jr. George

2693-Pos **Board B300** **International Travel Awardee**
RESTORING DEFECTIVE CAMP-DEPENDENT UPREGULATION IN LONG-QT SYNDROME TYPE-1 THROUGH INTERVENTIONS THAT PROMOTE I_{Ks} CHANNEL OPENING. **Cristina Moreno Vadillo**, Roel L.H.M.G. Spätjens, Sandrine Seyen, Gabriele Menini, Jordi Heijman, Paul Volders

2694-Pos **Board B301**
KCA1.1 CHANNEL AUXILIARY BETA SUBUNIT COMPOSITION IN GLIOBLASTOMA MULTIFORME. **Zoltan Denes Petho**, Andras Balajthy, Almos Klekner, Laszlo Bognar, Zoltan Varga, Gyorgy Panyi

2695-Pos **Board B302**
THE UREMIC TOXIN P-CRESOL REDUCES CELL SURFACE EXPRESSION OF HUMAN ETHER-A-GO GO-RELATED GENE (HERG) CHANNELS VIA THE UBIQUITIN LIGASE NEDD4-2. **Ellen G. Avery**, Shawn Lamothe, Shetuan Zhang, Jun Guo, Wentao Li, Tonghua Yang

2696-Pos **Board B303**
IPSC-DERIVED NEURONS HARBORING A KNOWN EPILEPSY MUTATION DISPLAY KNOWN AND NOVEL ELECTROPHYSIOLOGICAL PHENOTYPES. Coby Carlson, Imran Quaraishi, Yalan Zhang, Michael McLachlan, Benjamin Meline, Chris McMahon, Tom Burke, Eugenia Jones, Leonard Kaczmarek, **Kile P. Mangan**

2697-Pos **Board B304**
$K_{CA}3.1$ AS MASTER REGULATOR IN INFLAMMATORY OSTEOCLASTOGENESIS. **Eva M. Grossinger**, Mincheol Kang, Laura Bouchareychas, Ritu Sarin, Dominik Haudenschild, Laura Borodinsky, Iannis E. Adamopoulos

2698-Pos **Board B305**
OXIDATION OF K^+ CHANNELS IN TBI. **Federico Sesti**, Wei Yu, Randika Parakramaweera, Janet Alder, Smita Thakker-Varia, Shavonne Teng

2699-Pos **Board B306**
PROTECTIVE ROLE OF OLESOXIME IN ALPHA-SYNUCLEIN-INDUCED MITOCHONDRIAL DYSFUNCTION. **Amandine Mf Rovini**

2700-Pos **Board B307**
RIP3 MEDIATES NECROPTOTIC CELL DEATH IN RESPONSE TO ACID STIMULATION OF ASIC1A. **Yu Huang**, Qin Hu, Jun-Long Huang, Jaepyo Jeon, Tian-Le Xu, Michael Xi Zhu

2701-Pos **Board B308**
THE FUNCTION AND MECHANISM OF TMEM16A/ANO1 IN PANCREATIC CANCER. **Yonjung Kim**, Hyung Soon Park

2702-Pos **Board B309**
THE ROLE OF BK CHANNEL IN MICROGLIA ACTIVATION. Xiaoying Yang, Wenying Zhao, Li Zhang, Jianmin Cui, **Xiaohui Sun**, Xuechu Zhen

2703-Pos **Board B310**
KV1.3 INHIBITION REDUCES AMYLOID-BETA INDUCED MICROGLIAL NEUROTOXICITY. **Heike Wulff**, Jacopo Di Lucente, Hai M. Nguyen, Vikrant Singh, Lee-Way Jin, Izumi Maezawa

Other Channels II (Boards B311–B326)

2704-Pos **Board B311**
LYSENIN GATING IMPLIES STRONG INTERACTION BETWEEN THE VOLTAGE-GATING SENSOR AND THE BILAYER MEMBRANE: AN IONIC SCREENING STUDY. **Samuel R. Kosydar**, Kaitlyn S. Ware, Sheenah Bryant, Nisha Shrestha, Charles Hanna, Daniel Fologea

2705-Pos **Board B312**
SUBUNITS THAT FORM TRIMERIC DEG/ENAC MECHANO-ELECTRICAL TRANSDUCTION CHANNELS IN TOUCH RECEPTOR NEURONS. **Sylvia Fechner**, Frederic Loizeau, Adam L. Nekimken, Beth L. Pruitt, Miriam B. Goodman

2706-Pos **Board B313**
TRACKING PORE HYDRATION WITHIN THE RED-ACTIVATABLE CHANNELRHODOPSIN REACHR BY SITE-DIRECTED LABELING WITH INFRARED-ACTIVE AZIDO PROBES. **Benjamin S. Krause**, Joel C. D. Kaufmann, Jens Kuhne, Johannes Vierock, Thomas Huber, Thomas P. Sakmar, Klaus Gerwert, Franz J. Bartl, Peter Hegemann

2707-Pos **Board B314**
MECHANISM OF WATER AND SOLUTE COTRANSPORT BY THE SODIUM GLUCOSE COTRANSPORTER SGLT1. **Christine Siligan**, Andreas Horner, Sergey Akimov, Peter Pohl

2708-Pos **Board B315**
CHIMERIC INNEXINS REVEAL COMPLEXITIES OF ELECTRICAL RECTIFICATION. **Jamal B. Williams**, Martha Skerrett

2709-Pos **Board B316**
FIGURING OUT FLUORIDE TRANSPORT. **Benjamin McIlwain**, Randy Stockbridge

2710-Pos **Board B317**
EFFECT OF ELECTROOSMOTIC FLOW ON THE TRANSPORT OF A-CYCLODEXTRIN THROUGH THE CHANNEL CYMA. **Jigneshkumar Dahyabhai Prajapati**, Satya Prathyusha Bhamidimarri, Mathias Winterhalter, Ulrich Kleinekathoefer

2711-Pos **Board B318**
MOLECULAR DETERMINANTS OF PHOTOCURRENT KINETICS OF THE RED LIGHT ACTIVABLE CHANNELRHODOPSIN CHRIMSON. **Johannes Vierock**, Noam Nitzan, Peter Hegemann

2712-Pos **Board B319**
SEARCHING FOR A POTENTIAL VOLTAGE SENSOR INTRINSIC TO PANNEXIN CHANNELS. **Kevin Michalski**, Toshi Kawate

2713-Pos **Board B320**
CHARACTERIZATION OF STRUCTURAL CHANGES VIA LIPID REGULATION OF KIR2.1 IN A LIPID ENVIRONMENT. **Joshua Brettmann**, Sunjoo Lee, Shizhen Wang, Colin G. Nichols

2714-Pos **Board B321**
ELECTROPHYSIOLOGICAL INVESTIGATION OF THE SODIUM PUMP KR2. **Christiane Grimm**, Arend Vogt, Peter Hegemann

2715-Pos **Board B322**
VOLTAGE AND TIME DEPENDENCE OF AMPHOTERICIN B CHANNEL ACTIVITY IN LIPIDIC MEMBRANES. **Karla S. Récamier**, Iván Ortega-Blake, Punit Parmananda

2716-Pos **Board B323**
EFFECTS OF CYTOPLASMIC TAIL TRUNCATIONS ON CONNEXIN 50 HEMICHANNEL FUNCTION. **Justine J. Jacobi**, Derek L. Beahm

2717-Pos **Board B324**
COMPARISON OF SECOND MESSENGER PERMEABILITIES THROUGH GAP JUNCTION CHANNELS FORMED BY CX43 AND CX50. **Virgis Valiunas**, Laima Valiuniene, Peter R. Brink, Thomas W. White

2718-Pos **Board B325**
INVESTIGATION OF SIDEROPHORE-MONOBACTAM ANTIBIOTIC DERIVATIVES: THEIR IRON(III)-COMPLEXES AND BINDING TO RECEPTORS. **Mariano A. Scorciapino**, Giuliano Malloci, Matteo Ceccarelli, Lucile Moynie, James H. Naismith, Eric Desarbre, Malcolm Page

2719-Pos **Board B326**
TMEM16A MEDIATES THE FAST BLOCK TO POLYSPERMY IN *XENOPUS LAEVIS* EGGS. Katherine L. Wozniak, Brianna L. Mayfield, **Anne E. Carlson**

Ligand-gated Channels II (Boards B327–B345)

2720-Pos **Board B327**
FUNCTIONAL CHARACTERIZATION OF A NICOTINIC ACETYLCHOLINE RECEPTOR FROM AN EXTREMOPHILE WORM. Eveline Wijckmans, Florian Delbart, **Chris Ulens**

2721-Pos **Board B328**
ACETYLCHOLINE RECEPTOR GATING: CLICK-TWIST-TILT-RIP-POP. Shaweta Gupta, **Srirupa Chakraborty**, Ridhima Vij, Tapan K. Nayak, Anthony Auerbach

2722-Pos **Board B329**
A FLUORESCENT AGONIST OF THE MUSCLE NICOTINIC ACETYLCHOLINE RECEPTOR. **Abhilasha Ladha**, Vera Martos, Andrew Plested, Jana Kusch

2723-Pos **Board B330**
THE INTRACELLULAR DOMAIN OF PENTAMERIC LIGAND-GATED ION CHANNELS AND ITS EFFECT ON RECEPTOR CONDUCTANCE IN GLIC CHIMERAS. **Antonia Stuebler**, Pablo Artigas, Michaela Jansen

2724-Pos **Board B331**
BARBITURATES BIND IN THE GLIC ION CHANNEL PORE AND CAUSE INHIBITION BY STABILIZING A SHUT STATE. Zeineb Fourati, Reinis R. Ruza, Duncan Laverty, Emmanuelle Drege, Sandrine Delarue-Cochin, Delphine Joseph, Patrice Koehl, Trevor Smart, **Marc Delarue**

2725-Pos **Board B332**
THERMOANALYTICAL CHARACTERIZATION OF PENTAMERIC ELIC BASED ON DETERGENT SIZE. **Ty E. Whisenant**, Benjamin W. Elberson, Doris M. Cortes, Luis G. Cuello

2726-Pos **Board B333**
BIOCHEMICAL AND THERMODYNAMIC CHARACTERIZATION OF THE *ERWINIA CHRYSANTHEMI* LIGAND-GATED ION CHANNEL. **Benjamin W. Elberson**, Ty E. Whisenant, D. Marien Cortes, Luis G. Cuello

2727-Pos **Board B334**
DECIPHERING ANESTHETIC ACTION OF NOBLE GASES THROUGH THEIR MODULATION OF MEMBRANE PROTEIN AND LIPID BILAYER PROPERTIES. **Samuel Murail**, Pluton Pullumbi, Marc Baaden

2728-Pos **Board B335** **CPOW Travel Awardee**
TRANSMEMBRANE STRUCTURAL DETERMINANTS OF ALCOHOL BINDING AND MODULATION IN A MODEL LIGAND-GATED ION CHANNEL. **Rebecca J. Howard**, Stephanie A. Heusser, Özge Yoluk, Oliver Snow, Göran Klement, Alex R. Mola, Travers MD Ruel, Erik Lindahl

2729-Pos **Board B336**
KETAMINE INHIBITION OF PENTAMERIC LIGAND-GATED ION CHANNELS - INSIGHTS FROM MOLECULAR DYNAMICS SIMULATIONS. **Bogdan F. Ion**, Marta M. Wells, Yan Xu, Pei Tang

2730-Pos **Board B337** **International Travel Awardee**
STRUCTURAL AND FUNCTIONAL EVIDENCE FOR MULTI-SITE ALLOSTERY MEDIATED BY GENERAL ANESTHETICS IN A MODEL LIGAND-GATED ION CHANNEL. **Stephanie A. Heusser**, Rebecca J. Howard, Zeineb Fourati, Marc Delarue, Erik Lindahl

2731-Pos **Board B338**
DETERMINANTS OF 5-HT_{3A} INTRACELLULAR DOMAIN OLIGOMERIZATION AND RIC-3 INTERACTION. **Elham Pirayesh**, Akash Pandhare, Michaela Jansen

2732-Pos **Board B339**
CHARACTERIZING THE INTRINSIC ASSEMBLY BEHAVIOR OF THE 5-HT_{3A} RECEPTOR INTRACELLULAR DOMAIN. **Akash Pandhare**, Michaela Jansen

2733-Pos **Board B340**
DEVELOPMENT OF A PENTAMERIC, NON-CHIMERIC 5-HT_{3A} RECEPTOR INTRACELLULAR DOMAIN CONSTRUCT. **Mina Ahmadi**, Akash Pandhare, Michaela Jansen

2734-Pos **Board B341**
RELATIVE AFFINITIES OF GENERAL ANESTHETICS FOR PSEUDO-SYMMETRIC INTERSUBUNIT BINDING SITES OF HETEROMERIC GABA(A) RECEPTORS. **Sruthi Murlidaran**, Reza Salari, Jerome Hénin, Grace Brannigan

2735-Pos **Board B342**
INVESTIGATING STRUCTURAL TRANSITIONS OF GABA-A RECEPTORS USING ACCELERATED MOLECULAR DYNAMICS. **Ole J. Andersen**, Philip C. Biggin

2736-Pos **Board B343** **Education Travel Awardee**
STRUCTURAL ELEMENTS GOVERNING GABA-A RECEPTOR CHANNEL ACTIVATION AND DRUG MODULATION. **Tzu-Wei Tsao**, Connor Ford, Chong Lor, Robert Pearce, Cynthia Czajkowski

2737-Pos **Board B344**
BINDING MODES OF FULL AND PARTIAL AGONISTS IN THE ORTHOSTERIC BINDING SITE OF THE GLYCINE RECEPTOR. **Marc A. Dämgen**, Timo Greiner, Remigijus Lape, Lucia G. Sivilotti, Philip C. Biggin

2738-Pos **Board B345**
STRUCTURE-BASED DISCOVERY OF NOVEL GLYCINERGIC MODULATORS. **Marta M. Wells**, Nathan Reinert, Pei Tang, Yan Xu

Cardiac Muscle Mechanics and Structure II (Boards B346–B360)

2739-Pos **Board B346**
ATRIAL REMODELING IN HYPERTROPHIC CARDIOMYOPATHY. **Cecilia Ferrantini**, Josè Manuel Pioner, Francesca Gentile, Raffaele Coppini, Cristina Morelli, Nicoletta Piroddi, Beatrice Scellini, Elisabetta Cerbai, Jil Tardiff, Chiara Tesi, Iacopo Olivotto, Corrado Poggesi

2740-Pos **Board B347**
MYOSIN ACTIVATOR OMECAMTIV MECARBIL DIFFERENTIALLY IMPACTS THE CONTRACTILE PROPERTIES OF SKINNED MYOCARDIUM FROM FAILING AND DONOR HUMAN HEARTS. **Ranganath Mamidi**, Kenneth S. Gresham, Jiayang Li, Julian E. Stelzer

2741-Pos **Board B348**
BIOCHEMICAL AND MECHANICAL PROPERTIES OF THE S532P AND R712L CARDIOMYOPATHY MYOSIN MUTANTS. **Ailian Xiong**, Yingying Liu, Bipasha Barua, Betty Belknap, Howard White, Donald Winklemann, Eva Forgacs

2742-Pos **Board B349**
PEPTIDES DESIGNED TO DESTABILIZE THE MYOSIN COILED COIL ENHANCE MYOFIBRIL SHORTENING WHILEPEPTIDES THAT STABILIZE THE COILED COIL INHIBIT MYOFIBRIL SHORTENING. Rohit Singh, Motamed Qedan, Negar Aboonasrshiraz, Dua'a Quedan, Daniel Wang, **Douglas D. Root**

2743-Pos **Board B350**
REDUCED BINDING OF THE M-DOMAIN OF CARDIAC MYOSIN BINDING PROTEIN C TO ACTIN IMPAIRS THE ABILITY OF THE HEART TO RESPOND TO CHRONIC STRESS. **Sabine J. van Dijk**, Joshua Strom, Samantha P. Harris

2744-Pos **Board B351**
STRUCTURAL DYNAMICS OF HUMAN CARDIAC MYOSIN-BINDING PROTEIN C REVEALED BY TIME-RESOLVED FRET. Thomas A. Bunch, Victoria C. Lepak, **Brett A. Colson**

2745-Pos **Board B352**
INCREASED PHOSPHORYLATION OF CARDIAC MYOSIN BINDING PROTEIN C AND INCREASED EXPRESSION OF TROPONIN I IN NORMAL HUMAN AGEING. Lisa Nguyen, James McNamara, **Cris Dos Remedios**, Amy Li, Sean Lal

2746-Pos **Board B353**
PSEUDO-PHOSPHORYLATION MEDIATED RESCUE OF R58Q-LINKED FAMILIAL HYPERTROPHIC CARDIOMYOPATHY PHENOTYPE. **Sunil Yadav**, Katarzyna Kazmierczak, Jingsheng Liang, Danuta Szczesna-Cordary

2747-Pos **Board B354**
MOLECULAR MECHANISMS INVOLVED IN CARDIOSKELETAL DYSFUNCTION CAUSED BY MUTATIONS IN MYOSIN RLC LINKED TO HYPERTROPHIC CARDIOMYOPATHY. **Danuta Szczesna-Cordary**, Chen-Ching Yuan, Katarzyna Kazmierczak, Zhiqun Zhou, Jingsheng Liang, Sunil Yadav, Thomas C. Irving, Jenice X. Cheah, Aldrin V. Gomes

2748-Pos **Board B355** **Education Travel Awardee**
DISTINCT LATTICE STRUCTURE ALTREATIONS IN DCM AND HCM MOUSE MODELS ASSOCIATED WITH MUTATIONS IN MYOSIN REGULATORY LIGHT CHAIN. **Chen-Ching Yuan**, Jingsheng Liang, Katarzyna Kazmierczak, Zhiqun Zhou, Rosemeire Kanashiro-Takeuchi, Thomas C. Irving, Danuta Szczesna-Cordary

2749-Pos **Board B356**
ABNORMAL CARDIAC CROSS-BRIDGE KINETICS IN A TROPONIN T IL-E79ASN TRANSGENIC MOUSE MODEL. David Gonzalez-Martinez, Karissa D. Jones, Maicon Landim-Vieira, Kwangjun Lee, Yeojung Koh, Bjorn C. Knollmann, P. Bryant Chase, Hyun S. Hwang, **Jose R. Pinto**

2750-Pos **Board B357**
A NOVEL DCM-ASSOCIATED MUTATION IN THE N-HELIX OF CARDIAC TROPONIN C EXHIBITS IMPAIRED CONTRACTILE KINETICS AND REDUCED CA^{2+}-SENSITIVITY *IN VITRO*. **Jamie Johnston**, David Gonzalez-Martinez, Einat Birk, Nili Zucker, Maicon Landim-Vieira, P. Bryant Chase, Yael Wilnai, Jose R. Pinto

2751-Pos **Board B358**
THIN FILAMENT-MEDIATED MODULATION OF MOUSE CARDIAC CROSS-BRIDGE KINETICS BY CA^{2+}-SENSITIZING MUTATION CTNC-A8V OR BEPRIDIL. **David Gonzalez-Martinez**, Maicon Landim-Vieira, Jamie Johnston, Weikang Ma, Brittany Griffin, Olga Antipova, Omar Awan, P. Bryant Chase, Thomas Irving, Jose R. Pinto

2752-Pos **Board B359**
THE ACTC A295S HYPERTROPHIC CARDIOMYOPATHY MUTATION PROMOTES THIN FILAMENT DISINHIBITION AND ENHANCES CONTRACTILE ACTIVITY. Meera C. Viswanathan, William Schmidt, Marek Orzechowski, William Lehman, **Anthony Cammarato**

2753-Pos **Board B360** **CPOW Travel Awardee**
CARDIAC-SPECIFIC EXPRESSION OF VCP/TER94 RNAI OR DISEASE ALLELES DISRUPTS DROSOPHILA HEART STRUCTURE AND IMPAIRS FUNCTION. **Anna C. Blice-Baum**, Meera C. Viswanathan, Tzu-Kang Sang, Anthony Cammarato

Actin Structure, Dynamics, and Associated Proteins (Boards B361–B375)

2754-Pos **Board B361**
COMPARING THE EFFECTS AND REGULATIONS OF COFILIN ON ACTIN BARBED ENDS GENERATION IN LAMELLIPODIA VS. INVADOPODIA USING MATHEMATICAL MODELING. **Nessy Tania**, John Condeelis

2755-Pos **Board B362**
THE ROLE OF INTERMOLECULAR INTERACTIONS IN THE POLYMERIZATION OF ACTIN BY FORMINS. **Fikret Aydin**, Naomi Courtemanche, Thomas D. Pollard, Gregory A. Voth

2756-Pos **Board B363**
DISASSEMBLING THE CYTOSKELETON: EFFECTS OF ADF/COFILIN ON ACTIN DYNAMICS. **Hugo Wioland**, Sarah Myram, Antoine Jégou, Guillaume Romet-Lemonne

2757-Pos **Board B364**
STRUCTURE OF THE ANTI-CANCER COMPOUND TR100 TARGET-SITES ON TPM3.1 TROPOMYOSIN. **Michael Rynkiewicz**, Justine Stehn, Peter Gunning, William Lehman

2758-Pos **Board B365**
MODULATING FORMIN PROCESSIVITY WITH MECHANICAL AND BIOCHEMICAL FACTORS. **Guillaume Romet-Lemonne**

2759-Pos **Board B366**
A MODEL SYSTEM FOR THE RECONSTITUTION OF THE CELLULAR ACTIN CORTEX. **Or Gill**, Anne Bernheim-Groswasser

2760-Pos **Board B367**
THE MECHANOSENSITIVITY OF ACTIN BUNDLES. **Emiko Suzuki**

2761-Pos **Board B368**
C0 DOMAIN OF CARDIAC MYOSIN BINDING PROTEIN-C MODULATES INTERACTION OF THE NEIGHBORING C1 DOMAIN WITH TROPOMYOSIN TROUGH THE ALLOSTERIC INTERACTION WITH F-ACTIN. Jamie Eisner, Cristina Risi, Betty Virok, Julio Kovacs, Samantha P. Harris, Willy R. Wriggers, Howard D. White, **Vitold E. Galkin**

2762-Pos **Board B369**
USING PHOTONIC FORCE MICROSCOPY TO INVESTIGATE THE MECHANICS OF FILOPODIA. **Rebecca Michiels**, Alexander Rohrbach

2763-Pos **Board B370**
ACTIN BASED PULLING FORCES IN ENDOCYTOSIS. **Fowad Motahari**, Anders Carlsson

2764-Pos **Board B371**
ACTIVE CARGO POSITIONING FROM ACTIN-POLARITY SENSING BY SMALL MYOSIN ASSEMBLIES CARGO POSITIONING FROM ACTIN-POLARITY SENSING BY SMALL MYOSIN ASSEMBLIES. Mathieu Richard, Hajer Ennomani, Carles Blanch-Mercader, Enrique de la Cruz, Jean-François Joanny, Frank Jülicher, Laurent Blanchoin, **Pascal Martin**

2765-Pos **Board B372**
AN AFM INVESTIGATION OF THE NANOSCALE FORCES THAT GOVERN THE INTERACTIONS BETWEEN ACTIN AND PROTEINS OF TROPOMODULIN FAMILY. Baran Arslan, Mert Colpan, Kevin Gray, Nehal Abu-Lail, **Alla Kostyukova**

2766-Pos **Board B373**
THE EFFECTS OF NUCLEOTIDE AND POLYMERIZATION ON THE STRUCTURE AND DYNAMICS OF ACTIN. **Lauren Jepsen**, David Sept

2767-Pos **Board B374**
SPECTROSCOPIC PROBES OF ACTIN AND ACTIN-BINDING DOMAINS OF DYSTROPHIN AND B-III-SPECTRIN REVEALS DISEASE-RELATED CHANGES IN STRUCTURAL DYNAMICS. **Michael E. Fealey**, Adam W. Avery, Thomas S. Hays, David D. Thomas

2768-Pos **Board B375**
TROPOMYOSIN ISOFORMS SHOW UNEXPECTED DIFFERENTIAL EFFECTS ON ACTIN POLYMERIZATION. **Robin Maytum**, Khadar Dudekula

Microtubules, Structure, Dynamics and Associated Proteins (Boards B376–B394)

2769-Pos **Board B376**
DETAILED STRUCTURE OF SINGLE, UNAVERAGED MICROTUBULES REVEALED BY ELECTRON MICROSCOPY TOMOGRAPHY. **Andrea Fera**, Thomas S. Reese, Dan L. Sackett

2770-Pos **Board B377**
THE ROLE OF THE C-TERMINAL TAILS OF TUBULIN IN MICROTUBULE DYNAMICS. **Kathryn P. Wall**, Maria Pagratis, Geoffrey Armstrong, Jeremy Balsbaugh, Chad Pearson, Loren E. Hough

2771-Pos **Board B378**
AN OPTOGENETIC APPROACH TO CONTROL MICROTUBULE ACETYLATION IN LIVING CELLS. **Neha Kaul**, Hui Wang, Onur Dagliyan, Klaus M. Hahn

2772-Pos **Board B379**
REVISED MODEL, WITH EXPERIMENTAL VERIFICATION, FOR MOTOR DENSITIES IN GLIDING ASSAYS. Anh T. N. Hoang, Augustus J. Lowry, **Douglas S. Martin**

2773-Pos **Board B380**
PROTOFILAMENT BUNDLES CREATED BY MECHANICAL SPLITTING OF MICROTUBULES BY SURFACE-TETHERED KINESIN-1. **Virginia VanDelinder**, Peter Adams, George D. Bachand

2774-Pos **Board B381**
REVERSIBLE MORPHOLOGICAL CONTROL OF TUBULIN-ENCAPSULATING GIANT LIPOSOMES BY HYDROSTATIC PRESSURE. **Masayoshi Nishiyama**, Masahito Hayashi, Kingo Takiguchi, Yoshie Harada

2775-Pos **Board B382**
CELL-FREE RECONSTITUIONS OF TAU AND TUBULIN MEDIATE COMPLEX MICROTUBULE ARCHITECTURES FOUND IN THE AXON. **Peter J. Chung**, Chaeyeon Song, Joanna Deek, Herbert P. Miller, Youli Li, Myung Chul Choi, Leslie Wilson, Stuart C. Feinstein, Cyrus R. Safinya

2776-Pos **Board B383**
REMODELING OF MICROTUBULE-PROTEIN TAU BUNDLES IN THE PRESENCE OF BIOLOGICALLY RELEVANT CATIONS. Chaeyeon Song, Phillip Kohl, Peter Chung, **Bretton Fletcher**, Herbert P. Miller, Youli Li, S.C. Feinstein, Leslie Wilson, Cyrus R. Safinya

2777-Pos **Board B384**
PHYSICAL INTERACTIONS BETWEEN DISEASE-LINKED TAU MUTANTS AND MICROTUBULES. **Megan T. Valentine**, Benjamin J. Lopez, Dezhi Yu, Jamianne C. Wilcox

2778-Pos **Board B385**
MULTI-SCALE MODELING OF THE NANOMECHANICS OF MICROTUBULE FILAMENTS. Nan Jiang, Jennifer Ross, **Ruxandra Dima**

2779-Pos **Board B386**
BUILDING UP AND FORCE PROBING THE MICROTUBULE CYTOSKELETON FROM SCRATCH. **Matthias D. Koch**, Natalie Schneider, Peter Nick, Alexander Rohrbach

2780-Pos **Board B387**
DIRECT MEASUREMENT OF THE FORCE-GENERATING CAPACITY OF PROTOFILAMENTS CURLING OUTWARD FROM DISASSEMBLING MICROTUBULE TIPS. Jonathan W. Driver, Elisabeth A. Geyer, **Megan E. Bailey**, Luke M. Rice, Charles L. Asbury

2781-Pos **Board B388**
MICROTUBULE SORTING BY PERSISTENCE LENGTH AND SURFACE CHARGE DENSITY OF MICROTUBULES. **Naoto Isozaki**, Hirofumi Shintaku, Hidetoshi Kotera, Taviare L. Hawkins, Jennifer L. Ross, Ryuji Yokokawa

2782-Pos **Board B389**
IDENTIFICATION AND MECHANISM OF A NOVEL MICROTUBULE NUCLEATION FACTOR. **Akanksha Thawani**, Rachel S. Kadzik, Sabine Petry

2783-Pos **Board B390**
MEASUREMENT OF THE PERSISTENCE LENGTH OF CYTOSKELETAL FILAMENTS USING CURVATURE DISTRIBUTIONS. **Pattipong Wisanpitayakorn**, Keith J. Mickolajczyk, William O. Hancock, Luis Vidali, Erkan Tüzel

2784-Pos **Board B391**
HOW TO BREAK A RING: EXPLORING THE MECHANISMS OF SAS-6 OLIGOMERISATION. **Julia M.C. Busch**, Minos T. Matsoukas, Philip C. Biggin, Ioannis Vakonakis

2785-Pos **Board B392**
EXPLORING MICROTUBULE BREAKING AND RECOVERING MECHANISMS USING LARGE SCALE MOLECULAR SIMULATIONS. **Nan Jiang**, Ruxandra Dima

2786-Pos **Board B393**
MICROTUBULE MECHANICS IN THE PRESENCE OF TRIMETHYLAMINE N-OXIDE. Adrienne M. Hester, Corina C. Valencia, Tegan L. Marianchuk, Dan L. Sackett, **Taviare L. Hawkins**

2787-Pos **Board B394**
QUANTIFYING BISPHENOL A ABSORBED IN A MODEL ORGANISM AND STUDYING THE EFFECTS THIS ENDOCRINE DISRUPTING COMPOUND HAS ON MICROTUBULE FORMATION. **Pamela M. St. John**, Abigail Fagan, Spencer S. Mass

Bacterial Mechanics, Cytoskeleton and Motility (Boards B395 - B404)

2788-Pos **Board B395**
MAGNETO-AEROTAXIS: BACTERIAL MOTILITY IN MAGNETIC FIELDS. **Stefan Klumpp**, Christopher Lefevre, Livnat Landau, Agnese Codutti, Mathieu Bennet, Damien Faivre

2789-Pos **Board B396**
CELL POPULATION AND ELECTROPHYSIOLOGY APPROACHES TO OSMOTIC FITNESS OF *PSEUDOMONAS AERUGINOSA*. **Ugur Cetiner**, Ian Rowe, Anthony Schams, Christina Mayhew, Deanna Rubin, Andriy Anishkin, Sergei Sukharev

2790-Pos **Board B397**
APPLICATION OF LATTICE-BOLTZMAN TO THE STUDY OF THE ADHESION DYNAMICS OF E. COLI UNDER FLOW. **Juan Diego Arango-Montoya**, Andrés González-Mancera, Manu Forero-Shelton

2791-Pos **Board B398**
ATOMISTIC SIMULATIONS OF OMPA: A STEP TOWARDS THE VIRTUAL BACTERIAL ENVELOPE. **Firdaus Samsudin**, Maite L. Ortiz-Suarez, Thomas J. Piggot, Peter J. Bond, Syma Khalid

2792-Pos **Board B399**
HIGH THROUGHPUT IDENTIFICATION OF BACTERIAL CELL STIFFNESS REGULATORS. **Rishi R. Trivedi**, George Auer, Doug B. Weibel

2793-Pos **Board B400**
PROBING THE MECHANOSENSITIVITY OF THE BACTERIAL FLAGELLAR MOTOR BY LOAD MANIPULATION. **Ashley Nord**, Gachon Emilie, Barducci Alessandro, Pedaci Francesco

2794-Pos **Board B401**
MICRO MANIPULATING A SINGLE BACTERIAL CELL: STUDYING THE STRENGTH OF BACTERIAL CELL ADHESION. **Ryo Kawamura**

2795-Pos **Board B402**
A CARDIOLIPIN-DEFICIENT MUTANT OF RHODOBACTER SPHAEROIDES HAS AN ALTERED CELL SHAPE AND IS IMPAIRED IN BIOFILM FORMATION. **Ti-Yu Lin**, Douglas B. Weibel

2796-Pos **Board B403**
CROSS-KYMOGRAPHY REVEALS THE STRUCTURAL AND KINETIC PARAMETERS OF ARCHAELLUM. Yoshiaki Kinosita, **Takayuki Nishizaka**

2797-Pos **Board B404**
QUANTIFYING BIOPHYSICAL DIFFERENCES BETWEEN PLANKTONIC AND BIOFILM BACTERIA IN RESPONSE TO ANTIBIOTIC APPLICATION. **Catherine Volle**, Megan Nunez, Temiloluwa Olaoluwa, Kanesha Overton

Membrane Pumps (Boards B405–B418)

2798-Pos **Board B405**
PROTONATION DEPENDENT WATER PERMEATION OF ION BINDING POCKET OF NA^+ BOUND NA^+, K^+-ATPASE. **Minwoo Han**, Wojciech Kopeć, Ilia A. Solov'yov, Himanshu Khandelia

2799-Pos **Board B406**
EXCHANGE OF SODIUM OR POTASSIUM IONS AGAINST PROTONS AT CYTOPLASMIC SIDE OF NA,K-ATPASE. **Vsevolod Tashkin**

2800-Pos **Board B407**
A NA/K PUMP WITH ALTERED STOICHIOMETRY CONTRIBUTES TO BRINE SHRIMP ADAPTATION TO HIGH SALINITY. **Dylan J. Meyer**, Jessica Eastman, Huan Rui, Kevin Stanley, Benoit Roux, Craig Gatto, Pablo Artigas

2801-Pos **Board B408**
FUNCTIONAL EFFECTS OF SUBSTITUTIONS MODIFYING THE HYDROXYL OR PHENOL RING OF TYROSINE 780 AT ION BINDING SITE-III OF THE NA,K-ATPASE. **Kerri Spontarelli**, Dylan J. Meyer, Daniel T. Infield, Christopher A. Ahern, Pablo Artigas

2802-Pos **Board B409**
ION BINDING AND CHARGE MOVEMENTS IN THE FUNCTION OF THE NA/K-PUMP. **Huan Rui**, Jorge Sanchez-Rodriguez, Miguel Holmgren, Francisco Bezanilla, Benoît Roux

2803-Pos **Board B410**
TUNING VOLTAGE DEPENDENT TRANSITIONS DURING THE EXTRACELLULAR NA^+ BINDING/RELEASE OF THE NA^+/K^+-ATPASE BY EXTERNAL PROTONS. **Jorge E. Sánchez-Rodríguez**, Huan Rui, Benoît Roux, Miguel Holmgren, Francisco Bezanilla

2804-Pos **Board B411**
STRUCTURAL AND FUNCTIONAL DIFFERENCES BETWEEN SARCOPLASMIC RETICULUM CALCIUM PUMP (SERCA) AND PLASMA MEMBRANE CALCIUM PUMP (PMCA) REACTION CYCLE INTERMEDIATES. Nicolás Andres Saffioti, Marilina de Sautu, Irene C. Mangialavori, Mariela Ferreira Gomes, Rolando C. Rossi, Joshua R. Berlin, **Juan Pablo F. Rossi**

2805-Pos **Board B412**
MOLECULAR DYNAMICS SIMULATIONS SUGGEST MULTIPLE BINDING SITES FOR PHOSPHOLAMBAN ON SERCA. **Nikolai Smolin**, Vidhya Sivakumaran, Seth L. Robia

2806-Pos **Board B413**
TARGETING THE SERCA-PLB COMPLEX USING FRET IN LIVING CELLS. **Daniel Stroik**, Ang Li, Tory Schaaf, Simon Gruber, Razvan Cornea, Roger Hajjar, David Thomas

2807-Pos **Board B414**
X-RAY CRYSTALLOGRAPHY, FLUORESCENCE, AND MOLECULAR SIMULATIONS STUDIES ON REGULATORS OF SERCA. **Bengt Svensson**, Joseph M. Autry, Chengguo Xing, Razvan L. Cornea, John K. Lee, David D. Thomas

2808-Pos **Board B415**
THE HLA3 PROTEIN OF *C. REINHARDTII* ENHANCES HCO_3^- TRANSPORT ACTIVITY OF MAMMALIAN CELLS. **Michael A. McCloskey**, Deqiang Duanmu, Nicholas Benge, Martin H. Spalding

2809-Pos **Board B416**
NUCLEOTIDES CONTROL THE CONFORMATION OF THE MOTOR DOMAIN OF ABC TRANSPORTERS. Daniel Szöllösi, Yaprak Doenmez-Cakil, Imran Sohail, Gabor Szaloki, Katalina K. Goda, Gergely Szakacs, Peter Chiba, **Thomas Stockner**

2810-Pos **Board B417**
MEASURING TRANSPORT KINETICS OF LIGHT DRIVEN CHLORIDE PUMP, HALORHODOPSIN. **Hasin M. Feroz**

2811-Pos **Board B418** **International Travel Awardee**
FUNCTION OF BACTERIORUBERIN IN ARCHAERHODOPSIN 4, FROM EXPRESSION TO CHARACTERIZATION. **Chao Sun**, Yujiao Gao, Xiaoyan Ding, Xiaoyan Ding, Juan Wang, Juan Wang, Haolin Cui, Haolin Cui, Yanan Yang, Xin Zhao

Genetic Regulatory Systems (Boards B419–B427)

2812-Pos **Board B419**
A BIOPHYSICAL MODEL OF SUPERCOILING DEPENDENT TRANSCRIPTION PREDICTS A STRUCTURAL ASPECT TO GENE REGULATION. **Christopher H. Bohrer**, Elijah Roberts

2813-Pos **Board B420**
INTERACTIONS AMONG INDIVIDUAL PHAGES RESULT IN DIFFERENT CELL-FATE DEVELOPMENTS. **Lanying Zeng**

2814-Pos **Board B421**
STOCHASTIC DYNAMICS OF GENETIC BROADCASTING NETWORKS. **Davit Potoyan**

2815-Pos **Board B422**
MULTIGENERATIONAL STUDY OF SPACEFLIGHT-RESPONSIVE GENE NETWORKS. **Irem Celen**, Jung Doh, Aroshan Jayasinghe, Michael Moore, Andrew Moore, Chandran Sabanayagam

2816-Pos **Board B423**
PRESSURE INDUCED SOS RESPONSE IN *ESCHERICHIA COLI* INVOLVES MRR RESTRICTION ENDONUCLEASE. **Anaïs Bourges**, Oscar E. Torres M., Anirban Ghosh, Wubishet M. Tadesse, Gilles Labesse, Nathalie Declerck, Abram Aertsen, Catherine A. Royer

2817-Pos **Board B424**
ACCURATE NON-EQUILIBRIUM VELOCITY AND FLUX FIELDS OF STOCHASTIC REACTION NETWORKS. **Anna Terebus**, Chun Liu, Jie Liang

2818-Pos **Board B425**
CLINOROTATION TO SIMULATE MICROGRAVITY: DEFINING A MODEL GRAVITOME IN C. ELEGANS. **Chandran R. Sabanayagam**, Irem Celen, Jung H. Doh, Michael T. Moore

2819-Pos **Board B426**
EFFECTS OF LARGE SCALE PROTEIN OCCUPANCY ON *E. COLI* GENOME STRUCTURE AND GENE EXPRESSION. **Peter L. Freddolino**, Thomas J. Goss, Grace M. Kroner, Scott Scholz, Xiaoxia Lin

2820-Pos **Board B427**
WHOLE-CELL SIMULATIONS OF MRNA PRODUCTION IN EUKARYOTIC CELL MODELS. **Zhaleh Ghaemi**, Zaida Luthey-Schulten

Electron Microscopy (Boards B428–B454)

2821-Pos **Board B428**
CRYO-EM OF THE BACTERIOPHAGE TAIL TUBE AT BETTER THAN 3.5 Å RESOLUTION. **Weili Zheng**, Nicholas M I Taylor, Petr G. Leiman, Edward H. Egelman

2822-Pos **Board B429**
STRAIN BETWEEN LEADING AND TRAILING HEADS OF A STEPPING KINESIN DIMER VISUALIZED IN 3D BY CRYO-EM. **Daifei Liu**, Xueqi Liu, Zhiguo Shang, Charles V. Sindelar

2823-Pos **Board B430**
COMPARISON OF 3-D CELL AND TISSUE IMAGING TECHNIQUES BASED ON SCANNING ELECTRON PROBES. Emma L. McBride, Amith Rao, Guofeng Zhang, Irina D. Pokrovskaya, Maria A. Aronova, Brian Storrie, **Richard D. Leapman**

2824-Pos **Board B431** **Education Travel Awardee**
CRYOTOMOGRAPHY OF PLEOMORPHIC VIRUSES. **Amar D. Parvate**, Jason Lanman, Colleen Jonsson

2825-Pos **Board B432**
ENDOPHILIN-DYNAMIN COMPLEX ASSEMBLY - A GENERAL MECHANISM OF MEMBRANE REMODELING CONTROL. **Anna C. Sundborger**, Veer Bhatt, Robert Ashley, Jenny E. Hinshaw

2826-Pos **Board B433**
SUB-SURFACE SERIAL BLOCK FACE SEM OF BIOLOGICAL STRUCTURES AT NEAR ISOTROPIC SPATIAL RESOLUTION. **Qianping He**, David C. Joy, Guofeng Zhang, Richard D. Leapman

2827-Pos **Board B434** **International Travel Awardee**
TOWARDS A MULTICOMPONENT CRYO-EM DENSITY FLEXIBLE FITTING TOOL. José Ramón Lopéz-Blanco, David Ritchie, **Pablo Chacon**

2828-Pos **Board B435**
ALL-ATOM ENSEMBLE REFINEMENT TO CRYO-EM DENSITIES WITH A BAYESIAN MEASURE OF GOODNESS-OF-FIT. **Christian Blau**, Erik Lindahl

2829-Pos **Board B436**
ACCELERATED CRYO-EM STRUCTURE DETERMINATION WITH PARALLELISATION USING GPUS IN RELION-2. Dari Kimanius, Björn Forsberg, **Erik Lindahl**

2830-Pos **Board B437**
VISUALIZING THE MYOSIN VI-F-ACTIN INTERFACE DURING FORCE GENERATION. Pinar S. Gurel, Laura Y. Kim, Tosan Omabegho, Paul V. Ruijgrok, Zev Bryant, **Gregory M. Alushin**

2831-Pos **Board B438**
OPTIMIZATION OF A CRYO-EM STRUCTURAL MODEL REPRESENTATION. **Wah Chiu**

2832-Pos **Board B439**
EFFICIENT CRYO-EM: MEASURING THE EFFECT OF PARTICLE ORIENTATION DISTRIBUTION ON RESOLUTION. Katerina Naydenova, **Christopher J. Russo**

2833-Pos **Board B440**
DEVELOPMENT OF THIN-ICE TEM GRIDS TO CONTROL THE ICE THICKNESS FOR CRYO-ELECTRON MICROSCOPY. **Liguo Wang**, Lige Tonggu

2834-Pos **Board B441**
CRYO-EM STRUCTURE OF KV1.2 CHANNELS IN LIPOSOMES. **Hideki Shigematsu**, Youshan Yang, Yangyang Yan, Yi Chen, Fred J. Sigworth

2835-Pos **Board B442**
CHARACTERIZATION OF CRYOEM MOTION CORRECTION ALGORITHMS FOR MOVIE-MODE IMAGING. **James M. Bell**, Isaac Forrester, Joanita Jakana, Steven J. Ludtke

2836-Pos **Board B443**
3D-VISUALIZATION OF THE PRECISE LOCATION OF SYMBIOTIC ORGANELLE CROSSTALK THROUGHOUT MITOSIS IN THE PRIMITIVE UNICELLULAR EUKARYOTIC CELL, C. MEROLAE. Takako Ichinose, Keisuke Ohta, **Atsuko H. Iwane**

2837-Pos **Board B444**
FOCUSED ION BEAM-SEM AS A TOOL FOR VERSATILE QUANTITATIVE IMAGING OF CELLULAR STRUCTURES. **Edward T. Eng**, Ashleigh M. Raczkowski, William J. Rice, Kelsey D. Jordan, Alex J. Noble, Anchi Cheng, Bridget O. Carragher, Clinton S. Potter

2838-Pos **Board B445**
CRYO-EM TOMOGRAPHIC ANALYSIS OF A UNIVERSAL INFLUENZA VIRUS VACCINE CANDIDATE. **Erin Tran**, Kira Podolsky, Alberto Bartesaghi, Oleg Kuybeda, Giovanna Grandinetti, Teddy John Wohlbold, Gene Tan, Raffael Nachbagauer, Peter Palese, Florian Krammer, Sriram Subramaniam

2839-Pos **Board B446**
CRYO-EM STRUCTURE DETERMINATION OF TRUNCATED SEC13/31 PROTEINS IN COPII VERTICES. **Mohammadreza Paraan**, Scott Stagg

2840-Pos **Board B447**
CRYO-ELECTRON TOMOGRAPHY AND SUB-VOLUME AVERAGING REVEAL THE ASYMMETRIC STRUCTURE OF THE LEPTOSPIRA FLAGELLLA. **Kimberley Gibson**, Charles Sindelar

2841-Pos **Board B448**
FEASIBILITY OF CRYO-EM FOR STRUCTURAL CHARACTERIZATION OF SMALL MEMBRANE PROTEINS. **Daniel Asarnow**, Yuan Gao, Eugene Palovcak, Yifan Cheng

2842-Pos **Board B449**
CRYO-EM STUDIES OF CULLIN-RING UBIQUITIN E3 LIGASE (CRL)2 REGULATION BY THE COP9 SIGNALOSOME. **Sarah V. Faull**, Fabienne Beuron, Hugo Yebenes, Andy Lau, Argyris Politis, Edward P. Morris

2843-Pos **Board B450**
THREE-DIMENSIONAL IMAGE ANALYSIS OF MELANOCYTE IN HUMAN SKIN. **Ji Young Mun**, Il-Hwan Kim, Hyo Sun Choi

2844-Pos **Board B451**
INCORPORATING SINGLE-PARTICLE BIOPHYSICS INTO CORRELATED CRYO-FLUORESCENCE AND CRYO-ELECTRON MICROSCOPY. **Lauren Ann Metskas**, Giulia Paci, Edward A. Lemke, John A.G. Briggs

2845-Pos **Board B452**
SECRETORY GLANDS IMAGED IN AQUEOUS SOLUTION BY ATMOSPHERIC SCANNING ELECTRON MICROSCOPY. **Toshiko Yamazawa**, Naotoshi Nakamura, Mari Sato, Chikara Sato

2846-Pos **Board B453**
IMPLEMENTING A SINGLE PARTICLE PIPELINE FOR HIGH RESOLUTION CRYO-EM. **Ashleigh M. Raczkowski**

2847-Pos **Board B454**
WHY ONE ATOMIC MODEL? A RATIONALE FOR ATOMIC ENSEMBLES. **Mark A. Herzik, Jr.**, Gabriel C. Lander

Diffraction and Scattering Techniques (Boards B455–B464)

2848-Pos **Board B455**
A NEW TECHNIQUE FOR MOLECULAR DYNAMICS OBSERVATION USING LABORATORY X-RAY SOURCE. **Keigo Ikezaki**, Ken Matsubara, Yufuku Matsushita, Chang Jaewon, Hiroshi Sekiguchi, Yuji C. Sasaki

2849-Pos **Board B456**
SERIAL SYNCHROTRON CRYALLOGRAPHY WITH A FIXED TARGET. **Henrike M. Mueller-Werkmeister**, Eike C. Schulz, Darren Sherrell, Danny Axford, Friedjof Tellkamp, Robin L. Owen, R. J. Dwayne Miller

2850-Pos **Board B457**
X-RAY FLUORESCENCE HOLOGRAPHY FOR PROTEINS: APPLICATION TO HEMOGLOBIN AND MYOGLOBIN. **Ayana Sato-Tomita**, Naohisa Happo, Sam-Yong Park, Koichi Hayashi, Yuji C. Sasaki, Naoya Shibayama

2851-Pos **Board B458**
NEW X-RAY SINGLE MOLECULAR METHODOLOGY USING A NORMAL MONOCHROMATIC X-RAY. **Yuji C. Sasaki**, K. Ikezaki, N Ohta, H. Sekiguchi

2852-Pos **Board B459**
PROBING MANGANESE ION DISTRIBUTIONS AROUND NUCLEIC ACIDS USING SMALL ANGLE X-RAY SCATTERING. **Suzette A. Pabit**, Joshua M. Tokuda, George D. Calvey, Andrea M. Katz, Yujie Chen, Lois Pollack

2853-Pos **Board B460**
OPTIMIZING THE PREPARATION, ANALYSIS AND FORMULATION OF LIPOSOMES FOR DRUG DELIVERY APPLICATIONS. **Diana Nash**, Betty Petrillo, Dominic Senkl

2854-Pos **Board B461**
BAYESIAN REFINEMENT OF ACCELERATED MOLECULAR DYNAMICS SIMULATIONS FOR INTERPRETING SAXS EXPERIMENTS. **Samuel Bowerman**, Amy Rice, Jeff Wereszczynski

2855-Pos **Board B462**
USING WAXS TO STUDY RNA CONFORMATIONS. **Yen-Lin Chen**, Suzette A. Pabit, Andrea M. Katz, Lois Pollack

2856-Pos **Board B463**
IN SITU STRUCTURAL CHANGES OF BIOLOGICAL MACROMOLECULES WITH BIOSAXS. **Gerd Langenbucher**, Andreas Keilbach, Heike Ehmann

2857-Pos **Board B464**
IN VIVO NONLINEAR LIGHT SCATTERING PROBE OF DRUG-INDUCED ACTIVATION OF BACTERIAL MECHANOSENSITIVE CHANNELS. **Mohammad Sharifian Gh.**, Charles D. Cox, Michael J. Wilhelm, Hai-Lung Dai

Optical Microscopy and Super Resolution Imaging: Novel Approaches and Analysis III (Boards B465–B479)

2858-Pos **Board B465**
NON-INVASIVE LABEL-FREE IMAGING OF OXIDATIVE PROCESSES IN HUMAN SKIN. Michaela Poplova, Eduard P.A. Van Wijk, **Michal Cifra**

2859-Pos **Board B466**
OF ABSOLUTE CONCENTRATIONS OF NADH IN CELLS USING THE PHASOR FLIM METHOD. **Enrico Gratton**, Ning Ma, Michelle A. Digman, Leonel Malacrida

2860-Pos **Board B467**
MULTIMODAL OPTICAL RESOLUTION PHOTOACOUSTIC AND FLUORESCENCE MICROSCOPY IN THE FREQUENCY DOMAIN. **Bianca Buchegger**, Gregor Langer, Jaroslaw Jacak, Thomas A. Klar, Thomas Berer

2861-Pos **Board B468**
RECOVERING CELLULAR SHAPE AND SIZE IN THE BRIGHT FIELD OPTICAL MICROSCOPE. **Braulio Gutierrez-Medina**, Carmen Noemi Hernandez Candia, Manuel de Jesús Sánchez Miranda

2862-Pos **Board B469**
COHERENT ANTI STOKES RAMAN SCATTERING MICROSCOPY FOR VISUALIZING DIFFUSION OF WATER IN SKIN. Stéphanie Yuki Kolbeck Hotta, Bjarne Thorsted, Jens Ahm Sørensen, **Jonathan R. Brewer**

2863-Pos **Board B470**
HOLOGRAPHIC TRACKING OF ARCHAEA AND BACTERIA OVER MILLIMETER LENGTH SCALES. Katie L. Thornton, **Laurence G. Wilson**

2864-Pos **Board B471**
DIFFERENTIAL INTERFERENCE CONTRAST MICROSCOPES WITH SWITCHABLE SHEAR DIRECTION AND QUADRILATERAL SHEAR. **Michael Shribak**, Elena Iourieva

2865-Pos **Board B472**
ONE NANOMETER STEPS IN THE MOTION OF A LINEAR MOLECULAR MOTOR *SERRATIA MARCESCENS* CHITINASE A RESOLVED BY GOLD NANOPROBE. **Ryota Iino**, Akihiko Nakamura

2866-Pos **Board B473**
MICRO-SPECTROSCOPY OF BIO-ASSEMBLIES AT THE SINGLE CELL LEVEL. Jeslin Kera, Debopam Chakrabarti, **Alfons Schulte**

2867-Pos **Board B474**
HIGH PRECISION INDIRECT OPTICAL MANIPULATION OF LIVE CELLS WITH FUNCTIONALISED MICROTOOLS. Gaszton Vizsnyiczai, Badri Aekbote, András Búzás, István Grexa, **Pal Ormos**, Lóránd Kelemen

2868-Pos **Board B475**
FIBRIN NETWORK FORMATION AND THROMBOLYSIS USINGA BIREFRINGENCE MEASURING. **Naoyuki Yokoyama**, Hayata Machida, Yuito Tsukamoto, Shinya Ohkubo

2869-Pos **Board B476**
BOUNDARY EFFECTS IN FRAP RECOVERY IN THE CONFINED GEOMETRIES OF ANIMAL, PLANT AND FUNGAL CELLS. James K. Kingsley, Jeffrey P. Bibeau, Cem Unsal, Iman S. Mousavi, Zhilu Chen, Xinming Huang, Luis Vidali, **Erkan Tuzel**

2870-Pos **Board B477**
FIRST PERSON BIOIMAGE: AN ONLINE TOOL FOR PRESENTATION AND PUBLICATION OF VOLUMETRIC DATA. **Marcus Fantham**, Clemens F. Kaminski

2871-Pos **Board B478**
THE EXTRA MICROSCOPE. **Alberto Diaspro**, Luca Lanzanò, Paolo Bianchini, Giuseppe Vicidomini, Marti Duocastella, Francesca Cella Zanacchi, Colin JR Sheppard

2872-Pos **Board B479**
EFFICIENT PARAMETRIC IMAGING WITH GPU COMPUTING. **Dianwen Zhang**, Xiang Zhu, Angelo Bifone, Alessandro Gozzi, Silvia Capuani, Marco Palombo

Optical Spectroscopy: CD, UV-VIS, Vibrational, Fluorescence II (Boards B480–B493)

2873-Pos **Board B480**
RAMAN SPECTROSCOPY FOR PROSTATE CANCER DETECTION AND CHARACTERIZATION. **Kelly Aubertin**, Vincent Trinh, Michael Jermyn, Joannie Desroches, Catherine St-Pierre, Maria-Claudia Vladoiu, Andrée-Anne Grosset, Fred Saad, Dominique Trudel, Frédéric Leblond

2874-Pos **Board B481**
EFFECTIVE MONITORING OF CELL PROLIFERATION MEDIA COMPONENTS USING SIMULTANEOUS ABSORBANCE AND FLUORESCENCE EXCITATION-EMISSION MATRIX DATA ANALYZED WITH PARALLEL FACTOR ANALYSIS. **Adam M. Gilmore**, Yuichi Kitagawa, Takuyi Moriyama, Daisuki Irikura, Yasushi Nakata

2875-Pos **Board B482**
METABOLIC SHIFTS IN HUNTINGTON DISEASE REVEALED BY FLUORESCENCE LIFETIME IMAGING MICROSCOPY. **Sara Sameni**

2876-Pos **Board B483**
LIFETIME SPECTROSCOPY OF EXOSOMES UNDER EVANESCENT FIELD ILLUMINATION. **Justin Aluko**, James Monypenny, Simon Poland, Susan Cox, Tony Ng, Simon Ameer-Beg

2877-Pos **Board B484**
EQUILIBRIUM OF TWO FLUORESCENCE STATES IN THE UNAG-BILIRUBIN COMPLEX. **Yoh Shitashima**, Togo Shimozawa, Toru Asahi

2878-Pos **Board B485**
PHOTOPHYSICAL PROPERTIES OF ALLURA RED FOR MONITORING QUALITY OF FOODS AND PHARMACEUTICALS. Bogumil Zelent, Rahul Chib, Sarah Waxman, Alexia Ciarfella, Maria Corradini, **Richard D. Ludescher**

2879-Pos **Board B486**
THE DEVELOPMENT OF A NOVEL APPROACH TO ORIENTED CIRCULAR DICHROISM USING MAGNETICALLY-ALIGNED BILAYERS. **Luke S. Evans**, Rohanah Hussain, Giuliano Siligardi, Philip T.F. Williamson

2880-Pos **Board B487**
LINEAR DICHROISM OF DNA: CHARACTERIZATION OF THE DISTRIBUTION OF ORIENTATIONS RESULTING FROM HYDRODYNAMIC SHEAR. **John C. Sutherland**

2881-Pos **Board B488**
MEASURING POLYCYCLIC AROMATIC HYDROCARBONS IN WATER USING THE SIMULTANEOUS ABSORBANCE AND FLUORESCENCE EXCITATION-EMISSION MATRIX METHOD: ADVANTAGES OF CLASSICAL LEAST SQUARES REGRESSION OVER PARALLEL FACTOR ANALYSIS. **Boqian (Ben) Yang**, Adam M. Gilmore

2882-Pos **Board B489**
FREQUENCY EXTRAPOLATION OF MECHANICAL PROPERTIES OBTAINED FROM BRILLOUIN SCATTERING MEASUREMENTS IN BIOLOGICAL SAMPLES. **Kareem Elsayad**

2883-Pos **Board B490**
SOLUTION OF PDES FOR FIRST-ORDER PHOTOBLEACHING KINETICS USING KRYLOV SUBSPACE SPECTRAL METHODS. **Somayyeh Sheikholeslami**, James Lambers

2884-Pos **Board B491**
ESTIMATING FRET EFFICIENCY USING EXCITATION-SCANNING HYPERSPECTRAL IMAGING. **John Robert Griswold**, Naga Annamdevula, Joshua Deal, Thomas Rich, Silas Leavesley

2885-Pos **Board B492**
RAPID SPECTRAL IMAGING OF VERY LARGE MICROSCOPY IMAGES. **Yuval Garini**

2886-Pos **Board B493**
PLASMONIC ELECTRICITY: A DIGITAL FORM OF METAL-ENHANCED FLUORESCENCE. **Chris D. Geddes**

Force Spectroscopy and Scanning Probe Microscopy II (Boards B494–B503)

2887-Pos **Board B494**
DEVELOPMENT OF TEMPERATURE-CONTROLLED HIGH-SPEED AFM. **Hirohide Takahashi**, Atsushi Miyagi, Lorena Redondo-Morata, Simon Scheuring

2888-Pos **Board B495**
HIGH-SPEED AFM REVEALS ADVANCED DETAILS ON DYNAMIC BEHAVIOR OF ANTIBODY. **Norito Kotani**, Ramanujam Kumaresan, Yoko Kawamoto-Ozaki, Takashi Morii, Takao Okada

2889-Pos **Board B496**
NON-RASTER HIGH-SPEED AFM IMAGING OF BIOPOLYMERS. Brett Hartman, **Sean Andersson**, William Nagel, Kam Leang

2890-Pos **Board B497**
AFM IMAGING OF DNA G-WIRES IN SOLUTION. **Krishnashish Bose**, Anh Tuân Phan

2891-Pos **Board B498**
EXTRACELLULAR MEMBRANE POTENTIAL MEASUREMENT OF SINGLE LIVING CELLS WITH SCANNING ION CONDUCTANCE MICROSCOPY. **Namuna Panday**, Jin He

2892-Pos **Board B499**
AN OPTICAL SETUP FOR THE STUDY OF MECHANOTRANSDUCTION IN LIVING CELLS AT THE SINGLE MOLECULE LEVEL. **Marios Sergides**, Tommaso Galgani, Claudia Arbore, Francesco S. Pavone, Marco Capitanio

2893-Pos **Board B500**
AFM WITH A VERSATILE OPTICS SYSTEM FOR LIVING CELL STUDIES. **Evan Nelsen**

2894-Pos **Board B501** **CPOW Travel Awardee**
CURLI MEDIATE BACTERIAL ADHESION TO FIBRONECTIN VIA A TENSILE COLLECTIVE BINDING NETWORK. **Yoo Jin Oh**, Michael Hubauer-Brenner, Hermann Gruber, Yidan Cui, Lukas Traxler, Christine Siligan, Sungsu Park, peter Hinterdorfer

2895-Pos **Board B502**
FORCE SPECTROSCOPY OF T4 BACTERIOPHAGE ADHESION DURING INFECTION. **Cesar A. Quintana-Cataño**, Martha J. Vives-Flórez, Manu Forero-Shelton

2896-Pos **Board B503**
HIGH FIBRINOGEN LEVELS PROMOTE ERYTHROCYTE-ERYTHROCYTE ADHESION: A CARDIOVASCULAR RISK FACTOR IN HEART FAILURE AND ARTERIAL HYPERTENSION PATIENTS. Ana Filipa Guedes, Luís Sargento, José Braz-Nogueira, Nuno Lousada, Carlos Moreira, Filomena A. Carvalho, **Nuno C. Santos**

Biosurfaces (Boards B504–B510)

2897-Pos **Board B504**
GRAPHENE-OXIDE GEL AS BIOMIMETIC ANTIMICROBIAL CLOAK. **Valentina Palmieri**, Massimiliano Papi, Francesca Bugli, Maurizio Sanguinetti, Luca Angelani, Marco De Spirito, Claudio Conti

2898-Pos **Board B505**
ICE-BINDING PROTEINS - NOT ONLY FOR ICE GROWTH CONTROL. Maya Bar-Dolev, Shuaiqi Guo, Lotem Haleva, Yeliz Celik, Peter L. Davies, **Ido Braslavsky**

2899-Pos **Board B506** **Education Travel Awardee**
AQUAPORIN BIOMIMETIC MEMBRANE FOR ENERGY CONSERVATIVE WATER DESALINATION. **Ahmed Fuwad**, Hyunil Ryu, Tae-Joon Jeon, Sun Min Kim

2900-Pos **Board B507**
ASSEMBLING FUNCTIONAL PROTEINS ON GOLD-GLASS SURFACES. **Timothy Robson**, Deepan Shah, Luke Clifton, Becky Welbourn, Jeremy Lakey

2901-Pos **Board B508**
WETTABILITY AND CARBOXYL FUNCTIONALIZATION OF PLA FILMS ENHANCING BY AN ATMOSPHERIC PRESSURE DIELECTRIC BARRIER DISCHARGE SYSTEM. **Stephanie Vanslambrouck**, Ivan Rodriguez Duran, Pascale Chevallier, Corinne Hoesli, Gaetan Laroche

2902-Pos **Board B509**
EFFECT OF HIGH PRESSURE ON PROTEIN BINDING TO POLY (ACRYLIC ACID) BRUSHES. **Artem Levin**, Claus Czeslik

2903-Pos **Board B510**
DESIGN OF BIORESPONSIVE INTERFACES USING CONFORMATIONAL TRANSITIONS OF CALMODULIN. **Süleyman Cinar**, Claus Czeslik

Biomaterials (Boards B511–B526)

2904-Pos **Board B511**
MULTIFUNCTIONAL DRUG DELIVERY SYSTEM BASED ON POLY-N-VINYL-PYRROLYDONE BLOCK COPOLYMER MICELLES. Camilla L. Andersen, Sven B. Romme, Peter Fojan, Cristian P. Pennisi, Anna L. Luss, Pavel P. Kulikov, Mikhail I. Shtilman, **Leonid Gurevich**

2905-Pos **Board B512**
STRUCTURAL INVESTIGATIONS OF SUPERCONTRACTED SPIDER DRAGLINE SILK. **Justine Dionne**, Thierry Lefèvre, Philippe Bilodeau, Michèle Auger

2906-Pos **Board B513**
EXTRACTING INFORMATION ON MOLECULAR INTERACTIONS USING DATA FROM BINARY MIXTURES. **Simran S. Gurdasani**, Ryan Z. Lybarger, Horia I. Petrache

2907-Pos **Board B514**
PRINCIPLES AND APPLICATIONS OF FUNCTIONAL LIPIDIC BIOMATERIALS IN MOLECULAR RECOGNITION, MEMBRANE PROTEIN CRYSTALLIZATION AND DRUG DELIVERY. Livia Salvati Manni, Simone Aleandri, **Ehud M. Landau**

2908-Pos **Board B515**
ELECTROSPUN BIODEGRADABLE SCAFFOLD MADE OF POLY(HYDROXYBUTYRATE-CO-HYDROXYVALERATE) & BOVINE SERUM ALBUMIN. **Elizaveta Pavlova**, Dmitry Bagrov, Dmitry Shchelokov, Anton Bonartsev, Irina Zharkova, Dmitry Klinov

2909-Pos **Board B516**
ROLE OF CHARGE AND LIGAND-RECEPTOR BINDING IN SPECIFIC TARGETING OF PEPTIDE-TAGGED CATIONIC LIPOSOME NANOPARTICLES FOR GENE DELIVERY. **Emily Wonder**, Lorena Simón-Gracia, Pablo Scodeller, Ramsey Majzoub, Venkata Ramana Kotamraju, Kai K. Ewert, Tambet Teesalu, Cyrus Safinya

2910-Pos **Board B517**
STRUCTURED DNA NANOPARTICLES FOR SPATIALLY CONTROLLED ANTIGEN PRESENTATION. **Rémi Veneziano**, Mark Bathe

2911-Pos **Board B518** **Education Travel Awardee**
PLASMA MEMBRANE VESICLES WITH ENGINEERED TRANSMEMBRANE PROTEIN LIGANDS FOR HIGH-AFFINITY CELL TARGETING. **Chi Zhao**, David J. Busch, Conor P. Vershel, Hisham A. Ali, Natalie C. Miroballi, Jeanne C. Stachowiak

2912-Pos **Board B519**
MOLECULAR MODELING OF LIQUID CRYSTAL/PHOSPHOLIPID INTERFACE AS A LABEL-FREE BIOSENSOR. **Donya Ohadi**, Mark J. Uline

2913-Pos **Board B520** **International Travel Awardee**
HOMOGALACTURONANS ILLUMINATE THE ROLE OF COUNTERION CONDENSATION IN POLYELECTROLYTE TRANSPORT. **Amir H. Irani**, Jessie L. Owen, Davide Mercadante, Martin A. K. Williams

2914-Pos **Board B521**
AN ELECTRIC EEL-INSPIRED ORIGAMI-ENABLED BATTERY THAT GENERATES 100 V. **Thomas B. H. Schroeder**, Anirvan J. Guha, Aaron Lamoureux, Jerry Yang, Max Shtein, Michael Mayer

2915-Pos **Board B522**
TOWARDS SIMULATING LARGE-SCALE SELF-ASSEMBLY OF PROTEINS UNDER FLOW. **Ana Maria Herrera**, Anil K. Dasanna, Frauke Gräter

2916-Pos **Board B523** **Education Travel Awardee**
RATIOMETRIC TENSION PROBES FOR MAPPING RECEPTOR FORCES AND CLUSTERING AT INTERMEMBRANE JUNCTIONS. **Victor Pui-Yan Ma**, Yang Liu, Lori Blanchfield, Hanquan Su, Brian D. Evavold, Khalid Salaita

2917-Pos **Board B524**
FEW ATOM SILVER CLUSTERS DISPLAY BROAD SPECTRUM ANTIMICROBIAL ACTIVITY. **Danielle Schultz**, Nancy Lin

2918-Pos **Board B525**
C_{60} FULLERENES AS CONTRAST AGENTS - STRUCTURAL, SPECTROSCOPIC AND NANOTOXICITY STUDIES. **Augustyn Molinski**, Jakub Zareba, Justyna Izykowska, Michalina Skupin, Weronika Andrzejewska, Stefan Jurga, Maciej Kozak

2919-Pos **Board B526**
SCANNING HE ION- AND NONLINEAR OPTICAL MICROSCOPY COMBINED WITH FORCE MEASUREMENTS FOR THE CHARACTERIZATION OF SPIDER SILK. **Irina Iachina**, Jacek Fiutowski, Serguei Chiriaev, Per Lyngs Hansen, Adam Cohen Simonsen, Jonathan R. Brewer

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701	Edinburgh Instruments
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304	Laboratory for Fluorescence Dynamics
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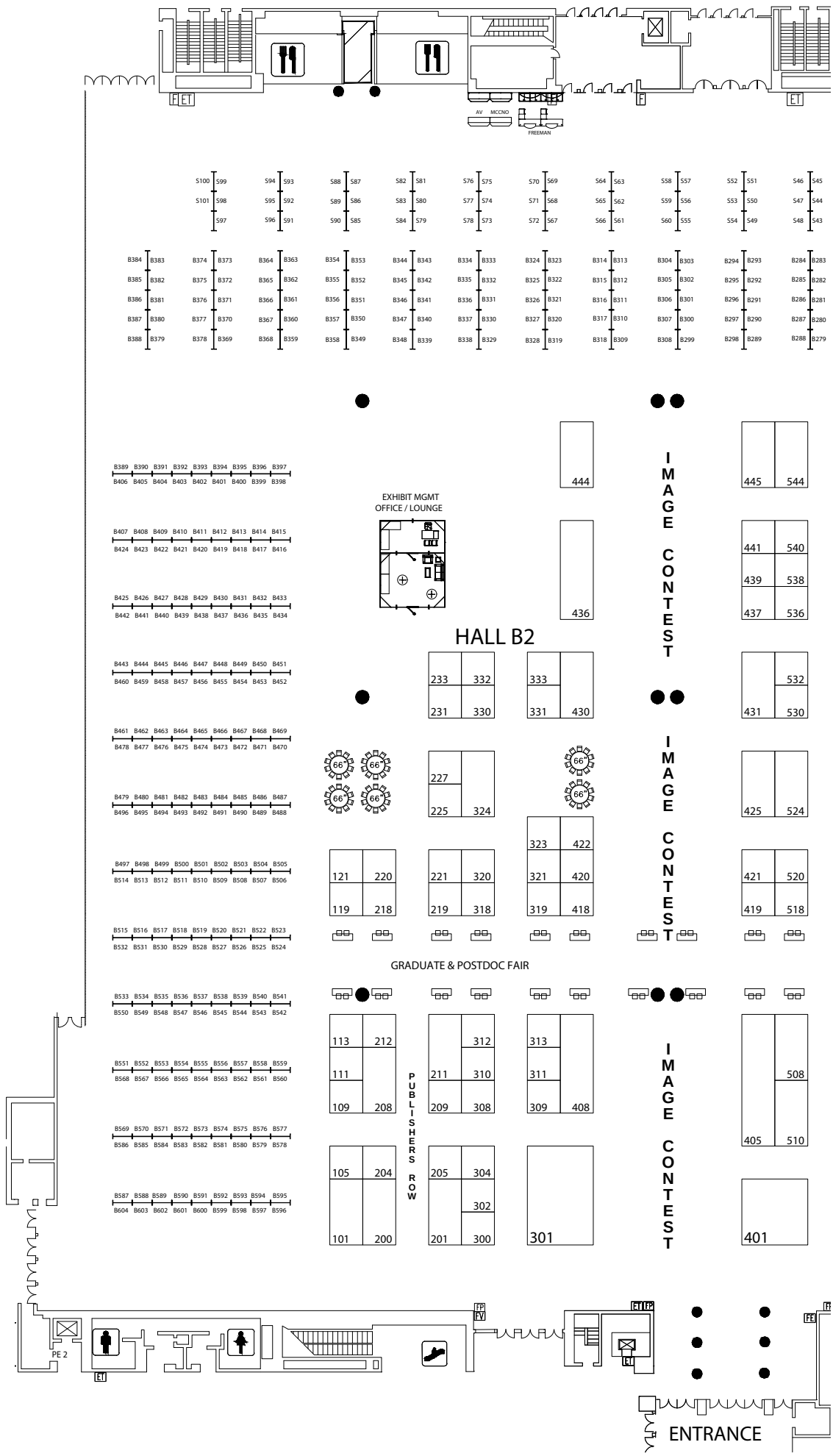
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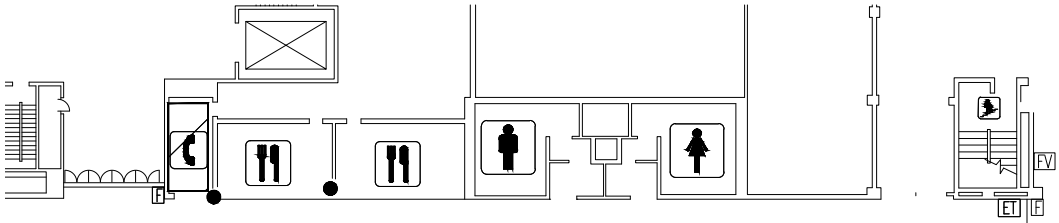

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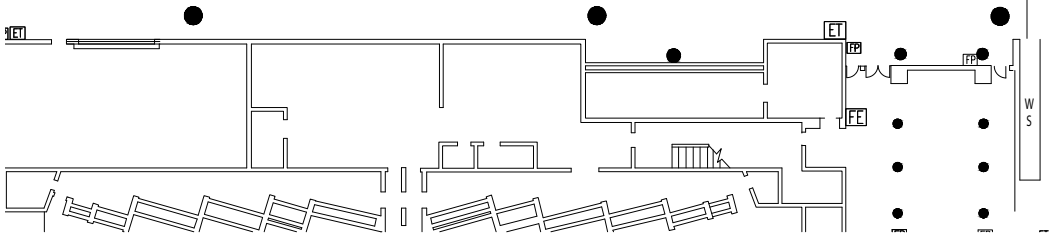


Excited about patch clamp?

nan]i[on

Port-a-Patch 2.0. NEW!
The world's smallest patch clamp rig.

Patchliner.
Unlimited experimental freedom.

SyncroPatch 384/768PE. NEW!
Patch clamp finally goes HTS.

SURFE²R N1 & SURFE²R 96SE. NEW!
Catch the wave for transporters.

CardioExcyte 96. NEW!
Bump up your safety screening.

Orbit 16 & Orbit mini. NEW!
Instant bilayers - just add protein.

Vesicle Prep Pro.
Liposomes made easy.

So are we!

Visit us at booth #405 and learn about our exciting products!

Product Demonstrations:

Monday February 13
12:30 – 2:00 PM
Room 221
Ernest N. Morial
Convention Center

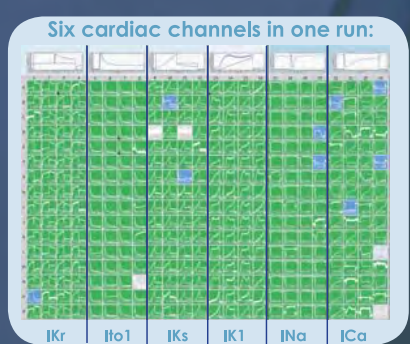
Ion Channel Drug Discovery:
Beyond the Bottleneck and Ready for CiPA

CiPA

Tuesday February 14
12:30 – 2:00 PM
Room 221
Ernest N. Morial
Convention Center

Measure More Membrane:
Cells and Bilayers on the Port-a-Patch, SURFE²R, Orbit16 and Orbit mini

Live experiments!



Welcome!

www.nanion.de

Exhibit Dates and Times

Sunday, February 12 ..... 10:00 AM–5:00 PM
Monday, February 13 ..... 10:00 AM–5:00 PM
Tuesday, February 14 ..... 10:00 AM–4:30 PM

Coffee Served Daily ..... 10:15 AM–11:00 AM

Afternoon Snack Served Sunday – Tuesday ..... 1:45 PM–3:00 PM

Exhibit Raffle

Enter to win a Samsung Galaxy Tablet 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 2:30 PM on Tuesday, February 14. The drawing will take place on Tuesday, February 14 at 3:00 PM in the Exhibit Hall – you must be present at the Meeting to win!

Exhibitor Presentations

Exhibitor Presentations will take place in Rooms 218 and 221 of the Ernest N. Morial Convention Center.
See page 158 for detailed descriptions.

Room 218

Monday, February 13

11:30 AM–1:00 PM:	Asylum Research, an Oxford Instruments Company
1:30 PM–3:00 PM:	Malvern Instruments
3:30 PM–5:00 PM:	OriginLab Corporation
5:30 PM–7:00 PM:	Sutter Instrument

Tuesday, February 14

11:30 AM–1:00 PM:	Bruker Corporation
1:30 PM–3:00 PM:	Semrock Inc

Room 221

Sunday, February 12

10:30 AM–12:00 NOON:	Carl Zeiss Microscopy LLC
12:30 PM–2:00 PM:	Bruker Corporation
4:30 PM–6:00 PM:	Oxford Nanoimaging Ltd
6:30 PM–8:00 PM:	Molecular Devices LLC

Monday, February 13

8:30 AM–10:00 AM:	TA Instruments
10:30 AM–12:00 NOON:	Beckman Coulter Life Sciences
12:30 PM–2:00 PM:	Nanion Technologies GmbH
2:30 PM–4:00 PM:	HORIBA Scientific

Tuesday, February 14

12:30 PM–2:00 PM:	Nanion Technologies GmbH

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**As of January 9, 2017*

Room 218: Monday, February 13

11:30 AM–1:00 PM

Asylum Research, an Oxford Instruments Company

Now Playing: Video-Rate AFM with the New Cypher VRS Atomic Force Microscope

Join our free lunch and learn as we introduce the first and only full-featured, video-rate AFM for imaging biological processes— the Cypher VRS Atomic Force Microscope. The Cypher VRS enables high resolution video-rate imaging at 625 lines per second with incredibly easy operation and modularity to support other modes and environmental accessories. The Cypher VRS is capable of imaging samples at 10 frames per second with unprecedented resolution for clearly observing dynamics such as the action of restriction enzymes digesting DNA molecules. Perfusion can also be performed during experiments to observe growth crystal in real time and molecular arrangements of self-assembled monolayers (SAMs). All the ease-of-use features of the industry-leading Cypher ES AFM increase productivity such as automated laser positioning, cantilever calibration, and blueDriveTM photothermal excitation for stable imaging and quantitative measurements. No other AFM can match the combined performance of video-rate speed, high resolution and versatility. Learn all the details about Cypher VRS and be entered in our iPad drawing (must be present to win). See it in action in Booth 608.

Speaker
Iréne Revenko, Product Manager, Asylum Research, an Oxford Instruments Company

1:30 PM–3:00 PM

Malvern Instruments

Molecular Interactions of Proteins & Small Molecules

Factors describing the stability of any protein formulating can generally be classified into two areas, conformational stability and colloidal stability. Conformational stability relates to the intrinsic properties of a protein molecule and can be described by a range of parameters such as melting point, enthalpy, aggregation onset temperature, and composition of aggregate. These parameters can be observed using many traditional techniques such as Differential Scanning Calorimetry (DSC), Dynamic Light Scattering (DLS), and Size Exclusion Chromatography (SEC).

Colloidal stability in contrast, is a property that describes extrinsic behavior of proteins in a bulk solution, and can be a key attribute in ensuring product quality. The most commonly observed properties to quantify colloidal stability include the diffusion interaction parameter (kD), second virial coefficient (B22), zeta potential (ζ), viscosity (η) and hydrodynamic size (rh).

The workshop will introduce a newly developed technique called Taylor Dispersion Analysis (TDA), which provides an automated method for analysis of hydrodynamic size and kD using small volumes of sample (<5uL) without the need for serial dilutions. This presentation will compare and contrast the results of Taylor Dispersion Analysis to that of traditional analysis methods to further understand the complimentary nature of these results.

Speaker
Matthew McGann, Product Manager, Innovation Products, Malvern Instruments

3:30 PM–5:00 PM

OriginLab Corporation

Origin 2017 Product Demo

This workshop will focus on graphing and analysis using our latest version, Origin 2017.

The following topics will be covered: Importing ASCII, Excel and third-party files. Creating and customizing 2D, 3D and specialized graphs. Using graph templates and themes for repeat plotting. Batch plotting. Exporting and publishing. Data processing. Data exploration. Linear and nonlinear regression. Peak analysis. Statistics. Batch analysis and custom reports using templates. Installing Apps from the OriginLab website.

Speaker
Chris Drozdowski, Technical Support, OriginLab Corporation

5:30 PM–7:00 PM

Sutter Instrument

Scientists Empowering Scientists

Patch clamp electrophysiology, which started as a highly specialized technique, is now considered a primary tool for biological research. To meet the needs of the research community, Sutter Instrument has introduced a new line of flexible and intuitive patch clamp amplifiers and data acquisition software. The IPA® Amplifier and SutterPatch® Software will allow the researcher to quickly set up and perform routine tasks, but still have the flexibility to meet the demands of the experienced electrophysiologist.

At this presentation, we will demonstrate how the IPA Integrated Patch Amplifier, the new Double IPA® Amplifier and SutterPatch Software can be used for a variety of common experiments, including characterization of ionic current and recording synaptic events in tissue slices. We will also show how the IPA family of amplifiers and SutterPatch software can be used in much more complex acquisition and analysis scenarios.

Data collection in SutterPatch Software was designed to track environmental variables along with the context of each sample within an experiment, so that all data are recorded together for future reference. We focused on creating an intuitive navigational interface to make large data sets more manageable. Controls that are already familiar to you, from electrophysiology software or applications in other fields, make finding a specific section of an experiment very easy. Where appropriate, we used innovative new approaches to make the interface as simple and powerful as possible.

Paradigms and Routines control the experiment in a way that enables a high degree of automation, helping to eliminate operator bias. Real-time decision making and sophisticated control of the experimental flow are made easy with a comprehensive set of sample parameters. Even complex stimulus waveforms can easily be configured using the Waveform Editor or a template created from a recorded or synthesized signal.

Who should attend?

- Electrophysiologists who use amplifiers, micropipettes and micromanipulators for patch clamp, sharp electrode or extracellular recordings.
- Researchers who perform patch clamp recordings in tissue slices, dissociated cells, cell lines or in vivo preparations.
- Anybody who is interested in the latest feature-rich hardware and software for electrophysiology applications.

Speakers

Jan Dolzer, Product Manager, Patch Clamp Systems, Sutter Instrument
Telly Galiatsatos, Tech Support and Product Development,
Sutter Instrument

Room 218: Tuesday, February 14

11:30 AM–1:00 PM

Bruker Corporation

BioScope Resolve - The Highest Resolution Imaging of Any BioAFM

The BioScope Resolve™ BioAFM provides the highest resolution imaging, most complete biomechanics capabilities, and fastest scanning of any bioAFM available. Specifically designed for integration onto inverted optical light and confocal microscopes, it enables investigation of a wide range of biological samples, from cells and tissues to molecular and protein structures. Our exhibitor presentation will talk about three aspects of the Bioscope Resolve BioAFM system that are advancing biological research around the world.

1. High Resolution Imaging - The unique mechanical stability and performance of the BioScope Resolve AFM on an optical microscope enables researchers to routinely resolve the major and minor grooves along the backbone of an individual DNA strand. With ScanAsyst®, high-resolution cell imaging has never been easier. This game-changing capability has allowed soft, flexible cell surface structures, such as microvilli, to be resolved for the first time on living cells by AFM.

2. Complete Cell Mechanics Data – Accurate, Repeatable. PeakForce QNM®, has become the preferred mode for nanomechanical mapping. With new algorithms, it delivers highest resolution property maps at pN forces on live cells. Together with "No Touch" tip calibration, PeakForce QNM delivers the fastest quantitative mechanical characterization of live cells, providing a complete force curve for every pixel at actuation rates from 125 Hz to 2 kHz. With our new FASTForce Volume covering rates from sub-Hz to 300 Hz, and PeakForce Tapping extending to 2 kHz, we provide the widest range of ramp rates for single points and imaging while maintaining pN force control. Our new RampScript™ allows the user to build, control and record complex nanomechanical measurements for use in protein pulling, ligand-receptor interaction, cell relaxation and viscoelastic probing.

3. Investigating Cell Dynamics – Without Compromise. Fast Tapping on living cells - Bioscope Resolve is the only BioAFM that enables fast scanning while simultaneously providing the large piezo scanner range necessary for capturing the dynamic behavior of living cells in real time (XYZ = 100µm x 100µm x 15µm). The Fast Tapping capabilities of Resolve are truly a step forward in conducting high-resolution AFM studies at timescales relevant to cellular processes. Together with the integration of advanced optical microscopy and environmental control, live cell studies have never been easier.

BioScope Resolve was designed by biologists who needed a flexible BioAFM system that could meet a wide range of biological application needs. From its Advanced Perfusing Incubator for long-term live-cell studies to its full sample-carrier support system, every feature of the BioScope Resolve is designed for maximum experiment flexibility.

Speaker

Ian Armstrong, Applications Scientist, ARM Unit, Bruker Corporation

1:30 PM–3:00 PM

Semrock Inc

Maximizing the Performance of Fluorescence Microscopes by Optical Filters

TIRF, Super-resolution & Multiphoton fluorescence microscopy techniques continue to gain in popularity. This tutorial will discuss ways of maximizing the performance of such imaging systems by utilizing applications specific optical filters.

SearchLight (https://searchlight.semrock.com/) is a free, online spectral plotting and analysis tool that allows for evaluation and optimization of microscopy systems. Latest developments with this premium modeling resource will be discussed.

Speaker
Prashant Prabhat, Business Line Leader, Semrock Inc

Room 221: Sunday, February 12

10:30 AM–12:00 NOON

Carl Zeiss Microscopy LLC

ZEISS Live Cell Imaging Tools Allow New Levels of Throughput and Image Quality

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

ZEISS has introduced a completely automated inverted platform, the Celldiscoverer 7, which simplifies every aspect of experimental setup and gives every live cell experiment the best chance for success. At the heart of the Celldiscoverer 7 is a completely unique optical concept with record setting optical resolution and light throughput. Paired with gentle LED illumination and image detectors designed for low magnification the Celldiscoverer 7 achieves new levels of imaging throughput. Complicated tasks of microscope configuration and optimization are completely automated and designed to make the most of any sample type. Automated control of cellular environment allows imaging stability to be maintained over long time course experiments. The system can be expanded with a robotic plate loading system to allow high throughput imaging from plate and slide based samples.

The ZEISS LSM 880 confocal with Airyscan and FAST technology offers a unique optical design that counters the typical loss of sample light experienced when using a confocal pinhole. The Airyscan detector allows higher resolution and lower laser illumination while acquiring with higher SNR than typically possible. The result is superresolution imaging and the needed speed to follow live cells and record fast live cell events.

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

Speaker
Scott Olenych, Academia Business Development Manager, Carl Zeiss Microscopy, LLC

12:30 PM–2:00 PM

Bruker Corporation

Super-Resolution Microscopy: Performing Quantitative Analysis at the Molecular Level

Super-resolution (SML) microscopy optically resolves spatial features within the cellular environment an order of magnitude below the classical diffraction limit. Using the quantitative analysis functions on the Vutara 352 system questions can be answered in a data driven fashion. Its software offers numerous statistical analysis features to quantify the localization data into meaningful biological interpretations. These statistical features include spatial distribution tools, such as Ripley's K and pair correlation calculations, cluster, co-localization and resolution analysis, as well as live-cell tools, such as mean-squared displacement calculations and particle tracking.

In our exhibitor presentation, we will discuss SML super resolution, its combination with quantitative analysis, and how it offers new questions and analytics at the molecular level.

Furthermore, due to the nature of the method, localization microscopy is often lacking in the contextual information of the overall cellular environment. Utilizing optical correlation microscopy of the Vutara 352, it is possible to relate the large-scale cellular environment, obtained via swept-field confocal imaging, with more refined super-resolution localization data.

Speakers
Carl G. Ebeling, Worldwide Applications Scientist, Fluorescence Microscopy Unit, Bruker Corporation
Manasa V. Gudheti, Sales Applications Scientist, Fluorescence Microscopy Unit, Bruker Corporation

4:30 PM–6:00 PM

Oxford Nanoimaging Ltd

Meet the Nanoimager: The Next Generation of Super-Resolution Microscope

Oxford Nanoimaging (ONI) have reinvented the single-molecule microscope to meet the needs of cutting edge research in the 21st century. The Nanoimager is a high-throughput, robust, single-molecule localisation based microscope that does not go out of alignment. A compact dSTORM, PALM and single-molecule FRET solution with a footprint smaller than an A4 piece of paper, the system offers the most stable platform on the market and can be run from a standard laboratory bench. High power 1W lasers and the most efficient light path of any commercial solution gives the Nanoimager excellent performance and sets a new standard in super-resolution imaging. The Nanoimager is a small microscope with a big personality: expert capabilities and top performance for both novice and experienced users. ONI have made single-molecule experiments easier, and have made instrument costs accessible to the majority. Come and learn more about the next generation of super-resolution microscopes: this presentation will not only introduce the newly released Nanoimager but will show the latest achievable data and the technical ability of this ground-breaking instrument. The Nanoimager needs to be seen to be believed. No alignment. No optical table. No compromise.

Speaker
Raphael Jorand, Applications Specialist, Oxford Nanoimaging Ltd

6:30 PM–8:00 PM

Molecular Devices LLC

Getting the Most Out of Your Experiments with pCLAMP and HumSilencer Technology

The patch-clamp technique remains the best method for evaluating ion channel physiology, and since 1983 Axon Instruments has been the gold standard in patch-clamp equipment. Axon Instruments continues to push the envelope with new innovations with best-in-class systems and software.

Join this workshop to learn about our latest breakthrough, HumSilencer technology, built into the Digidata 1550B Data Acquision System. HumSilencer is a new and easy way to eliminate 50 or 60 Hz line synchronous noise and associated high frequency harmonics WITHOUT the use of a filter.

In addition to HumSilencer, pCLAMP remains the industry standard software package for electrophysiology because of its power, flexibility and ease of use. Are you getting the most out of your pCLAMP software? Join this workshop to learn more about how you can maximize what you can do with pCLAMP and learn something you may not know.

Speaker
Jeffrey Webber, Product Manager, Electrophysiology, Molecular Devices LLC

Room 221: Monday, February 13

8:30 AM–10:00 AM

TA Instruments

Instrumentation and Experimental Design for Utilization of ITC and IMC Techniques for Characterization of Biopharmaceuticals

Eight out of the top ten drugs worldwide in 2016 are biopharmaceuticals. Microcalorimetry is a powerful tool in the characterization of their structure and stability. Isothermal titration calorimetry (ITC) has long been the gold standard technique for exploring the binding of any drug to its target molecule. Recent publications describing the advantages of enthalpy screening utilizing the advances in ITC hardware and software exemplified by the Affinity ITC instruments from TA Instruments have shown that microcalorimetry remains a powerful tool in characterizing biopharmaceuticals. Isothermal Calorimetry (IMC) has the sensitivity and flexibility to fully characterize formulation stability and aggregation kinetics of even the high concentration (200-300 mg/mL) biopharmaceutical formulations. The sensitivity and flexibility of the TAM IV microcalorimetry system has shown the ability to rapidly characterize even the slowest degradation or aggregation reactions taking place in these biopharmaceutical formulations without diluting the sample. Attendees will participate in a wide ranging discussion of these powerful techniques including a full detailed description of the new Affinity ITC and TAM IV hardware along with a Q&A session focused on experimental design considerations for successfully performing enthalpy screening and biopharmaceutical formulation stability testing. Join your colleagues in this in-depth discussion of how ITC and IMC can speed up the candidate selection process and benefit overall lab productivity in any drug discovery or development effort.

Speaker
Dile Holton, Microcalorimetry Product Manager, TA Instruments

10:30 AM–12:00 NOON

Beckman Coulter Life Sciences

What Goes Around, Comes Around: Unveiling the Optima AUC

For more than 70 years, Analytical Ultracentrifugation (AUC) has played a critical role in laying the foundations for modern molecular biology. AUC allows for the characterization of proteins, oligomers, aggregates, particles, colloids, nanoparticles, extracellular vesicles and other small structures in native conditions and matrix-free conditions. By measuring proteins and other macro-molecules as interacting elements instead of in isolation, AUC more closely approximates true physiological conditions offering unique insight into molecular characterization and processes including molecular weight determination/conformation, stoichiometry, heterogeneity as well as thermodynamic parameters associated with binding.

Following a brief overview of the fundamentals of AUC operation and analysis, the talk will include a brief introduction of the new Optima AUC system. Comparative data from the new Optima AUC versus the ProteomeLab series will be presented, while highlighting applications that are now enabled in the new system due to multi-wavelength analysis and faster scan speeds.

Analytical Ultracentrifugation is a complementary technique to many others; the talk will illuminate advantages of AUC over existing techniques for different applications. Lastly, future research fields enabled by the new Optima AUC will be discussed.

Speaker
Chad Schwartz, AUC Product Manager, Beckman Coulter Life Sciences

12:30 PM–2:00 PM

Nanion Technologies GmbH

Ion Channel Drug Discovery - Beyond the Bottlenecks and Ready for CiPA

Nanion Technologies is one of the leading providers of automated patch clamp systems, offering a diverse product portfolio for experiments ranging from single channel recordings to HTS-compatible ion channel drug discovery. During this workshop, we will demonstrate how to push the boundaries of patch clamp-based ion channel high throughput screening projects of various voltage- and ligand gated targets, and how to get ready for CiPA-compliant safety screening beyond hERG.

The CIPA initiative is an ongoing validation program aimed at improving the regulatory requirements for proarrhythmia risk assessment. In accordance with the CiPA-initiative, the panel of cardiac ion channels to consider will drastically expand, consequently requiring increased data throughput for early compound safety prediction.

The SyncroPatch 384/768PE, an automated patch clamp platform recording from up to 768 cells simultaneously, allows the highest data throughput on the market supporting HTS of ion channel active compounds and early safety assessment on cardiac channels. Data of six different cardiac channels recorded in the voltage clamp mode, using one single plate, will be shown. The SyncroPatch 384/768PE also supports automated current clamp recordings, experiments at physiological temperature, and minimal cell usage, making it the ideal partner for safety testing on stem cell-derived cardiomyocytes.

The CardioExcyte 96 is a hybrid system combining impedance and EFP recordings from beating cardiomyocyte networks from 96 wells in parallel. The CardioExcyte 96 has proven a versatile tool for safety and toxicity screening applications serving as a powerful tool complementing APC.

Join our workshop to learn more about new safety screening strategies and how to keep up with the increasing demands on cardiac safety and toxicity screening.

Space is limited so reserve yours by sending an email to info@nanion.de.

Speakers
Andrea Brüggemann, CSO, Nanion Technologies GmbH
Niels Fertig, CEO, Nanion Technologies GmbH
Markus Rapedius, Senior Scientist, Nanion Technologies GmbH

2:30 PM–4:00 PM

HORIBA Scientific

Experience the New Shape and SPEED of Things to Come in Fluorescence

HORIBA Scientific is proud to introduce a revolutionary new fluorescence/UV-Vis spectrometer that advances beyond larger, slower, multi-step scanning fluorometers. The design consists of a harmonious blend of two spectroscopies, Fluorescence AND Absorbance, applied in a unique and patented way.

The system combines a patented two-in-one fluorescence / UV-Vis spectrometer with an ultrafast CCD that acquires fluorescence spectra in the blink of an eye. It features a smaller, more elegant and ergonomic design than current fluorometers with a simple and unique interchangeable sampling arrangement. In addition to traditional fluorescence AND UV-Vis-NIR absorbance spectroscopy modalities, the new system features ultra-fast fluorescence Excitation Emission Matrices (EEMs), simultaneous absorbance allowing for extended linear dynamic range due to automatic inner filter effect corrections, and unique molecular fingerprinting capabilities not available on any other commercial fluorometer.

The new instrument has a standard wavelength range from 200 to 1,100 nm and a scan speed of over 5,000,000 nm/min, allowing the system to go further into the NIR, and acquire data much faster than any competitive mid-market, bench-top spectrofluorometer.

Beyond even all of these unique benefits, this new instrument is also much more sensitive than any other commercial bench-top spectrofluorometer.

Just as the hardware and configuration are all new, so too is the software that runs the instrument. Running on the latest touch screen Windows operating systems, this newest generation of spectroscopy software offers dedicated apps-driven icons that simplify the user experience and the operation of the instrument. Researchers and students will easily be able to perform fluorescence, absorption or simultaneous fluorescence and absorbance measurements and applications without prior software training.

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

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

Room 221: Tuesday, February 14

12:30 PM–2:00 PM

Nanion Technologies GmbH

Measure More Membrane: Cells, Bilayers, and Transporter Activity

In this workshop we will showcase three versatile technologies: the Port-a-Patch, the world's smallest patch clamp rig, the Orbit product family, for parallel lipid bilayer recordings of reconstituted ion channels, and the SURFE2R product family, for label-free and direct measurements of transporter protein activity.

The Port-a-Patch is the smallest patch clamp rig in the world and supports high quality patch clamp recordings; accessible to electrophysiologists and non-electrophysiologists alike. Giga-seal recordings coupled with excellent voltage-clamp of the cellular membrane ensure high quality data. Versatile add-ons, such as internal perfusion, allow unprecedented experimental freedom, above and beyond the possibilities of conventional patch clamp.

The Orbit 16 supports the parallel formation and recording from up to 16 lipid bilayers containing reconstituted ion channels or nanopores. Using Micro Electrode Cavity Array (MECA, Ionera) recording substrates, the bilayers are automatically formed by remotely actuated painting (Ionera- SPREAD), which will be demonstrated during this session. Based on the same principle, with the added possibility of active cooling and heating, the Orbit mini is a minimal footprint, turn-key system and allows 4 parallel lipid bilayer recordings.

SSM (solid supported membrane)-based electrophysiology is a technique whereby proteoliposomes, membrane vesicles, or membrane fragments containing the channel or transporter of interest are adsorbed to a lipid monolayer painted over a functionalized electrode. Automation of the SSM technology is accomplished by the SURFE2R product family and allows precise measurements and in-depth analysis of transporter and ion channel functions. Live experiments on the SURFE2R will be shown.

Join this workshop for live experiments and information about three outstanding platform families. Space is limited, please reserve yours by sending an email to info@nanion.de.

Speakers
Andrea Brüggemann,CSO, Nanion Technologies GmbH
Niels Fertig, CEO, Nanion Technologies GmbH
Gerhard Baaken, CEO, Ionera Technologies GmbH
Ekaterina Zaitseva, CSO, Ionera Technologies GmbH
Maria Barthmes, Product Manager SURFE2R,
Nanion Technologies GmbH

Company Name Booth Number

89 North **524**
1 Mill Street, Unit 285
Burlington, VT 05401
www.89north.com

89 North provides innovative solutions for fluorescence imaging featuring the LDI, a state-of-the-art 7-line laser illuminator with up to 1 watt of power per channel. The newly released OptoTIRF illuminator and the L-SPI macro light sheet illuminator will be displayed, as well as emission splitting systems, optogenetics solutions, high speed filter wheels and laser combiners from Cairn Research and confocal imaging systems from CrestOptics. We also offer engineering and manufacturing expertise to customize existing products or to create new solutions for system integration.

AAT Bioquest Inc **319**
520 Mercury Drive
Sunnyvale, CA 94085
www.aatbio.com

AAT Bioquest develops, manufactures and markets bioanalytical reagents and assay kits for life science research and drug discovery. We specialize in absorption, fluorescence and luminescence-based biological detection technologies. Our products include the outstanding Fluo-8®, Cal-520™, Cal-590™, Cal-630™ and FLIPR calcium assay kits, fluorescent ion indicators, fluorescent labeling reagents, cell and in vivo imaging probes. We also offer a full spectrum of apoptosis probes and assay kits.

Company Name Booth Number

Agilent Technologies **324**
2850 Centerville Road
Wilmington, DE 19808
www.agilent.com

Agilent provides world-class solutions for cellular and molecular analysis. Agilent Seahorse XF metabolic analyzers and XF assay kits determine the bioenergetic function of live cells in vitro; and connect genomic and proteomic data to physiologic traits of cells to generate new insights into aging and disease. Agilent's Cary UV-Vis-NIR Spectrophotometers and FTIR systems deliver unparalleled performance in a range of life science applications. These accurate and intuitive systems provide exceptional resolution and linearity. Learn more at: www.agilent.com.

AIP Publishing **208**
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Melville, NY 11747
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ALA Scientific Instruments **521**
60 Marine Street
Farmingdale, NY 11735
www.alascience.com

As manufacturers (fluidics, chambers, etc) and distributors (MultiChannel, npi, HEKA, Sutter, Narishige, TMC) of instruments for patch/cellular and multielectrode electrophysiology, our scientists/engineers have decades of experience assembling systems and building custom setups. We focus on your equipment needs so you can focus on your research.

Company Name Booth Number

Alembic Instruments Inc **713**
3285 Cavendish Boulevard, Suite 570
Montreal, Quebec H4B 2L9
Canada
www.alembicinst.com

Alembic Instruments makes patch clamps amplifiers with 100% Rs Compensation! Our patented Rs CompensatorTM completely eliminates series resistance errors rapidly, easily, and with full stability. Only the Rs CompensatorTM can voltage clamp the largest, fastest ionic currents, under physiologic conditions - currents that are simply out of reach without it.

ALVEOLE **119**
68, boulvevard de Port-Royal
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France
www.alveolelab.com

Alvéole develops innovative tools for controlling the cell microenvironment, thus allowing biologists to control the development and proliferation of living cells in culture. Alvéole presents PRIMO, the first multi-protein photopatterning solution. PRIMO enables the biologists to design and conduct all the micropatterning experiments they can imagine, in 2D and also 3D, for their cell based-assays that are essential for their research work.

anatrace

Anatrace **312**
434 West Dussel Drive
Maumee, OH 43537
www.anatrace.com

For 30 years, Anatrace has strived to develop and supply the industry's finest products for protein science. Building on our portfolio of detergents and lipids, the addition of Microlytic crystallization tools and screens and our line of protein purification products allow us to fully support the entire structural biology pipeline. With the highest batch-to-batch consistency, we are the most trusted detergent source for extracting, solubilizing, stabilizing, and/or crystallizing macromolecules.

Company Name Booth Number

Andor Technology 612

300 Baker Avenue, Suite 150
Concord, MA 01742
www.andor.com

Andor Technology pioneers and manufactures state-of-the-art high performance scientific imaging cameras, spectroscopy solutions and microscopy systems. Andor is strong market leader in the supply of innovative, deep cooled Electron Multiplying CCD (EMCCD) cameras, a single photon sensitive imaging technology that is extremely well suited to the demands of Single Molecule Detection.

Anton Paar USA 808

10215 Timber Ridge Drive
Ashland, VA 23005
www.anton-paar.com

Anton Paar is a leading supplier of analytical instrumentation focused on the biophysical characterization of proteins, liposomes and other nanoscale analytes. Specific technologies include: Small-angle X-ray Scattering (SAXS) for the nano and sub-nano scale characterization of sample size, shape, inner structure and orientation of proteins, nanoparticles, liposomes and core/shell particles as well as Dynamic Light Scattering (DLS) for the measurement of particle size, zeta potential, molecular mass and transmittance of proteins, liposomes, nanoparticles, emulsions and protein complexes.

Company Name Booth Number

ASI/Applied Scientific Instrumentation 441

29391 West Enid Road
Eugene, OR 97402
United States
www.asiimaging.com

Applied Scientific Instrumentation, Inc. (ASI) manufactures top-of-the-line products for Super-resolution microscopy including DC servomotor stages, stages with integrated piezos that provide high-speed nano meter resolution, LED based focus feedback systems for maintaining focus stability, and our Rapid Automated Modular Microscope (RAMM) system that provides a rock solid, fully configurable microscope platform. Our new Dual Inverted Selective Plane Microscopy system (diSPIM) offers several advantages over confocal & other microscopy systems including:

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Company Name Booth Number

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www.oxford-instruments.com/afm

The AFM technology leader will feature the Cypher Atomic Force Microscope. There is no other AFM like Cypher™ — offering unmatched performance in any environment including buffers, solvents, inert gases, strong acids and bases with continuous flow through 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. Its many ease-of-use features, including GetStarted™, and blueDrive™ for fluid imaging, make AFM operation faster and easier. . Learn more about all the latest AFM advances at our Lunch and Learn Exhibitor Technical Presentation, Monday 11:30-1:00, Room 218.

Aurora Scientific Inc 646

25 Industry Street, Unit 3
Aurora, Ontario L4G 1X6
Canada
www.aurorascientific.com

Aurora Scientific provides solutions for measuring the dynamic physical properties of muscle and connective tissue. Muscle mechanics systems cover the range from single myocyte to whole large-animal in-situ. Products: Muscle Lever Systems, Force Transducers, High-Current Stimulators, Test Apparatus and Software. New Products: Dynamic Muscle Analysis Software with high throughput module.

Avanti Polar Lipids Inc 408

700 Industrial Park Drive
Alabaster, AL 35007
www.avantilipids.com

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Aviv Biomedical Inc 310

750 Vassar Avenue, Suite 2
Lakewood, NJ 08701
www.avivbiomedical.com

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.

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Caliber ID's RS-G4 is a large-format, purpose-built, resonant-scanning confocal microscope providing several laser lines (405/488/561/640/785) for single, simultaneous, or sequential image acquisition of fluorescent labels. One of the main advantages of the RS-G4 is its ability to collect high-quality confocal images of large biological specimens (up to 80 x 120mm), in just a faction of time taken by traditional confocal microscopes. Applications in Neuroscience, Developmental Biology, Pathology, Plant Pathology, Translational Research and Industry.

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Chroma Technology designs and manufactures optical interference filters using advanced sputtering technologies. Our high performance filters are intended for imaging applications ranging from widefield and confocal fluorescence microscopy, TIRF and super-resolution techniques to flow cytometry, high content screening multi-photon and Raman spectroscopy. Chroma also provides comprehensive technical and applications support.

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Dynamic Biosensors GmbH 323
Lochhamer Str. 15
Martinsried/Planegg, 82152
Germany
www.dynamic-biosensors.com

Dynamic Biosensors GmbH is a provider of instruments, consumables, and services in the field characterization of biomolecules and molecular interactions. We are located in Martinsried south of Munich, Germany. Our switchSENSE technology is the first biosensor system to allow interaction analysis AND biophysical analyte characterization at the same time.

Company Name Booth Number

Ecocyte Bioscience US LLC 630

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Ecocyte Bioscience is the leading supplier of Xenopus laevis oocytes that offers a biweekly delivery service for expression studies. Our oocytes are defolliculated via collagenase treatment and ready to use for mRNA or cDNA injection. In addition, we are able to offer pre-injected oocytes or contract services with Two Electrode Voltage Clamp (TEVC) recordings. Therefore, if you do not have your own setup and wish to perform electrophysiological measurements, we can perform injections, simple expression studies, and even complex concentration effect curves and kinetics for you.

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Company Name Booth Number

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Italy
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Finger Lakes Instrumentation 627

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FLI began operations in 1998 as a supplier of cooled CCD cameras for astronomical research. Today we operate from three facilities in two locations. Our Binghamton office is dedicated to production of High Speed Filter Wheels, Incite Next Cube Turret as well as software and mechanical engineering. FLI supplies cameras to more than 50 countries for life science imaging, veterinary radiology, astronomy, forensics, transmission electron microscopy, and a wide range of other applications.

Flexcell International Corporation 620

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Burlington, NC 27215
www.flexcellint.com

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Company Name Booth Number

Fluxion Biosciences 724

385 Oyster Point Boulevard, #3
South San Francisco, CA 94080
www.fluxionbio.com

Fluxion Biosciences, Inc. develops analytical instruments for functional cellular analyses in life science, drug discovery, and diagnostic applications. It offers IonFlux systems for high throughput automated patch clamping including IonFlux 16, IonFlux HT and the all new IonFlux Mercury. All systems feature a unique in-plate liquid exchange platform, allowing for continuous flow and extensive control over liquid displacement. IonFlux systems are used in academic, pharmaceutical institutions all over the world, and are considered the de-facto systems for ligand-gated ion channel assays.

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Company Name Booth Number

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Company Name Booth Number

Laboratory for Fluorescence Dynamics 304

3120 National Sciences II
University of California, Irvine
Irvine, CA 92697
www.lfd.uci.edu

The Laboratory for Fluorescence Dynamics (LFD) is a national research resource center for biomedical fluorescence spectroscopy, supported by the National Institute of Health (NIGMS) and the University of California, Irvine (UCI). Main activities: Services and Resources: state-of-the-art lab for fluorescence measurements, microscopy, spectroscopy. Research and Development: design, test, and implement advances in the technology of hardware, software, biomedical applications. Training and Dissemination: disseminates knowledge of fluorescence spectroscopic principles, instrumentation, applications.

Larodan 520

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Company Name Booth Number

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NanoTemper Technologies Inc 718

395 Oyster Point, Suite 135
South San Francisco, CA 94080
www.nanotemper-technologies.com

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Nikon Instruments Inc 431

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Oxford Nanoimaging Ltd 705

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SB Drug Discovery 631

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United Kingdom
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Scientifica Ltd 710

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United Kingdom
www.scientifica.uk.com

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The Journal of Physiology 218

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United Kingdom
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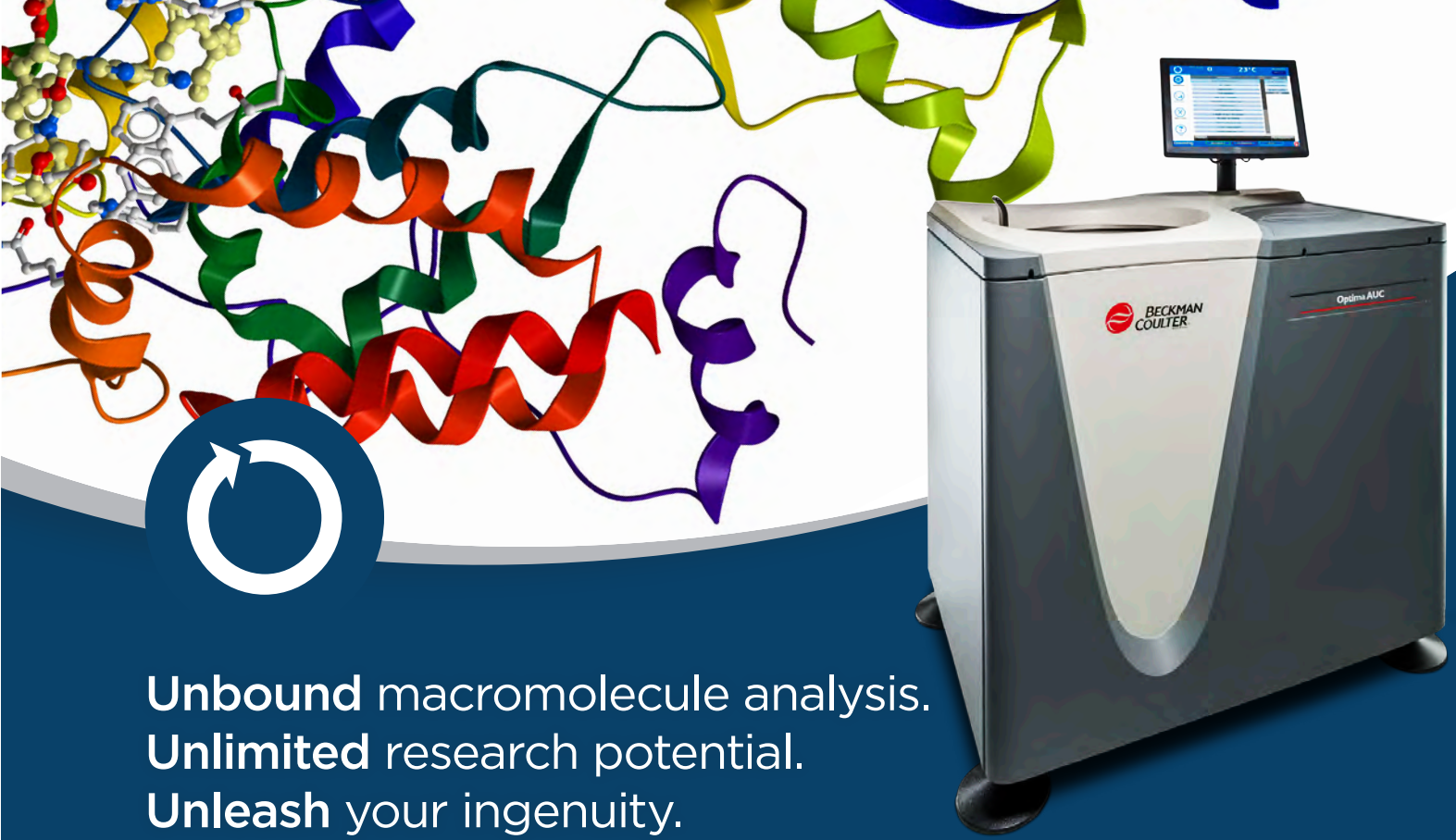

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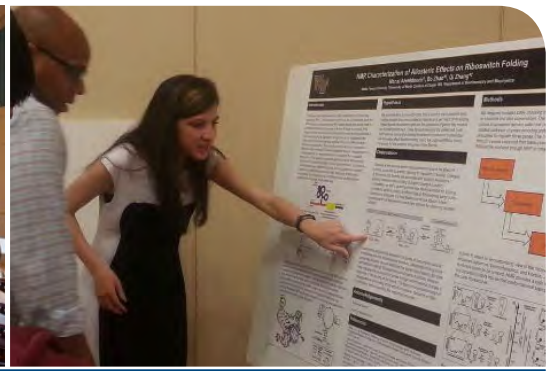

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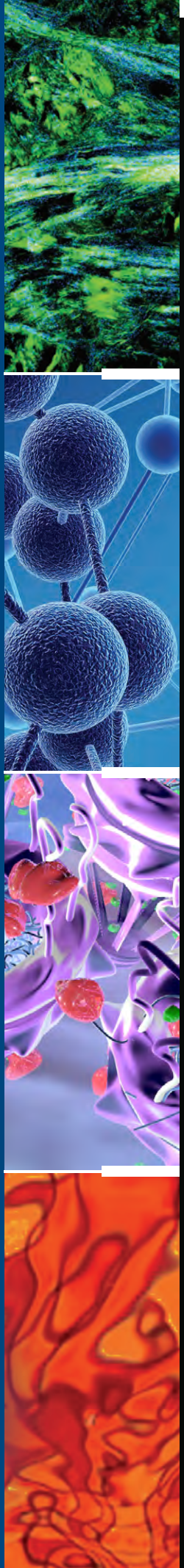

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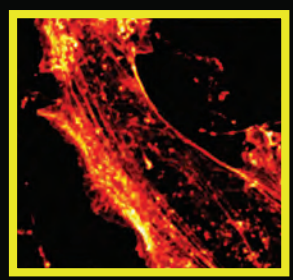
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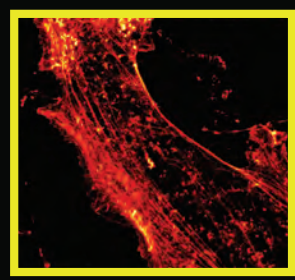
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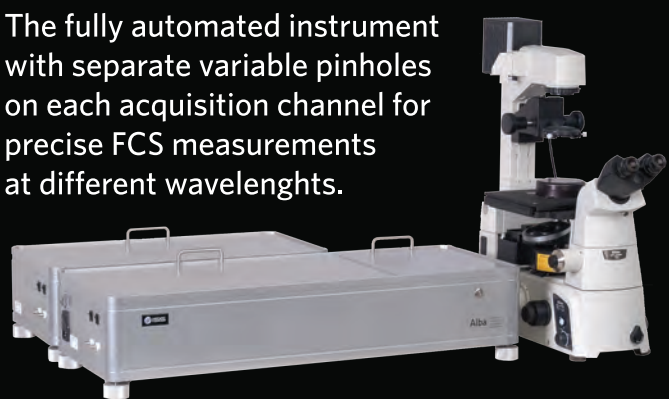

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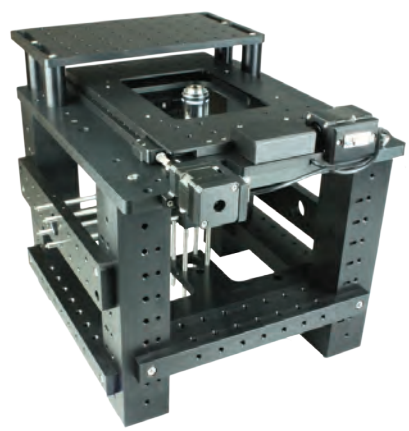

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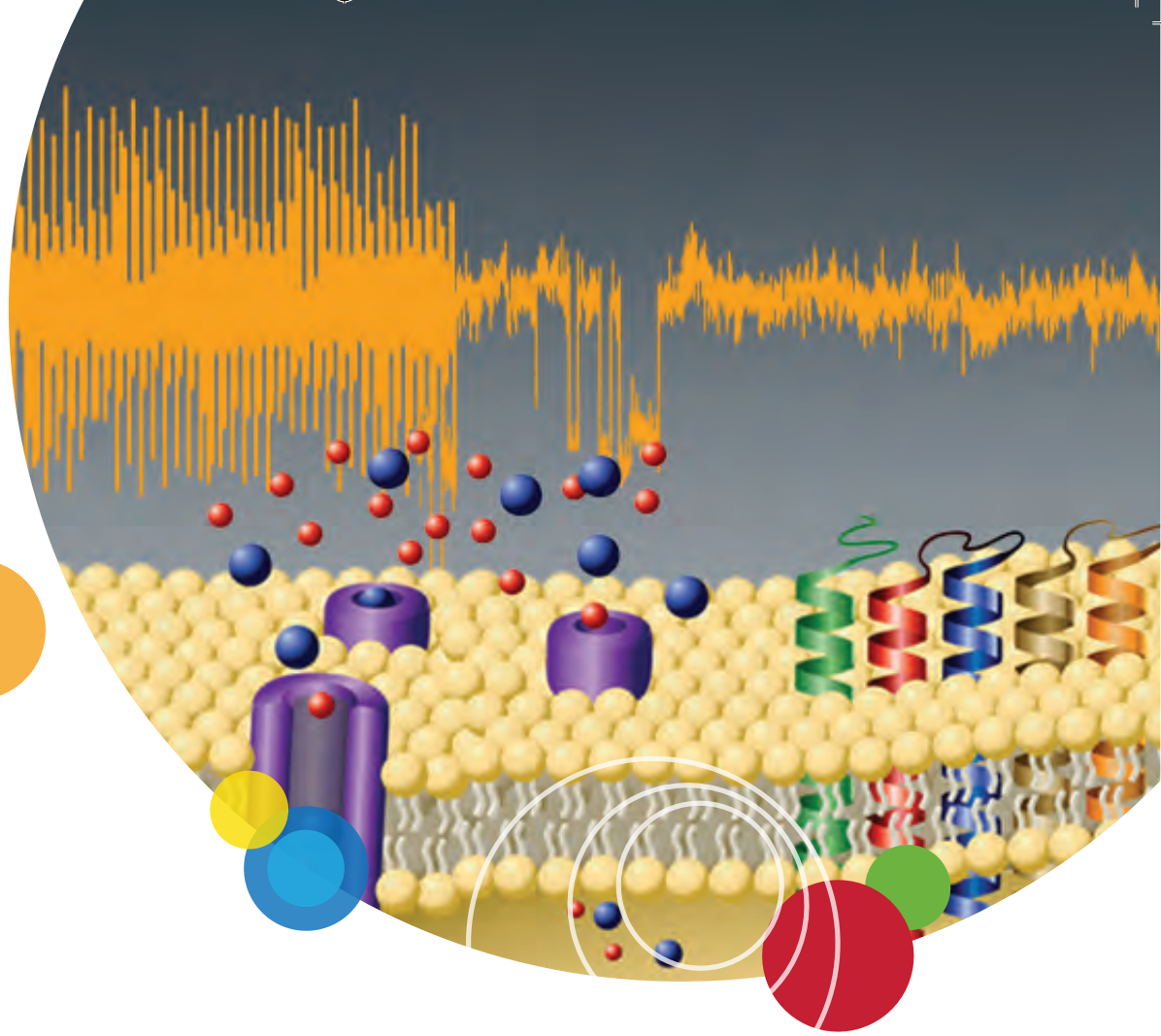
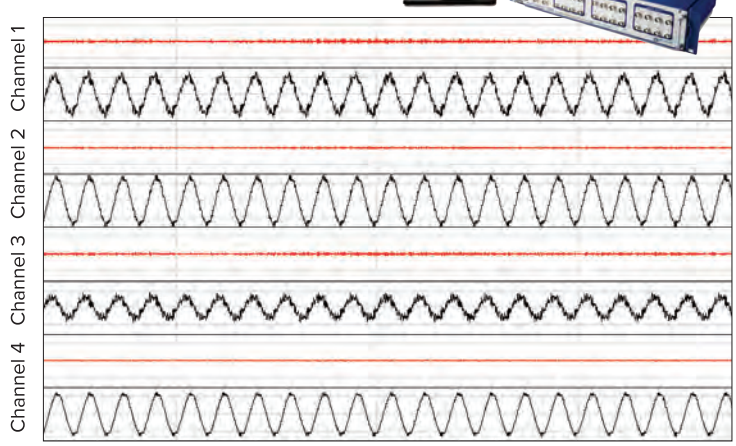


Goodbye noise, hello signal

Bring a new level of simplicity to your patch-clamp experiments.

Equipped with up to four HumSilencer™ channels, the Axon™ Digidata® 1550B Low Noise Data Acquisition System enables you to record multiple cells simultaneously without 50/60 Hz line-frequency noise.



Recording with 4 model cells.

HumSilencer-enabled data **Raw data**

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