# Wednesday, February 6, 2013

## Daily Program Summary

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

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|---|---|---|
| **8:00 AM–12:00 PM** | **Career Center** | **Room 108B** |
| **8:00 AM–12:00 PM** | **Undergraduate Student Lounge** | **Room 106A** |
| **8:00 AM–3:00 PM** | **Child Care** | **Marriott Downtown, Room 401–403** |
| **8:00 AM–3:00 PM** | **Poster Viewing** | **Hall C** |
| **8:00 AM–3:30 PM** | **Family Room** | **Room 307AB** |
| **8:15 AM–10:15 AM** | **Symposium: Flagella and Motility**<br>**Chair**: *Howard Berg, Harvard University*<br>FLAGELLAR MOTOR REMODELING AND FILAMENT GROWTH. *Howard Berg*<br>STRUCTURAL INSIGHT INTO TORQUE GENERATION MECHANISM OF THE BACTERIAL FLAGELLAR MOTOR. *Keiichi Namba*<br>ASSEMBLY AND FUNCTION OF THE ARCHAEAL MOTILITY STRUCTURE, THE ARCHAELLUM. *Sonja-Verena Albers*<br>STRUCTURE-BASED ANALYSIS OF THE TYPE III SECRETION SYSTEM FOR ANTIMICROBIAL AND VACCINE DESIGN. *Natalie Strynadka* | **Grand Ballroom A** |
| **8:15 AM–10:15 AM** | **Symposium: Biological Circuit Design**<br>**Chair**: *Ron Weiss, Massachusetts Institute of Technology*<br>SYNTHETIC BIOLOGY: FROM PARTS TO MODULES TO THERAPEUTIC SYSTEMS. *Ron Weiss*<br>BUILDING A COMPUTER FROM BACTERIOPHAGE. *Drew Endy*<br>NOISE SUPPRESSION AND PULSE GENERATION IN A MICRORNA FEED-FORWARD LOOP. *Georg Seelig*<br>GENE EXPRESSION GENOMICS. *Sarah A. Teichmann* | **Grand Ballroom B** |
| **8:15 AM–10:15 AM** | **Platform: Imaging & Optical Microscopy - Technology** | **Room 201AB** |
| **8:15 AM–10:15 AM** | **Platform: Protein-Lipid Interactions II** | **Room 204AB** |
| **8:15 AM–10:15 AM** | **Platform: Membrane Receptors & Signal Transduction II** | **Room 103AB** |
| **8:15 AM–10:15 AM** | **Platform: Membrane Protein Structure & Function III** | **Room 113AB** |
| **8:15 AM–10:15 AM** | **Platform: Protein-Nucleic Acid Interactions II** | **Room 103C** |
| **8:15 AM–10:15 AM** | **Platform: Ligand-gated Channels** | **Room 113C** |
| **9:00 AM–1:00 PM** | **Biomolecular Discovery Dome** | **Hall C** |
| **10:30 AM–11:15 AM** | **Coffee Break** | **Hall C** |
| **10:30 AM–12:30 PM** | **Poster Presentations and Late Posters** | **Hall C** |
| **10:30 AM–12:30 PM** | **Meet the Speakers/Meet the Editors** | **Hall C** |
| **12:30 PM** | **iPad Mini Raffle** | **Hall C** |
| **1:00 PM–3:00 PM** | **Symposium: Lipid and Lipid Bilayer Regulation of Ion Channel Function**<br>**Chair**: *Olaf Andersen, Weill Cornell Medical College*<br>INTERACTIONS OF DRUGS AND OTHER AMPHIPHILES WITH MEMBRANES: IMPLICATIONS FOR MEMBRANE PROTEIN FUNCTION. *Olaf S. Andersen*<br>LIPID-BILAYER MEDIATED CONTROL OF MECHANOSENSITIVE ION CHANNELS' ACTIVITY. *Armagan Kocer*<br>MECHANISMS OF CHOLESTEROL REGULATION OF KIR CHANNELS. *Irena Levitan*<br>MECHANOSENSITIVE CHANNELS AS SENSORS FOR LIPOPHILIC DRUG PARTITIONING. *Sergei Sukharev* | **Grand Ballroom A** |

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|---|---|---|
| **1:00 PM–3:00 PM** | **Symposium: Light-driven Reactions and Physiology**<br>**Chair**: *Janos Lanyi, University of California, Irvine*<br>PROTEIN TUNING OF LIGAND PATHWAYS AND METAL CENTERS IN HEME-COPPER OXIDASES. *Ólöf Einarsdóttir*<br>INTERACTION OF ANTENNA CAROTENOID AND RETINAL IN THE LIGHT-DRIVEN PUMPS OF SALINIBACTER RUBER AND GLOEOBACTER VIOLACEUS. *Janos K. Lanyi*<br>FLUORESCENCE ASSAYS FOR PHOTOSYNTHETIC CAPACITY OF BACTERIA. *Péter Maróti*<br>DESIGN AND ENGINEERING OF A LIGHT-ACTIVATED POTASSIUM CHANNEL. *Anna Moroni* | **Grand Ballroom B** |
| **1:00 PM–3:00 PM** | **Platform: Micro- and Nanotechnology** | **Room 201AB** |
| **1:00 PM–3:00 PM** | **Platform: Protein Structure** | **Room 204AB** |
| **1:00 PM–3:00 PM** | **Platform: Membrane Structure II** | **Room 103AB** |
| **1:00 PM–3:00 PM** | **Platform: Actin, Microtubules, and Their Binding Proteins** | **Room 113AB** |
| **1:00 PM–3:00 PM** | **Platform: Systems Biophysics** | **Room 103C** |
| **1:00 PM–3:00 PM** | **Platform: Protein Assemblies, Aggregates, & Chaperones** | **Room 113C** |

# Wednesday, February 6

**8:00 AM–12:00 PM, ROOM 108B**

## Career Center

**8:00 AM–12:00 PM, ROOM 106A**

## Undergraduate Student Lounge

This student lounge provides a space for undergraduates to relax, network, or catch up on coursework while at the Annual Meeting. Members of the Education Committee will be present at various times to talk with students about career paths and academic opportunities.

**8:00 AM–3:00 PM, MARRIOTT DOWNTOWN, ROOM 401–403**

## Child Care

**8:00 AM–3:00 PM, HALL C**

## Poster Viewing

**8:00 AM–3:30 PM, ROOM 307AB**

## Family Room

**8:15 AM–10:15 AM, GRAND BALLROOM A**

## Symposium
## Flagella and Motility

**Chair**
*Howard Berg, Harvard University*

**2735-SYMP 8:15 AM**
FLAGELLAR MOTOR REMODELING AND FILAMENT GROWTH. **Howard Berg**

**2736-SYMP 8:45 AM**
STRUCTURAL INSIGHT INTO TORQUE GENERATION MECHANISM OF THE BACTERIAL FLAGELLAR MOTOR. **Keiichi NAMBA**

**2737-SYMP 9:15 AM**
ASSEMBLY AND FUNCTION OF THE ARCHAEAL MOTILITY STRUCTURE, THE ARCHAELLUM. **Sonja-Verena Albers**

**2738-SYMP 9:45 AM**
STRUCTURE-BASED ANALYSIS OF THE TYPE III SECRETION SYSTEM FOR ANTIMICROBIAL AND VACCINE DESIGN. **Natalie Strynadka**

**8:15 AM–10:15 AM, GRAND BALLROOM B**

## Symposium
## Biological Circuit Design

**Chair**
*Ron Weiss, Massachusetts Institute of Technology*

**2739-SYMP 8:15 AM**
SYNTHETIC BIOLOGY: FROM PARTS TO MODULES TO THERAPEUTIC SYSTEMS. **Ron Weiss**

**NO ABSTRACT 8:45 AM**
BUILDING A COMPUTER FROM BACTERIOPHAGE. **Drew Endy**

**2740-SYMP 9:15 AM**
NOISE SUPPRESSION AND PULSE GENERATION IN A MICRORNA FEED-FORWARD LOOP. Timothy Strovas, Alexander B. Rosenberg, **Georg Seelig**

**2741-SYMP 9:45 AM**
GENE EXPRESSION GENOMICS. **Sarah A. Teichmann**

**8:15 AM–10:15 AM, ROOM 201AB**

## Platform
## Imaging & Optical Microscopy–Technology

**Co-Chairs**
*Ilaria Testa, Max Planck Institute, Germany*
*Pingyong Xu, Institute of Biophysics, Chinese Academy of Sciences, China*

**2742-PLAT 8:15 AM**
REDUCTIVE CAGING ENABLES ULTRA-BRIGHT PHOTOACTIVATABLE FLUOROPHORES FOR SUPERRESOLUTION IMAGING. **Joshua Vaughan**, Shu Jia, Xiaowei Zhuang

**2743-PLAT 8:30 AM**
DEVELOPING PHOTOACTIVATABLE FLUORESCENT PROTEINS FOR DIFFRACTION-LIMITED AND SUPERRESOLUTION IMAGING. **Pingyong Xu**, Xi Zhang, Mingshu Zhang, Tao Xu

**2744-PLAT 8:45 AM**
RESOLFT NANOSCOPY IN LIFE SCIENCES: UNRAVELING FINE DETAILS WITH LOW LIGHT LEVELS. **Ilaria Testa**, Nicolai Urban, Katrin Willig, Stefan Hell

**2745-PLAT 9:00 AM**
SW 2PE-STED NANOSCOPY. **Paolo Bianchini**, Benjamin Harke, Silvia Galiani, Giuseppe Vicidomini, Alberto Diaspro

**2746-PLAT 9:15 AM**
WIDELY ACCESSIBLE METHOD FOR SUPERRESOLUTION FLUORESCENCE IMAGING OF LIVING SYSTEMS. **Peter Dedecker**, Gary CH Mo, Jin Zhang

**2747-PLAT 9:30 AM**
AXIAL SUPER RESOLUTION TOPOGRAPHY OF FOCAL ADHESION BY CONFOCAL MICROSCOPY. **Chi-Li Chiu**, Enrico Gratton

**2748-PLAT 9:45 AM**
FAST 3D SINGLE MOLECULE TRACKING WITH MULTIFOCAL PLANE MICROSCOPY IN POLARIZED EPITHELIA REVEALS A NOVEL CELLULAR PROCESS OF INTERCELLULAR TRANSFER. **Sripad Ram**, Dongyoung Kim, E. Sally Ward, Raimund J. Ober

**2749-PLAT 10:00 AM**
UNDERSTANDING SWITCHING VARIABILITY IN DSTORM TYPE MICROSCOPY. **David Baddeley**, Christian Soeller

**8:15 AM–10:15 AM, ROOM 204AB**

## Platform
## Protein-Lipid Interactions II

**Co-Chairs**
*Francisco Barrera, Yale University*
*Edward Lyman, University of Delaware*

**2750-PLAT 8:15 AM**
MEMBRANE PHYSICAL PROPERTIES INFLUENCE TRANSMEMBRANE HELIX FORMATION. **Francisco N. Barrera**, Justin Fendos, Donald M. Engelman

**2751-PLAT 8:30 AM**
STRUCTURAL ADAPTATION OF PROTEINS TO DIFFERENT BIOLOGICAL MEMBRANES. Irina D. Pogozheva, Henry I. Mosberg, **Andrei L. Lomize**

**2752-PLAT 8:45 AM**
PREDICTIONS FOR CHOLESTEROL INTERACTION SITES ON THE A2A ADENOSINE RECEPTOR. **Ji Young Lee**, Edward Lyman

**2753-PLAT 9:00 AM**
SORTING OF LIPIDATED PEPTIDES IN FLUID BILAYERS: A MOLECULAR-LEVEL INVESTIGATION. **Paulo F. Almeida**, Trevor A. Daly, Steven L. Regen

**2754-PLAT 9:15 AM**
CATION-PI INTERACTIONS AS SPECIFIC ANCHORS FOR B. THURIGIENSIS PHOSPHOINOSITOL-SPECIFIC PHOSPHOLIPASE-C BINDING TO PHOSPHATIDYLCHOLINE BILAYER. **Cédric Grauffel**, Tao He, Boqian Yang, Patrick L. Wintrode, Anne Gershenson, Mary F. Roberts, Nathalie Reuter

**2755-PLAT 9:30 AM**
THE DENGUE VIRUS CAPSID PROTEIN INHIBITOR PEPTIDE PEP14-23 BECOMES ALPHA-HELICAL UPON BINDING TO NEGATIVE LIPIDS. André F. Faustino, Vanessa Artilheiro, Miguel A.R.B. Castanho, Fábio Almeida, Andrea T. Da Poian, Nuno C. Santos, **Ivo C. Martins**

**2756-PLAT 9:45 AM**
INSERTION OF HSP70 INTO MEMBRANES IS MEDIATED BY NEGATIVE-CHARGED PHOSPHOLIPIDS AND MODULATED BY THE FLUIDITY OF THE BILAYER. **Antonio De Maio**, Gabrielle Armijo, Jonathan Okerblom, David M. Cauvi, Nelson Arispe

**2757-PLAT 10:00 AM**
PROBING THE STRUCTURAL ORIGINS OF UNUSUALLY STRONG TARGET MEMBRANE AFFINITY OF SYNAPTOTAGMIN 7 C2A AND C2AB DOMAINS. Beatriz Salazar, Devin S. Brandt, Matthew D. Coffman, J. Ryan Osterberg, Kan Chantranuvatana, Joseph J. Falke, **Jefferson Knight**

**8:15 AM–10:15 AM, ROOM 103AB**

## Platform
## Membrane Receptors & Signal Transduction II

**Co-Chairs**
*Patrick Dillon, Michigan State University*
*Patricia Reggio, University of North Carolina at Greensboro*

**2758-PLAT 8:15 AM**
ENZYMATIC ACTIVITY OF GPCRS: REDUCTASE ACTIVITY OF β2 ADRENERGIC AND HISTAMINE RECEPTORS. **Patrick F. Dillon**

**2759-PLAT 8:30 AM**
CONFORMATIONAL ENTROPIC MAPS OF FUNCTIONAL COUPLING DOMAINS IN GPCR ACTIVATION: A CASE STUDY OF β2 ADRENERGIC RECEPTOR. **Fan Liu**, Ravinder Abrol, William A. Goddard III, Dennis A. Dougherty

**2760-PLAT 8:45 AM**
MOLECULAR DYNAMICS SIMULATIONS OF THE ACTIVATED CANNABINOID RECEPTOR SUBTYPE 2 / GI PROTEIN COMPLEX. **Jagjeet Singh**, Diane Lynch, Alan Grossfield, Michael Pitman, Patricia Reggio

**2761-PLAT 9:00 AM**
DYNAMICS OF C-TERMINAL GTα AND GSα PEPTIDES IN THE BINDING CAVITY OF ACTIVE GPCRS. **Alexander S. Rose**, Ulrich Zachariae, Patrick Scheerer, Helmut Grubmüller, Klaus P. Hofmann, Peter W. Hildebrand

**2762-PLAT 9:15 AM**
UNRAVELING ALLOSTERY WITH SIMULATIONS OF RHODOPSIN PHOTOCYCLE INTERMEDIATES. **Nicholas Leioatts**, Tod D. Romo, Alan Grossfield

**2763-PLAT 9:30 AM** **MINORITY TRAVEL AWARDEE**
ADRENERGIC RECEPTORS USE PROTON CONDUCTION TO TRANSDUCE LIGAND BINDING ENERGY INTO ACTIVATING CONFORMATIONAL CHANGE. **Jackson Chief Elk**

**2764-PLAT 9:45 AM**
BINDING OF ENDOGENOUS CANNABINOID LIGAND 2-ARACHIDONOYLGLYCEROL TO CANNABINOID RECEPTOR CB2 VIA THE LIPID MATRIX. **Tomohiro Kimura**, Alexei Yeliseev, Klaus Gawrisch

**2765-PLAT 10:00 AM**
A NOVEL MECHANISM FOR ACQUIRING GPCR EFFECTOR SELECTIVITY. **Liora Guy-David**, Eitan Reuveny

**8:15 AM–10:15 AM, ROOM 113AB**

## Platform
## Membrane Protein Structure & Function III

**Co-Chairs**
*Gianluigi Veglia, University of Minnesota*
*Joanna Slusky, Fox Chase Cancer Center*

**2766-PLAT 8:15 AM**
TRANSPORT DYNAMICS IN A GLUTAMATE TRANSPORTER HOMOLOGUE. **Nurunisa Akyuz**, Roger Altman, Scott Blanchard, Olga Boudker

**2767-PLAT 8:30 AM**
STRUCTURAL BASIS OF THE ALTERNATE-ACCESS MECHANISM IN A BILE ACID TRANSPORTER. **Xiaoming Zhou**, Elena J. Levin, Matthias Quick, Yaping Pan, Ruchika Sharma, Ming Zhou

**2768-PLAT 8:45 AM**
MOLECULAR DETAILS OF SERCA REGULATION BY PHOSPHOLAMBAN REVEALED BY PARAMAGNETIC RELAXATION ENHANCEMENTS AND SOLID-STATE NMR. **Gianluigi Veglia**, Martin Gustavsson, Vitaly V. Vostrikov, Raffaello Verardi

**2769-Plat 9:00 AM**
CHARGE ASYMMETRY IN THE PROTEINS OF THE OUTER MEMBRANE. **Joanna S.G. Slusky**, Roland L. Dunbrack

**2770-Plat 9:15 AM**
SITE-DIRECTED SPIN LABELING REVEALS MULTIPLE MODES FOR REGULATING PROTEIN-PROTEIN INTERACTIONS IN BACTERIAL OUTER MEMBRANE TRANSPORT. Jessica Sarver, Audrey Mokdad, **David S. Cafiso**

**2771-Plat 9:30 AM**
VDAC1 TOPOLOGY IN THE OUTER MITOCHONDRIAL MEMBRANE: THE FINAL ANSWER. Francesca Guarino, Marianna Flora Tomasello, Andrea Magrì, Agata Impellizzeri, Simona Reina, Angela Messina, **Vito De Pinto**

**2772-Plat 9:45 AM**
DECIPHERING THE INTERACTION OF FLAP AND 5LO. **Ramakrishnan B. Kumar**, Hans Hebert, Caroline Jegerschöld

**2773-Plat 10:00 AM**
MEMBRANE ANCHORING AMPLIFIES OSMOSENSING BY THE INNER MEMBRANE RECEPTOR ENVZ. **Ganesh Anand**, Jeremy Wang, Linda Kenney

**8:15 AM–10:15 AM, Room 103C**

## Platform
## Protein-Nucleic Acid Interactions II

**Co-Chairs**
*Gijs Wuite, VU University Amsterdam, The Netherlands*
*Jason Kahn, University of Maryland, College Park*

**2774-Plat 8:15 AM**
PICH: A DNA TRANSLOCASE ESSENTIAL FOR RESOLVING ANAPHASE BRIDGED DNA. Andreas Biebricher, Seiki Hirano, Jacqueline Enzlin, Erwin Peterman, Ian Hickson, **Gijs J. L. Wuite**

**2775-Plat 8:30 AM**
COMPUTATIONAL STUDY OF RNA TRANSLOCATION IN A HEXAMERIC HELICASE. **Wen Ma**, Klaus Schulten

**2776-Plat 8:45 AM CPOW TRAVEL AWARDEE**
DNA SCANNING MECHANISM OF A TRANSLOCATING MOTOR PROTEIN. **Carolina Carrasco**, Neville Gilhooly, Mark S. Dillingham, Fernando Moreno-Herrero

**2777-Plat 9:00 AM**
SINGLE-MOLECULE STUDIES OF NUCLEOSOME TRANSLOCATION BY THE ACF CHROMATIN REMODELING COMPLEX. **William L. Hwang**, Sebastian Deindl, Timothy R. Blosser, Xiaowei Zhuang

**2778-Plat 9:15 AM**
SPOIIIE MECHANISM OF DIRECTIONAL TRANSLOCATION INVOLVES TARGET SEARCH COUPLED TO ALLOSTERIC MOTOR ACTIVATION. **Diego I. Cattoni**, Osvaldo Chara, Cédric Godefroy, Emmanuel Margeat, Sonia Trigueros, Pierre-Emmanuel Milhiet, Marcelo Nollmann

**2779-Plat 9:30 AM**
E. COLI RNA POLYMERASE SEARCHES FOR PROMOTERS THROUGH 3D DIFFUSION. **Feng Wang**, Sy Redding, Ilya Finkelstein, Jason Gorman, David Reichman, Eric Greene

**2780-Plat 9:45 AM**
THE ATP HYDROLYSIS CYCLE AND THE CORRESPONDING MOTION OF RECA FILAMENT ON SINGLE-STRANDED DNA. **Sunghyun Kim**, Kaushik Ragunathan, Jeehae Park, Chirlmin Joo, Doseok Kim, Taekjip Ha

**2781-Plat 10:00 AM**
HOW DNA-BINDING PROTEINS FIND THEIR TARGET SITES IN HUMAN CELLS. **Davide Normanno**, Lydia Boudaréne, Claire Dugast-Darzacq, Xavier Darzacq, Maxime Dahan

**8:15 AM–10:15 AM, Room 113C**

## Platform
## Ligand-gated Channels

**Co-Chairs**
*Andrew Plested, Leibniz Institute for Molecular Pharmacology, Germany*
*Sudha Chakrapani, Case Western Reserve University*

**2782-Plat 8:15 AM**
INCORPORATION OF UNNATURAL AMINO ACIDS INTO TRIMERIC ION CHANNELS. **Stephan A. Pless**, Christopher A. Ahern

**2783-Plat 8:30 AM**
PHOTOINACTIVATION OF GLUTAMATE RECEPTORS USING A GENETICALLY ENCODED UNNATURAL AMINO ACID. **Viktoria Klippenstein**, Andrew J. Plested

**2784-Plat 8:45 AM**
CONFORMATIONAL TRANSITIONS UNDERLYING PORE OPENING AND DESENSITIZATION IN MEMBRANE-EMBEDDED GLIC. Phanindra Velisetty, Sreevatsa V. Chalamalasetti, **Sudha Chakrapani**

**2785-Plat 9:00 AM**
PROTON BINDING AND CONFORMATIONAL DYNAMICS IN KCSA. **Dorothy Kim**, David Posson, Ameer Thompson, Jason McCoy, Igor Dikiy, David Eliezer, Crina Nimigean

**2786-Plat 9:15 AM**
REVERSIBLE GATING OF THE NAK CHANNEL BY CHANGES IN REDOX POTENTIAL. **Raymond W. Bourdeau**, Eduardo Perozo

**2787-Plat 9:30 AM**
DIMERIC TRIP8B BINDS TO THE CYCLIC NUCLEOTIDE BINDING DOMAIN OF HCN CHANNELS. **John R. Bankston**, Stacey S. Camp, William N. Zagotta

**2788-Plat 9:45 AM**
TOWARDS A MECHANISM OF TARP ACTION AT AMPA RECEPTORS. **David M. MacLean**, Swarna Ramaswamy, James R. Howe, Vasanthi Jayaraman

**2789-Plat 10:00 AM**
THREE-DIMENSIONAL MICRO SECONDS X-RAY SINGLE MOLECULE TRACKING OF NICOTINIC ACETYLCHOLINE RECEPTOR WITH PICOMETER ACCURACY. Miki Tokue, Kentaro Hoshisashi, Hiroshi Sekiguchi, Naoto Yagi, Kohei Ichiyanagi, Yuri Nishino, Atsuo Miyazawa, Tai Kubo, **Yuji C. Sasaki**

**9:00 AM–1:00 PM, HALL C**

## Biomolecular Discovery Dome

Watch cells and viruses come to life in this 3-D portable Dome and see how difficult biophysical topics can be made accessible to a high school audience. The Public Affairs committee is pleased to be sponsoring the Dome for the second year in a row. Short videos will present topics ranging from icosahedral viruses to the ribosome to how HIV replicates. The theme of evolution will be conveyed to students by looking at how pathogens rapidly evolve to escape immune surveillance by hosts. Overall, these videos communicate the excitement of looking at macromolecular complexes and understanding the molecular basis for life.

**10:30 AM–11:15 AM, HALL C**

## Coffee Break

**10:30 AM–11:15 AM, HALL C**

## Poster Presentations and Late Posters

(For a complete listing of Wednesday Poster Presentation, see page 168.) Posters will be on display from 8:00 AM–3:00 PM. Authors with odd-numbered boards will present from from 10:30 AM–11:30 AM, and those with even-numbered boards will present from 11:30 AM–12:30 PM. Additional hours may be posted by the authors as desired. Paper may also be left on the board so that visitors may request an appointment.

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

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.

**10:30 AM–12:30 PM, HALL C**

## Meet the Speakers/Meet the Editors

All attendees are invited to take advantage of this opportunity to meet the speakers and editors who are the leading experts in their field, ask questions, and foster interactions and collaborations.

**12:30 PM, HALL C**

## iPad Mini Raffle

All attendees are eligible to win an iPad Mini. Drop your tickets in the Exhibit Hall during the Wednesday poster session and Meet the Speakers/Meet the Editors event. The winner will be announced at 12:30 PM on Wednesday in the Exhibit Hall—You must be present in the Exhibit Hall to win.

**1:00 PM–3:00 PM, GRAND BALLROOM A**

## Symposium
## Lipid and Lipid Bilayer Regulation of Ion Channel Function

**Chair**
*Olaf Andersen, Weill Cornell Medical College*

**2790-SYMP 1:00 PM**
INTERACTIONS OF DRUGS AND OTHER AMPHIPHILES WITH MEMBRANES: IMPLICATIONS FOR MEMBRANE PROTEIN FUNCTION. **Olaf S. Andersen**

**2791-SYMP 1:30 PM**
LIPID-BILAYER MEDIATED CONTROL OF MECHANOSENSITIVE ION CHANNELS' ACTIVITY. **Armagan Kocer**

**2792-SYMP 2:00 PM**
MECHANISMS OF CHOLESTEROL REGULATION OF KIR CHANNELS. **Irena Levitan**

**2793-SYMP 2:30 PM**
MECHANOSENSITIVE CHANNELS AS SENSORS FOR LIPOPHILIC DRUG PARTITIONING. **Sergei Sukharev**

**1:00 PM–3:00 PM, GRAND BALLROOM B**

## Symposium
## Light-driven Reactions and Physiology

**Chair**
*Janos Lanyi, University of California, Irvine*

**2794-SYMP 1:00 PM**
PROTEIN TUNING OF LIGAND PATHWAYS AND METAL CENTERS IN HEME-COPPER OXIDASES. **Ólöf Einarsdóttir**, Chie Funatogawa, William McDonald, Yang Li, Istvan Szundi, Ying Chen, Tewfik Soulimane, James A. Fee, C. David Stout

**2795-SYMP 1:30 PM**
INTERACTION OF ANTENNA CAROTENOID AND RETINAL IN THE LIGHT-DRIVEN PUMPS OF SALINIBACTER RUBER AND GLOEOBACTER VIOLACEUS. **Janos K. Lanyi**, Sergei P. Balashov, Ella S. Imasheva, Hartmut Luecke, Kwang-Hwan Yung, Tomas Polivka

**2796-SYMP 2:00 PM**
FLUORESCENCE ASSAYS FOR PHOTOSYNTHETIC CAPACITY OF BACTERIA. **Péter Maróti**, Emese Asztalos, Gábor Sipka

**2797-SYMP 2:30 PM**
DESIGN AND ENGINEERING OF A LIGHT-ACTIVATED POTASSIUM CHANNEL. Cristian Cosentino, Gerhard Thiel, **Anna Moroni**

**1:00 PM–3:00 PM, ROOM 201AB**

## Platform
## Micro- and Nanotechnology

**Co-Chairs**
*Warren Ruder, Virginia Tech*
*James Werner, Los Alamos National Laboratory*

**2798-PLAT 1:00 PM**
DNA-TEMPLATED SILVER NANOCLUSTERS THAT FLUORESCE UPON HYBRIDIZATION. **James Werner**, Jennifer S. Martinez, Jaswinder K. Sharma, Hsin-Chih Yeh

**2799-PLAT 1:15 PM**
THE LAWNMOWER: AN AUTONOMOUS SYNTHETIC PROTEIN MOTOR. **Laleh Samii**, Suzana Kovacic, Cassandra Niman, Heiner Linke, Dek Woolfson, Paul M.G. Curmi, Martin J. Zuckermann, Nancy R. Forde

**2800-PLAT 1:30 PM**
SYNTHETIC LIPID MEMBRANE CHANNELS FORMED BY DESIGNED DNA NANOSTRUCTURES. **Martin Langecker**, Vera Arnaut, Thomas G. Martin, Jonathan List, Stephan Renner, Michael Mayer, Hendrik Dietz, Friedrich C. Simmel

**2801-Plat 1:45 pm**
BIOMIMETIC MEMBRANE CHANNELS BASED ON CARBON NANOTUBES. **Jia Geng**, Kyunghoon Kim, Costas Grigoropoulos, Caroline Ajo-Franklin, Aleksandr Noy

**2802-Plat 2:00 pm**
CONTROLLED ENVELOPMENT OF MAGNETIC PARTICLES WITHIN LIPOSOMES USING A CUSTOM-BUILT MULTI-LAYER MAGNETIC MICROFLUIDIC DEVICE. **Lina M. Gonzalez**, Cheemeng Tan, Philip R. LeDuc, William C. Messner, Warren C. Ruder

**2803-Plat 2:15 pm**
PROBING THE MECHANICAL COUPLING OF THE CELL MEMBRANE TO THE NUCLEUS WITH VERTICAL NANOPILLAR ARRAYS. **Lindsey Hanson**, Javier Urzay, Ziliang Lin, Wenting Zhao, Manu Prakash, Bianxiao Cui

**2804-Plat 2:30 pm**
BLOOD CLOT MECHANICAL PROPERTIES MEASURED WITH ARRAYS OF MAGNETICALLY ACTUATED CORE-SHELL MICRORODS. **Briana L. Fiser**, Robert Judith, Richard Spero, Bruce J. Oberhardt, M. Falvo, R. Superfine

**2805-Plat 2:45 pm EDUCATION TRAVEL AWARDEE**
A NOVEL AND VERSATILE APPROACH FOR PREPARATION OF SINGLE-VESICLE ARRAYS. **Erin E. Richards**, Harrison S. Wostein, Sheereen Majd

**1:00 pm–3:00 pm, Room 204AB**

## Platform
## Protein Structure

**Co-Chairs**
*Nathan Wright, James Madison University*
*Punit Kaur, All India Institute of Medical Sciences, India*

**2806-Plat 1:00 pm EDUCATION TRAVEL AWARDEE**
LOW RESOLUTION STRUCTURE OF IG DOMAINS 58 AND 59 OF OBSCURIN USING SMALL ANGLE X-RAY SCATTERING. **Logan Meyer**, Nathan T. Wright

**2807-Plat 1:15 pm**
INTEGRATIVE MODELING OF PROTEIN CONFORMATIONAL ENSEMBLES USING LIMITED DATA. **Justin L. MacCallum**, Alberto Perez, Kenneth A. Dill

**2808-Plat 1:30 pm**
ACCURATE HIGH-THROUGHPUT STRUCTURE MAPPING AND PREDICTION WITH TRANSITION METAL ION FRET. **Xiaozhen Yu**, Xiongwu Wu, Guillermo A. Bermejo, Bernard R. Brooks, Justin W. Taraska

**2809-Plat 1:45 pm**
REAL ROTAMERS USING REAL-SPACE CORRELATION COEFFICIENTS. **Bradley J. Hintze**, Daniel A. Keedy, David C. Richardson, Jane S. Richardson

**2810-Plat 2:00 pm**
TOWARDS RATIONAL DESIGN OF PROTEIN FUNCTION. Alexander Goncearenco, **Igor N. Berezovsky**

**2811-Plat 2:15 pm**
MOLECULAR BASIS OF LIGAND RECOGNITION BY MAMMALIAN PEPTIDOGLYCAN RECOGNITION PROTEIN. **Punit Kaur**, Pradeep Sharma, Shavait Yamini, Divya Dube, Nisha Pandey, Mau Sinha, Sujata Sharma, Tej P. Singh

**2812-Plat 2:30 pm**
STRUCTURAL AND BIOCHEMICAL CHARACTERIZATION OF A NEW ZINCIN PROTEASE, NLEC, AN ENTEROPATHOGENIC ESCHERICHIA COLI TYPE III SECRETION SYSTEM EFFECTOR RESPONSIBLE FOR CLEAVING NFκB SUBUNIT RELA. **Michelle M. Turco**, Marcelo C. Sousa

**2813-Plat 2:45 pm**
MEMBRANE INTERACTIONS, INTRINSIC DISORDER, AND UNKNOWN FUNCTIONS OF MYELIN PROTEINS. Maryna Chukhlieb, Huijong Han, Matti Myllykoski, Saara Laulumaa, Arne Raasakka, Salla Ruskamo, Chaozhan Wang, **Petri Kursula**

**1:00 pm–3:00 pm, Room 103AB**

## Platform
## Membrane Structure II

**Co-Chairs**
*Syma Khalid, University of Southampton, United Kingdom*
*Lars Mosgaard, Copenhagen University, Denmark*

**2814-Plat 1:00 pm**
THE COMPLEXITIES OF THE E.COLI CELL ENVELOPE: DETAILS REVEALED BY MD SIMULATIONS. **Syma Khalid**, Thomas J. Piggot, Daniel A. Holdbrook, Jamie Parkin

**2815-Plat 1:15 pm**
INSERTION OF FUNCTIONAL PROTEINS INTO BILAYER LIPID MEMBRANE USING A CELL-FREE EXPRESSION SYSTEM. **Coutable Angelique**, Vincent Noireaux, Bruno Lepioufle, Olivier Français, Christophe Vieu, Jean-Marie François, Christophe Thibault, Emmanuelle Trevisiol

**2816-Plat 1:30 pm**
HIGHLY RESOLVED STRUCTURE OF A FLOATING LIPID BILAYER: EFFECTS OF CALCIUM IONS AND TEMPERATUE. **Sajal Kumar Ghosh**, Yicong Ma, Curt M. DeCaro, Sambhunath Bera, Zhang Jiang, Laurence B. Lurio, Sunil K. Sinha

**2817-Plat 1:45 pm EDUCATION TRAVEL AWARDEE**
SYNTHETIC LIPID NANOTUBES AS CELL-CELL JUNCTIONS FOR INTER-CELLULAR CA+ PROPAGATION AND FOR CELL CONTRACTION MONITORING. **Kaori Sugihara**, Amin Rustom, Marco Delai, Rami Mahnna, Aldo Ferrari, Dimos Poulikakos, Janos Vörös, Tomaso Zambelli, Justine Kusch, Joachim Spatz

**2818-Plat 2:00 pm**
SORTING OF TN-RAS BY MEMBRANE CURVATURE IN LIPID VESICLES AND TUBES. **Kadla R. Rosholm**, Jannik Larsen, Søren L. Pedersen, Henrik K. Munch, Knud J. Jensen, Nikos Hatzakis, Dimitrios Stamou

**2819-Plat 2:15 pm**
MODULATION OF MEMBRANE RIGIDITY BY HUMAN AND YEAST HOMOLOGS OF THE VESICLE TRAFFICKING PROTEIN SAR1. **Andrew F. Loftus**, Vivian Hsieh, Raghuveer Parthasarathy

**2820-Plat 2:30 pm**
SOUND PROPAGATION IN LIPID MEMBRANES. **Lars D. Mosgaard**, Andrew D. Jackson, Thomas Heimburg

**2821-Plat 2:45 pm**
ARE PHOSPHOLIPIDS STABILIZED BY SHORT, STRONG H-BONDS? **Thomas Haines**

**1:00 PM–3:00 PM, ROOM 113AB**

## Platform
## Actin, Microtubules, and Their Binding Proteins

**Co-Chairs**
*Megan Valentine, University of California, Santa Barbara*
*Anja Gieseke, Technische Universität München, Germany*

**2822-PLAT 1:00 PM**
MOLECULAR ORIGINS OF COFILIN-LINKED CHANGES IN ACTIN FILAMENT MECHANICS. **Jun Fan**, Marissa Saunders, Esmael Haddadian, Karl Freed, Enrique De La Cruz, Gregory Voth

**2823-PLAT 1:15 PM**
FORMIN MDIA1 IS A MECHANO-SENSOR THAT CAN TENSE ACTIN FILAMENTS. Antoine Jégou, Marie-France Carlier, **Guillaume Romet-Lemonne**

**2824-PLAT 1:30 PM**
MECHANICAL PROPERTIES OF INDIVIDUAL ACTIN CROSSLINKS. **Anja Gieseke**, Melanie Brunnbauer, Matthias Rief

**2825-PLAT 1:45 PM**
MYOSIN ACTIVITY DRIVES CYTOSKELETAL NETWORKS TO A CRITICALLY CONNECTED STATE. **Jose R. Alvarado**, Michael Sheinman, Abhinav Sharma, Fred MacKintosh, Gijsje Koenderink

**2826-PLAT 2:00 PM**
XMAP215 AND EB1 ACT IN SYNERGY TO PROMOTE MICROTUBULE GROWTH. **Marija Zanic**, Per Widlund, Anthony Hyman, Jonathon Howard

**2827-PLAT 2:15 PM**
MICRORHEOLOGY OF HIGHLY CROSSLINKED MICROTUBULE NETWORKS IS DOMINATED BY FORCE-INDUCED CROSSLINKER UNBINDING. **Megan T. Valentine**, Yali Yang, Mo Bai, William S. Klug, Alex J. Levine

**2828-PLAT 2:30 PM**
ASYMMETRIC FORCE RESPONSE REVEALS MECHANICAL ROLE IN SPINDLE PROTEIN LOCALIZATION. **Scott Forth**, Kuo-Chiang Hsia, Tarun M. Kapoor

**2829-PLAT 2:45 PM**
ZIPPING DYNAMICS AND TURGOR PRESSURE DURING DORSAL CLOSURE IN EARLY *DROSOPHILA* DEVELOPMENT. **Heng Lu**, Adam Sokolow, Daniel P. Kiehart, Glenn S. Edwards

**1:00 PM–3:00 PM, ROOM 103C**

## Platform
## Systems Biophysics

**Co-Chairs**
*Alexey Onufriev, Virginia Tech*
*Leonor Saiz, University of California, Davis*

**2830-PLAT 1:00 PM**
A MODEL OF NUCLEAR ORGANIZATION DEMONSTRATES THE EFFECT OF NUCLEAR ENVELOPE–CHROMOSOME CONTACTS ON 3D ORGANIZATION OF CHROMOSOMES. **Nicholas A. Kinney**, Igor V. Sharakhov, Alexey V. Onufriev

**2831-PLAT 1:15 PM**
EFFECTS OF FLUCTUATION OF CHROMOSOME CONFORMATION AND SPATIAL ARRANGEMENT OF GENES ON THE PATTERN OF GENE EXPRESSION. **Naoko Tokuda**, Masaki Sasai

**2832-PLAT 1:30 PM**
MODELING STOCHASTIC GENE EXPRESSION IN GROWING CELLS. **David Gomez**, Rahul Marathe, Veronika Bierbaum, Stefan Klumpp

**2833-PLAT 1:45 PM**
SPATIO-TEMPORAL MEASUREMENTS AND MODELING OF GENETIC EXPRESSION. **Douglas P. Shepherd**, Nan Li, Elizabeth Hong-Geller, James H. Werner, Brian Munsky

**2834-PLAT 2:00 PM**
GENE LOCATION AND DNA DENSITY DETERMINE TRANSCRIPTION FACTOR DISTRIBUTIONS IN E. COLI. **Thomas E. Kuhlman**, Edward C. Cox

**2835-PLAT 2:15 PM**
TRANSCRIPTIONAL CONTROL BY REGULATED OLIGOMERIZATION. **Jose Vilar**, Leonor Saiz

**2836-PLAT 2:30 PM**
NOVEL MECHANISM FOR NOISE REDUCTION BETWEEN NUCLEAR TRANSCRIPTIONAL ACTIVITY AND CYTOPLASMIC MRNA DISTRIBUTIONS LIVING FLY EMBRYOS. **Hernan G. Garcia**, Albert Lin, Michael Tikhonov, Thomas Gregor

**2837-PLAT 2:45 PM**
SHAPING GENE EXPRESSION IN ARTIFICIAL CELLULAR SYSTEMS BY CELL-INSPIRED MOLECULAR CROWDING. **Cheemeng Tan**

**1:00 PM–3:00 PM, ROOM 113C**

## Platform
## Protein Assemblies, Aggregates, & Chaperones

**Co-Chairs**
*Andy Wowor, University of Connecticut*
*Lynette Cegelski, Stanford University*

**2838-PLAT 1:00 PM**
BIOPHYSICAL ANALYSIS OF A NOVEL DRUG DELIVERY VECTOR: ELP[V5G3A2-150]. **Daniel Lyons**, Vu Le, Gene L. Bidwell, Wolfgang Kramer, Ed Lewis, Drazen Raucher, John J. Correia

**2839-PLAT 1:15 PM**
ELUCIDATING THE DIMER INTERFACE OF SECA. **Andy J. Wowor**, Sarah M. Auclair, Dongmei Yu, Debra A. Kendall, James L. Cole

**2840-PLAT 1:30 PM EDUCATION TRAVEL AWARDEE**
EARLY EVENTS OF THE HEAT SHOCK RESPONSE. **Hannah Gelman**, Martin Gruebele

**2841-PLAT 1:45 PM**
EFFECTS OF MOLECULAR CROWDING ON THE REPEAT DOMAIN OF A FUNCTIONAL AMYLOID, PMEL17. **Ryan P. McGlinchey**, Zhiping Jiang, Jennifer C. Lee

**2842-Plat 2:00 pm**
LC3 CONSTITUTIVELY ASSOCIATES WITH A HIGH MOLECULAR WEIGHT COMPLEX IN BOTH THE CYTOPLASM AND NUCLEUS. **Lewis J. Kraft**, Bing Han, Anthony J. Baucum, Tuan Nguyen, Steven S. Vogel, Anne K. Kenworthy

**2843-Plat 2:15 pm INTERNATIONAL TRAVEL AWARDEE**
UNRAVELING THE LINK BETWEEN MOLECULAR CONFORMATION AND MORPHOLOGY AND MECHANICS OF AMYLOID FIBRILS. **Corianne van den Akker**, Michael Schleeger, Tanja Deckert, Volker Deckert, Mischa Bonn, Gijsje Koenderink

**2844-Plat 2:30 pm**
DISTINCT QUATERNARY STRUCTURES OF LON PROTEASE CONTROL SUBSTRATE DEGRADATION. **Ellen F. Vieux**, Matthew L. Wohlever, James Chen, Robert T. Sauer, Tania A. Baker

**2845-Plat 2:45 pm**
SUM OF THE PARTS: BACTERIAL BIOFILMS BY SOLID-STATE NMR. **Lynette Cegelski**, Oscar McCrate, Xiaoxue Zhou

**10:30 AM–12:30 PM, Hall C**

# WEDNESDAY POSTER SESSIONS

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

Posters should be mounted between 7:00 AM and 8:00 AM on Wednesday and removed by 3:00 PM. Poster numbers shown refer to the program order of abstracts as they appear in the online Abstracts Issue. Board numbers indicate where boards are located in the Exhibit Hall.

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

| BOARD NUMBERS | CATEGORY |
|---|---|
| B1–B22 | Protein-Ligand Interactions II |
| B23–B45 | Heme Proteins |
| B46–B66 | Protein Folding & Stability II |
| B67–B85 | Protein Structure |
| B86–B101 | Molecular Chaperones |
| B102–B130 | Protein Biophysics in vivo |
| B131–B160 | Chromatin & the Nucleoid |
| B161–B164 | Nucleic Acid Biophysics in vivo |
| B165–B174 | Transcription |
| B175–B203 | Membrane Structure II |
| B204–B233 | Protein-Lipid Interactions III |
| B234–B260 | Membrane Active Peptides & Toxins II |
| B261–B282 | Calcium Fluxes, Sparks, & Waves II |
| B283–B312 | Membrane Receptors & Signal Transduction II |
| B313–B328 | Calcium Signaling Pathways |
| B329–B355 | Exocytosis & Endocytosis |
| B356–B364 | Ligand–gated Channels II |
| B365–B390 | Anion Channels & Transporters |
| B391–B410 | Channels, Other |
| B411–B432 | Cys-Loop Receptors |
| B433–B452 | Bacterial Mechanics & Motility |
| B453–B465 | Unconventional Myosins |
| B466–B490 | Actin and Actin–binding Proteins |
| B491–B508 | Intracellular Transport |
| B509–B517 | Photosynthesis |
| B518–B544 | Mitochondria in Cell Life and Death |
| B545–B546 | Prokaryotic Systems |
| B547–B551 | Synthetic Biology |
| B552–B575 | Molecular Dynamics III |
| B576–B611 | Imaging & Optical Microscopy II |
| B612–B637 | Micro- and Nanotechnology II |
| B638–B650 | Optogenetics |
| B651–B672 | Fluorescence & Other Luminescence II |
| B673–B677 | Vibrational Spectroscopy |
| B678–B697 | Bioengineering |

**It is the responsbility 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-Ligand Interactions II (Boards #B1–#B22)

**2846-Pos** **Board #B1**
VOLUMETRIC CHARACTERIZATION OF TRI-N-ACETYLGLUCOSAMINE BINDING TO LYSOZYME. Ikbae Son, Yuen Lai Shek, David N. Dubins, **Tigran V. Chalikian**

**2847-Pos** **Board #B2**
X-RAY SINGLE MOLECULE TRACKING OF MHC/PEPTIDE COMPLEX REVEAL A NOVEL FORM OF TCR RECOGNITION PATTERN. Yufuku Matsushita, Yuko Kozono, Hiroshi Sekiguchi, Yuji C. Sasaki, **Haruo Kozono**

**2848-Pos** **Board #B3**
CORRELATED MOTIONS IN PROTEIN CRYSTALS MEASURED BY THZ MICROSCOPY. **Katherine A. Niessen**, Gheorghe Acbas, Edward Snell, Andrea Markelz

**2849-Pos** **Board #B4**
CONFORMATIONAL CHARACTERIZATION OF PHOSPHORYLATED ANALOGS OF A PEPTIDE MIMETIC OF THE FOURTH CYTOPLASMIC LOOP OF CB1CANNABINOID RECEPTOR. Anjali D. Ganjiwale, Allyn C. Howlett, **Sudha M. Cowsik**

**2850-Pos** **Board #B5**
CHARACTERIZATION OF THE INTRAMOLECULAR INTERACTIONS IN THE CIRCULARLY PERMUTED GTPASE NUCLEOSTEMIN. **Tyler H. Daman**, Victoria L. Robinson

**2851-Pos** **Board #B6**
RELATIVE PROMISCUITY BETWEEN BACTERIAL AND HUMAN FAD SYNTHETASE: A POTENTIAL SOURCE OF BIOMARKERS. **Kimberly Jacoby**, Emily Mattes, Robert Stanley

**2852-Pos** **Board #B7**
EFFECT OF TWO POINT MUTATIONS IN LUNG SURFACTANT PROTEIN-D ON ENHANCING ITS INHIBITION ACTIVITY AGAINST INFLUENZA A VIRUS. **Boon Chong Goh**, Xueqing Zou, Michael J. Rynkiewicz, Barbara A. Seaton, Klaus Schulten

**2853-Pos** **Board #B8**
DRUGGABILITY ASSESSMENT OF ALLOSTERIC PROTEINS BY DYNAMICS SIMULATIONS IN PRESENCE OF PROBE MOLECULES. **Ahmet Bakan**, Neysa Nevins, Ami S. Lakdawala, Ivet Bahar

**2854-Pos** **Board #B9**
DESIGNING SHORT PEPTIDES WITH HIGH AFFINITY FOR ORGANIC MOLECULES: A COMBINED DOCKING, MOLECULAR DYNAMICS AND MONTE CARLO APPROACH. **Rolando P. Hong Enriquez**, Silvia Pavan, Fabio Benedetti, Alessandro Tossi, Adriano Savoini, Federico Berti, Alessandro Laio

**2855-Pos** **Board #B10**
PROTEIN KINASE G LIGAND BINDING SPECIFICITY VIA CONFINE-AND-RELEASE THERMODYNAMIC INTEGRATION. **Paul M. Gasper**, J. Andrew McCammon

**2856-Pos** **Board #B11**
COMPUTER SIMULATIONS OF NAD CHANNELING BETWEEN GAPDH AND LDH. **Rahul Nori**, Igor V. Uporov, Neville Y. Forlemu, Kathryn A. Thomasson

**2857-Pos** **Board #B12**
AN ATOMIC FORCE MICROSCOPY STUDY OF RIBOFLAVIN RECEPTOR TARGETING NANOPARTICLES. **Abigail Leistra**, Amanda Witte, Seok Ki Choi, Kumar Sinniah

**2858-Pos** **Board #B13**
ENFORCED UNFOLDING AND MECHANICAL PROPERTIES OF THE IMPORTIN-BETA AND IMPORTIN-BETA-BINDING-DOMAIN COMPLEX. **Andreas Russek**, Helmut Grubmüller

**2859-Pos** **Board #B14** **MINORITY TRAVEL AWARDEE**
INVESTIGATING THE ELECTROSTATIC ROLE OF A CRITICAL ARGININE FOR THE CATALYSIS OF E. COLI ADP-GLUCOSE PYROPHOSPHORYLASE. **Angela Mahaffey**, Saleh Aiyash, Miguel Ballicora

**2860-Pos** **Board #B15**
UBIQUITIN MODULATES TOLLIP FUNCTION IN THE ENDOCYTIC PATHWAY. **Sharmistha Mitra**, Cynthia Alicia Traughber, Stephanie Gomez, Daniel Capelluto

**2861-Pos** **Board #B16**
AVIDITY OF SCAFFOLDING INTERACTIONS STUDIED ON INVERTED MEMBRANE SHEETS USING THE SYNAPTIC SCAFFOLDING PROTEIN PICK1. **Simon Erlendsson**, Thor Seneca Thorsen, Mette Rathje, Kenneth Lindegaard Madsen, Ulrik Gether

**2862-Pos** **Board #B17**
MEMBRANE PROTEIN INTERACTION STUDIES USING MICROSCALE THERMOPHORESIS. Sameer K. Singh, Julian M. Glück, Luis Möckel, Yu-Fu Hung, Dieter Willbold, **Bernd W. Koenig**

**2863-Pos** **Board #B18**
DESIGN AND TESTING OF HIGH-AFFINITY MUTANTS OF INTERFERON GAMMA RECEPTOR 1. **Pavel Mikulecky**, Jiri Cerny, Lada Biedermannova, Peter Sebo, Bohdan Schneider

**2864-Pos** **Board #B19**
INVESTIGATING A BENZOFURANE DERIVATIVE BINDING SITE ON HUMAN CLC-5. **Silvia De Stefano**, Michele Fiore, Antonella Liantonio, Diana Conte Camerino, Michael Pusch, Giovanni Zifarelli

**2865-Pos** **Board #B20**
CLONING, EXPRESSION, AND PURIFICATION OF A CENTRIN BIOLOGICAL TARGET: KRR1, KH DOMAIN. **Aslin M. Rodriguez**, Belinda Pastrana-Rios

**2866-Pos** **Board #B21**
RECOGNITION OF MESOTHELIN BY THE THERAPEUTIC ANTIBODY MORAB-009: STRUCTURAL AND MECHANISTIC INSIGHTS. **Wai Kwan Tang**

**2867-Pos** **Board #B22**
DESIGN, SYNTHESIS, BINDING, CRYSTALLOGRAPHY, AND DOCKING OF [(2-PYRIMIDINYLTHIO)ACETYL] BENZENESULFONAMIDES AS INHIBITORS OF HUMAN CARBONIC ANHYDRASES. **Daumantas Matulis**, Edita Capkauskaite, Asta Zubriene, Lina Baranauskiene, Giedre Tamulaitiene, Elena Manakova, Visvaldas Kairys, Saulius Grazulis, Sigitas Tumkevicius

## Heme Proteins (Boards #B23–#B45)

**2868-Pos Board #B23**
STRUCTURAL DYNAMICS OF THE SIGNAL TRANSDUCER PROTEIN HEMAT AS REVEALED BY TIME-RESOLVED STEP SCAN FTIR SPECTROSCOPY. **Andrea Pavlou**, Hideaki Yoshimura, Shigetoshi Aono, Eftychia Pinakoulaki

**2869-Pos Board #B24**
DYNAMIC ALLOSTERIC MECHANISM OF MODULATION OF OXYGEN-AFFINITY IN HUMAN HEMOGLOBIN. **Takashi Yonetani**

**2870-Pos Board #B25**
ROLES OF AMINO ACID RESIDUES IN WOOLLY MAMMOTH HEMOGLOBIN ON THE TEMPERATURE EFFECT OF OXYGEN BINDING. **Yue Yuan**, Catherine Byrd, Tong-Jian Shen, Nancy T. Ho, Virgil Simplaceanu, Tsuey Chyi S. Tam, Chien Ho

**2871-Pos Board #B26**
TIME-RESOLVED THERMODYNAMICS AND TRANSIENT KINETICS FOR OXYGEN PHOTORELEASE FROM HEMOGLOBIN:EFFECTOR COMPLEXES. **David Butcher**, Takashi Yonetani, Jaroslava Miksovska

**2872-Pos Board #B27**
OXYGEN-DEPENDENT DEPOLYMERIZATION OF SICKLE CELL HEMOGLOBIN POLYMERS IN THE LUNGS: KINETIC MECHANISMS AND THEIR SIGNIFICANCE FOR PATHOGENESIS AND ITS PREVENTION. **Robin W. Briehl**, Jiang Cheng Wang, Hacene Boukari, Zakaria Mrah, Suzanna Kwong, W. David Appel, Thomas K. Aldrich

**2873-Pos Board #B28**
SICKLE CELL THERAPY AND THE KINETICS OF POLYMERIZATION IN THE PRESENCE OF LIGANDS. **Donna A. Yosmanovich**, Frank A. Ferrone

**2874-Pos Board #B29**
BIOPHYSICAL STUDIES EVALUATING THE POTENTIAL PHYSIOLOGICAL RELEVANCE OF THE HEMOGLOBIN ASSOCIATED NITRITE ANHYDRASE REACTION AS A PATHWAY TO GENERATE S-NITROSOTHIOLS FROM LOW LEVELS OF NO AND NITRITE. **Camille J. Roche**, Rhoda E. HIrsch, Joel M. Friedman

**2875-Pos Board #B30**
MODULATION OF NITRIC OXIDE REACTIVITY BY HEME POSTTRANSLATIONAL MODIFICATION IN THE CYANOBACTERIAL HEMOGLOBIN, GLBN. **Matthew R. Preimesberger**, Ananya Majumdar, Juliette T.J. Lecomte

**2876-Pos Board #B31**
REDOX-CONTROLLED PROTON GATING IN BOVINE CYTOCHROME *C* OXIDASE. Tsuyoshi Egawa, Syun-Ru Yeh, **Denis L. Rousseau**

**2877-Pos Board #B32**
REDUCTION OF IRON CENTER ENHANCES THE MECHANICAL STABILITY OF CYTOCHROME B562. **Chien-Chung Wang**, Minkyu Kim, Yau-Heiu Hsu, Piotr E. Marszalek

**2878-Pos Board #B33**
IDENTIFICATION OF ELECTRON TRANSFER COMPLEXES BETWEEN SHEWANELLA ONEIDENSIS CYTOCHROME C PEROXIDASE AND SCYA THROUGH COMPUTATIONAL AND BIOCHEMICAL ANALYSIS. **Katherine E. Frato**, Sean J. Elliott

**2879-Pos Board #B34**
PROBING SUBSTRATE ACCESS PATHWAYS OF THE ACTIVE SITE OF CYTOCHROME P450 3A4 IN ITS MEMBRANE-BOUND FORM. **Javier L. Baylon**, Emad Tajkhorshid

**2880-Pos Board #B35**
COMPARISON OF THE CRYSTAL AND SOLUTION STRUCTURES OF A CYANOBACTERIAL HEMOGLOBIN. **Belinda B. Wenke**, Jamie L. Schlessman, Annie Heroux, Juliette T.J. Lecomte

**2881-Pos Board #B36**
HEMOPROTEINS DESIGNED FROM SCRATCH FOR O2 TRANSPORT, CO, NO SIGNALING, OXIDOREDUCTASE AND CYTOCHROME P450 OXYGENASE CATALYSIS. **Goutham Kodali**, Michael T. Englander, Lee A. Solomon, Christopher C. Moser, P L. Dutton

**2882-Pos Board #B37**
ENGINEERING A HEME-PROTEIN CROSSLINK IN 2/2 HEMOGLOBINS. **Selena L. Rice**, Matthew R. Preimesberger, Lukas Gilevicius, Belinda B. Wenke, Juliette T.J. Lecomte

**2883-Pos Board #B38**
ASSEMBLY OF A PHOTOACTIVATABLE COFACTOR TRIAD WITHIN A DESIGNED PROTEIN. **Nathan M. Ennist**, Goutham Kodali, Christopher C. Moser, P. L. Dutton

**2884-Pos Board #B39**
THE INHIBITORY SUBSTRATE BINDING SITE OF HUMAN INDOLEAMINE 2,3-DIOXYGENASE. **Syun-Ru Yeh**, Ariel Lewis-Ballester, Shay Karkashon

**2885-Pos Board #B40**
THE POTENTIAL APPLICATION OF ERYTHROID 5-AMINOLEVULINATE SYNTHASE VARIANTS FOR PHOTODYNAMIC THERAPY. **Erica J. Fratz**

**2886-Pos Board #B41**
CLONING, EXPRESSION, AND PURIFICATION OF A PUTATIVE PROSTAGLANDIN SYNTHASE FROM NOSTOC AS A SUMO FUSION PROTEIN. **Margaret V. Butchy**, Kevin Backus, Huasong Tang, Barry S. Selinsky

**2887-Pos Board #B42**
DENATURATION OF CYTOCHROME *C* INDUCED BY NON-THERMAL PLASMA IRRADIATION. Zhigang Ke, Jingjing Zhang, Shanshan Ma, **Qing Huang**

**2888-Pos Board #B43**
MISFOLDED STATES OF CYTOCHROME C AT NATIVE CONDITIONS. **Jonathan B. Soffer**, Emma Fradkin, Leah Pandiscia, Reinhard Schweitzer-Stenner

**2889-Pos Board #B44**
CYTOCHROME *C* BINDING TO LIPOSOMAL SURFACES. **Leah Pandiscia**, Reinhard Schweitzer-Stenner

**2890-Pos Board #B45**
CYTOGLOBIN INTERACTIONS WITH HYDROPHOBIC PROBE 1,8-ANS. **Luisana Astudillo**, Khoa Pham, Sophie Bernad, Valerie Derrien, Pierre Sebban, Jaroslava Miksovska

## Protein Folding & Stability II (Boards #B46–#B66)

**2891-Pos** **Board #B46**
EFFECTS OF SUGARS ON THE THERMAL STABILITY OF A PROTEIN. **Hiraku Oshima**, Masahiro Kinoshita

**2892-Pos** **Board #B47**
NEW POWERFUL PROTEIN DENATURANT. **Tatyana Perlova**, Hannah Gelman, Martin Gruebele

**2893-Pos** **Board #B48**
THE INFLUENCE OF PH AND BUFFERS ON THE THERMAL STABILITY AND ACTIVITY OF RECA. **Michael A. Metrick**

**2894-Pos** **Board #B49**
AZIDO GROUPS AS SITE SPECIFIC IR PROBES OF HYDRATION AROUND MODEL HELICAL PEPTIDES. **Marta P. Wolfshorndl**, Casey H. Londergan

**2895-Pos** **Board #B50**
EFFECT OF DIMETHYL SULFOXIDE ON THE STABILITY OF MACROMOLECULAR STRUCTURES. **Jennifer A. Slaton**, Merrell A. Johnson, Bruce D. Ray, Horia I. Petrache

**2896-Pos** **Board #B51** **INTERNATIONAL TRAVEL AWARDEE**
THERMODYNAMIC FINGERPRINTS REVEAL VARIABILITY IN COSOLUTE EFFECT ON PEPTIDE FOLDING. **Shahar Sukenik**, Liel Sapir, Regina Gilman-Politi, Daniel Harries

**2897-Pos** **Board #B52**
TOWARDS THE DESIGN OF METAMORPHIC PROTEINS USING ENSEMBLE-BASED ENERGETIC INFORMATION. Jordan Hoffmann, **James O. Wrabl**, Vincent J. Hilser

**2898-Pos** **Board #B53**
INVESTIGATION OF THE STRUCTURAL STABILITY OF CPSRP43 CHROMODOMAIN2 BY HYDROGEN-DEUTERIUM EXCHANGE. **Rebecca Simpson**, Srinivas Jayanthi, Alicia Kight, Robyn Goforth, Ralph Henry, T.K.S. Kumar

**2899-Pos** **Board #B54**
PROTEIN UNFOLDING PATHWAY EXAMINED BY PULSE PROTEOLYSIS USING A SUPER-STABLE PROTEASE. **Kazufumi Takano**, Jun Okada

**2900-Pos** **Board #B55**
STRUCTURAL REORGANIZATION TRIGGERED BY THE IONIZATION OF LYS RESIDUES BURIED IN HYDROPHOBIC ENVIRONMENTS. **Jamie L. Schlessman**, MIchael S. Chimenti, Victor S. Khangulov, Aaron C. Robinson, Javier N. De Luca-Westrate, Joshua Riback, Ananya Majumdar, Carolyn A. Fitch, Bertrand García-Moreno

**2901-Pos** **Board #B56**
SUPERCHARGING DE NOVO DESIGNED HEME-BINDING PROTEINS HAS SIGNIFICANT EFFECTS ON SOLUBILITY AND REDOX CHARACTERISTICS. **Cooper A. French**

**2902-Pos** **Board #B57**
IDENTIFICATION AND CHARACTERIZATION OF BURIED IONIZABLE GROUPS IN PROTEINS. **Joshua A. Riback**, Carolyn A. Fitch, Bertrand García-Moreno E

**2903-Pos** **Board #B58** **MINORITY TRAVEL AWARDEE**
IS PROTEIN DESTABILIZATION A WIDESPREAD FACTOR IN GENETIC DISEASE? **Juan R. Diaz**, Nikolay Dokholyan, Rachel Redler

**2904-Pos** **Board #B59**
COPPER ION INDUCES N-TERMINAL β STRUCTURE IN AMYLOID β PROTEIN IN REVERSE MICELLES. **Hiroaki Komatsu**, Paul H. Axelsen

**2905-Pos** **Board #B60** **MINORITY TRAVEL AWARDEE**
OVERCOMING THE CELLULAR CROWDING EFFECT: VLSE-FRET IS DESTABILIZED INSIDE CELLS. **Irisbel Guzman Sanchez**, Martin Gruebele

**2906-Pos** **Board #B61**
QUANTITATIVE CHARACTERIZATION OF THE INTERACTION BETWEEN SUCROSE AND NATIVE PROTEINS VIA STATIC LIGHT SCATTERING. **Di Wu**, Allen P. Minton

**2907-Pos** **Board #B62**
STABILITY OF PROTEINS IN CELLULAR ENVIRONMENTS. **Ryuhei Harada**, Yuji Sugita, Michael Feig

**2908-Pos** **Board #B63**
NON LINEAR EFFECTS OF MACROMOLECULAR CROWDING ON THE MECHANICAL UNFOLDING OF PROTEINS. **Marisa I. Roman**, Guoliang Yang, Frank Ferrone

**2909-Pos** **Board #B64**
SEDIMENTATION VELOCITY ANALYSIS OF POLYGLUTAMINE ASSEMBLY IN C. ELEGANS USING A FLUORESCENCE DETECTION SYSTEM. Bashkim Kokona, **Zachary P. Smith**, Robert Fairman, Thomas Laue, Chris Link, Christine Roberts

**2910-Pos** **Board #B65**
EFFECT OF HYDROPHOBIC INTERACTIONS ON VOLUME AND THERMAL EXPANSIVITY AS DERIVED FROM MICELLE FORMATION. Mozhgan Nazari, **Helen Y. Fan**, Heiko Heerklotz

**2911-Pos** **Board #B66**
SIMULATED AMYLOID FIBRIL NUCLEATION IN REVERSE MICELLES. **Gozde Eskici**, Paul Axelsen

## Protein Structure (Boards #B67–#B85)

**2912-Pos** **Board #B67**
CRYSTAL STRUCTURE OF N-ACETYLGALACTOSAMINE-6-SULFATASE: THE MOLECULAR BASIS FOR MUCOPOLYSACCHARIDOSIS IVA. **Yadilette Rivera-Colon**, Emily K. Schutsky, Scott C. Garman

**2913-Pos** **Board #B68**
ON THE STRUCTURAL AND BIOCHEMICAL PROPERTIES OF THE HUMAN SEPTINS: SEPT3. **Joci N.A. Macedo**, Napoleão F. Valadares, Ivo A. Marques, Frederico M. Ferreira, Julio C.P. Damalio, Humberto M. Pereira, Richard C. Garratt, Ana P. U. Araújo

**2914-Pos** **Board #B69**
CHARACTERIZATION OF NOVEL INFLUENZA VACCINES BY TRANSMISSION ELECTRON MICROSCOPY. **Ryan M.B. Hoffman**, Travis Nieusma, Andrew B. Ward

**2915-Pos** **Board #B70**
CHARACTERIZATION AND STRUCTURAL ANALYSIS OF THE IG1 DOMAIN OF OBSCURIN. **Nathan T. Wright**, Alec N. Woosley

**2916-Pos** **Board #B71**
STRUCTURE OF NEMO THROUGH EPR SPECTROSCOPY AND MULTISCALE MODELLING. **Benjamin A. Hall**, Claire Bagneris, Tracey Barrett, Christopher W.M. Kay

**2917-Pos** **Board #B72**
THE PROTEIN CIRCULAR DICHROISM DATA BANK: A RESOURCE FOR DATA SHARING. **Lee Whitmore**, Benjamin Woollett, Robert W. Janes, B. A. Wallace

**2918-Pos** **Board #B73** **INTERNATIONAL TRAVEL AWARDEE**
IMPROVED SECONDARY STRUCTURE DETERMINATION AND FOLD PREDICTION BY CIRCULAR DICHROISM SPECTROSCOPY. András Micsonai, Eszter Szabó, Wien Frank, Matthieu Réfrégiers, **József Kardos**

**2919-Pos** **Board #B74**
THE SEQUENCE AND FUNCTION RELATIONSHIP IN LIGAND-INDUCED FOLDING. **Christopher Eginton**, Dorothy Beckett

**2920-Pos** **Board #B75**
STRUCTURAL ARCHITECTURE OF THE MULTI-IMMUNOGLOBULIN-LIKE DOMAIN CHAIN FROM LIGB. **Ching Lin Hsieh**, Christopher P. Ptak, Alexander S. Maltsev, Robert E. Oswald, Yung Fu Chang

**2921-Pos** **Board #B76**
HEXOKINASE MONOMER-DIMER PREFERENTIAL HYDRATION DETERMINED BY SANS AND OSMOTIC STRESS. **Christopher B. Stanley**, Hugh O'Neill, Erica Rowe, Valerie Berthelier

**2922-Pos** **Board #B77**
INTRAVITAL AND IN VITRO TIME-LAPSE IMAGING REVEALS MICROTUBULE DYNAMICS IN SKELETAL MUSCLE FIBERS. **Sarah Oddoux**

**2923-Pos** **Board #B78**
CHARACTERIZATION OF THE INTERACTION BETWEEN RHEB AND A TRUNCATED CONSTRUCT OF TUBEROUS SCLEROSIS COMPLEX 2 (TSC2) AND THE POTENTIAL EFFECT OF HEPARIN ON TSC2-STIMULATED GTP HYDROLYSIS. **Kyla Morris**, Paul D. Adams

**2924-Pos** **Board #B79**
DESIGNING SELF ASSEMBLING BETA HELICES. **Ellen M. White**, Krishna Kishore Inampudi, Corey J. Wilson, Andrew D. Miranker

**2925-Pos** **Board #B80**
SIMULATIONS OF GLUTATHIONE SYNTHETASE INDICATE CONFORMATIONAL ASYMMETRY THAT MAY CONTRIBUTE TO NEGATIVE COOPERATIVITY. **Sasi Kodathala**, Brian W. Beck

**2926-Pos** **Board #B81**
MULTIBODY FORCE FIELDS: CHARACTERIZING INTRINSIC CORRELATION WITHIN THE PDB. **Jared J. Thompson**

**2927-Pos** **Board #B82**
CONSERVATION OF FUNCTIONALLY IMPORTANT GLOBAL MOTIONS IN AN ENZYME SUPERFAMILY ACROSS VARYING QUATERNARY STRUCTURES. **Emily K. Luebbering**

**2928-Pos** **Board #B83**
A WEB SITE FOR DETECTING PROTEIN STRUCTURAL DOMAIN NEIGHBOURS. **Jean Garnier**, Franck Samson, Richard Shrager, Jean-François Gibrat, Chin-Hsein Tai, Vichetra Sam, Peter J. Munson

**2929-Pos** **Board #B84**
DEVELOPMENT OF SEMI-SYNTHESIS METHODS TO INCORPORATE FLUOROPHORE/THIOAMIDE PAIRS INTO PROTEINS. **Rebecca F. Wissner**, Solongo Batjargal, E. James Petersson

**2930-Pos** **Board #B85**
NIST/UMD BIOMOLECULAR LABELING LABORATORY (BL2). **Zvi Kelman**

## Molecular Chaperones (Boards #B86–#B101)

**2931-Pos** **Board #B86**
ACID-INDUCED ACTIVATION OF THE PERIPLASMIC CHAPERONE HDEA. **Linda Foit**, Bin Zhang, Jenny George, Lucia Brunetti, Charles Brooks III, James Bardwell

**2932-Pos** **Board #B87**
DEVELOPMENT OF FLUORESCENCE ASSAYS FOR STUDYING PROTEIN DISAGGREGATION BY MOLECULAR CHAPERONES. **Daniel W. Shoup**, Hays Rye, Jason Puchalla

**2933-Pos** **Board #B88**
ANALYSIS OF MYOSIN MOTOR DOMAIN INTERACTIONS WITH ITS CHAPERONE UNC-45 AT THE SINGLE MOLECULE LEVEL. **Paul Bujalowski**, Paul Nicholls, Christian M. Kaiser, Liang Ma, Henry Epstein, Andres F. Oberhauser

**2934-Pos** **Board #B89** **EDUCATION TRAVEL AWARDEE**
INTERACTION OF RNASE HD AND SH3 PROTEINS WITH DNAK MOLECULAR CHAPERONE. **Jung Ho Lee**, Ashok Sekhar, Dongyu Zhang, Margarita Santiago, Hon Nam Lam, Silvia Cavagnero

**2935-Pos** **Board #B90**
POTENTIATED HSP104 VARIANTS ANTAGONIZE DIVERSE PROTEIN MISFOLDING EVENTS. **Meredith E. Jackrel**, Morgan E. DeSantis, Laura M. Castellano, James Shorter

**2936-Pos** **Board #B91**
POTENTIATED HSP104 VARIANTS ANTAGONIZE DIVERSE PROTEOTOXIC MISFOLDING EVENTS. **James Shorter**

**2937-Pos** **Board #B92**
A PUTATIVE NETWORK OF INTERACTIONS CONTROLS THE OPENING AND CLOSING DYNAMICS OF THE ATPASE DOMAIN OF E. COLI HSP70, DNAK. **Gizem Dinler Doganay**, Umut Gunsel, Ani Kicik, İrem Avcilar, Bulent Balta, Ilgin Isiltan

**2938-Pos** **Board #B93**
DIVALENT RECOGNITION OF THE E. COLI CYTOSKELETAL PROTEIN FTSZ BY THE ATP-DEPENDENT PROTEASE CLPXP. Leslie Rea, Joel R. Hoskins, Sue Wickner, **Jodi L. Camberg**

**2939-Pos** **Board #B94**
MOLECULAR MECHANISM OF ALLOSTERIC COMMUNICATION IN HSP70 REVEALED BY MOLECULAR DYNAMICS SIMULATIONS. Federica Chiappori, Ivan Merelli, Giorgio Colombo, Luciano Milanesi, **Giulia Morra**

**2940-Pos** **Board #B95**
A MOLECULAR DYNAMICS STUDY OF THE FLEXIBILITY AND PROTEIN-BINDING OF THE TRIGGER FACTOR CHAPERONE IN SOLUTION. **Kushagra Singhal**, Jocelyne Vreede, Alireza Mashaghi, Sander J. Tans, Peter G. Bolhuis

**2941-Pos** **Board #B96**
INTER-SUBUNIT COORDINATION IN HSP104, A PROTEIN DISAGGREGASE. **Morgan E. DeSantis**, Eunice H. Leung, Elizabeth A. Sweeny, Meredith E. Jackrel, M Cushman-Nick, Alexandra Neuhaus-Follini, Shilpa Vashist, Matthew A. Sochor, M Noelle Knight, James Shorter

**2942-Pos** **Board #B97**
FORCE TRIGGERED DISSOCIATION OF THE HIGHLY AVID E9:IM9 COMPLEX. **David Brockwell**, Oliver Farrance, Renata Kaminska, Sasha Derrington, Colin Kleanthous, Sheena Radford

**2943-Pos** **Board #B98**
THE PERSISTENT EFFECT OF INITIAL SUBSTRATE PROTEIN CONFORMATION ON PRODUCTIVE FOLDING BY GROEL-GROES. **Jeremy S. Weaver**, Hays S. Rye

**2944-Pos** **Board #B99**
ROLE OF NONSPECIFIC INTERACTIONS IN MOLECULAR CHAPERONES THROUGH MODEL-BASED BIOINFORMATICS. **Andrew D. White**, Wenjun Huang, Ann K. Nowinski, Shaoyi Jiang

**2945-Pos** **Board #B100**
COOPERATIVE MOTION OF A MULTI-SUBUNIT PROTEIN VISUALIZED BY X-RAY SINGLE MOLECULE TRACKING. **Hiroshi Sekiguchi**, Yohei Yamamoto, Ayumi Nakagawa, Kazuki Moriya, Mayuno Arita, Kouhei Ichiyanagi, Masafumi Yohda, Naoto Yagi, Yuji C. Sasaki

**2946-Pos** **Board #B101**
PRECISE TIMING OF ATPASE ACTIVATION DRIVES TARGETING OF TAIL-ANCHORED PROTEINS. **Meera Rao**, Michael E. Rome, William M. Clemons, Shu-ou Shan

## Protein Biophysics in vivo (Boards #B102–#B130)

**2947-Pos** **Board #B102**
PROTEIN FOLDING AND AGGREGATION IN THE CELL. **Simon Ebbinghaus**

**2948-Pos** **Board #B103** **MINORITY TRAVEL AWARDEE**
LIVE CELL FLUORESCENCE CORRELATION SPECTROSCOPY WITH REAL TIME PHOTOACTIVATION FEEDBACK. **Matthew D. Weitzman**, Chandran R. Sabanayagam, Kenneth L. van Golen

**2949-Pos** **Board #B104** **EDUCATION TRAVEL AWARDEE**
PROTEIN FOLDING ACROSS THE CELL CYCLE. **Anna J. Wirth**, Martin Gruebele

**2950-Pos** **Board #B105**
WNT3 DIFFUSES FREELY IN THE INTERCELLULAR SPACE OF DEVELOPING ZEBRAFISH EMBRYOS. **Guangyu Sun**, Cathleen Teh, Vladimir Korzh, Thorsten Wohland

**2951-Pos** **Board #B106** **EDUCATION TRAVEL AWARDEE**
SIZE DISTRIBUTION ANALYSIS OF VON WILLEBRAND FACTOR. **Svenja Lippok**, Tobias Obser, Valentin Stierle, Ulrich Budde, Reinhard Schneppenheim, Joachim O. Rädler

**2952-Pos** **Board #B107**
QUANTITATIVE CHARACTERIZATION OF REVERSIBLE GKAP-DLC2 INTERACTIONS IN LIVE NEURONS BY SCANNING NUMBER AND BRIGHTNESS. Enora Moutin, Caroline Clerté, Vincent Compan, Fabrice Raynaud, Matthew L. Ferguson, Laurent Fagni, **Catherine A. Royer**, Julie Perroy

**2953-Pos** **Board #B108**
USING CALCITRIOL CONJUGATED QUANTUM DOTS TO TARGET INFLAMMATORY BREAST CANCER TUMORS AND METASTASIS IN VIVO. Jeremy Bonor, Rachel Schaefer, **Anja Nohe**

**2954-Pos** **Board #B109**
DIRECT, SINGLE MOLECULE OBSERVATION OF EARLY LYMPHOCYTE SIGNALING. **Geoffrey P. O'Donoghue**, Rafal M. Pielak, Alex A. Smoligovets, Jenny J. Lin, Jay T. Groves

**2955-Pos** **Board #B110**
SINGLE-MOLECULE FLUORESCENCE AND FRET MEASUREMENTS ON INTERNALIZED PROTEINS IN LIVING BACTERIA. **Louise Aigrain**, Robert Crawford, Joseph P. Torella, Anne Plochowietz, Marko Sustarsic, Achillefs N. Kapanidis

**2956-Pos** **Board #B111**
INSIGHTS INTO THE ORGANIZATION OF AN ECF-TYPE TRANSPORTER BY FLUORESCENCE LIFETIME AND ANISOTROPY MICROSCOPY ON LIVING E. COLI. **Joanna Ziomkowska**, Franziska Kirsch, Thomas Eitinger, Andreas Herrmann

**2957-Pos** **Board #B112** **EDUCATION TRAVEL AWARDEE**
SINGLE-MOLECULE INVESTIGATION OF THE INTRAFLAGELLAR TRANSPORT OF MEMBRANE SIGNALING PROTEINS. **Anthony P. Kovacs**, Michael DeSantis, Susan Dutcher, Yan Mei Wang

**2958-Pos** **Board #B113**
MULTIPLE MINE-ASSOCIATED STATES AND NUCLEOID STABILIZE SELF-ORGANIZED MINDE PATTERN FORMATION IN E. COLI. **Jie-Pan Shen**, Yi-Ren Chang, Li-Ling Yang, Chia-Fu Chou

**2959-Pos** **Board #B114**
SYNERGISTIC INTERACTIONS OF ALZHEIMER'S Aβ40 AND Aβ42 ON THE SURFACE OF PRIMARY NEURONS BY SINGLE MOLECULE MICROSCOPY. **Chun-Chieh Chang**, Christian Althaus, Cynthia Carruthers, Michael Sutton, Duncan Steel, Ari Gafni

**2960-Pos** **Board #B115**
PROTEIN-PROTEIN INTERACTIONS IN VIVO STUDIED BY SINGLE PLANE ILLUMINATION FLUORESCENCE CORRELATION SPECTROSCOPY (SPIM-FCS). **Agata Pernus**, Jan Krieger, Jan Buchholz, Anand Pratap Singh, Edoardo Charbon, Thorsten Wohland, Jörg Langowski

**2961-Pos** **Board #B116**
SINGLE MOLECULE MEASUREMENTS OF TCR:MHC BINDING KINETICS IN LIVING PRIMARY T CELLS. **Rafal Pielak**, Geoff O'Donoghue, Alexander Smoligovets, Jenny Lin, Jay Groves

**2962-Pos** **Board #B117**
INVESTIGATING RATE OF TRAI AND DNA TRANSFER DURING BACTERIAL CONJUGATION. **Tegan Feehery**, Jackson Buss, Jie Xiao, Joel Schildbach

**2963-Pos** **Board #B118**
TRYPTOPHAN UPTAKE VIA TAT2 TRANSPORTERS UNDER HYDROSTATIC PRESSURE. **Yang Li**, Robert B. Macgregor

**2964-Pos** **Board #B119**
LABELING FREEDOM FOR THE SINGLE MOLECULE MICROSCOPIST. Sigrid Milles, Swati Tyagi, Tilman Plass, Christine Koehler, Carsten Schultz, **Edward A. Lemke**

**2965-Pos** **Board #B120**
IN VITRO THERMODYNAMICS OF DNA BINDING CORRELATE WITH IN VIVO TRANSCRIPTION REPRESSION BY A SYNTHETIC LACI/GALR PARALOG. **Liskin Swint-Kruse**, Sudheer Tungtur, Hongli Zhan, Nicole A. Becker, L. James Maher, Joshua Riepe

**2966-Pos** **Board #B121**
IN VITRO EFFECTS OF MACROMOLECULAR CROWDING ON PROTEIN STABILITY, STRUCTURE AND FOLDING. **Pernilla Wittung-Stafshede**

**2967-Pos** **Board #B122** **EDUCATION TRAVEL AWARDEE**
EXPLORING THE KINETICS OF PROTEIN BIRTH. **Rayna M. Addabbo**, Brian Arnold, Silvia Cavagnero

**2968-Pos** **Board #B123**
CALORIMETRIC DETERMINATION OF DESOLVATION ENERGY FOR A MODEL BINDING REACTION IN DILUTE AND CROWDED SOLUTIONS. **Daryl K. Eggers**, Brian M. Castellano, Sai Dharmaraj

**2969-Pos** **Board #B124**
MUTUAL MACROMOLECULAR CROWDING IN POLYMER SOLUTIONS. **Mary K. Cowman**

**2970-Pos** **Board #B125**
THE USAGE OF PROTEOLITIC ENZYMES INHIBITORS IN STUDIES OF THE BLOOD PLASMA PARTICLE SIZE DISTRIBUTION BY THE DYNAMIC LIGHT SCATTERING. **Marina Nikolaevna Maslova**, Leonid Leonidovich Chaykov, Alexander Romanovich Zaritsky

**2971-Pos** **Board #B126**
UNDERSTANDING THE KINETICS OF MEMBRANE RECRUITMENT OF RACGTPASES USING SINGLE PARTICLE TRACKING. **Sulagna Das**

**2972-Pos** **Board #B127**
DETERMINATION OF QUATERNARY STRUCTURE OF RHODOPSIN AT ROOM AND BODY TEMPERATURE USING SPECTRAL FRET. **Ashish Mishra**, Deo R. Singh, Tae Gyun Kim, Julie A. Oliver, Paul S. Park, Valerică Raicu

**2973-Pos** **Board #B128**
COMPUTATIONAL PREDICTION OF ALS PATIENT SURVIVAL TIMES FROM PROTEIN MECHANICAL PROPERTIES. **Steven Samuel Plotkin**, Neil R. Cashman, Atanu Das

**2974-Pos** **Board #B129**
IN VIVO TRANSLATION RATES CAN SUBSTANTIALLY DELAY THE CO-TRANSLATIONAL FOLDING OF THE E. COLI CYTOSOLIC PROTEOME. Prajwal Ciryam, Richard I. Morimoto, Michele Vendruscolo, Christopher M. Dobson, **Edward P. O'Brien**

**2975-Pos** **Board #B130**
STRUCTURE AND DYNAMICS OF IRE1 ASSEMBLY IN THE ENDOPLASMIC RETICULUM STUDIED BY MOLECULAR SIMULATION. **Adrian H. Elcock**, Tamara Frembgen Kesner

## Chromatin & the Nucleoid (Boards #B131–#B160)

**2976-Pos** **Board #B131**
THE TROUBLE WITH TRIPLES: ELUCIDATING THE BEHAVIOR OF TRINUCLEOTIDE REPEATS IN CHROMATIN. **Catherine B. Volle**, Sarah Delaney

**2977-Pos** **Board #B132**
CENP-A AT HUMAN CENTROMERES AND NEOCENTROMERES FORMS OCTAMERIC NUCLEOSOMES WITH LOOSE SUPERHELICAL TERMINI. **Tatyana Panchenko**, Kevan J. Salimian, Dan Hasson, Mishah U. Salman, Peter E. Warburton, Ben E. Black

**2978-Pos** **Board #B133**
CENP-A NUCLEOSOMES ADOPT AN UNCONVENTIONAL SHAPE. **Nikolina Sekulic**, Samantha J. Falk, Tomoyasu Mani, Kushol Gupta, Gregory Van Duyne, Sergei A. Vinogradov, Ben E. Black

**2979-Pos** **Board #B134**
TWO LYSINE RESIDUES ENHANCE THE FLEXIBILITY OF DNA WRAPPING AROUND CENP-A CONTAINING NUCLEOSOME CORE PARTICLE. **Hidetoshi Kono**

**2980-Pos** **Board #B135**
SOLUTION SCATTERING AND FRET STUDIES ON NUCLEOSOMES REVEAL DNA UNWRAPPING EFFECTS OF H3 AND H4 TAILS. **Kurt Andresen**, Isabel Jimenez-Useche, Steven C. Howell, Chongli Yuan, Xiangyun Qiu

**2981-Pos** **Board #B136**
EFFECT OF DNA METHYLATION ON THE ASSEMBLY OF NUCLEOSOMES. **Ju Yeon Lee**, Tae-Hee Lee

**2982-Pos** **Board #B137**
BIOPHYSICAL CHARACTERIZATION OF STRUCTURAL AND ENERGETIC DIFFERENCES BETWEEN H2A AND H2A/H2B HETERODIMER VARIANTS FROM C. ELEGANS. **Susan E. Calhoun**, Lisa Razon, Ahmad Naban, Lea Lough, Francisco Guerrero, Apurwa Sharma, Diana Chu, Raymond Esquerra

**2983-Pos** **Board #B138** **EDUCATION TRAVEL AWARDEE**
NUCLEOSOME REWRAPPING FACILITATES TRANSCRIPTION FACTOR EXCHANGE. **Yi Luo**, Justin A. North, Michael G. Poirier

**2984-Pos** **Board #B139**
NEW INSIGHTS INTO NUCLEOSOME UNWRAPPING. **Razvan V. Chereji**, Alexandre V. Morozov

**2985-Pos** **Board #B140**
NUCLEOSOME UNDER TORSION. **Maxim Sheinin**, Michelle D. Wang

**2986-Pos** **Board #B141**
MECHANICAL STABILITY OF MONONUCLEOSOME REVEALED BY OPTICAL TORQUE WRENCH. **Jen-Chien Chang**, Michel de Messieres, Ping-Chun Li, Olga I. Kulaeva, Vasily M. Studitsky, Edward T. Yu, Arthur La Porta

**2987-Pos** **Board #B142**
ELECTROSTATIC EFFECTS OF THE ION ATMOSPHERE ON NUCLEOSOME CORE PARTICLE INTERACTIONS. **Lauren Nowicki**, Brian Flood, Kurt Andresen

**2988-Pos** **Board #B143**
ESTABLISHING REAL-TIME, SINGLE-MOLECULE APPROACHES TO STUDY RSC COMPLEX MEDIATED NUCLEOSOME REMODELING ACTIVITIES. **Sih Yao Chow**

**2989-Pos** **Board #B144**
THE NON-MONOTONIC EFFECT OF NUCLEOSOME OCCUPANCY ON GENE EXPRESSION. **Rasesh Y. Parikh**, Harold D. Kim

**2990-Pos** **Board #B145**
NUCLEOSOME-NUCLEOSOME STACKING: A MAJOR ELEMENT OF CHROMATIN STRUCTURE. **Nikolay Korolev**, Abdollah Allahverdi, Ying Liu, Renliang Yang, Alexander P. Lyubartsev, Yanping Fan, Chun-Fa Liu, Lars Nordenskiöld

**2991-Pos** **Board #B146**
OPTICAL TWEEZERS CONTROLLED NANOPORE DETECTION OF NUCLEOSOMES ALONG A DNA. **Gautam Soni**, Cees Dekker

**2992-Pos** **Board #B147**
THE ARCHITECTS OF THE ARCHAEAL CHROMATIN. **Rosalie Driessen**, Ramon van der Valk, Geri Moolenaar, Nora Goosen, Remus Dame

**2993-Pos** **Board #B148**
MODELING LONG CHROMATIN FIBERS BASED ON IN-VIVO NUCLEOSOME POSITIONING MAPS. **Robert Schöpflin**, Vladimir B. Teif, Oliver Müller, Christin Weinberg, Karsten Rippe, Gero Wedemann

**2994-Pos** **Board #B149**
BAYESIAN RECONSTRUCTION OF CHROMATIN CONFORMATION FROM FISH AND HI-C DATA. **Keyao Pan**, Mark Bathe

**2995-Pos** **Board #B150**
POPULATION PROPERTIES OF SELF-AVOIDING POLYMER CHAIN MODELS OF CHROMOSOMES IN A CONFINED SPACE OF NUCLEUS. **Gamze Gursoy**, Yun Xu, Amy Kenter, Jie Liang

**2996-Pos** **Board #B151**
POLYMER MODELS OF YEAST S. CEREVISIAE GENOME ORGANIZATION. **Anton Goloborodko**, Geoffrey Fudenberg, Jon-Matthew Belton, Maxim Imakaev, Job Dekker, Leonid` Mirny

**2997-Pos** **Board #B152**
INTERACTIONS OF NUCLEAR ACTIN-RELATED PROTEINS WITH SWI/SNF CHROMATIN-REMODELING COMPLEXES. **Bengi Turegun**, David J. Kast, Roberto Dominguez

**2998-Pos** **Board #B153** **EDUCATION TRAVEL AWARDEE**
STUDY OF NUCLEAR ORGANIZATION THROUGH THE DYNAMIC PROPERTIES OF CHROMATIN. **Irena Bronshtein**, Eldad Kepten, Moshe Lindner, Yaron Shav Tal, Yuval Garini

**2999-Pos** **Board #B154** **CPOW TRAVEL AWARDEE**
EXPLORING THE CHROMATIN ARCHITECTURE IN LIVING CELLS BY MINUTES-LONG TRACKING OF GOLD NANOPARTICLES. **Laura C. Estrada**, Enrico Gratton

**3000-Pos** **Board #B155**
DISTINCT DOSAGE COMPENSATION EFFECTS BY SUBUNITS OF DROSOPHILA MSL COMPLEXES. **David D. Dunlap**, Ruth Yokoyama, Huiping Ling, He-Ying Sun, Kerry McGill, Simona Cugusi, John Lucchesi

**3001-Pos** **Board #B156**
RABL ORGANIZATION OF CHROMOSOMES IN THE YEAST NUCLEUS. **Gabriel Bronk**, Baris Avsaroglu, Jungoh Ham, James Haber, Jane Kondev

**3002-Pos** **Board #B157**
SINGLE-MOLECULE STUDIES OF A PARB FAMILY CHROMOSOME SEGREGATION PROTEIN FROM *BACILLUS SUBTILIS*. Thomas G.W. Graham, **Linda Song**, Xindan Wang, Candice M. Etson, Antoine Van Oijen, David Z. Rudner, Joseph J. Loparo

**3003-Pos** **Board #B158**
ACTO-MYOSIN CONTRACTILITY ROTATES THE CELL NUCLEUS. **Abhishek Kumar**, Ananyo Maitra, Madhuresh Sumit, Sriram Ramaswamy, Shivashankar GV

**3004-Pos** **Board #B159**
CELLULAR GEOMETRY MEDIATED APICAL STRESS FIBERS DYNAMICALLY COUPLES NUCLEUS TO FOCAL ADHESION. **Qingsen Li**, Abhishek Kumar, Shivashankar GV

**3005-Pos** **Board #B160**
GEOMETRIC CONSTRAINTS ON CELLS INDUCE CYTOPLASMIC TO NUCLEAR REDISTRIBUTION OF TRANSCRIPTION CO-FACTORS TO REGULATE GENE EXPRESSION. **Nikhil Jain**, K. Venkatesan Iyer, Abhishek Kumar, Shivashankar G.V

## Nucleic Acid Biophysics in vivo (Boards #B161–#B164)

**3006-Pos** **Board #B161**
MULTI-SCALE MODELS OF GENOMIC BACTERIAL DNA. Liang Fang, **Michael Feig**

**3007-Pos** **Board #B162**
THE ESCHERICHIA COLI CHROMOSOME IS SEGREGATED BY BIASED DIFFUSION. **Nathan J. Kuwada**, Paul A. Wiggins

**3008-Pos** **Board #B163**
EFFECT OF CAPSID TAIL ON THE EJECTION DYNAMICS OF SEMIFLEXIBLE POLYMERS. **Isam Hasan**, Afaf Al Lawati, Muataz Al Barwani

**3009-Pos** **Board #B164** **EDUCATION TRAVEL AWARDEE**
CONFORMATIONAL FLUCTUATIONS OF CHROMOSOMAL DNA IN ESCHERICHIA COLI. **Rudra P. Kafle**, Jens-Christian Meiners

## Transcription (Boards #B165–#B174)

**3010-Pos Board #B165**
ROLES OF PYROPHOSPHOROLYSIS IN TRANSCRIPTION INITIATION. **Masahiko Imashimizu**, Maria L. Kireeva, Nobuo Shimamoto, Mikhail Kashlev

**3011-Pos Board #B166 EDUCATION TRAVEL AWARDEE**
CHARACTERIZING INFLUENZA A RNA POLYMERASE - PROMOTER INTERACTION USING ENSEMBLE FLUORESCENCE SPECTROSCOPY. **Alexandra I. Tomescu**, Nicole C. Robb, Narin Hengrung, Ervin Fodor, Achillefs N. Kapanidis

**3012-Pos Board #B167**
REGULATION OF INITIATION AND TRANSCRIPTION BY E.COLI RNA POLYMERASE SIGMA REGION 1.2 AND PROMOTER SEQUENCE. **Emily F. Ruff**, Dmitri Svetlov, Irina Artsimovitch, Tom Record

**3013-Pos Board #B168**
MECHANISMS OF NA+/H+ EXCHANGER ISOFORM 3 GENE PROXIMAL PROMOTER MODULATION BY PARATHYROID HORMONE. **Camila N A Bezerra**, Elida A. Neri, Gabriella D. Queiroz-Leite, Nancy A. Reboucas

**3014-Pos Board #B169**
MOLECULAR DYNAMICS STUDY OF RNA POLYMERASE TRANSCRIPTION FROM FREE ENERGY CALCULATION. **Shaogui Wu**

**3015-Pos Board #B170**
SIMULATION STUDIES ON NUCLEOTIDE SELECTION IN T7 RNA POLYMERASE TRANSCRIPTION. **Baogen Duan**

**3016-Pos Board #B171**
TRANSCRIPTION ON TANGLED DNA. **Maryna Taranova**, Troy A. Lionberger, Andrew D. Hirsh, Noel C. Perkins, Ioan Andricioaei

**3017-Pos Board #B172**
DIRECT MEASUREMENTS OF TRANSCRIPTION UNDER TORSION. **Jie Ma**, Lu Bai, Robert M. Fulbright, Michelle D. Wang

**3018-Pos Board #B173**
SINGLE MOLECULE CHARACTERIZATION OF RNA POLYMERASE I: FORCE FREE KINETIC MEASUREMENTS. **Suleyman Ucuncuoglu**, David A. Schneider, Laura Finzi

**3019-Pos Board #B174**
FLEXIBILITY IN TRANSCRIPTION START-SITE SELECTION BY RNA POLYMERASE INVOLVES TRANSCRIPTION-BUBBLE EXPANSION ("SCRUNCHING") OR CONTRACTION ("UNSCRUNCHING"). **Mathivanan Chinnaraj**, Terence R. Strick, Richard H. Ebright

## Membrane Structure II (Boards #B175–#B203)

**3020-Pos Board #B175**
MOLECULAR DYNAMICS SIMULATIONS OF E. COLI LIPOPOLYSACCHARIDE BILAYERS. **Emilia L. Wu**, Olof Engstrom, Sunhwan Jo, Dani Stuhlsatz, Goran Wildmalm, Wonpil Im

**3021-Pos Board #B176**
INTERACTIONS OF MONO- AND DI-SACCHARIDES WITH THREE LIPID PHASES. Kyle T. Bussis, Erica J. Chan, **Paul E. Harper**

**3022-Pos Board #B177**
GRAMICIDIN ALTERS THE LIPID COMPOSITIONS OF LIQUID-ORDERED AND LIQUID-DISORDERED MEMBRANE DOMAINS. **Ebrahim Hassan-Zadeh**, Juyang Huang

**3023-Pos Board #B178**
ACTIVITY OF AMPHOTERICIN B ON THE MEMBRANE STRUCTURE PRESENTING MACRO, MODULATED AND NANO DOMAINS IN MIXTURES OF DSPC/DOPC/POPC/CHOL. **Rosmarbel Morales-Nava**, Ivan Ortega-Blake

**3024-Pos Board #B179**
THE APOPTOTIC BILE ACID DCA HAS PREFERENCE FOR ASSOCIATION TO LIQUID DISORDERED LIPID DOMAINS AND INHIBITS THE RIGIDIFYING EFFECT OF CHOLESTEROL IN MEMBRANES. João Mello-Vieira, Ana Coutinho, Alexander Fedorov, Sandra D. Lucas, Rui Moreira, Rui E. Castro, Cecília Rodrigues, Manuel Prieto, **Fábio Fernandes**

**3025-Pos Board #B180**
PHASE SEPARATED DOMAINS ARE WEAKLY COUPLED TO THE SUPPORT IN AGAROSE SUPPORTED BILAYERS WITH TERNARY LIPID COMPOSITIONS. **Jason Karslake**, Sarah Veatch

**3026-Pos Board #B181**
EFFECT OF SPHINGOMYELINASE ACTIVITY ON THE MISCIBILITY PHASE TRANSITION IN PLASMA MEMBRANE VESICLES. **Gladys Diaz Vazquez**, Sarah Veatch

**3027-Pos Board #B182**
INVESTIGATING LIQUID AND SOLID NANODOMAINS IN MODEL CELL MEMBRANES USING SANS. **Natalie Krzyzanowski**, Lionel Porcar, Paul D. Butler, Ursula Perez-Salas

**3028-Pos Board #B183**
INFLUENCE OF CALCIUM ON LIPID DOMAIN FORMATION IN AGAROSE SUPPORTED LIPID BILAYERS. **Junhong Choi**, Arnd Pralle

**3029-Pos Board #B184**
INFLUENCE OF CALCIUM CONCENTRATION ON LIPID DOMAINS IN THE INNER AND OUTER LEAFLETS OF THE PLASMA MEMBRANE. **Weixiang Jin**, Heng Huang, Arnd Pralle

**3030-Pos Board #B185**
DIFFERENTIAL EFFECTS OF LIQUID ORDERED AND LIQUID DISORDERED PHASES ON MEMBRANE PERMEABILITY. **Miranda J. Bradley**, Marshall Colville, Miles J. Crumley, Drake C. Mitchell

**3031-Pos Board #B186**
LONG-RANGE SMECTIC COUPLING OF PHASE SEPARATED DOMAINS IN TERNARY MIXTURE LIPID MULTILAYERS. **Yicong Ma**, Lobat Tayebi, Daryoosh Vashaee, Gang Chen, Atul Parikh, Sunil Sinha

**3032-Pos Board #B187**
DEUTERIUM NMR STUDY OF THE EFFECT OF PHYTOSTEROL ON DPPC MEMBRANES. **Chi-Jung Weng**, Jing-shian Wang, Ya-Wei Hsueh

**3033-Pos** **Board #B188**
DEPENDENCE OF CHOLESTEROL-PHOSPHOLIPID AFFINITY ON DEGREE OF ACYL CHAIN UNSATURATION AS DETERMINED BY EPR. **Justin Williams**, Cynthia D. Wassall, Marvin D. Kemple, Stephen R. Wassall

**3034-Pos** **Board #B189**
DISORDERING OF RAFT DOMAINS BY DHA AND EPA OBSERVED WITH SOLID-STATE DEUTERIUM NMR SPECTROSCOPY. **Jacob J. Kinnun**, Justin A. Williams, Robert Bittman, Saame Raza Shaikh, Stephen R. Wassall

**3035-Pos** **Board #B190**
AREA PER LIPID AND ELASTIC DEFORMATION OF MEMBRANE BILAYERS UNDER OSMOTIC STRESS. **K. J. Mallikarjunaiah**, Jacob J. Kinnun, Horia I. Petrache, Michael F. Brown

**3036-Pos** **Board #B191** **EDUCATION TRAVEL AWARDEE**
TERNARY MODEL MEMBRANE SYSTEM WITH THICKER LIQUID DISORDERED PHASES, CONFIRMED WITH ATOMIC FORCE MICROSCOPY AND FLUORESCENCE MICROSCOPY. **Joan V. Bleecker**, Rami Foster, Sarah L. Keller

**3037-Pos** **Board #B192**
EFFECT OF HYBRID LIPID ON LINE TENSION AND UNIVERSALITY IN LIPID MEMBRANES. **Eda Baykal-Caglar**, Juyang Huang

**3038-Pos** **Board #B193**
CHOLESTERYL PHOSPHOCHOLINE FORMS FLUID BILAYER MEMBRANES WITH SATURATED OR MONOUNSATURATED CERAMIDES. **Max Lönnfors**, Otto Långvik, Pramod Sukumaran, Anders Björkbom, Kid Törnqvist, J.Peter Slotte

**3039-Pos** **Board #B194**
EFFECTS OF POLYUNSATURATED ACYL CHAINS ON COEXISTING LIQUID ORDERED/LIQUID DISORDERED PHASES. **Yongwen Gu**, Miranda J. Bradley, Drake C. Mitchell

**3040-Pos** **Board #B195**
IMPROVED CHARMM FORCE FIELD FOR POLYUNSATURATED FATTY ACID CHAINS, A STUDY ON DAPC MEMBRANES. **Viviana Monje**, Taehoon Kim, Wonpil Im, Jeffery B. Klauda

**3041-Pos** **Board #B196** **EDUCATION TRAVEL AWARDEE**
INTERACTION OF α-TOCOPHEROL WITH A POLYUNSATURATED LIPID STUDIED BY MD SIMULATIONS. **Xiaoling Leng**, Justin A. Williams, Drew Marquardt, Norbert Kučerka, John Katsaras, Jeffrey Atkinson, Thad A. Harroun, Scott E. Feller, Stephen R. Wassall

**3042-Pos** **Board #B197**
CHOLESTEROL/PHOSPHOLIPID BILAYER PHASE DIAGRAMS FROM COARSE GRAINED SIMULATIONS. **Olle Edholm**, Richard Tjörnhammar, Qaiser Waheed

**3043-Pos** **Board #B198**
MOLECULAR VIEW OF PHASE COEXISTENCE IN MODEL MEMBRANES. **Svetlana Baoukina**, Eduardo Mendez-Villuendas, D. Peter Tieleman

**3044-Pos** **Board #B199**
IMPROVED COARSE-GRAINED MODELING OF CHOLESTEROL ACTIVATION IN LIPID BILAYERS. **Michael D. Daily**, Brett N. Olsen, Paul H. Schlesinger, Daniel S. Ory, Nathan A. Baker

**3045-Pos** **Board #B200**
TERNARY LIPID DOMAIN FORMATION USING ATOMISTIC MOLECULAR DYNAMICS SIMULATIONS. **Alexander W. Chen**, W.F. Drew Bennet, Tsjerk A. Wassenaar, D. Peter Tieleman

**3046-Pos** **Board #B201**
CLUSTERS, DOMAINS, AND RAFTS IN A MULTICOMPONENT 2-D LATTICE MODEL. **H. Larry Scott**

**3047-Pos** **Board #B202**
A RAFT FOR BOTH LEAVES OF THE PLASMA MEMBRANE. **Michael Schick**

**3048-Pos** **Board #B203**
DEVELOPING CHARMM-COMPATIBLE LIPID PARAMETERS FOR CERAMIDES AND UNITED ATOM CHAINS. Sarah Lee, Alan Tran, **Jeffery B. Klauda**

## Protein-Lipid Interactions III (Boards #B204–#B233)

**3049-Pos** **Board #B204**
MEMBRANE GEOMETRY ALTERS THE INTERACTION BETWEEN ISLET AMYLOID POLYPEPTIDE AND LIPID BILAYERS. **Joanna M. Dunn**, Andrew D. Miranker, Elizabeth Rhoades

**3050-Pos** **Board #B205**
DESIGN AND CHARACTERIZATION OF PEPTIDE MODULATORS OF IAPP-MEMBRANE BINDING. **Shenil Dodhia**, Abhinav Nath, Andrew D. Miranker

**3051-Pos** **Board #B206**
EFFECT OF Aβ INSERTION IN DPPC LB FILMS. **Nirav Patel**, Christopher P. H. Seo, Fernando Teran Arce, Ratnesh Lal

**3052-Pos** **Board #B207**
DEVELOPMENT OF CURVED SUPPORTED LIPID BILAYERS FOR ATOMIC FORCE MICROSCOPY STUDIES OF AMYLOID AGGREGATION ON MEMBRANES. **Maxmore Chaibva**, Justin Legleiter

**3053-Pos** **Board #B208**
AGGREGATION OF AMYLOIDS AT BIOMEMBRANES AND ITS IMPLICATIONS IN ALZHEIMERS'S DISEASE AND TYPE II DIABETES. **Chetan Poojari**

**3054-Pos** **Board #B209**
MOLECULAR INTERACTIONS OF ALZHEIMER'S Aβ PEPTIDE FIBRILS AND OLIGOMERS WITH LIPID MEMBRANES. Florentina Tofoleanu, **Nicolae-Viorel Buchete**

**3055-Pos** **Board #B210**
TRYPTOPHAN POINT MUTANTS OF HET-C2, A FUNGAL GLYCOLIPID TRANSFER PROTEIN, PROVIDE INSIGHTS INTO GLYCOLIPID BINDING/TRANSFER AND MEMBRANE INTERACTION. Roopa Kenoth, Xianqiong Zou, Dhirendra K. Simanshu, Xiuhong Zhai, Helen M. Pike, Julian G. Molotkovsky, Dinshaw J. Patel, **Rhoderick E. Brown**

**3056-Pos** **Board #B211**
ELUCIDATION OF CALCIUM ION AND PHOSPHOLIPID BINDING PROFILES OF MULTIPLE DYSFERLIN ISOFORMS. **Anne M. Rice**, Anne Hinderliter, R. Bryan Sutton

**3057-Pos** **Board #B212**
FOCUSING THE GLYCOLIPID SPECIFICITY OF HUMAN GLYCOLIPID TRANSFER PROTEIN BY DESIGNER MUTATION. **Xiuhong Zhai**, Yongguang Gao, Borja Ochoa-Lizarralde, Valeria R. Samygina,, Helen M. Pike, Julian G. Molotkovsky, Lucy Malinina, Rhoderick E. Brown

**3058-Pos** **Board #B213**
SEVERAL ASPARAGINE RESIDUES FLANKING A HYDROPHOBIC HELIX ARE REQUIRED TO BLOCK INTERCONVERSION BETWEEN TRANSMEMBRANE AND NON-TRANSMEMBRANE CONFIGURATIONS. **James LeBarron**, Erwin London

**3059-Pos** **Board #B214**
A BUTTRESSED UNILAMELLAR MEMBRANE SYSTEM FOR STUDYING LIPID-PROTEIN INTERACTIONS. **Sungsoo Lee**, Marc Llaguno, Qiu-xing Jiang

**3060-Pos** **Board #B215**
TOWARD UNDERSTANDING THE ROLE OF ANGIOMOTIN LIPID BINDING IN CELLULAR PROLIFERATION AND MIGRATION. **Ann C. Kimble-Hill**, Ilse Jimenez-Segovia, Millicent A. Firestone, Thomas D. Hurley, Clark D. Wells

**3061-Pos** **Board #B216**
ASSEMBLY AND ACTIVITY OF RESPIRATORY COMPLEX II IN NANOLIPOPROTEIN PARTICLES. **Christine Schwall**, Nathan Alder

**3062-Pos** **Board #B217**
PURIFICATION AND CHARACTERIZATION OF THE TETRAMERIC POTASSIUM CHANNEL KCSA IN "NATIVE NANODISCS". **Martijn C. Koorengevel**, Stefan Scheidelaar, Tim R. Dafforn, Antoinette Killian

**3063-Pos** **Board #B218**
DETERMINING THE ROLE OF NS4B IN MEMBRANE REMODELLING DURING HCV REPLICATION. Esther von Schulthess, Chris McCormick, **Philip T.F. Williamson**

**3064-Pos** **Board #B219**
PHOSPHORYLATION OF THE AMPHIPATHIC HELIX CHANGES THE LIPID BINDING CAPACITIES OF PICK1. **Rasmus Herlo**, Ina Ammendrup-Johnsen, Kenneth Lindegaard Madsen, Dimitrious Stamou, Ulrik Gether

**3065-Pos** **Board #B220**
MEMBRANE PENETRATING ABILITY OF EBOLA MATRIX PROTEIN, VP40. **Smita P. Soni**, Emmanuel Adu-Gyamfi, Robert V. Stahelin, Christina Leblang

**3066-Pos** **Board #B221**
SPATIAL AND TEMPORAL REGULATION OF THE NEDD4 FAMILY OF E3 UBIQUITIN LIGASES THROUGH PHOSPHOLIPID BINDING. **Jordan L. Scott**, Robert V. Stahelin

**3067-Pos** **Board #B222**
MODE OF ACTION OF THE BACTERIAL THERMOSENSOR DESK INVOLVED IN REGULATING MEMBRANE FLUIDITY. **Joost Ballering**, Larisa E. Cybulski, Martijn C. Koorengevel, Martin Ulmschneider, Diego de Mendoza, J. Antoinette Killian

**3068-Pos** **Board #B223**
SEPARATION OF TIMESCALES FOR ENDOPHILIN DIMERIZATION AND MEMBRANE BINDING. **Benjamin R. Capraro**, Ken Chang, Zheng Shi, Tingting Wu, Chih-Jung Hsu, Tobias Baumgart

**3069-Pos** **Board #B224**
STRUCTURAL CHANGES OF ALPHA 1-ANTITRYPSIN UNDER OSMOTIC PRESSURE AND IN THE PRESENCE OF LIPID MEMBRANES. **Luis A. Palacio**, Christopher B. Stanley, Andrew K. Fraser, Merrell A. Johnson, Horia I. Petrache

**3070-Pos** **Board #B225**
PTEN BINDING TO MORPHOLOGICALLY HETEROGENOUS MEMBRANE ENVIRONMENTS. **Arne Gericke**, Katrice E. King, Brittany M. Neumann, Rakesh K. Harishchandra, Alonzo H. Ross

**3071-Pos** **Board #B226**
CHARACTERIZATION OF AN INTERMEDIATE FOR THE FORMATION OF THE TRANSMEMBRANE HELIX OF PHLIP PEPTIDE. Francisco N. Barrera, **Alexander G. Karabadzhak**, Donald M. Engelman

**3072-Pos** **Board #B227**
HOW DIFFERENT LIPIDIC MIMETIC SYSTEMS OF *E. COLI* MEMBRANES AFFECT MEMBRANE PROTEIN RECONSTITUTION: A STEADY-STATE FLUORESCENCE ANISOTROPY STUDY. **Mariana Ferreira**, Silvia Lopes, Paula Gameiro

**3073-Pos** **Board #B228**
THE SHAPE AND FREE ENERGY OF A LIPID BILAYER SURROUNDING A MEMBRANE INCLUSION. **Richard O. Tjörnhammar**, Olle Edholm

**3074-Pos** **Board #B229**
MOLECULAR INSIGHTS INTO THE RECOGNITION OF CELLULAR MEMBRANE GEOMETRY. **Richard L. Gill Jr.**, Jean-Philippe Castaing, Kumaran S. Ramamurthi, Fang Tian

**3075-Pos** **Board #B230**
TOWARDS DETERGENT FREE SOLUBILIZATION OF MEMBRANE PROTEINS INTO NANODISCS: A BIOPHYSICAL STUDY ON THE INTERACTION BETWEEN STYRENE MALEIC ACID (SMA) COPOLYMERS AND SYNTHETIC PHOSPHOLIPID VESICLES. **Stefan Scheidelaar**, Martijn C. Koorengevel, Hans Meeldijk, Eefjan Breukink, Antoinette Killian

**3076-Pos** **Board #B231**
CHARACTERIZATION OF ANTICANCER PEPTIDES IN MEMBRANE DISRUPTION. **Sai Janani Ganesan**, Joel P. Schneider, Robert Blumenthal, Silvina Matysiak

**3077-Pos** **Board #B232**
COMPLEX SUPPORTED LIPID BILAYERS WITH HIGH CHOLESTEROL CONTENT FORMED BY α-HELICAL PEPTIDE-INDUCED VESICLE FUSION. **Gregory J. Hardy**

**3078-Pos** **Board #B233**
INFLUENCE OF HISTIDINE RESIDUES ON TRANSMEMBRANE HELIX ALIGNMENT. **Ashley N. Martfeld**, Denise V. Greathouse, Roger E. Koeppe II

## Membrane Active Peptides & Toxins II (Boards #B234–#B260)

**3079-Pos** **Board #B234**
EFFECT OF CURCUMIN ON PEPTIDE-MEMBRANE INTERACTION: IN KINETICS AND IN EQUILIBRIUM. **Wei-Chin Hung**, Ming-Tao Lee, Chang-Chun Lee, Huey W. Huang

**3080-Pos** **Board #B235** **INTERNATIONAL TRAVEL AWARDEE**
BIOPHYSICAL MECHANISM OF GALLERIA MELLONELLA NATURAL AND ANALOGE PEPTIDES WITH BACTERIAL MODEL MEMBRANES. **Marcela Manrique-Moreno**

**3081-Pos** **Board #B236**
STRUCTURE-FUNCTION RELATIONSHIPS OF ANTIMICROBIAL PISCIDINS 1 AND 3 BOUND TO CHOLESTEROL-CONTAINING LIPID MEMBRANES. **Kimberley Bogardus**, Alexander Dao, Christopher Whiting, Leah Cairns, Jennifer Willemsen, Scott Perrin, Richard Pastor, Myriam Cotten

**3082-Pos** **Board #B237**
EFFECT OF FLUORINATION ON MEMBRANE INTERACTIONS OF AN ANTIMICROBIAL PEPTOID MACROCYCLE. **Christopher Bianchi**, Mia Huang, Kent Kirshenbaum, David Gidalevitz

**3083-Pos** **Board #B238**
MEMBRANE INTERACTIONS OF ANTIMICROBIAL PEPTOIDS - RESTRICTION OF CONFORMATIONAL FLEXIBILITY AS A STRATEGY TO ENHANCE ACTIVITY. **Konstantin Andreev**, Mahesh Lingaraju, Andrey Ivankin, Mia Huang, Kent Kirshenbaum, David Gidalevitz

**3084-Pos** **Board #B239**
UNDERSTANDING THE FUNGICIDAL ACTIVITY OF LIPOPEPTIDES ON THE BASIS OF THEIR BIOSURFACTANT PROPERTIES. **Hiren Patel**, Heerklotz Heerklotz

**3085-Pos** **Board #B240**
ACTION OF DAPTOMYCIN ON MEMBRANES. **Yen-fei Chen**, Tzu-Lin Sun, Huey W. Huang

**3086-Pos** **Board #B241**
AMINO ACID SEQUENCE AND MEMBRANE BINDING FOR A SERIES OF CLOSELY RELATED AMPHIPATHIC PEPTIDES. **Antje Pokorny**, Melissa A. Cherry, Sarah K. Higgins, Hilary Melroy, Hee-Seung Lee

**3087-Pos** **Board #B242**
SYNERGISTIC CELL PERMEABILIZATION BY EXTERNAL ELECTRICAL PULSES AND NEW ANTICANCER PEPTIDES DESIGNED ON THE BASIS OF THE CRY11BB PROTOXIN. **Victor V. Lemeshko**, Jose A. Alvarez

**3088-Pos** **Board #B243**
MEMBRANE PERMEABILITY OF PEPTIDES AND DRUGS. **Tzu-Lin Sun**, Huey W. Huang

**3089-Pos** **Board #B244**
EFFECTS OF SEQUENCE LENGTH AND COMPOSITION ON ANTIMICROBIAL PEPTIDE ACTION. **Steven Meier**, Zachary Ridgway, Angela Picciano, Gregory Caputo

**3090-Pos** **Board #B245**
INTERACTION OF MAGAININ 2 WITH GANGLIOSIDES AS A TARGET FOR HUMAN CELL BINDING. Yu Miyazaki, Yoshiaki Yano, **Katsumi Matsuzaki**

**3091-Pos** **Board #B246**
CHARACTERIZATION OF ANTIMICROBIAL PEPTIDE INSERTION IN TETHERED BILAYER LIPID MEMBRANES BY PULSE AMPEROMETRY AND LINEAR SWEEP VOLTAMMETRY METHODS. **Charles G. Cranfield**, Bruce Cornell, Stephan L. Grage, Paul Duckworth, Sonia Carne, Anne S. Ulrich, Boris Martinac

**3092-Pos** **Board #B247**
ALL-ATOM MOLECULAR DYNAMIC SIMULATIONS OF PISCIDIN 1 AND PISCIDIN 3 IN LIPID BILAYERS. **Bradley S. Perrin**, Richard M. Venable, Mukesh Sharma, Richard W. Pastor, Myriam W. Cotten

**3093-Pos** **Board #B248**
INTERACTIONS OF TWO AMPHIPATHIC CELL-PENETRATING PEPTIDES WITH COMPLEX MODEL MEMBRANES: INSIGHTS FROM MOLECULAR DYNAMICS SIMULATIONS. **Jean Helie**, Francesca Milletti, Mickael Lelimousin, Charlotte M. Deane, Mark S.P. Sansom

**3094-Pos** **Board #B249**
HIGH RESOLUTION STRUCTURES AND STRUCTURE-FUNCTION RELATIONSHIPS IN HISTIDINE-RICH ANTIMICROBIAL PEPTIDES FROM COD. **Mark McDonald**, Michael Mannion, Damien Pike, Krystina Lewis, Mitchell Browne, Matthew L. Rise, Valerie Booth

**3095-Pos** **Board #B250**
MEMBRANE PERTURBING EFFECTS OF ANTIMICROBIAL PEPTIDES: A SYSTEMATIC SPECTROSCOPIC ANALYSIS. **Daniela Roversi**, Lorenzo Giordano, Marta De Zotti, Gianfranco Bocchinfuso, Andrea Farrotti, Sara Bobone, Antonio Palleschi, Kyung-Soo Hahm, Yoonkyung Park, Ferdinando Formaggio, Claudio Toniolo, Lorenzo Stella

**3096-Pos** **Board #B251**
UNDERSTANDING THE INDUCTION AND STABILIZATION OF TRANSMEMBRANE PORES BY PEPTIDES. **Alan E. Mark**

**3097-Pos** **Board #B252**
ANTIMICROBIAL AND LYTIC ACTIVITIES OF SQUALAMINE ANALOGS: EFFECT OF VARIED CATIONIC GROUPS AT C3 AND STEREOCHEMISTRY AT C7. Frank Gassler, Tsemre-Dengel Tessema, **Barry S. Selinsky**

**3098-Pos** **Board #B253**
CAUGHT IN THE ACT: DIRECT MEASUREMENT OF PROTEIN TRANSLOCATION ACROSS MEMBRANES USING DROPLET INTERFACE BILAYERS. **Matthew A. Holden**

**3099-Pos** **Board #B254**
BALANCE BETWEEN ADDITIONAL VAN DER WAALS AND ELECTROSTATIC COMPONENTS OF 107-115 HLZ SYNERGISTICALLY INCREASE PEPTIDE-MEMBRANE INTERACTIONS POTENTIATING ITS ANTIMICROBIAL ACTIVITY. **Ana Bouchet**, Nancy B Iannucci, MB Pastrian, Osvaldo Cascone, N Santos, E Anibal Disalvo, Axel Hollmann

**3100-Pos** **Board #B255**
COARSE-GRAINED SIMULATIONS OF ANTIMICROBIAL ACTION OF MELITTIN AND MAGAININ-2 ON PHOSPHOLIPID BILAYERS. **Kolattukudy P. Santo**, Max L. Berkowitz

**3101-Pos** **Board #B256**
MEMBRANE-BINDING PROPERTIES OF THE ANTIMICROBIAL PEPTIDE MAXIMIN 3. Joseph DeLuca, James Paulson, Kareem Elbadawi, Jessica Hulbert, Presnel Dalmeus, Sarafina Alexandre, **Elizabeth Middleton**

**3102-Pos** **Board #B257**
INSIGHT INTO THE LYTIC MECHANISM OF ANTIMICROBIAL PISCIDIN 1 AND 3 USING QCM-D. Mirco Sorci, Keith Bradley, **Georges Belfort**, Myriam L. Cotten

**3103-Pos** **Board #B258**
THE ANTIMICROBIAL PEPTIDES PORE FORMATION INDUCE BY GINSENOSIDE EFFECT IN LIPID BILAYERS. **Wei-Chin Hung**

**3104-Pos** **Board #B259**
INVESTIGATION OF THE MECHANISM OF ANTIMICROBIAL LIPOPEPTIDES USING COARSE-GRAINED MOLECULAR DYNAMICS SIMULATIONS. **Dejun Lin**, Josh N. Horn, Zhen Xia, Pengyu Ren, Alan Grossfield

**3105-Pos** **Board #B260**
EFFECTS OF ARGININE AND ARGININE MIMICS ON ANTIMICROBIAL PEPTIDE BEHAVIOR. Zachary Ridgway, Angela Picciano, **Gregory A. Caputo**

## Calcium Fluxes, Sparks, & Waves II (Boards #B261–#B282)

**3106-Pos** **Board #B261**
COMPENSATED CARDIOMYOCYTE $CA^{2+}$ HOMEOSTASIS IN A RAT MODEL OF DIASTOLIC HEART FAILURE. **Åsmund T. Røe**, Jan Magnus Aronsen, Michael Frisk, Ole M. Sejersted, Ivar Sjaastad, William E. Louch

**3107-Pos** **Board #B262**
AORTIC STENOSIS TRIGGERS T-TUBULE GROWTH IN HUMAN AND MURINE CARDIOMYOCYTES. **Michael Frisk**, Guro F. Jølle, Ida G. Lunde, Biljana Skrbic, Ole M. Sejersted, Theis Tønnessen, Ivar Sjaastad, William E. Louch

**3108-Pos** **Board #B263**
GLOBAL AND LOCAL EFFECTS OF INTRACELLULAR PH ON CA2+ WAVES IN RAT VENTRICULAR MYOCYTES. **Kerrie L. Ford**, Emma L. Moorhouse, Mario Bortolozzi, Richard D. Vaughan-Jones

**3109-Pos** **Board #B264**
FLUID PRESSURE TRIGGERS ACTION POTENTIAL AND A SUBSEQUENT TRANSVERSE $CA^{2+}$ WAVE VIA $NA^{+-}CA^{2+}$ EXCHANGE ACTIVATED BY INSP3 RECEPTOR-MEDIATED LOCAL $CA^{2+}$ WAVE IN RAT ATRIAL MYOCYTES. **Joon-Chul Kim**, Sun-Hee Woo

**3110-Pos** **Board #B265**
INVESTIGATING THE EFFECTS OF A CARDIOTOXIC DRUG ON CALCIUM HOMEOSTASIS IN THE HEART. **Fleur E. Mason**, David A. Eisner, Michael J. Morton, Christopher E. Pollard, Andrew W. Trafford

**3111-Pos** **Board #B266** **MINORITY TRAVEL AWARDEE**
REDOX MODIFICATION OF RYANODINE RECEPTORS UNDERLIES ABNORMAL CALCIUM HANDLING IN AGING RABBIT HEARTS. **Leroy L. Cooper**, Yi Chun Lu, Jason Centracchio, Radmila Terentyeva, Dmitry Terentyev, Gideon Koren

**3112-Pos** **Board #B267**
DANTROLENE PREVENTS SPONTANEOUS CALCIUM WAVES IN CARDIAC MYOCYTES FROM AGED MICE. **Timothy L. Domeier**, Steven S. Segal

**3113-Pos** **Board #B268**
AN ASSESSMENT OF CALCIUM HANDLING AND CARDIOVASCULAR DRUG-PROFILING IN CYTIVA EMBRYONIC STEM-CELL DERIVED CARDIOMYOCYTES. **Kimberley J. Lewis**, Christopher Pepper, Christopher H. George

**3114-Pos** **Board #B269**
MITOCHONDRIA-DERIVED ROS DISTURB $CA^{2+}$ CYCLING AND EVOKE ABNORMAL ACTION POTENTIALS IN GUINEA-PIG VENTRICULAR MYOCYTES: A THEORETICAL STUDY. **Di Su**, Steven M. Pogwizd, Brian O'Rourke, Lufang Zhou

**3115-Pos** **Board #B270**
MITOCHONDRIAL $CA^{2+}$ DYNAMICS IN THE HEART. **Liron Boyman**, George S. B. Williams, Ramzi J. Khairallah, Aristide Chikando, Brian M. Hagen, Sarah Kettlewell, Godfrey L. Smith, W. Jonathan Lederer

**3116-Pos** **Board #B271**
MITOCHONDRIAL CALCIUM UPTAKE: CONTEXT MATTERS. **George S. B. Williams**, Liron Boyman, Aristide C. Chikando, Ramzi J. Khairallah, W Jonathan Lederer

**3117-Pos** **Board #B272**
LAMOTRIGINE INCREASES INTRACELLULAR CALCIUM LEVELS AND CAMKII ACTIVATION IN MOUSE DORSAL ROOT GANGLION NEURONS. **Dawon Kang**, Ji Hyeon Ryu, Eun-Jin Kim, Jaehee Han

**3118-Pos** **Board #B273**
CALCIUM BUFFERING IN THE NERVE TERMINALS OF THE POSTERIOR PITUITARY. **Shane M. McMahon**, Meyer B. Jackson

**3119-Pos** **Board #B274**
CO-EXPRESSION OF TRIC-A AND CARDIAC RYANODINE RECEPTOR AFFECTS STORE-OVERLOAD INDUCED CALCIUM RELEASE IN HEK293 CELLS. **Xinyu Zhou**, Ki Ho Park, Pei-hui Lin, Daiju Yamazaki, Zui Pan, S.R. Wayne Chen, Hiroshi Takeshima, Jianjie Ma

**3120-Pos** **Board #B275**
TEMPERATURE DEPENDENCE OF IP3-MEDIATED SIGNALS. **George D. Dickinson**, Ian Parker

**3121-Pos** **Board #B276**
MUSCLE-SPECIFIC MICRORNA MIR-208 REGULATES CALCIUM HANDLING RELEASE IN CARDIOMYOCYTES BY TARGETING PHOSPHODIESTERASE 4D AND CALCINEURIN. **Jennifer A. Rochira**, Yukiko Kunitomo, Radmila Terentieva, Karim Roder, Da Zhi Wang, Terry S. Elton, Gideon Koren, Dmitry Terentyev

**3122-Pos** **Board #B277**
ROS IN CARDIAC CALCIUM SIGNALING. **Moradeke A. Bamgboye**, W J. Lederer

**3123-Pos** **Board #B278**
DETECTION OF CALCIUM GRADIENTS IN LIVE EX VIVO HUMAN EPIDERMIS AND 3D HUMAN EPIDERMAL EQUIVALENTS USING PHASOR ANALYSIS OF TWO-PHOTON EXCITATION FLUORESCENCE LIFETIME IMAGING (FLIM) AND THE GENETICALLY ENCODED ER CALCIUM SENSOR D1ER. **Anna Celli**, Yongjao Zahi, Nandou Lu, Theodora Mauro

**3124-Pos** **Board #B279**
STORE-OPERATED $CA^{2+}$ ENTRY IS A TONIC AND PHASIC SIGNAL IN SKELETAL MUSCLE. Tanya R. Cully, **Bradley S. Launikonis**

**3125-Pos** **Board #B280**
A METHOD TO CHARACTERIZE CALCIUM ACTIVITY IN STIMULATED CULTURES OF CARDIAC MYOCYTES. **Raul Benitez**, Alex Vallmitjana, Leif Hove-Madsen

**3126-Pos** **Board #B281**
IMPROVED PROTOCOL TO RECORD SARCOPLASMIC RETICULUM CALCIUM CONCENTRATIONS IN MOUSE CARDIOMYOCYTES. **Miguel Fernandez-Tenorio**, Daniel Gutierrez, Ernst Niggli

**3127-Pos** **Board #B282**
IDENTIFICATION OF NOVEL HYDROXYL-BENZOQUINONES AS REDOX SWITCHABLE CALCIUM CHELATORS AND POTENT BIOLOGICAL ANTIOXIDANTS. **Ivan Bogeski**, Rubin Gulaboski, Valentin Mirceski, Jasmina Petreska-Stanoeva, Marina Stefova, Bastian Pasieka, Stephanie Saul, Markus Hoth, Reinhard Kappl

## Membrane Receptors & Signal Transduction II (Boards #B283–#B312)

**3128-Pos** **Board #B283** **EDUCATION TRAVEL AWARDEE**
CLUSTERS OF ARP2/3 ACTIVATORS MIMIC PATHOGENIC ACTIN COMETS AND PEDESTALS. **Sofya Borinskaya**, Jonathon Ditlev, Les Loew, Bruce Mayer

**3129-Pos** **Board #B284**
TIE2 RECEPTOR DIMERIZATION MEDIATED BY ITS EXTRACELLULAR FNIII DOMAINS. **Jason O. Moore**, Mark A. Lemmon, Kathyrn M. Ferguson

**3130-Pos** **Board #B285**
STUDYING PROTEIN-PROTEIN INTERACTIONS OF RECEPTOR TYROSINE KINASES ON μ-PATTERNED SURFACES. Peter Lanzerstorfer, Andrea Steininger, Shin Ichiro Takahashi, Otmar Höglinger, **Julian Weghuber**

**3131-Pos** **Board #B286** **CPOW TRAVEL AWARDEE**
SIGNAL TRANSDUCTION BY A CYTOKINE RECEPTOR: MULTI-SCALE COMPUTATIONAL STUDIES OF THE MEMBRANE ASSOCIATED GP130 RECEPTOR COMPLEX. **Heidi Koldsø**, Mark S. P. Sansom

**3132-Pos** **Board #B287**
EXAMINING THE ROLE OF GLYCOLIPIDS IN INTEGRIN AND B CELL RECEPTOR ACTIVATION. **Caishun Li**, Esmé Dijke, Lori J. West, Christopher W. Cairo

**3133-Pos** **Board #B288**
ASSESSING METAL ION PREFERENCE FOR THE METAL ION-DEPENDENT ADHESION SITE (MIDAS) OF PLATELET INTEGRIN αIIBβ3. **Ana Negri**, Ernesto E. Borrero, Davide Provasi, Barry S. Coller, Marta Filizola

**3134-Pos** **Board #B289**
MUSCLE-SPECIFIC KINASE TRANSMEMBRANE HELICES: STABILITY AND INTERACTIONS IN DETERGENT MICELLES VS. LIPID BILAYERS. **Amanda Buyan**, Khairul A. Halim, Jason Schnell, Mark S.P. Sansom

**3135-Pos** **Board #B290**
MECHANISMS OF SITE-SPECIFIC FUNCTIONS OF FOCAL ADHESION KINASE. Karen Brami-Cherrier, Nicolas Gervasi, Diana Arsenieva, Marie-Claude Boutterin, Alvaro Ortega, Bastian Seantier, Laila Gasmi, Tahar Bouceba, Martin E.M. Noble, Jean-Antoine Girault, **Stefan T. Arold**

**3136-Pos** **Board #B291**
MECHANICAL SIGNAL TRANSDUCTION VIA PHOSPHORYLATION OF THE FOCAL ADHESION TARGETING DOMAIN OF FOCAL ADHESION KINASE. Steven M. Kreuzer, **Tess J. Moon**

**3137-Pos** **Board #B292**
UNDERSTANDING THE PHYSICAL PRINCIPLES THAT MEDIATE MUC1-C HOMODIMERIZATION. **Jessica King**, Isabella Schoepe, Nicholas Iaccarino, Darine El Naccache

**3138-Pos** **Board #B293**
THE EFFECT OF ANTIDEPRESSANTS ON MODEL LIPID RAFTS: A SANS STUDY. **Andrew H. Czysz**, Natalie Krzyzanowski, Lionel Porcar, Mark M. Rasenick, Ursula Perez-Salas

**3139-Pos** **Board #B294**
REVEALING THE RELATIONSHIP BETWEEN FIBROBLAST GROWTH FACTOR RECEPTOR-LIKE 1 (FGFRL1) AND FREE ZINC IN PANCREATIC BETA-CELLS USING QUANTITATIVE FLUORESCENCE MICROSCOPY. **Pamuditha N. Silva**, Dawn M. Kilkenny, Jonathan V. Rocheleau

**3140-Pos** **Board #B295**
CELLS MUST ACCUMULATE INTERLEUKIN-4 RECEPTOR SUBUNITS WITHIN CORTICAL SIGNALING ENDOSOMES TO DRIVE COMPLEX FORMATION AND SIGNAL TRANSDUCTION. Kristina Kurgonaite, Hetvi Gandhi, Remigiusz Worch, Benjamin Obermann, Martin Hintersteiner, Sophie Pautot, Sigrun R. Hofmann, Christian Bökel, Petra Schwille, **Thomas Weidemann**

**3141-Pos** **Board #B296**
THE NECK REGION REGULATES SPATIOTEMPORAL ORGANIZATION AND VIRUS-BINDING CAPABILITY OF THE PATHOGEN RECOGNITION RECEPTOR DC-SIGN. Juan A. Torreno-Pina, Carlo Manzo, Carl G. Figdor, Alessandra Cambi, **Maria F. Garcia-Parajo**

**3142-Pos** **Board #B297**
LYSOPHOSPHATIDIC ACID SIGNALLING IN RED BLOOD CELLS. **Lars Kaestner**, Jue Wang, Lisa Wagner-Britz, Anna Bogdanova, Kathrina Wiesen, Qinghai Tian, Ingolf Bernhardt, Stephan Philipp, Marc Freichel, Veit Flockerzi, Peter Lipp

**3143-Pos** **Board #B298**
THE MOLECULAR BASIS OF SUBSTRATE RECOGNITION BY THE E3 UBIQUITIN LIGASE PELLINO. **Yu-San Huoh**, Kathryn M. Ferguson

**3144-Pos** **Board #B299**
STRUCTURAL AND THERMODYNAMIC INSIGHTS INTO BACTERIAL OUTER MEMBRANE LIPID SIGNALING BY THE INNATE IMMUNE SYSTEM. **Teresa Paramo**, Susana Tomasio, Peter J. Bond

**3145-Pos** **Board #B300**
MOLECULAR MECHANISMS OF GLUTAMATE RECEPTOR ACTIVATION AND REGULATION. **John Belcher**, Albert Lau

**3146-Pos** **Board #B301**
NON-GENOMIC PROGESTERONE SIGNALLING IN HUMAN SPERM. **Christoph Brenker**, Astrid Müller, Christian Trötschel, U.B. Kaupp, Timo Strünker

**3147-Pos** **Board #B302**
PROTEIN-PROTEIN-PROTEIN INTERACTIONS IN MEMBRANES MEASURED BY TRIPLE CROSS-CORRELATION OF CONFOCAL IMAGES. Max Anikovsky, **Nils O. Petersen**

**3148-Pos** **Board #B303**
DETAILED ANALYSIS OF PHOSPHOLIPASE C-β ACTIVITY IN LIVING CELLS. **Michael G. Leitner**, Oliver Dominik

**3149-Pos** **Board #B304**
REGULATION OF CAMP COMPARTMENTATION BY MEMBRANE MICRODOMAINS. **Shailesh R. Agarwal**, Monica Rice, Cherie A. Singer, Viacheslav Nikolaev, Martin Lohse, Robert D. Harvey

**3150-Pos** **Board #B305**
INTEGRATING HIGH-RESOLUTION BIOIMAGING TECHNIQUES TO UNRAVEL HOW MEMBRANE LIPIDS INFLUENCE NANOSCALE ORGANIZATION AND LATERAL MOBILITY OF ADHESION RECEPTORS. Christina Eich, Sandra de Keijzer, Thomas van Zanten, Gert-Jan Bakker, Carl G. Figdor, Maria F. Garcia-Parajo, **Alessandra Cambi**

**3151-Pos** **Board #B306**
VISUALIZING GHRELIN RECEPTOR THROUGH GENETICALLY ENCODED LABELING FOR MONITORING THE SINGLE-MOLECULE CONFORMATIONAL DYNAMICS. **Minyoung Park**, Thomas Huber, Bjørn Behrens Sivertsen, Birgitte Holst, Thue W. Schwartz, Thomas P. Sakmar

**3152-Pos** **Board #B307**
TGF-BETA AND BMP RECEPTORS: DISTINCT MODES OF OLIGOMERIC INTERACTIONS AND IMPLICATIONS FOR SIGNALING. **Yoav I. Henis**, Barak Marom, Keren E. Shapira, Petra Knaus, Marcelo Ehrlich

**3153-Pos** **Board #B308**
NEUROPILINS LOCK SECRETED SEMAPHORINS ONTO PLEXINS IN A TERNARY SIGNALLING COMPLEX. **Tomas Malinauskas**, Bert J. C. Janssen, Greg A. Weir, M. Zameel Cader, Christian Siebold, E. Yvonne Jones

**3154-Pos** **Board #B309**
VISUALIZING THE DYNAMICS OF SRC HOMOLOGY 2 (SH2) DOMAIN CONTAINING PROTEINS ON THE LIVE CELL MEMBRANE. **Dongmyung Oh**, Ogiue-Ikeda Mari, Jadwin A. Joshua, Machida Kazuya, Mayer J. Bruce, Yu Ji

**3155-Pos** **Board #B310**
EFFECTS OF DIETARY POTASSIUM ON EXPRESSION OF AT1R AND ATRAP. **Elida Adalgisa Neri**, Gabriella Duarte Queiroz-Leite, Nancy Amaral Rebouças

**3156-Pos** **Board #B311**
CELL SHAPE CAN DYNAMICALLY PROCESS INFORMATION DURING SIGNAL FLOW IN REGULATORY PATHWAYS. **Padmini Rangamani**, Azi Lipshtat, Evren Azeloglu, Rhodora Calizo, Suzanne Scarlata, Susana Neves, Ravi Iyengar

**3157-Pos** **Board #B312**
ROLE AND CONTROL OF CELL MEMBRANE CURVATURE IN RECEPTOR TRANSPORT. **Kathrin Spendier**, Joshua B. Baptist, Zbigniew J. Celinski, Anatoliy V. Glushchenko

## Calcium Signaling Pathways (Boards #B313–#B328)

**3158-Pos** **Board #B313**
LYSOSOME-SARCOPLASMIC RETICULUM JUNCTIONS: A TRIGGER ZONE FOR CALCIUM WAVES IN VASCULAR SMOOTH MUSCLE. **Nicola Fameli**, Cornelis van Breemen, A. Mark Evans

**3159-Pos** **Board #B314**
P21-ACTIVATED KINASE (PAK1) IS A NEGATIVE REGULATOR OF ROS GENERATION IN VENTRICULAR MYOCYTES. Jaime DeSantiago, Dan Bare, Yunbo Ke, R. John Solaro, **Kathrin Banach**

**3160-Pos** **Board #B315**
ACTIVATION OF β3-ADRENOCEPTORS INDUCES INCREASE IN INTRACELLULAR FREE ZINC ION VIA NO SIGNALING PATHWAY IN HYPERGLYCEMIC CARDIOMYOCYTES. Erkan Tuncay, **Belma Turan**

**3161-Pos** **Board #B316**
THE INVOLVEMENT OF NAADP AND TWO-PORE $CA^{2+}$ CHANNELS IN THE CARDIAC BETA-ADRENERGIC RESPONSE. **Emma Bolton**, Rebecca Bayliss, Chichonyi Aubrey Kalungia, Duncan Bloor-Young, Margarida Ruas da Silva, John Parrington, Grant Churchill, Antony Galione, Derek Terrar

**[3]162-Pos** **Board #B317**
SELECTIVE ACTIVATION OF EPAC INCREASES THE FREQUENCY OF SUBMEMBRANE CALCIUM SPARKS IN MESENTERIC SMOOTH MUSCLE CELLS. Owain Llŷr Roberts, Tomoko Kamishima, Richard Barrett-Jolley, John M. Quayle, **Caroline Dart**

**3163-Pos** **Board #B318**
METHODS TO MEASURE AND ANALYZE CILIARY BEAT ACTIVITY: CALCIUM INFLUX-MEDIATED CILIA MECHANOSENSITIVITY. Wen-Er Li, Weiwei Chen, Yun-Min Zheng, Yong-Xiao Wang, Guangju Ji, **Qing-Hua Liu**

**3164-Pos** **Board #B319**
SPATIAL DISTRIBUTION PATTERNS OF ALPHA-CAMKII IN HIPPOCAMPAL TISSUE SUGGEST ROLE FOR TRANSIENT NOT PERSISTENT TRANSLOCATION IN CHEMICAL LTP AND PERSISTENT CLUSTERING IN ISCHEMIA. Jonathan Gabriel, Alice Warley, Frances Edwards, Philip Beesley, **Katalin Torok**

**3165-Pos** **Board #B320**
ORAI-STIM MEDIATED $CA^{2+}$ RELEASE FROM SECRETORY GRANULES REVEALED BY A NOVEL $CA^{2+}$ AND PH PROBE. **Eamonn J. Dickson**, Joeseph G. Duman, Mark W. Moody, Liangyi Chen, Bertil Hille

**3166-Pos** **Board #B321**
STRUCTURAL REQUIREMENTS OF N- AND C-TERMINAL ORAI STRANDS TO ALLOW MAXIMAL STORE-OPERATED $CA^{2+}$ CURRENT ACTIVATION BY STIM1. **Isabella Derler**, Marc Fahrner, Peter Plenk, Christoph Romanin

**3167-Pos** **Board #B322**
INCREASED MICROTUBULE NETWORK STABILITY UNDERLIES X-ROS IN DYSTROPHIC SKELETAL MUSCLE. **Christopher W. Ward**, Guoli Shi, Benjamin L. Prosser, W J. Lederer, Ramzi J. Khairallah

**3168-Pos** **Board #B323**
MCUR1 IS AN ESSENTIAL COMPONENT OF MITOCHONDRIAL $CA^{2+}$ UPTAKE THAT REGULATES CELLULAR METABOLISM. **Karthik Mallilankaraman**, Cesar Cardenas, Patrick Doonan, Harish Chandramoorthy, Krishna Irrinki, Tunde Golenar, Gyorgy Csordas, Priyanka Madireddi, Jun Yang, Russell Miller, Jill Koesar, Brett Kaufman, Gyorgy Hajnoczky, Kevin James Foskett, Muniswamy Madesh

**3169-Pos** **Board #B324**
A NEW APPROACH TO EVALUATION OF MITOCHONDRIAL CA-SIGNALING IN CARDIOMYOCYTES. **Sarah Haviland**, Sarah Kettlewell, Godfrey Smith, Lars Cleemann, Martin Morad

**3170-Pos** **Board #B325**
BIDIRECTIONAL COUPLING BETWEEN RYANODINE RECEPTORS AND STORE-OPERATED CALCIUM ENTRY IN HUMAN T CELLS. Pratima Thakur, Sepehr Dadsetan, **Alla Fomina**

**3171-Pos** **Board #B326**
SHOCK WAVES SIMULATING BLAST-INDUCED TRAUMATIC BRAIN INJURY ACTIVATE PURINERGIC SIGNALING IN ASTROCYTES. **Rea Ravin**, Paul S. Blank, Nitay Ravin, Shaleen Vira, Ludmila Bezrukov, Hugo Guerrero-Cazares, Alfredo Quinones-Hinojosa, Sergey Bezrukov, Joshua Zimmerberg

**3172-Pos** **Board #B327**
INSULIN INDUCES BOTH H2O2 PRODUCTION AND IP3-DEPENDENT MITOCHONDRIA CA2+ UPTAKE. H2O2 OXIDIZES RYR TO ELICIT CA2+ RELEASE AND GLUT4 TRANSLOCATION IN SKELETAL MUSCLE CELLS.
**Ariel E. Contreras-Ferrat**, Paola Llanos, César Osorio, Alejandra Espinosa, César Vásquez, Sergio Lavandero, Amira Klip, Enrique Jaimovich

**3173-Pos** **Board #B328**
NON-LIGAND MOBILIZATION OF INTRACELLULAR FREE CALCIUM BY NANOSECOND PULSED ELECTRIC FIELD (NSPEF). **Iurii Semenov**, Shu Xiao, Andrei Pakhomov

## Exocytosis & Endocytosis (Boards #B329–#B355)

**3174-Pos** **Board #B329**
THE REGULATORY CATALYTIC STEP IN DYNAMIN-DRIVEN MEMBRANE FISSION. **Anna Shnyrova**, Pavel V. Bashkirov, Joshua Zimmerberg, Sandra Schmid, Vadim Frolov

**3175-Pos** **Board #B330**
ACTIVATION OF MEMBRANE FISSION BY LOCAL ELASTIC ENERGY INCREASE AT THE EDGE OF DYNAMIN. Sandrine Morlot, Marius Klein, Valentina Galli, Luis Dinis, Nicolas Chiarruttini, Martin Lenz, Giovanni Cappello, **Aurélien Roux**

**3176-Pos** **Board #B331**
THE DYNAMIN PH DOMAIN VARIABLE LOOP 1 (VL1) IS AN ASSEMBLY-INDEPENDENT SENSOR OF MEMBRANE CURVATURE. Amrita Samanta, Justin Nichols, **Rajesh Ramachandran**

**3177-Pos** **Board #B332**
HIGH-RESOLUTION 3D RECONSTRUCTION OF A DYNAMIN MUTANT, K44A, IN ITS SUPER-CONSTRICTED STATE.
**Jenny E. Hinshaw**, Anna Sundborger, Jurgen A. Heymann, Shunming Fang, Joshua S. Chappie

**3178-Pos** **Board #B333**
MUTATIONS ASSOCIATED WITH CENTRONUCLEAR MYOPATHY (CNM) ENHANCE THE SIZE AND STABILITY OF DYNAMIN 2 CLUSTERS IN CELLS. **Nicholas G. James**, Michelle A. Digman, Justin A. Ross, Barbara Barylko, Lei Wang, Yan Chen, Joachim D. Müller, Enrico Gratton, Joseph P. Albanesi, David M. Jameson

**3179-Pos** **Board #B334**
CHARACTERIZING MHC-I DELIVERY TO CELL PLASMA MEMBRANE: A SPATIOTEMPORAL STUDY. **Daniel Blumenthal**, Michael Edidin, Levi Gheber

**3180-Pos** **Board #B335**
PROTEIN STRUCTURE EFFECTS ON MEMBRANE BENDING BY PROTEIN-PROTEIN CROWDING. **Carl C. Hayden**, Jerin T. Jose, Justin R. Houser, David J. Busch, Jeanne C. Stachowiak

**3181-Pos** **Board #B336**
POLARIZED-TIRF-BASED MONITORING OF SUB-RESOLUTION MEMBRANE CURVATURE DYNAMICS DURING CLATHRIN-MEDIATED ENDOCYTOSIS. Shalini T. Low-Nam, Jason G. Kerkvliet, Aaron T. Cheng, David G. Drubin, **Adam D. Hoppe**

**3182-Pos** **Board #B337**
KV2.1 CELL SURFACE CLUSTERS PROMOTE MATURATION OF CLATHRIN-COATED PITS. **Aubrey V. Weigel**, Michael M. Tamkun, Diego Krapf

**3183-Pos** **Board #B338**
MEASURING THE BINDING ENERGY BETWEEN CARGO AND FORMING CLATHRIN COATED PITS. Aubrey V. Weigel, Michael M. Tamkun, **Diego Krapf**

**3184-Pos** **Board #B339**
PROBING THE INTERIOR OF A SECRETORY GRANULE.
**Annita Ngatchou-Weiss**, Mary A. Bittner, Daniel Axelrod, Ronald W. Holz

**3185-Pos** **Board #B340**
ENDOPLASMIC RETICULUM/PLASMA MEMBRANE JUNCTIONS FUNCTION AS MEMBRANE PROTEIN TRAFFICKING HUBS. **Philip D. Fox**, Christpher J. Haberkorn, Aubrey V. Weigel, Elizabeth J. Akin, Matthew J. Kennedy, Diego Krapf, Michael M. Tamkun

**3186-Pos** **Board #B341**
ZINC DEPENDENT LYSOSOMAL ENLARGEMENT IN TRPML1-DEFICIENT CELLS INVOLVES MTF1 TRANSCRIPTION FACTOR AND ZNT4 (SLCA4) TRANSPORTER. **Ira Kukic**

**3187-Pos** **Board #B342**
BONT/A TRAFFICKING WITH FGFR3 IN NEURONAL CELL LINES STUDIED WITH CROSS-CORRELATION RICS.
**Patton E. Garay**, Nicholas G. James, Justin A. Ross, David M. Jameson, K. Roger Aoki, Ester Fernández-Salas1

**3188-Pos** **Board #B343**
ROLE OF MECHANICAL PROPERTIES OF CELL MEDIATED VESICLES IN MEMBRANE FUSION. **Daan Vorselen**, Wouter H. Roos, Jack J.W.A. van Loon, Gijs J.L. Wuite

**3189-Pos** **Board #B344**
GABA UPTAKE BY GAT-1 MODULATES LONG-TERM OPTICAL CHANGES FOLLOWING SECRETION IN THE MOUSE NEUROHYPOPHYSIS. Paul Kosterin, Ana Lia Obaid, **Brian M. Salzberg**

**3190-Pos** **Board #B345**
VAMP 3 AND 8 DEFINE DISTINCT VESICLE POOLS THAT REGULATE THE SECRETION OF INFLAMMATORY MEDIATORS IN HUMAN MAST CELLS. **Reuben Friend**, Elizabeth Seward

**3191-Pos** **Board #B346**
SEROTONIN-LOADING INCREASES GRANULE SIZE AND PROLONGS FUSION PORE FORMATION IN TWO TYPES OF RAT BASOPHILIC LEUKAEMIA (RBL) MAST CELL ANALOGS. **Daniel F. Steinbrenner**, Jan C. Behrends

**3192-Pos** **Board #B347**
CYCLIN DEPENDENT KINASE 2 (CDK2) REGULATES SECRETORY FUNCTION IN PANCREATIC BETA-CELLS. **Matthew J. Merrins**, So Yoon Kim, Sushil G. Rane, Leslie S. Satin

**3193-Pos** **Board #B348**
CHOLESTEROL REGULATES INSULIN SECRETION THROUGH PROTEIN PRENYLATION AND MEMBRANE ARRANGEMENT IN INS-1E CELLS. **Juan Pablo Zúñiga Hertz**, Eduardo Rebelato, Fernando Abdulkader, Sameh S. Ali, Hemal H. Patel

**3194-Pos** **Board #B349**
THE MECHANISM OF AMPA RECEPTOR REGULATION OF INSULIN RELEASE IN PANCREATIC BETA CELLS. **Zhenyong Wu**

**3195-Pos** **Board #B350**
SPATIOTEMPORAL CONFINEMENT OF GLUT4 IN PLASMA MEMBRANE DOMAINS. **Vladimir Lizunov**, Karin Stenkula, Aaron Troy, Samuel W. Cushman, Joshua Zimmerberg

**3196-Pos** **Board #B351**
A SECRETORY ARTIFICIAL CELL FOR EXOCYTOSIS. **Ann-Sofie Cans**, Lisa Simonsson, Michael Kurczy, Raphael Trouillon, Fredrik Höök

**3197-Pos** **Board #B352**
IN VITRO OXIDATION OF SNAP-25 LEADS TO DOUBLE DISULFIDE BOND FORMATION AND PROTEIN DESTABILIZATION. **Dixon J. Woodbury**, Nathan S. Doyle, Nozomi Ogawa, Ryan M. Taylor, John T. Prince

**3198-Pos** **Board #B353**
ON THE SIZE DEPENDENCE OF CELLULAR UPTAKE OF NANOPARTICLE VIA CLATHRIN-MEDIATED ENDOCYTOSIS. **Anand Banerjee**, Alexander Berezhkovskii, Ralph Nossal

**3199-Pos** **Board #B354**
INTRACELLULAR ELECTROPORATION AS PART OF THE MECHANISM OF FUSION PORE FORMATION IN EXOCYTOSIS. **Allan Schneider**, Kurt Rosenheck

**3200-Pos** **Board #B355** **INTERNATIONAL TRAVEL AWARDEE**
CHALLENGES IN NANOPARTICLE DELIVERY: CELLULAR UPTAKE AND INTRACELLULAR ESCAPE. **Robert Vacha**, Francisco Javier Martinez-Veracoechea, Daan Frenkel

## Ligand-gated Channels II (Boards #B356–#B364)

**3201-Pos** **Board #B356**
EFFECT OF BISPIRIDINIUM COMPOUNDS ON HUMAN NICOTINIC α7 RECEPTOR CURRENTS. **Thomas Seeger**, Anne Bierwisch, Karin V. Niessen, Franz Worek, Horst Thiermann

**3202-Pos** **Board #B357**
TEMPERATURE-DEPENDENCE OF ALLOSTERIC MODULATORS OF NICOTINIC ACH-RECEPTORS. **Andrea Bruggemann**, Ilka Rinke, Claudia Haarmann, Thomas Seeger, Karin V. Niessen, Carol J. Milligan, Michael George, Niels Fertig

**3203-Pos** **Board #B358**
VIP ENHANCES ACETYLCHOLINE-ACTIVATED POTASSIUM CURRENT VIA A CAMP/PKA TRANSDUCTION PATHWAY. **Jiangli Han**, Yutao Xi, Geru Wu, Junping Sun, Shahrzad Abbasi, Jie Cheng

**3204-Pos** **Board #B359**
STUDY OF THE INTERACTION BETWEEN GENERAL ANESTHETICS AND A BACTERIAL HOMOLOGUE TO THE HUMAN NICOTINIC RECEPTOR. **Benoist Laurent**, Samuel Murail, Torben Broemstrup, Erik Lindahl, Marc Baaden

**3205-Pos** **Board #B360**
LIGAND GATED ION CHANNELS ON THE QUBE$^{-}$. **Anders Lindqvist**, Lars D. Løjkner, Hervør L. Olsen, Søren Friis, Rasmus B. Jacobsen, Morten R. Sunesen

**3206-Pos** **Board #B361**
ASSESSING TIME-DEPENDENT CHANGES IN RELATIVE $CA^{2+}$ PERMEABILITY USING PATCH CLAMP PHOTOMETRY. **Damien Samways**

**3207-Pos** **Board #B362**
PROTECTION OF NG108-15 CELLS FROM P2X7 RECEPTOR-MEDIATED TOXICITY BY TAURINE. **Yuk M. Leung**, Chia Chao, Chang Kuo, Chieh Huang, Tzu Cheng, Paul Chan

**3208-Pos** **Board #B363**
CO-EXPRESSED PANNEXIN-1 AND THE P2X7 RECEPTOR DO NOT INTERACT FUNCTIONALLY OR PHYSICALLY AT THE PLASMA MEMBRANE OF *XENOPUS LAEVIS* OOCYTES. **Fritz Markwardt**, Ronja Woltersdorf, Manuela Klapperstück, Günther Schmalzing

**3209-Pos** **Board #B364**
STRUCTURAL ELEMENTS IN THE CYTOPLASMIC DOMAIN OF MAMMALIAN INWARD RECTIFIER $K^{+}$ CHANNELS RESPONSIBLE FOR GATING. **Atsushi Inanobe**, Atsushi Nakagawa, Yoshihisa Kurachi

## Anion Channels & Transporters (Boards #B365–#B390)

**3210-Pos** **Board #B365**
KINETIC AND ENERGETIC INSIGHTS INTO THE GATING OF A SINGLE PROTEIN CHANNEL. **Belete R. Cheneke**, Mridhu Indic, Bert van den Berg, Liviu Movileanu

**3211-Pos** **Board #B366**
DECIPHERING THE ION SELECTIVITY OF THE PHOSPHATE SPECIFIC CHANNEL OPRP FROM PSEUDOMONAS AERUGINOSA: A FREE-ENERGY MOLECULAR DYNAMICS SIMULATION STUDY. **Niraj Modi**, Roland Benz, Robert E. W. Hancock, Ulrich Kleinekathöfer

**3212-Pos** **Board #B367**
MOLECULAR DYNAMICS SIMULATIONS OF CFTR GATING AND CONDUCTANCE. **Kazi Shefaet Rahman**, Guiying Cui, Nael A. McCarty, Stephen C. Harvey

**3213-Pos** **Board #B368**
THE STRUCTURAL AND FUNCTIONAL IMPORATNCE OF TYPE II DIVERGENT AMINO ACIDS IN THE CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR.
**Guiying Cui**, Jianrong Wang, Christopher Kuang, Chengyu Z. Prince, I. King Jordan, Nael A. McCarty

**3214-Pos** **Board #B369**
MOLECULAR MODELS OF THE CLOSED STATE OF THE CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR (CFTR). Valentina Corradi, Paola Vergani, **D. Peter Tieleman**

**3215-Pos** **Board #B370**
STRUCTURAL BASIS FOR THE STATE-DEPENDENT REACTIVITY OF ENGINEERED CYSTEINES IN THE PORE OF THE CFTR CHANNEL. **Yohei Norimatsu**, Christopher Alexander, Xuehong Liu, Oliver Beckstein, David C. Dawson

**3216-Pos** **Board #B371**
PROBING THE CFTR CHLORIDE CHANNEL WITH CHANNEL PERMEANT THIO-REACTIVE REAGENT AU(CN)2-. **Xiaolong Gao**, Tzyh-Chang Hwang

**3217-Pos** **Board #B372**
SEEING ATP HYDROLYSIS IN REAL TIME, WHAT DOES IT TELL US? Kang-Yang Jih, **Tzyh-Chang Hwang**

**3218-Pos** **Board #B373**
CONFORMATIONAL CHANGES IN THE CATALYTICALLY INACTIVE NUCLEOTIDE BINDING SITE OF CFTR. **Csaba Mihalyi**, Andras Szollosi, Paola Vergani, Laszlo Csanady

**3219-Pos** **Board #B374**
PORE BLOCKER REPORTS GATING-CONFORMATIONAL CHANGES OF THE CFTR CHANNEL. **László Csanády**

**3220-Pos** **Board #B375**
ARGININE MOVEMENT IN SYNERGISTIC COUPLING OF SUBSTRATE AND ION BINDING TO GLUTAMATE TRANSPORTER HOMOLOGUE. **Secheol Oh**, Olga Boudker

**3221-Pos** **Board #B376**
A WATER-ORGANIZING RESIDUE FOR $H^+$ ACCESS IN A CLC CL-/$H^+$ ANTIPORTER. **Hyun-Ho Lim**, Tania Shane, Christopher Miller

**3222-Pos** **Board #B377**
COUPLING OF ANION SELECTIVITY AND PROTON TRANSPORT IN CLC-EC1. **Tao Jiang**, Emad Tajkhorshid

**3223-Pos** **Board #B378**
CONFORMATIONAL CHANGES OUTSIDE THE ION PATHWAY ARE REQUIRED FOR TRANSPORT IN A CLC-TYPE $CL^-/H^+$ EXCHANGER. **Daniel Basilio**, Kristin Noack, Alessandra Picollo, Alessio Accardi

**3224-Pos** **Board #B379**
A MICROBIAL FLUORIDE CHANNEL. **Randy B. Stockbridge**, Ludmila Kolmakova-Partensky, Christopher Miller

**3225-Pos** **Board #B380**
VOLTAGE-DEPENDENT F-/CL- SELECTIVITY IN A SUBCLASS OF CLC ANTIPORTERS. **Ashley E. Brammer**, Christopher Miller

**3226-Pos** **Board #B381**
AN OPTICAL ASSAY OF THE TRANSPORT ACTIVITY OF CLC-7. **Ilaria Zanardi**, Silvia De Stefano, Giovanni Zifarelli, Michael Pusch

**3227-Pos** **Board #B382**
DISSECTION OF PROTON INHIBITION MECHANISM IN THE H+/CL- EXCHANGER, CLC-7. **Daniel Silverman**, Joseph A. Mindell

**3228-Pos** **Board #B383** **CPOW TRAVEL AWARDEE**
GLIALCAM AFFECTS CLC-CHLORIDE CHANNELS BY ACTIVATING THE SLOW GATE. **Elena Jeworutzki**, Tania López-Hernández, Raúl Estévez, Michael Pusch

**3229-Pos** **Board #B384**
KIDNEY CLC-K CHLORIDE CHANNELS SHOW DIFFERENTIAL PHARMACOLOGICAL PROFILES DEPENDING ON THE HETEROLOGOUS EXPRESSION SYSTEM. **Antonella Liantonio**, Paola Imbrici, Gianluca Gramegna, Antonella Gradogna, Giovanni Zifarelli, Antonio Laghezza, Giuseppe Fracchiolla, Giuseppe Carbonara, Fulvio Loiodice, Michael Pusch, Diana Conte Camerino

**3230-Pos** **Board #B385**
ELECTROPHYSIOLOGICAL PROPERTIES OF NOVEL MUTATIONS IN CLC-1 CHLORIDE CHANNEL OF KOREAN PATIENTS WITH MYOTONIA CONGENITA. **Kotdaji Ha**, Insuk So, Han Choe

**3231-Pos** **Board #B386**
PURIFICATION AND FUNCTIONAL RECONSTITUTION OF THE TMEM16A CA2+ ACTIVATED CL- CHANNEL. Hiroyuki Terashima, Alessandra Picollo, **Alessio Accardi**

**3232-Pos** **Board #B387**
SELF-CLEAVAGE OF HUMAN CLCA1 BY ITS NOVEL METALLOPROTEASE DOMAIN CONTROLS CALCIUM-ACTIVATED CHLORIDE CHANNEL ACTIVATION. **Monica Sala-Rabanal**, Zeynep Yurtsever, David T. Randolph, Arthur G. Romero, Michael J. Holtzman, Colin G. Nichols, Tom J. Brett

**3233-Pos** **Board #B388**
ELECTROPHYSIOLOGICAL CHARACTERIZATION OF THE ATP-ADP TRANSLOCASE IN NATIVE MITOCHONDRIAL MEMBRANES. **Maria Barthmes**, Michael George, Niels Fertig, Andrea Bruggemann

**3234-Pos** **Board #B389**
ATP RELEASE THROUGH CONNEXIN HEMICHANNELS IN PERIPHERAL NERVE. **Nualart-Marti**, Ezequiel Mas del Molino, Xenia Grandes, Carles Solsona

**3235-Pos** **Board #B390**
S1P AND FTY720 ELICIT SWELLING-ACTIVATED CL CURRENT IN HL-1 CARDIOMYOCYTES VIA INTRACELLULAR LIGANDS. **Pooja N. Desai**, Clive M. Baumgarten

## Channels, Other (Boards #B391–#B410)

**3236-Pos** **Board #B391**
A SINGLE RESIDUE OF THE MSCL CHANNEL ACTS AS A MULTI-SWITCH CONTROLLING BOTH KINETICS AND MECHANOSENSITIVITY. **Li-Min Yang**, Dalian Zhong, Paul Blount

**3237-Pos** **Board #B392**
DETECTION OF TRPM8 AND RYR2 ACTIVITY ON A LOW-NOISE, AUTOMATED PLANAR LIPID BILAYER PLATFORM. **Prithwish Pal**, Melissa A. Poquette, Michael G. Keehan, Bernado Zepada, Eleonora Zakharian, Ariel L. Escobar, Geoffrey A. Barrall

**3238-Pos** **Board #B393**
TRANSMEMBRANE SERINE MUTATIONS REDUCE THE MINIMUM PORE DIAMETER OF CHANNELRHODOPSIN-2. **Ryan Richards**, Robert E. Dempski

**3239-Pos** **Board #B394** **EDUCATION TRAVEL AWARDEE**
CURRENT FLUCTUATION ANALYSIS TO STUDY $MG^{2+}$-BINDING IN THE BACTERIAL PORIN OMPF. **María Queralt Martín**, Antonio Alcaraz, Vicente M. Aguilella

**3240-Pos** **Board #B395**
$LA^{3+}$-INDUCED ASYMMETRIC CURRENT INHIBITION IN OMPF CHANNEL. **Carmina Verdiá-Báguena**, María Queralt-Martín, Antonio Alcaraz, Vicente M. Aguilella

**3241-Pos** **Board #B396**
HOW PIP1 PLANT AQUAPORINS MAKE A DIFFERENCE IN TERMS OF CYTOSOLIC PH SENSING AND MEMBRANE OSMOTIC PERMEABILITY. **Agustín Yaneff**, Lorena Sigaut, Mercedes Márquez, Lia Pietrasanta, Karina Alleva, Gabriela Amodeo

**3242-Pos** **Board #B397**
CALHM1 IS AN EXTRACELLULAR $CA^{2+}$ AND VOLTAGE-GATED ATP PERMEABLE ION CHANNEL. **Zhongming Ma**, Akiyuki Taruno, Adam P. Siebert, Ang Li, Mortimer M. Civan, J.Kevin Foskett

**3243-Pos** **Board #B398**
CALHM1 ION CHANNEL MEDIATES PURINERGIC NEUROTRANSMISSION FROM TASTE BUDS TO GUSTATORY NERVE TERMINALS DURING SWEET AND BITTER PERCEPTION. **Akiyuki Taruno**, Ang Li, Zhongming Ma, Philippe Marambaud, Makoto Ohmoto, Ichiro Matsumoto, Mortimer M. Civan, Michael G. Tordoff, J. Kevin Foskett

**3244-Pos** **Board #B399**
ION CONDUCTION IN THE STEM OF THE PA63 CHANNEL OF ANTHRAX TOXIN DURING LETHAL FACTOR (LF) TRANSLOCATION. **Aviva Schiffmiller**

**3245-Pos** **Board #B400**
MAGNESIUM-DEPENDENT MODULATION OF JUNCTIONAL CONDUCTANCE AND GATING PROPERTIES OF CONNEXIN36 GAP JUNCTION CHANNELS. **Nicolas Palacios-Prado**, Alina Marandykina, Lina Rimkute, Sandrine Chapuis, Nerijus Paulauskas, Vytenis A. Skeberdis, John O'Brien, Michael V.L. Bennett, Feliksas F. Bukauskas

**3246-Pos** **Board #B401**
DISRUPTION OF SALT BRIDGE INTERACTIONS MODIFIES GATING KINETICS OF CONNEXIN HEMICHANNELS. Xuhui Tong, William Lopez, Yu Liu, Andrew L. Harris, **Jorge E. Contreras**

**3247-Pos** **Board #B402**
EXTRACELLULAR DIVALENT CATIONS REGULATION OF CX26 AND CX30 HEMICHANNELS. **William Lopez**, Yu Liu, Andrew L. Harris, Jorge E. Contreras

**3248-Pos** **Board #B403**
THE EFFECT OF ARACHIDONIC ACID ON JUNCTIONAL CONDUCTANCE AND GATING OF CONNEXIN 36 GAP JUNCTION CHANNELS AND THEIR MODULATION BY N-ALKANOLS. **Alina Marandykina**, Lina Rimkutė, Nicolás Palacios-Prado, Arvydas Skeberdis, Feliksas Bukauskas

**3249-Pos** **Board #B404**
ION CHANNELS FORMED BY SARS CORONAVIRUS ENVELOPE PROTEIN: LIPID REGULATION OF CONDUCTANCE AND SELECTIVITY. **Carmina Verdiá-Báguena**, Jose L. Nieto-Torres, Antonio Alcaraz, Marta L. DeDiego, Luis Enjuanes, Vicente M. Aguilella

**3250-Pos** **Board #B405**
ELECTROPHYSIOLOGY OF CONCATAMERIC PANNEXIN 1 CHANNELS REVEALS THE STOICHIOMETRY OF C-TERMINAL AUTOINHIBITION. **Yu-Hsin Chiu**, Joanna K. Sandilos, Volker Kiessling, Susan A. Leonhardt, Mark Yeager, Lukas K. Tamm, Kodi S. Ravichandran, Douglas A. Bayliss

**3251-Pos** **Board #B406**
STRUCTURAL BASIS OF PANNEXIN ACTIVATION. **Michelle Dourado**, Evera Wong, David Hackos

**3252-Pos** **Board #B407**
PSEUDOMONAS AERGINOSA OUTER MEMBRANE CARBOXYLATE CHANNELS EXAMINED AT THE SINGLE-MOLECULE LEVEL REVEALS CONSERVED SELECTIVITY WITHIN EACH SUBFAMILY. **Aaron J. Wolfe**, Jiaming Liu, Belete R. Cheneke, Elif Eren, Jagamya Vijayaraghavan, Mridhu Indic, Bert Van den Berg, Liviu Movileanu

**3253-Pos** **Board #B408**
A SIMULATION APPROACH TO MOLECULAR TRANSPORT IN BACTERIAL REACTION CHAMBERS. Florian Roessler, Tomasz Cebo, Shane Heffernan, **Peter J. Bond**

**3254-Pos** **Board #B409**
AN UNUSUAL AQUAPORIN-LIKE METALLOID BORIC ACID CHANNEL IN *ARABIDOPSIS*. **Tian Li**, Jerome Baudry, Daniel M. Roberts

**3255-Pos** **Board #B410**
CATSPER CHANNEL ORGANIZES AND REGULATES CALCIUM SIGNALING MOLECULES IN SPERMATOZOA. **Jean-Ju Chung**, Sang-Hee Shim, Xiaowei Zhuang, David E. Clapham

## Cys-Loop Receptors (Boards #B411–#B432)

**3256-Pos** **Board #B411**
LOOP-C AND A CYCLIC ACTIVATION SCHEME FOR ACETYLCHOLINE RECEPTOR-CHANNELS (ACHRS). **Prasad G. Purohit**, Anthony Auerbach

**3257-Pos** **Board #B412**
INTRINSIC GATING ENERGY OF FETAL-TYPE NEUROMUSCULAR ACETYLCHOLINE RECEPTORS. **Tapan K. Nayak**, Auerbach Anthony

**3258-Pos** **Board #B413** **INTERNATIONAL TRAVEL AWARDEE**
α-CONOTOXIN REGIIA TARGETING NICOTINIC ACETYLCHOLINE RECEPTORS: MUTAGENESIS STUDIES IMPROVING SELECTIVITY AND POTENCY. **Shiva N. Kompella**, Andrew Hung, Richard J. Clark, David J. Adams

**3259-Pos** **Board #B414**
ENERGETIC CHANGES IN THE β SUBUNIT DURING GATING OF THE MUSCLE NICOTINIC RECEPTOR. Gustav Akk, Megan Eaton, Ping Li, Joshua Lo, Stephen Zheng, **Joe Henry Steinbach**

**3260-Pos** **Board #B415**
EFFECT OF MEMBRANE HYDROPHOBIC THICKNESS ON THE UNCOUPLING OF BINDING/GATING IN THE NICOTINIC ACETYLCHOLINE RECEPTOR. **John E. Baenziger**, Daniel J.P. Therien, Lopamudra Dey, Corrie J.B. daCosta

**3261-Pos** **Board #B416**
ALPHA7 NICOTINIC RECEPTORS: INTRINSIC KINETICS AND MODULATION BY PNU 120596. **Arpad Mike**, Krisztina Pesti, Anett K. Szabo, E S. Vizi

**3262-Pos** **Board #B417**
ANESTHETIC BINDING SITES WITHIN THE TRANSMEMBRANE DOMAIN OF THE α7 NICOTINIC ACETYLCHOLINE RECEPTOR. **Vasyl Bondarenko**, David Mowrey, Yan Xu, Pei Tang

**3263-Pos** **Board #B418**
PROBING THE TRANS-MEMBRANE DOMAIN OF GLIC, A PROKARYOTIC LIGAND-GATED ION CHANNEL. **Mona A. AlQazzaz**, Sarah CR Lummis

**3264-Pos** **Board #B419**
FUNCTIONAL MODULATION OF THE ELIC BY GENERAL ANESTHETICS AND ALCOHOLS. **Qiang Chen**, Tommy S. Tillman, Yan Xu, Pei Tang

**3265-Pos** **Board #B420**
ALCOHOL AND ANESTHETIC BINDING TO PENTAMERIC LIGAND-GATED ION CHANNELS REVEALED IN A PROKARYOTIC MODEL SYSTEM. **Rebecca J. Howard**, Ludovic Sauguet, Torben Broemstrup, Samuel Murail, Ui S. Lee, Suzzane Horani, James R. Trudell, Pierre-Jean Corringer, Erik Lindahl, Marc Delarue, R Adron Harris

**3266-Pos** **Board #B421**
PHOTOAFFINITY LABELING THE PROPOFOL BINDING SITE IN GLIC. **David C. Chiara**, Qiang Chen, Tommy Tillman, Jonathan F. Gill, William P. Dailey, Roderic G. Eckenhoff, Yan Xu, Pei Tang, Jonathan B. Cohen

**3267-Pos** **Board #B422**
CHARACTERISING THE ION SELECTIVITY AND CALCIUM PERMEABILITY OF THE ERWINIA LIGAND-GATED ION CHANNEL. **David A. Weston**, Andrew J. Thompson, Sarah C R Lummis

**3268-Pos** **Board #B423**
ANALYSIS OF SECONDARY STRUCTURE ELEMENTS IN THE INTRACELLULAR DOMAIN OF GLIC CHIMERAS WITH ICD FROM EUKARYOTIC CYS-LOOP RECEPTORS. **Nelli Mnatsakanyan**, Sita Nirupama Nishtala, Michaela Jansen

**3269-Pos** **Board #B424**
PROBING THE PORE DIMENSIONS OF BACTERIAL NICOTINIC RECEPTOR-LIKE CHANNELS WITH OPEN-CHANNEL BLOCKERS. **Giovanni Gonzalez-Gutierrez**, Claudio Grosman

**3270-Pos** **Board #B425**
ROLE OF POST-M4 IN THE GATING OF GLIC AND ELIC. Julian Surujballi, **Peter F. Juranka**, John E. Baenziger

**3271-Pos** **Board #B426**
STATE-DEPENDENT ETOMIDATE BINDING IN GABAA RECEPTORS PROBED WITH CYSTEINE SUBSTITUTION AND PROTECTION FROM MODIFICATION. Deirdre Stewart, Mayo Hotta, **Stuart A. Forman**

**3272-Pos** **Board #B427**
IDENTIFYING THE PROPOFOL BINDING SITE(S) IN HETEROLOGOUSLY EXPRESSED HUMAN ALPHA1 BETA3 GABA-A RECEPTORS USING A PHOTOREACTIVE PROPOFOL ANALOG. **Selwyn S. Jayakar**, Xiaojuan Zhou, Zuzana Dostalova, William P. Dailey, Keith W. Miller, Roderic G. Eckenhoff, Jonathan B. Cohen

**3273-Pos** **Board #B428**
MODULATION OF DELTA SUBUNIT-CONTAINING GABAA RECEPTORS BY ETOMIDATE DEPENDS ON SUBUNIT ARRANGEMENT. Hua-Jun Feng, Youssef Jounaidi, **Stuart A. Forman**

**3274-Pos** **Board #B429**
IMPROVED COMPARATIVE MODELS OF HUMAN GABAAR LIGAND-GATED ION CHANNELS BASED ON STRUCTURAL DYNAMICS OF GLUCL. **Ozge Yoluk**, Magnus Andersson, Erik Lindahl

**3275-Pos** **Board #B430**
ANALYSIS OF THE INTERACTIONS BETWEEN GABA(A) RECEPTORS AND T3 USING ELECTROPHYSIOLOGY AND MOLECULAR DYNAMICS SIMULATIONS. **Thomas Westergard**, Jerome Henin, Joseph Martin, Grace Brannigan

**3276-Pos** **Board #B431**
A MECHANISM FOR POTENTIATION OF THE GABA(A) RECEPTOR BY BOUND CHOLESTEROL. **Jérôme Hénin**, Grace Brannigan

**3277-Pos** **Board #B432** **INTERNATIONAL TRAVEL AWARDEE**
THE ACTIVATION MECHANISM OF RAT α3 HOMOMERIC GLYCINE RECEPTORS. **Alessandro Marabelli**, Mirko Moroni, Remigijus Lape, Lucia Sivilotti

## Bacterial Mechanics & Motility (Boards #B433–#B452)

**3278-Pos** **Board #B433** **EDUCATION TRAVEL AWARDEE**
THE COMPUTATIONAL ANALYSIS OF SPIROCHETE MOTILITY IN VISCOUS FLUIDS: MIMICKING HOST RESERVOIR MICRO-ENVIRONMENTS. **Michael W. Harman**, Dhruv K. Vig, Justin D. Radolf, Charles W. Wolgemuth

**3279-Pos** **Board #B434**
HELICAL FLOW OF SURFACE PROTEIN REQUIRED FOR BACTERIAL LOCOMOTION. **Daisuke Nakane**, Keiko Sato, Hirofumi Wada, Mark J. McBride, Koji Nakayama

**3280-Pos** **Board #B435**
IMAGING COLONIZATION DYNAMICS AND RHEOLOGICAL PROPERTIES OF A HOST AND ITS DEVELOPING MICROBIOME BY LIGHT SHEET MICROSCOPY. **Michael J. Taormina**, Matthew Jemielita, Zac Stephens, Adam Burns, Jennifer Hampton, Karen Guillemin, Raghuveer Parthasarathy

**3281-Pos** **Board #B436**
EXPLORATION OF BDELLOVIBRIO CHEMOTAXIS AND PREDATION USING MICROFLUIDICS. **Emma Garst**, Veronika Kivensen, Emma Hughes, Jessica McKenzie, Anne Murdaugh, Eileen Spain, Megan Ferguson, Megan E. Nunez

**3282-Pos** **Board #B437**
ON TIME REVERSAL SYMMETRY AND BACTERIAL CHEMOTAXIS. **Xiao-Lun Wu**, Altindal Tuba

**3283-Pos** **Board #B438**
CHEMOTACTIC RESPONSE OF ESCHERICHIA COLI TO REPELLENTS, COCL2 AND NICL2. **R V S Uday Bhaskar**, Rajesh S. Jesudasan, Deepti Deepika, Mahesh S. Tirumkudulu, K V Venkatesh

**3284-Pos** **Board #B439**
ROLE OF THE PSEUDOMONAS AERUGINOSA FLAGELLAR MOTOR IN SWIMMING MOTILITY AND CHEMOTAXIS. Chui Ching Wong, Chen Qian, **Keng-Hwee Chiam**

**3285-Pos** **Board #B440**
EFFECT OF RUN AND TUMBLE TIME ON RHEOLOGICAL BEHAVIOR OF A SUSPENSION OF ESCHERICHIA COLI. **Richa Karmakar**, Ranjit Gulvady, Mahesh S. Tirumkudulu, KV Venkatesh

**3286-Pos** **Board #B441**
STRUCTURE AND DYNAMICS OF A PHASE-SEPARATING ACTIVE COLLOIDAL FLUID. **Gabriel S. Redner**, Michael F. Hagan, Aparna Baskaran

**3287-Pos** **Board #B442**
INVESTIGATING STATOR DYNAMICS OF THE ESCHERICHIA COLI FLAGELLAR MOTOR. **Laura E. Dickinson**, Maarten M. van Oene, Francesco Pedaci, Bronwen Cross, Ren Lim, Richard M. Berry, Nynke H. Dekker

**3288-Pos** **Board #B443**
DYNAMIC CONFORMATIONAL CHANGES OF FLAGELLAR FILAMENT OBSERVED BY HIGH-PRESSURE MICROSCOPY. **Masayoshi Nishiyama**, Yoshiyuki Sowa

**3289-Pos** **Board #B444**
YOUNG'S MODULUS OF *B. SUBTILIS* CELL WALL: MEASURING AND MODELING THE ELASTICITY OF ROD-LIKE BACTERIA. **Dmitri Vezenov**, Michael J. Barrett

**3290-Pos** **Board #B445**
EXPLORING THE MECHANICS OF MAGNETICALLY DRIVEN MOTILITY IN MAGNETOTACTIC BACTERIA THROUGH GENETIC REGULATION. **Mary E. Wilson**, Lina M. Gonzaléz, Philip R. LeDuc, Warren C. Ruder

**3291-Pos** **Board #B446**
MECHANOCHEMISTRY OF FOCAL ADHESION DYNAMICS. **Zhanghan Wu**, Jian Liu

**3292-Pos** **Board #B447**
DYNAMICS AND FORCE GENERATION BY SINGLE MOTOR COMPLEXES IN M. XANTHUS. **Fabian Czerwinski**, Mingzhai Sun, Tam Mignot, Joshua Shaevitz

**3293-Pos** **Board #B448**
ARE "POWER-PACKS" ASSOCIATED WITH THE SWITCH-MOTOR COMPLEX OF BACTERIAL FLAGELLA? **S. Roy Caplan**, Gabriel Zarbiv, Hui Li, Amnon Wolf, Gary Cecchini, Victor Sourjik, Michael Eisenbach

**3294-Pos** **Board #B449**
SWITCHING BACTERIAL FLAGELLA MOTOR. **Yan Chai**, Jin Yu, Yuhai Tu, Leihan Tang

**3295-Pos** **Board #B450**
STRUCTURAL BASIS FOR THE SPECIFIC RECOGNITION OF DUAL RECEPTORS BY THE HOMOPOLYMERIC PSA FIMBRIAE OF YERSINIA PESTIS. **Rui Bao**, Dieter M. Schifferli, Di Xia

**3296-Pos** **Board #B451**
ASSEMBLY AND ARCHITECTURE OF GRAM-POSITIVE AND -NEGATIVE CELL WALLS. **James C. Gumbart**, Morgan Beeby, Grant Jensen, Benoit Roux

**3297-Pos** **Board #B452**
CELL SHAPE CAN MEDIATE THE SPATIAL ORGANIZATION OF THE BACTERIAL CYTOSKELETON. **Siyuan Wang**, Ned S. Wingreen

## Unconventional Myosins (Boards #B453–#B465)

**3298-Pos** **Board #B453**
FORCE GENERATION BY MEMBRANE-BOUND MYO1C, A SINGLE MOLECULE STUDY. **Serapion Pyrpassopoulos**, Henry Shuman, E. Michael Ostap

**3299-Pos** **Board #B454** **EDUCATION TRAVEL AWARDEE**
EXPLORING THE FORCE-SENSITIVITY OF ACANTHAMOEBA MYOSIN 1C FUNCTION. **Jay Howard**, David Altman

**3300-Pos** **Board #B455**
KINETIC CHARACTERIZATION OF NONMUSCLE MYOSIN IIB AT THE SINGLE MOLECULE LEVEL. **Attila Nagy**, Yasuharu Takagi, Neil Billington, Earl Homsher, James R. Sellers

**3301-Pos** **Board #B456**
MAGNESIUM-DEPENDENCE AND ACTIVE SITE DYNAMICS IN MYOSIN V AND MYOSIN II. Anja M. Swenson, Joseph M. Muretta, Faith D' Amico, William C. Unrath, David D. Thomas, **Christopher M. Yengo**

**3302-Pos** **Board #B457**
DYNAMICS OF THE N-TERMINAL DOMAIN OF MYOSIN V MONITORED BY FRET. **Darshan V. Trivedi**, William C. Unrath, Howard D. White, Christopher M. Yengo

**3303-Pos** **Board #B458**
INSIGHTS INTO THE MECHANISM OF MYOSIN V PROCESSIVITY FROM POINT MUTATIONS IN THE CONVERTER DOMAIN. **Sergey V. Mikhailenko**, Takashi Ohki, Jun-ichi Yoshimoto, Shin'ichi Ishiwata

**3304-Pos** **Board #B459**
SEARCHING, STEPPING, AND STOMPING: WHAT POLYMER THEORY CAN TEACH US ABOUT THE MOLECULAR MOTOR MYOSIN V. **Michael Hinczewski**, Riina Tehver, Devarajan Thirumalai

**3305-Pos** **Board #B460**
BUILDING COMPLEXITY IN VITRO: SINGLE MOLECULE RECONSTITUTION OF ASH1 MRNA TRANSPORT BY A CLASS V MYOSIN FROM BUDDING YEAST. **Thomas E. Sladewski**, Carol S. Bookwalter, Myoung-Soon Hong, Kathleen M. Trybus

**3306-Pos** **Board #B461**
STEPPING DYNAMICS OF TWO COUPLED MYOSIN VA MOTORS ON ACTIN BUNDLES. **M. Yusuf Ali**, Andrej Vilfan, Arthur Michalek, Kathleen M. Trybus, David M. Warshaw

**3307-Pos** **Board #B462**
STEPPING MECHANISMS OF MYOSIN VA ON VARIOUS ACTIN CYTOSKELETON STRUCTURES. Doaa Taha, Laura Gunther, Jianjun Bao, **Takeshi Sakamoto**

**3308-Pos** **Board #B463**
MORE THAN JUST A CARGO ADAPTER: MELANOPHILIN PROLONGS SLOW PROCESSIVE RUNS OF MYOSIN VA. **Maria Sckolnick**, Elena Krementsova, David M. Warshaw, Kathleen M. Trybus

**3309-Pos** **Board #B464** **EDUCATION TRAVEL AWARDEE**
ENGINEERING OF THE MYOSIN VIIA NUCLEOTIDE-BINDING POCKET TO CREATE SELECTIVE SENSITIVITY TO $N^{6-}$ MODIFIED ADP ANALOGS. **Lauren NS Bittner**, Jessica Haithcock, Howard D. White, Peter B. Gillespie, Eva Forgacs

**3310-Pos** **Board #B465**
MYOSIN-XXI, A MOTOR WITH MANY MISSIONS. Constanze Helbig, Heike Ellrich, Christian Hundschell, Christopher Batters, **Claudia Veigel**

## Actin and Actin-binding Proteins (Boards #B466–#B490)

**3311-Pos** **Board #B466**
STRUCTURAL POLYMORPHISM OF F-ACTIN IS COUPLED WITH ITS MECHANICAL PROPERTIES. **Vitold E. Galkin**, Albina Orlova, Alexandr Solodukhin, Gunnar F. Schröder, Edward H. Egelman

**3312-Pos** **Board #B467**
CYCLIC MECHANICAL REINFORCEMENT OF ACTIN INTERACTIONS. **Hyun-Jung Lee**, Cheng Zhu, Suzanne G. Eskin, Larry V. McIntire

**3313-Pos** **Board #B468**
TOXOPLASMA GONDII ACTIN ASSEMBLES VIA ISODESMIC POLYMERIZATION. Kristen M. Skillman, Christopher Ma, Karthikeyan Diraviyam, Daved H. Fremont, John A. Cooper, L. David Sibley, **David Sept**

**3314-Pos** **Board #B469**
INTERPLAY OF STOCHASTIC PROCESSES DURING ACTIN DEPOLYMERIZATION. **Thomas Niedermayer**, Antoine Jégou, Marie-France Carlier, Guillaume Romet-Lemonne, Reinhard Lipowsky

**3315-Pos** **Board #B470**
ACTIN FILAMENT NUCLEATION BY SMOOTH MUSCLE LEIOMODIN-1. **Malgorzata Boczkowska**, Grzegorz Rebowski, Roberto Dominguez

**3316-Pos** **Board #B471**
A NOVEL MECHANISM OF ACTIN NUCLEATION BY RICKETTSIA SCA2. **Yadaiah Madasu**, David J. Kast, Cristian Suarez, Marissa Cardwell, Juan J. Martinez, David R. Kovar, Roberto Dominguez

**3317-Pos** **Board #B472**
EFFECTS OF COFILIN PHOSPHORYLATION ON ACTIN FILAMENT BINDING COOPERATIVITY, MECHANICS, AND SEVERING. **W. Austin Elam**, Hyeran Kang, Enrique M. De La Cruz

**3318-Pos** **Board #B473**
COFILIN-ACTIN INTERACTIONS. **Mouna A. Mikati**, Christine K. Chen, Daniel P. O'Brien, Emil Reisler

**3319-Pos** **Board #B474**
TROPOMYOSIN SURFACE RESIDUES ENCODE CELLULAR FUNCTION IN FISSION YEAST. **Susanne Cranz-Mileva**, Melissa Pamula, Jianqiu Wang, Sarah E. Hitchock-DeGregori

**3320-Pos** **Board #B475**
FUNCTIONAL ANALYSIS OF MUSCLE AND NON-MUSCLE ISOFORMS OF THE ACTIN BINDING PROTEIN, TROPOMYOSIN. **Bipasha Barua**, Gioia Kennedy, Ravi Shah, Sarah E. Hitchcock-DeGregori

**3321-Pos** **Board #B476**
A REPEATING STRUCTURAL MOTIF IN TROPOMYOSIN THAT IS RESPONSIBLE FOR MULTIPLE GAIN OF FUNCTION SKELETAL MYOPATHY MUTATIONS. **Steven B. Marston**, William Lehman, Xiaochuan Li, Massimilano Memo

**3322-Pos** **Board #B477**
COMPLIANT OR STIFF: TWO DIFFERING MECHANISMS OF ACTIN NETWORK STABILIZATION BY CALPONIN AND TROPOMYOSIN. **Mikkel H. Jensen**, Eliza J. Morris, Cynthia Gallant, Philip Graceffa, Paul Leavis, Kathleen G. Morgan, David A. Weitz, Jeffrey R. Moore

**3323-Pos** **Board #B478**
MODELING OF MULTI-DOMAIN ASSEMBLIES IN α-ACTININ-4 REVEALS HOW EXTERNAL CUES REGULATE ITS BINDING TO ACTIN. **Timothy Travers**, Hanshuang Shao, Alan Wells, Carlos J. Camacho

**3324-Pos** **Board #B479**
R1 MOTIF IS THE MAJOR ACTIN BINDING DOMAIN OF TRIOBP-4. **Jianjun Bao**, Elizabeth Bielski, Ankita Bachhawat, Kavitha Thirumurugan, Shin-ichiro Kitajiri, Takeshi Sakamoto

**3325-Pos** **Board #B480** **EDUCATION TRAVEL AWARDEE**
RELATIVE AFFINITY OF VCA DOMAIN OF WAVE TO ACTIN, ARP3, AND ARP2 USING MOLECULAR DYNAMICS SIMULATIONS. **Amruta C. Mahadik**, Brian W. Beck

**3326-Pos** **Board #B481**
MODEL OF CAPPING PROTEIN AND ARP2/3 COMPLEX TURNOVER IN THE LAMELLIPODIUM BASED ON SINGLE MOLECULE STATISTICS. **Laura M. McMillen**, Matthew B. Smith, Dimitrios Vavylonis

**3327-Pos** **Board #B482**
EFFECTS OF DISEASE CAUSING POINT MUTATIONS ON ACTIN'S RESILIENCE. **Ashley Brate**, Ava Lin, Jonathan Crain, Ewa Prochniewicz, Jamex Ervasti, David D. Thomas

**3328-Pos** **Board #B483**
LARGE SCALE OPENING OF THE N TERMINAL ACTIN-BINDING DOMAIN OF DYSTROPHIN DETECTED BY DIPOLAR ELECTRON-ELECTRON RESONANCE (DEER). **Jonathan Crain**, Ava Y. Lin, Brandon One Feather, Ashley Brate, Gage Matthews, Bengt Svensson, David D. Thomas

**3329-Pos** **Board #B484**
STRUCTURAL DYNAMICS OF ACTIN DURING ACTIVE INTERACTION WITH MYOSIN DEPENDS ON THE ISOFORM OF THE ESSENTIAL LIGHT CHAIN. **Ewa Prochniewicz**, Piyali Guhathakurta, David D. Thomas

**3330-Pos** **Board #B485**
A SMALL CHEMICAL MIMICKING ACTIN BINDING TO MYOSIN. **Takayuki Miyanishi**, Taku Yamaguchi

**3331-Pos** **Board #B486**
HIGH-RESOLUTION EPR OF A BIFUNCTIONAL SPIN LABEL REVEALS STRUCTURAL TRANSITIONS WITHIN MYOSIN'S CATALYTIC DOMAIN. **Benjamin Binder**, Ryan Mello, Rebecca Moen, David D. Thomas

**3332-Pos** **Board #B487**
CARDIAC F-ACTIN HAS TWO FUNCTIONAL STATES. **Bing Sun**, Maria E. Moutsoglou, John M. Robinson

**3333-Pos** **Board #B488**
FLEXURAL RIGIDITY OF ACTIN BUNDLES PROPELLED BY HEAVY MEROMYOSIN. **Hideyo Takatsuki**, Elina Bengtsson, Alf Månsson

**3334-Pos** **Board #B489**
MYOSIN LIGHT CHAIN KINASE BINDING AND TRANSITING ALONG AND BETWEEN ACTIN FILAMENTS AND STRESS FIBERS. **Kevin C. Facemyer**, Ruby Sukhraj, Feng Hong, Christine R. Cremo, Josh E. Baker

**3335-Pos** **Board #B490**
MLCK INDUCES ACTIN FILAMENT BUNDLING AND MOVES ON BUNDLED ACTIN AND STRESS FIBERS OF SMOOTH MUSCLE CELLS. **Feng Hong**, Ruby Sukhraj, Michael Carter, Richard Brizendine, Mariam Ba, Michael P. Walsh, Josh E. Baker, Christine P. Cremo

## Intracellular Transport (Boards #B491–#B508)

**3336-Pos** **Board #B491**
SETTING THE STAGE FOR AN INTERACTIVE MAP OF CYTOSKELETAL NETWORKS AND INTRACELLULAR TRANSPORT PATHWAYS. **Martin Kollmar**

**3337-Pos** **Board #B492**
THE ROLE OF FUTILE CYCLING AND ASYMMETRIC GATING IN MYOSIN V. **Neville J. Boon**, Rebecca B. Hoyle

**3338-Pos** **Board #B493**
HOPS - MOLECULAR INSIGHTS INTO VESICLE SORTING. **Anne Kuhlee**, Christos Gatsogiannis, Cornelia Broecker, Christian Ungermann, Stefan Raunser

**3339-Pos** **Board #B494**
SINGLE PARTICLE TRACKING IN LIVING CELLS: IS THE THIRD DIMENSION WORTH IT? **Aurélie Dupont**, Mari Gorelashvili, Verena Schüller, Fabian Wehnekamp, Delphine Arcizet, Yoshihiko Katayama, Doris Heinrich, Don C. Lamb

**3340-Pos** **Board #B495**
MOTILITY OF SELF-ASSEMBLED QUANTUM DOT CARGOS. Leslie Conway, Derek Wood, Erkan Tuzel, **Jennifer L. Ross**

**3341-Pos** **Board #B496**
CENTROSOME POSITIONING IN LARGE CELLS VIA DYNEIN-POWERED INTRACELLULAR CARGO TRANSPORT. **Rafael A. Longoria**, George T. Shubeita

**3342-Pos** **Board #B497**
MICROTUBULE DEPENDENT ANOMALOUS DIFFUSION OF CHLOROPLASTS IN MOSS. **Göker Arpağ**, Zhiyuan Shen, Kyle P. Lemoi, Luis Vidali, Erkan Tüzel

**3343-Pos** **Board #B498**
INSULIN MOBILIZES PERIPHERAL ENDOSOMAL GLUT4 COMPARTMENTS TO THE PLASMA MEMBRANE. **Yu Chen**, Jennifer Lippincott-Schwartz

**3344-Pos** **Board #B499**
INVOLVEMENT OF MYOVA AND ACTIN IN INSULIN GRANULE TRAFFICKING. **Aoife T. Heaslip**, Shane R. Nelson, Jessica M. Armstrong, Andrew T. Lombardo, Kathleen M. Trybus, David M. Warshaw

**3345-Pos** **Board #B500**
LIVE CELL IMAGING OF GFP-RAB GTPASES ALLOWS FOR INTRACELLULAR, SPATIOTEMPORAL TRACKING OF SURFACE FUNCTIONALIZED LIPID-DNA COMPLEXES. **Ramsey N. Majzoub**, Chia-Ling Chan, Kai K. Ewert, Keng S. Liang, Cyrus R. Safinya

**3346-Pos** **Board #B501**
LYSOSOME MOBILITY PROBED WITH LIVE CELL IMAGING AND SINGLE PARTICLE TRACKING. **Debjyoti Bandyopadhyay**, Youngeun J. Kim, Jairo Zapata, Christine K. Payne

**3347-Pos** **Board #B502**
HIGH-RESOLUTION IMAGING OF ENDOCYTOSED EGF-QUANTUM DOTS REVEALS CELLULAR FACTORS REGULATING THE TRANSITIONS BETWEEN THE DIRECTED AND DIFFUSIVE MOVEMENT OF EARLY ENDOSOMES. **Allison L. Zajac**, Yale E. Goldman, Erika L.F. Holzbaur, E. Michael Ostap

**3348-Pos** **Board #B503**
TIME-LAPSE SUPER-RESOLUTION IMAGING OF APICAL MEMBRANE PROTEIN DOMAINS IN LIVE FILAMENTOUS FUNGI. **Yuji Ishitsuka**, Yiming Li, Reinhard Fischer, Norio Takeshita, G. Ulrich Nienhaus

**3349-Pos** **Board #B504**
MAGNETIC MANIPULATION OF AXONAL TRANSPORT IN LIVE NEURONS. **Praveen D. Chowdary**, Chong Xie, Yasuko Osakada, Dung L. Che, Bianxiao Cui

**3350-Pos** **Board #B505**
KINESINS IN CAENORHABDITIS ELEGANS CHEMOSENSORY CILIA RELAY TO DRIVE INTRACELLULAR TRANSPORT. Bram Prevo, **Pierre Mangeol**, Felix Oswald, John M. Scholey, Erwin J.G. Peterman

**3351-Pos** **Board #B506**
HUNTINGTON-ASSOCIATED PHOSPHORYLATION OF KINESIN-1 ENHANCES AUTOINHIBITION IN A PHOSPHOMIMIC. **David D. Hackney**, Young Yeo, Calvin T. Lin

**3352-Pos** **Board #B507**
BIOMIMETIC CILIA AS A MODEL EPENDYMAL CILIA SYSTEM. **Michael Berg**

**3353-Pos** **Board #B508**
PROBING THE ROLE OF ROTATIONAL DYNAMICS IN CELLULAR TRANSPORT. **Luke Kaplan**, Bianxiao Cui

## Photosynthesis (Boards #B509–#B517)

**3354-Pos Board #B509**
DONOR SIDE-INDUCED PHOTOINHIBITION IN PHOTOSYSTEM II. **Samira Aliyeva**

**3355-Pos Board #B510**
TWO DIMENSIONAL BROADBAND ELECTRONIC SPECTROSCOPY OF PHOTOSYSTEM II CORE COMPLEXES. **Henry D. Wilson**, Franklin D. Fuller, Charles F. Yocum, Jennifer P. Ogilvie

**3356-Pos Board #B511**
SELECTIVE ABOLISHMENT OF ELECTRON TRANSFER AT A1 SITE IN CYANOBACTERIAL PHOTOSYSTEM I WITH MINIMAL STRUCTURAL DISTURBANCE. **Sijie Hao**, Junlei Sun, Wu Xu, Art van der Est, John Golbeck

**3357-Pos Board #B512**
THEORETICAL STUDY OF ELECTRON TRANSFER RATE FROM PHYLLOQUINONES TO IRON-SULFUR CLUSTER (FX) IN PHOTOSYSTEM I. **Syed L. Badshah**

**3358-Pos Board #B513**
A NOVEL SPECTRAL MARKER FOR FE-STARVATION IN CYANOBACTERIA AND ITS ASSOCIATION WITH ISIA IN THE PROCESS OF LIGHT-HARVESTING. **Junlei Sun**, Toivo Kallas, John H. Golbeck

**3359-Pos Board #B514**
CHARACTERIZATION OF 2D PSII CRYSTALLINE ARRAYS IN THYLAKOID MEMBRANES HIGHLY EFFICIENT IN PHOTO-PROTECTIVE ENERGY DISSIPATION BY ATOMIC FORCE MICROSCOPY. **Bibiana Onoa**, Anna Schneider, Matthew D. Brooks, Patricia Grob, Eva Nogales, Phillip Geissler, Krishna K. Niyogi, Carlos J. Bustamante

**3360-Pos Board #B515**
PROTECTION OF CHLOROPLAST *IN VIVO* AGAINST OXIDATIVE STRESS. **Jeyhuna Jafarova**

**3361-Pos Board #B516**
C-TERMINAL M4 PEPTIDE FRAGMENT OF ALBINO 3 INTERACTION WITH CPSRP-43. **Rory Henderson**, Jake Usery, Srinivas Jayanthi, Alicia Kigt, Robyn Goforth, Ralph Henry, T.K.S. Kumar

**3362-Pos Board #B517**
THEORETICAL STUDIES ON EXCITED STATES OF BACTERIOCHLOROPHYLL *A* IN SOLUTIONS. **Masahiro Higashi**, Takahiro Kosugi, Shigehiko Hayashi, Shinji Saito

## Mitochondria in Cell Life and Death (Boards #B518–#B544)

**3363-Pos Board #B518**
A STEP FORWARD IN UNDERSTANDING THE MECHANISM OF VDAC VOLTAGE-GATING. **Oscar Teijido Hermida**, Shay Rappaport, Rachna Ujwal, Jeff Abramson, Vicente M. Aguilella, Sergey M. Bezrukov, Tatiana K. Rostovtseva

**3364-Pos Board #B519**
NOVEL MECHANISM OF MITOCHONDRIAL RESPIRATION CONTROL THROUGH COMPETITION BETWEEN HEXOKINASE-2 AND TUBULIN FOR VDAC BINDING. **Kely L. Sheldon**, Coert J. Zuurbier, Sergey M. Bezrukov, Tatiana K. Rostovtseva

**3365-Pos Board #B520**
REPROGRAMMING OF MITOCHONDRIAL $CA^{2+}$ HANDLING IN MICU1-DEFICIENT HELA CELLS. **Tünde Golenár**, György Csordás, Erin L. Seifert, Cynthia Moffat, Fabiana Perocchi, Yasemin Sancak, David Weaver, Vamsi K. Mootha, György Hajnóczky

**3366-Pos Board #B521**
MICU1-DEPENDENT THRESHOLD AND COOPERATIVITY OF MITOCHONDRIAL CA2+ UPTAKE IN THE LIVER. **György Csordás**, Erin L. Seifert, Tünde Golenár, Cynthia Moffat, Sergio de la Fuente Perez, David Weaver, Roman Bogorad, Victor Koteliansky, Vamsi K. Mootha, György Hajnóczky

**3367-Pos Board #B522**
TARGETING MCL-1 AND BAK AS A THERAPEUTIC TOOL TO SELECTIVELY INDUCE APOPTOSIS IN HEPAPTOCELLUALR CARCINOMA. **Nima Niknejad**, Soumya Sinha Roy, Eric Knudsen, György Hajnóczky

**3368-Pos Board #B523**
WHICH DOMAIN OF VDAC2 IS NECESSARY FOR BAK INSERTION TO THE OUTER MITOCHONDRIAL MEMBRANE AND TBID - INDUCED CYTOCHROME C RELEASE? **Shamim Naghdi**, Peter Varnai, Soumya Sinha Roy, Laszlo Hunyady, Gyorgy Hajnoczky

**3369-Pos Board #B524**
OUTER MITOCHONDRIAL MEMBRANE PROTEIN DISTRIBUTION AND FUNCTION DEPEND ON MITOCHONDRIAL FUSION. **David Weaver**, Xingguo Liu, Veronica Eisner, Peter Varnai, Laszlo Hunyady, Gyorgy Hajnoczky

**3370-Pos Board #B525**
MITOCHONDRIAL FUSION DYNAMICS IN SKELETAL MUSCLE OF HEALTHY AND DISEASED RAT. **Veronica Eisner**, Guy Lenaers, Gyorgy Hajnóczky

**3371-Pos Board #B526**
BCL-2 PROAPOPTOTIC PROTEINS DISTRIBUTION IN U-87 MG GLIOMA CELLS BEFORE AND AFTER HYPERICIN PHOTODYNAMIC ACTION. **Katarina Stroffekova**, Lucia Balogová, Mária Maslaňáková, Lenka Dzurová, Pavol Miškovský Miškovský

**3372-Pos Board #B527**
STIMULATION OF BAX MITOCHONDRIAL LOCALIZATION BY BCL-XL. Thibaud Renault, Oscar Teijido, Gisele Velours, Yogesh Tengarai Ganesan, Florent Missire, Nadine Camougrand, Bruno Antonsson, **Laurent Dejean**, Stephen Manon

**3373-Pos Board #B528**
MITOCHONDRIAL DNA NUCLEOID REDISTRIBUTION AFTER MITOCHONDRIAL NETWORK FRAGMENTATION AS VISUALIZED BY 3D SUPER-RESOLUTION BIPLANE FPALM MICROSCOPY. Andrea Dlaskova, Tomas Spacek, Jan Tauber, Lukas Alan, Jitka Santorova, Katarina Smolkova, Jaroslav Zelenka, Zdenek Svindrych, Joerg Bewersdorf, **Petr Jezek**

**3374-Pos Board #B529**
INTEGRATING MITOCHONDRIAL ENERGETICS, REDOX AND ROS METABOLIC NETWORKS: A TWO-COMPARTMENT MODEL. Jackelyn M. Kembro, Miguel A. Aon, Raimond L. Winslow, Brian O'Rourke, **Sonia Cortassa**

**3375-Pos Board #B530**
DJ1 REGULATES NEURONAL MITOCHONDRIAL BIOENERGETIC EFFICIENCY. **Elizabeth A. Jonas**, Emma Lazrove, Panah Nabili, Kambiz N. Alavian

**3376-Pos** **Board #B531**
IDENTIFICATION OF MITOCHONDRIAL PROTEINS REGULATED DURING ACTIVATION OF GPER1-LEADING TO CARDIOPROTECTION. **Jean Chrisostome Bopassa**, Rong Lu, Harpreet Singh, Bjorn Olde, L.M. Fredrik Leeb-Lundberg, Ligia Toro, Enrico Stefani

**3377-Pos** **Board #B532**
ADRENERGIC STIMULATION ACCELERATES MITOCHONDRIAL $CA^{2+}$ UPTAKE BY PYK2-DEPENDENT PHOSPHORYLATION OF MITOCHONDRIAL $CA^{2+}$ UNIPORTER IN CARDIAC H9C2 CELLS. **Jin O-Uchi**, Bong Sook Jhun, Shey-Shing Sheu

**3378-Pos** **Board #B533**
REVERSE-MODE OF THE MITOCHONDRIAL TRANSHYDROGENASE CONSUMES NADPH AND PROVOKES OXIDATIVE STRESS IN RESPONSE TO ELEVATED CARDIAC WORKLOAD. Alexander Nickel, Albrecht von Hardenberg, Joachim Löffler, Jan-Christian Reil, Janne Becker, Mathias Hohl, Michael Kohlhaas, Andrej Kazakov, Bastian Pasieka, Ivan Bogeski, Reinhardt Kappl, Sarah L. Puhl, Markus Hoth, Michael Böhm, **Christoph Maack**

**3379-Pos** **Board #B534**
MITOCHONDRIAL DYSFUNCTION ACCOMPANIED BY ERK-DEPENDENT PHOSPHORYLATION OF TFAM IN A CHRONIC MPP+ MODEL. **Kent Z. Wang**, Jianhui Zhu, Ruben Dagda, Guy Uechi, Salvatore J. Cherra III, Manimalha Balasubramani, Charleen T. Chu

**3380-Pos** **Board #B535**
PROPERTIES OF THE MITOCHONDRIAL PERMEABILITY TRANSITION IN DROSOPHILA S2R+ CELLS. **Dipayan Chaudhuri**, Daniel Artiga, David E. Clapham

**3381-Pos** **Board #B536** **INTERNATIONAL TRAVEL AWARDEE**
MITOCHONDRIAL POTASSIUM CHANNELS IN DICTYOSTELIUM DISCOIDEUM. **Michal Laskowski**, Adam Szewczyk, Anna Kicinska, Wieslawa Jarmuszkiewicz

**3382-Pos** **Board #B537**
MOUSE EMBRYONIC FIBROBLASTS DEVOID OF BOTH MITOFUSIN1 AND MITOFUSIN2 CAN ACUTELY SHIFT FROM GLYCOLYTIC TO OXIDATIVE METABOLISM. **Erin Seifert**, Cynthia Moffat, Ewa Strus

**3383-Pos** **Board #B538**
INCREASED MITOCHONDRIAL SUPEROXIDE PRODUCTION IN THE SKELETAL MUSCLE DERIVED FROM A DOUBLE-TRANSGENIC MOUSE MODEL OF AMYOTROPHIC LATERAL SCLEROSIS. **Chehade N. Karam**, Jianxun Yi, Carlo Manno, Han-Xiang Deng, Jiajie Xu, Kaitao Li, Noah Weisleder, Jianjie Ma, Heping Cheng, Jingsong Zhou

**3384-Pos** **Board #B539**
SOD1G93A MUTANT FORMS AGGREGATES INSIDE MITOCHONDRIA AND ALTERS MITOCHONDRIAL STRUCTURE AND DYNAMICS IN SKELETAL MUSCLE. Guo Luo, Jianxun Yi, Yajuan Xiao, Frank Yi, Tian Yu, **Jingsong Zhou**

**3385-Pos** **Board #B540**
MIRO 1 KNOCKDOWN IN STEM CELLS INHIBITS MITOCHONDRIAL DONATION MEDIATED RESCUE OF BRONCHIAL EPITHELIAL INJURY. Tanveer Ahmad, Shravani Mukherjee, Bijay Ranjan Pattnaik, Manish Kumar, Suchita Singh, Rakhshinda Rehman, Manish Kumar, Abhiram Jha, Mohan Wani, Ulaganathan Mabalirajan, Balaram Ghosh, **Soumya Sinha Roy**, Anurag Agrawal

**3386-Pos** **Board #B541**
VDAC1-BASED PEPTIDES: NOVEL PRO-APOPTOTIC AGENTS AND A POTENTIAL THERAPEUTIC DRUG FOR B-CELL CHRONIC LYMPHOCYTIC LEUKEMIA. **Varda Shoshan-Barmatz**, Tal Prazma, Anna Shteinfer, Lee Admoni, Ilan Sela

**3387-Pos** **Board #B542**
POLYHYDROXYBUTYRATE DERIVATIVE INDUCES CYCLOSPORIN A SENSITIVE MITOCHONDRIAL DEPOLARIZATION IN MAMMALIAN CULTURED CELLS. **Pia A. Elustondo**, Alejandro M. Cohen, Michał Kawalec, Michał Michalak, Elena Dedkova, Piotr Kurcok, Evgeny Pavlov

**3388-Pos** **Board #B543**
ROLE OF POLYPHOSPHATE IN MITOCHONDRIA: FROM MODIFICATION OF ENERGY METABOLISM TO INDUCTION OF THE CELL DEATH. Artyom Y. Baev, Kira M. Holmstrom, Yulia V. Levitskaya, **Andrey Y. Abramov**

**3389-Pos** **Board #B544**
TYPE A BAX CHANNELS: THE HIGHLY VOLTAGE-GATED FORM OF THIS KILLER PROTEIN. **Shang H. Lin**, Meenu N. Perera, Toan Nguyen, Marco Colombini

## Prokaryotic Systems (Boards #B545–#B546)

**3390-Pos** **Board #B545**
EVOLUTION OF ANTIBIOTIC RESISTANCE THROUGH A MULTI-PEAKED ADAPTIVE LANDSCAPE. **Erdal Toprak**, Adam C. Palmer, Seungsoo Kim, Adrian Veres, Shimon Bershtein, Roy Kishony

**3391-Pos** **Board #B546**
PROTEIN:PROTEIN INTERACTIONS IN CONTROL OF THE ESCHERICHIA COLI BIOTIN PROTEIN LIGASE FUNCTIONAL SWITCH. **Dorothy Beckett**, Poorni Adikaram

## Synthetic Biology (Boards #B547–#B551)

**3392-Pos** **Board #B547**
LOADS BIAS BISTABLE SWITCHES IN SYNTHETIC AND NATURAL SYSTEMS. Samanthe M. Lyons, **Ashok Prasad**

**3393-Pos** **Board #B548**
DESIGN AND ENGINEERING OF PROTEIN PLATFORMS FOR MULTIPLE FUNCTIONS. Goutham Kodali, Lee A. Solomon, Michael T. Englander, Bruce R. Lichtenstein, Tammer A. Farid, Molly M. Sheehan, Nathan M. Ennist, Bryan A. Fry, Christopher P. Bialas, Joshua A. Mancini, Zhenyu Zhao, Jessica A. Siedlecki, **Bohdana M. Discher**, Christopher C. Moser, P. Leslie Dutton

**3394-Pos** **Board #B549**
HEMOPROTEIN DESIGN USING MINIMAL SEQUENCE INFORMATION. **Bernard H. Everson**, Cooper A. French, Andrew C. Mutter, Vikas Nanda, Ronald L. Koder

**3395-Pos** **Board #B550**
DESIGN AND CHARACTERIZATION OF A SINGLE CHAIN AMPHIPHILIC MAQUETTE FOR MEMBRANE INSERTION AND ELECTRON TRANSFER. **Geetha N. Goparaju**, Bryan A. Fry, P. Leslie Dutton, Bohdana M. Discher

**3396-Pos** **Board #B551**
A SYNTHETIC CAPILLARY. **Koshala Sarveswaran**, Volker Kurz, Edward M. Nelson, Gregory Timp

## Molecular Dynamics III (Boards #B552–#B575)

**3397-Pos** **Board #B552**
INTER- AND INTRA-MONOMERIC COMMUNICATION IN THE CYTOCHROME BC1 COMPLEX: A MOLECULAR DYNAMICS STUDY. **Philipp S. Orekhov**, Konstantin V. Shaitan, Armen Y. Mulkidjanian

**3398-Pos** **Board #B553**
UNDERSTANDING KINASE ACTIVATION OF ALK IN NEUROBLASTOMA PATIENTS. **Peter J. Huwe**, Scott Bresler, Jin Park, Mark Lemmon, Ravi Radhakrishnan

**3399-Pos** **Board #B554**
MOLECULAR DYNAMICS STUDY OF A PROTEIN MOTIF THAT SENSES PACKING DEFECTS INDUCED BY MEMBRANE CURVATURE. **Lydie Vamparys**, Stefano Vanni, Romain Gautier, Guillaume Drin, Bruno Antonny, Catherine Etchebest, Patrick Fuchs

**3400-Pos** **Board #B555**
FLUCTUATION SPECTRUM AND ELECTRICAL STRESSES IN BIOMEMBRANES PROBED BY MOLECULAR DYNAMICS SIMULATIONS. **Bastien Loubet**, Michael A. Lomholt, Himanshu Khandelia

**3401-Pos** **Board #B556**
THE STRUCTURAL BASIS OF CHOLESTEROL ACTIVATION IN MEMBRANES. **Brett N. Olsen**, Agata Bielska, Michael Daily, Paul Schlesinger, Nathan Baker, Daniel Ory

**3402-Pos** **Board #B557**
MOLECULAR DYNAMICS SIMULATION OF A PURE LIPID MEMBRANE IN PRESENCE OF POLAR AND NON POLAR DRUGS. **Patricio A. Zapata**

**3403-Pos** **Board #B558**
COARSE-GRAINED MOLECULAR DYNAMICS SIMULATIONS REVEAL THE MEMBRANE DEPENDENCE OF MSCL GATING. **Helgi I. Ingolfsson**, Siewert Jan Marrink, Armağan Koçer

**3404-Pos** **Board #B559** **CPOW TRAVEL AWARDEE**
MOLECULAR DYNAMICS SIMULATIONS OF PEGYLATED COMPOUNDS IN DOPC LIPID BILAYER. **Francesca Stanzione**, Amadeu K. Sum

**3405-Pos** **Board #B560**
PHYSICAL PROPERTIES OF MODEL PHOSPHATIDYLCHOLINE BILAYERS CONTAINING DIACYLGLYCEROL (DAG): A MOLECULAR DYNAMICS SIMULATIONS STUDY. **Ioannis Beis**, André Juffer, Matti Weckström, Marja Hyvönen

**3406-Pos** **Board #B561**
RATE ESTIMATES FROM SAMPLING SPARSE TRANSITIONS: TRNA MOTION LIMITS TRANSITIONS BETWEEN RIBOSOMAL TRANSLOCATION INTERMEDIATES. **Christian Blau**, Lars V. Bock, Gunnar F. Schröder, Niels Fischer, Holger Stark, Marina V. Rodnina, Andrea C. Vaiana, Helmut Grubmüller

**3407-Pos** **Board #B562**
BARRIERS TO SIRNA TRANSFECTION THROUGH A PHOSPHOLIPID BILAYER. **Amit Choubey**, Rajiv K. Kalia, Aiichiro Nakano, Priya Vashishta

**3408-Pos** **Board #B563**
FUSION PROTEINS - DIFFERENT TOOLS FOR DIFFERENT JOBS? **Herre Jelger Risselada**, Marcus Müller Müller, Helmut Grubmüller

**3409-Pos** **Board #B564**
EFFECTS OF THE MIDSPAN ARGININE ON THE INTERACTIONS BETWEEN A SOLVATED LIPID BILAYER AND THE HIV-1 GP41 MEMBRANE SPANNING DOMAIN. **Michelle Baker**, Vamshi Gangupomu, Cameron Abrams

**3410-Pos** **Board #B565**
ALL ATOM MOLECULAR DYNAMICS SIMULATIONS OF PH DEPENDENT SURFACTANTS. **Brian Morrow**, Peter H. Koenig, David Eike, Jana K. Shen

**3411-Pos** **Board #B566**
THE DAFT APPROACH FOR IN SILICO PREDICTION OF TRANSMEMBRANE PEPTIDE COMPLEXES. **Tsjerk A. Wassenaar**, Anastassiia Moussatova, Siewert-Jan Marrink, Peter Tieleman

**3412-Pos** **Board #B567**
ATOMISTIC SIMULATIONS OF FUNCTIONAL GOLD NANOPARTICLES AU144(SR)60 INTERACTING WITH MEMBRANES. **Elena Heikkilä**, Andrey Gurtovenko, Hector Martinez-Seara, Hannu Häkkinen, Ilpo Vattulainen, Jaakko Akola

**3413-Pos** **Board #B568**
FREE ENERGY ANALYSIS ON THE TOM20-PRESEQUENCE COMPLEX IN SOLUTION FOR UNDERSTANDING A DYNAMIC-EQUILIBRIUM MODEL. **Yasuaki Komuro**, Naoyuki Miyashita, Takaharu Mori, Eiro Muneyuki, Takashi Saitoh, Daisuke Kohda, Yuji Sugita

**3414-Pos** **Board #B569**
DIFFERENT SCALE CONFORMATIONAL CHANGES OF SERCA ANALYZED WITH MOTION TREE METHOD. **Chigusa Kobayashi**, Ryotaro Koike, Motonori Ota, Yuji Sugita

**3415-Pos** **Board #B570**
MULTIPLE CONFORMERS AND THEIR SPECTROSCOPIC PROPERTIES OF N-GLYCAN PREDICTED USING REPLICA-EXCHANGE SIMULATIONS. **Wataru Nishima**, Yoshiki Yamaguchi, Yuji Sugita, Suyong Re

**3416-Pos** **Board #B571**
MODELLING TSH AND ITS RECEPTOR COMPLEX FOR BINDING AFFINITY. **Rejwan Ali**, Rauf Latif, Ramkumarie Baliram, Terry Davies, Mihaly Mezei

**3417-Pos** **Board #B572**
MITOCHONDRIAL PROTEINS AND MOLECULAR INTERACTION WITH CARDIOLIPIN AT ATOMISTIC LEVEL. **Jaanus Karo**, Marko Vendelin, Pearu Peterson

**3418-Pos** **Board #B573**
A PROPOSED SOLUTION STRUCTURAL MODEL FOR HUMAN COAGULATION TENASE COMPLEX BETWEEN FACTOR VIIIA AND IXA: A PROTEIN-PROTEIN DOCKING AND MD REFINEMENT STUDY. **Divi Venkateswarlu**

**3419-Pos** **Board #B574**
REACTION CONTROL IN FUNGAL FATTY ACID SYNTHASE. **Floris Buelens**, Martin Grininger, Helmut Grubmüller

**3420-Pos** **Board #B575**
AGGREGATION STATES DRIVEN BY DIPOLE INTERACTIONS REGULATES ACTION MECHANISM OF POLYENE ANTIBIOTICS. **Mauricio Carrillo-Tripp**, Xavier Periole, Acione García-González, Marcel Espinosa-Caballero, Cristina Vargas-González, Alex H. de Vries, Iván Ortega-Blake

## Imaging & Optical Microscopy II (Boards #B576–#B611)

**3421-Pos Board #B576**
ACCURATE EMCCD PHOTOELECTRON CALIBRATION FOR SINGLE MOLECULE IMAGING TECHNIQUES. **Alexander Song**, Han Gao, Avtar Singh, Warren R. Zipfel

**3422-Pos Board #B577**
MULTISPECIES FLUORESCENCE PHOTOACTIVATION LOCALIZATION MICROSCOPY BY SPECTRAL MEASUREMENT. **Michael Mlodzianoski**, Mudalige S. Gunewardene, Nikki M. Curthoys, Sean Carter, Sam T. Hess

**3423-Pos Board #B578**
SINGLE MOLECULE IMAGING OF ANTIBODY BINDING. **Joseph P. Skinner**, Qiaoqiao Ruan, Susan Gayda, Sergey Y. Tetin

**3424-Pos Board #B579**
3D-SUPER-RESOLUTION MICROSCOPY REVEALS MRNA NANO-STRUCTURE IN STRESS GRANULE. **Ko Sugawara**, Kohki Okabe, Akihiko Sakamoto, Takashi Funatsu

**3425-Pos Board #B580**
CROSSING THE BORDER TOWARDS DEEP UV TIME-RESOLVED MICROSCOPY OF NATIVE FLUOPHORES. **Marcelle Koenig**, Sebastian Tannert, Thomas Schoenau, Kristian Lauritsen, Felix Koberling, Rainer Erdmann, Reinhild Beyreiss, Stefan Nagel, Detlev Belder

**3426-Pos Board #B581**
LOCALIZATION PRECISION FOR ASYMMETRIC SINGLE-MOLECULE IMAGES IN SUPERRESOLUTION LOCALIZATION MICROSCOPY. Xiang Zhu, **Dianwen Zhang**, Cees Otto

**3427-Pos Board #B582**
3D STED MICROSCOPY IN SCATTERING SPECIMENS. Travis J. Gould, Edward Allgeyer, Daniel Burke, Martin J. Booth, **Joerg Bewersdorf**

**3428-Pos Board #B583**
STED MICROSCOPY WITH TIME-GATED DETECTION: BENEFITS AND LIMITATIONS. **Giuseppe Vicidomini**, Iván Coto Hernández, Paolo Bianchini, Alberto Diaspro

**3429-Pos Board #B584**
A HYPSOCHROMIC SHIFT OBSERVED IN FAR-RED CYANINE DYES LEADS TO ARTIFACTS IN QUANTITATIVE SUPER-RESOLUTION IMAGING. **Matthew B. Stone**, Jason D. Karslake, Sarah L. Veatch

**3430-Pos Board #B585 EDUCATION TRAVEL AWARDEE**
ISOTROPIC 3D SUPER RESOLUTION IMAGING WITH SELF-BENDING POINT SPREAD FUNCTION. **Shu Jia**, Joshua C. Vaughan, Xiaowei Zhuang

**3431-Pos Board #B586**
AUTOMATED ALGORITHM FOR QUANTITATIVE ANALYSIS OF FLUORESCENCE NANOSCOPY IMAGES. **Carlo Manzo**, Juan A. Torreno-Pina, Thomas S. van Zanten, Maria F. Garcia-Parajo

**3432-Pos Board #B587**
CALIBRATION ON THE SPOT OF EMCCD CAMERAS FOR SUPER RESOLUTION MICROSCOPY. **Kim I. Mortensen**, Henrik Flyvbjerg

**3433-Pos Board #B588**
SIMULATION AND CLASSIFICATION OF MULTI-STATE DIFFUSION ON ARBITRARY, NON-EUCLIDEAN SURFACES. **Wesley D. Krueger**, Tania Q. Vu, Keith A. Lidke

**3434-Pos Board #B589**
BAYESIAN ESTIMATION OF DIFFUSION CONSTANTS FROM SINGLE PARTICLE TRACKING DATA. **Patrick J. Cutler**, Peter Relich, Keith A. Lidke

**3435-Pos Board #B590**
THREE-DIMENSIONAL THERMAL NOISE IMAGING OF COLLAGEN NETWORKS. **Tobias F. Bartsch**, Martin D. Kochanczyk, Janina Lange, Ernst-Ludwig Florin

**3436-Pos Board #B591**
SURFACE PLASMON RESONANCE IMAGING FOR CELL BIOLOGY: DIRECT MEASUREMENT OF THE EVANESCENT WAVE PENETRATION DEPTH. **Alexander W. Peterson**, Michael Halter, Alessandro Tona, Anne L. Plant

**3437-Pos Board #B592**
GRAVITY STUDIES OF C. ELEGANS. **Jenny Magnes**, Kathleen M. Raley-Susman, Alicia Jago, Karl Spuhler, Dylan Wine, Tewa Kpulun

**3438-Pos Board #B593**
BIOPHYSICAL CHARACTERIZATION OF PLURIPOTENT STEM CELL MASS ACCUMULATION RATE AND INTRACOLONY MOTION. **Thomas A. Zangle**, Jennifer Chun, Jin Zhang, Jason Reed, Michael A. Teitell

**3439-Pos Board #B594**
OPTIMIZATION OF FRET MICROSCOPY FOR LIVE-CELL IMAGING OF MULTIPLE PROTEIN-PROTEIN INTERACTIONS. **Brandon L. Scott**, Adam D. Hoppe

**3440-Pos Board #B595**
NOVEL GENETICALLY ENCODED PROBES OF G-PROTEIN ACTIVATION, CALCIUM CONCENTRATION AND MEMBRANE VOLTAGE FOR TWO-PHOTON POLARIZATION MICROSCOPY. **Josef Lazar**, Alexey Bondar, Dzmitriy Turavets, Valentyna Kuznetsova

**3441-Pos Board #B596**
TWO-PHOTON EXCITATION AND SELECTIVE PLANE ILLUMINATION MICROSCOPY: A COMBINATION TO MINIMIZE SCATTERING EFFECTS WHILE IMAGING THICK SAMPLES. **Zeno Lavagnino**, Francesca Cella Zanacchi, Alberto Diaspro

**3442-Pos Board #B597 EDUCATION TRAVEL AWARDEE**
STED MICROSCOPE OPTIMIZATION: NEUROSCIENCE APPLICATIONS. **Silvia Galiani**, Benjamin Harke, Giuseppe Vicidomini, Gabriele Lignani, Fabio Benfenati, Paolo Bianchini, Alberto Diaspro

**3443-Pos Board #B598**
ACCURATE 3D FLUOROPHORE LOCALIZATION USING PHASE RETRIEVED PUPIL FUNCTIONS. **Sheng Liu**, Wesley Krueger, Emil B. Kromann, Jason M. Byars, Keith A. Lidke, Joerg Bewersdorf

**3444-Pos Board #B599**
SINGLE PARTICLE ORIENTATION AND ROTATIONAL TRACKING. **Ning Fang**

**3445-Pos** **Board #B600**
MODELING OF ILLUMINATION-INDUCED TEMPERATURE AND APD GRADIENTS ACROSS MYOCARDIAL WALL: IMPLICATIONS FOR OPTICAL MAPPING. **Arvydas Matiukas**, Arkady M. Pertsov

**3446-Pos** **Board #B601**
WANTED: SCALABLE TRACERS FOR DIFFUSION. **Michael J. Saxton**

**3447-Pos** **Board #B602**
NOVEL BIO-IMAGING TECHNIQUES BY HARNESSING OPTICAL HIGHLIGHTER FLUORESCENT PROTEINS. **Wei Min**, Xinxin Zhu

**3448-Pos** **Board #B603**
MOLECULAR IMAGING REVEALS A NOVEL YEAST CENTROMERE STRUCTURAL TRANSITION IN ANAPHASE. **Jay R. Unruh**, Brian D. Slaughter, Manjunatha Shivaraju, Jennifer L. Gerton

**3449-Pos** **Board #B604**
PHASE SEPARATION IN A DMPC/DCHOL MIXED LANGMUIR FILM: A COMBINED BREWSTER ANGLE, FLUORESCENCE AND LIGHT SCATTERING MICROSCOPY STUDY. **Pritam Mandal**, Fanindra Bhatta, Arne Gericke, Edgar E. Kooijman, David Allender, Elizabeth K. Mann

**3450-Pos** **Board #B605**
MICRO-ABSORPTION SPECTROSCOPY AT THE SINGLE CELL LEVEL FROM THE ULTRAVIOLET TO THE NEAR-INFRARED. Fatholah Salehi, Sanghoon Park, **Alfons Schulte**

**3451-Pos** **Board #B606** **EDUCATION TRAVEL AWARDEE**
LABEL FREE FLUORESCENCE LIFETIME FRET IMAGING. **Vinod Jyothikumar**, Yuansheng Sun, Ammasi Periasamy

**3452-Pos** **Board #B607**
MULTICOLOR NANOSCOPY USING A NEW CLASS OF LOW-POWER PROBES. **Tilman Rosales**, Daniel Sackett, Jianhua Xu, Zhen-Dan Shi, Biying Xu, Haitao Li, Gurpreet Kaur, Nalini Shenoy, Sarah Cheal, Haitao Wu, Andres Dulcey, Changhui Li, Kelly Lane, Gary L. Griffiths, Jay R. Knutson

**3453-Pos** **Board #B608**
VISUALIZING TCTN2 IN THE TRANSITION ZONE OF PRIMARY CILIA USING STED NANOSCOPY. **Bhavik Nathwani**, Jamie Solimano, Tony Yang, Nupur Sutaria, Jung-Chi Liao

**3454-Pos** **Board #B609**
POTENTIAL NANOTOXICITY OF PEGYLATED GOLD NANORODS HAVING DIFFERENT SIZES AND SHAPES AS A BIOCOMPATIBLE CONTRAST AGENT FOR 2PE IMAGING. **Gaser N. Abdel Rasoul**, Raffaella Magrassi, Marco Scotto D' Abbusco, Alberto Diaspro

**3455-Pos** **Board #B610**
NEAR-INTERFACE BROWNIAN MOTION OF ANISOTROPIC PARTICLES. **Sadao Ota**, Tongcang Li, Yimin Li, Ziliang Ye, Mohammad-Reza Alam, Xiaobo Yin, Xiang Zhang

**3456-Pos** **Board #B611**
A PHOTOCHROMIC BACTERIAL PHOTORECEPTOR WITH POTENTIAL FOR SUPER-RESOLUTION MICROSCOPY. Aba Losi, Wolfgang Gärtner, Sarah Raffelberg, Francesca Cella Zanacchi, Paolo Bianchini, Alberto Diaspro, Carmen Mandalari, Stefania Abbruzzetti, **Cristiano Viappiani**

## Micro- and Nanotechnology II (Boards #B612–#B637)

**3457-Pos** **Board #B612**
DUAL-PORE GLASS CHIPS FOR SINGLE-CHANNEL RECORDING. **Brandon R. Bruhn**, Michael Mayer

**3458-Pos** **Board #B613**
THE EFFECT OF APERTURE SIZE ON GIGASEAL FORMATION. **Majid Malboubi**, Mohammad Behroozi, James Bowen, Mahmoud Chizari, Guillaume Charras, Kyle Jiang

**3459-Pos** **Board #B614**
MOLECULAR NANOTWEEZERS; TRUE NANO-MANIPULATION OF MACROMOLECULES AND OTHER BIOPARTICLES. **Robert Hart**, Bernardo Cordovez, David Erickson

**3460-Pos** **Board #B615**
MEMBRANE DISRUPTION BY SILICA NANOSPHERES IS MODULATED BY SURFACE CHEMISTRY AND BIOCOATING. Hend I. Alkhammash, Nan Li, Shuangfan Yang, **Maurits R. de Planque**

**3461-Pos** **Board #B616**
CHARACTERIZATION OF A PROTEIN NANOPARTICLE, BSANANO AND ITS INTERACTION WITH-EMODIN. Macarena Siri, A Lis Femia, Nadia S. Chiaramoni, M. Julieta Fernandez Ruocco, Silvia L. Soto Espinosa, G. Casajus, Mariano Grasselli, **Silvia del V. Alonso**

**3462-Pos** **Board #B617**
INTERACTION OF PHOTOCHROMIC NUCLEOTIDE ANALOGUE WITH NUCLEOTIDE REQUIRED BIO-MOLECULAR MACHINES. **Takeshi Itaba**, Shinsaku Maruta

**3463-Pos** **Board #B618**
EFFECT OF CONCENTRATION ON HEATING EFFICIENCY OF MAGNETIC NANOPARTICLES FOR APPLICATION IN MAGNETIC HYPERTHERMIA. **Alison E. Deatsch**, Benjamin A. Evans

**3464-Pos** **Board #B619**
INTRINSIC ELECTROMAGNETIC NOISE FROM CORTICAL NEURONS AND ITS MEASUREMENT EX VIVO. **Masroor H. Bukhari**

**3465-Pos** **Board #B620**
REAL-TIME IMAGING OF SPION MODIFIED STEM CELLS. **Marketa Havrdova**, Katerina Polakova, Roman Kubinek, Josef Skopalik, Zdenka Markova, Vitezslav Brezina, Jana Nebesarova, Petr Paucek, Radek Zboril

**3466-Pos** **Board #B621**
MICROFLUIDIC DIELECTRIC SPECTROSCOPY OF COSTAL CARTILAGE CHONDROCYTES. **Ahmet Can Sabuncu**, Michael W. Stacey, Ali Beskok

**3467-Pos** **Board #B622**
THE APPLICATION OF PLASMONIC NANOSTRUCTURES FOR QUANTITATIVE MEASUREMENTS OF CELL SECRETIONS. **Marc P. Raphael**, Joseph A. Christodoulides, James B. Delehanty, Jeff M. Byers

**3468-Pos** **Board #B623**
DEVELOPMENT OF ADAPTIVE SEM TECHNOLOGY FOR GENOME/PROTEOME EXPRESSION ANALYSIS IN SINGLE CELL LEVEL. **Hyonchol Kim**, Hideyuki Terazono, Hiroyuki Takei, Kenji Yasuda

**3469-Pos** **Board #B624**
SINGLE CELL MICROBIOREACTOR FOR OBSERVING DYNAMIC GENE EXPRESSION AND CELL RESPONSE TO ENVIRONMENT IN BACTERIA. **Eric M. Johnson-Chavarria**, Utsav Agrawal, Melikan Tanyeri, Charles M. Schroeder

**3470-Pos** **Board #B625**
A MICROFLUIDIC PLATFORM FOR CONTROLLED LIGAND EXPOSURE AND VISUALIZATION OF CELLULAR RESPONSE. **Mario J. Paz**, Diane S. Lidke, Conrad James

**3471-Pos** **Board #B626**
ACCELERATING THE DEVELOPMENT OF HIPPOCAMPAL NEURONS USING NANOPILLAR STRUCTURES. **Wenting Zhao**, Kai Zhang, Wenjun Xie, Lindsey Hanson, Ziliang Lin, Yi Cui, Bianxiao Cui

**3472-Pos** **Board #B627**
DROPLET MICROFLUIDIC TECHNOLOGIES FOR HIGH-THROUGHPUT SINGLE-CELL GENE EXPRESSION ANALYSIS. **Helmut H. Strey**, Eric Brouzes, Travis Kruse

**3473-Pos** **Board #B628**
INFLUENCE OF TEMPERATURE ON ALKALINE PHOSPHATASE ACTIVITY IN SINGLE CELLS. **Shijun Xu**

**3474-Pos** **Board #B629**
LAYER-BY-LAYER ASSEMBLY OF COMPLEX MEMBRANES. **Sandro Matosevic**, Brian Paegel

**3475-Pos** **Board #B630**
NEAR-FIELD ANGULAR ORIENTATION OF BIOLOGICAL MATERIALS. **Pilgyu Kang**, Xavier Serey, Yih-Fan Chen, Dakota O'Dell, David Erickson

**3476-Pos** **Board #B631**
MICROFLUIDIC PASSIVE PERMEABILITY ASSAY USING NANOLITER DROPLET INTERFACE LIPID BILAYERS. **Takasi Nisisako**, Shiva A. Portonovo, Jacob J. Schmidt

**3477-Pos** **Board #B632**
SIZE SPECIFIC TRAPPING AT A CONVERGENT STAGNATION POINT. **Sarah Jeanfavre**, Jennifer Pearce

**3478-Pos** **Board #B633**
THE PHYSICAL FOUNDATION OF VASO-OCCLUSION IN SICKLE CELL DISEASE. **Alexey Aprelev**, William Stephenson, Hongseok (Moses) Noh, Maureen Meier, Frank A. Ferrone

**3479-Pos** **Board #B634**
ENGINEERING MYOSIN V VELOCITY BY TUNING NANOCOMPOSITE MORPHOLOGY. **Matthew A. Caporizzo**, Yale E. Goldman, Russell J. Composto

**3480-Pos** **Board #B635**
TIME DEPENDENT EFFECTS OF ENGINEERED NANOPARTICLES ON THE BIOPHYSICAL FUNCTION OF A MODEL LUNG SURFACTANT. Ashleigh Steckly, Ming Li Tan, Laird Forrest, **Prajnaparamita Dhar**

**3481-Pos** **Board #B636** **INTERNATIONAL TRAVEL AWARDEE**
INTERFACIAL ACTIVITY OF PULMONARY SURFACTANT COMBINED WITH GOLD NANOPARTICLES: A PROMISING TOOL IN LUNG MEDICINE. **Virginia Bouzas**, Isabel Pastoriza-Santos, Jesús Pérez-Gil

**3482-Pos** **Board #B637**
TARGETING OF MELANOMA BY PH (LOW) INSERTION PEPTIDE (PHLIP). **Alexander A. Svoronos**, Christopher J. Cheng, Francisco N. Barrera, W. Mark Saltzman, Marcus W. Bosenberg, Donald M. Engelman

## Optogenetics (Boards #B638–#B650)

**3483-Pos** **Board #B638**
OPTOGENETIC CONTROL OF VASCULAR TONE WITH HIGH TEMPORAL RESOLUTION. **Tobias Bruegmann**, Sarah Vosen, Daniela Wenzel, Bernd K. Fleischmann, Philipp Sasse

**3484-Pos** **Board #B639**
SPATIOTEMPORAL CONTROL OF LIGHT INDUCED DIMERIZERS. Leo Valon, Amanda Remorino, Fred Etoc, Maxime Dahan, **Mathieu Coppey**

**3485-Pos** **Board #B640**
SYNTHESIS AND CHARACTERIZATION OF A RED-SHIFTED, FAST RELAXING, PHOTOSWITCHABLE TETHERED LIGAND FOR USE IN MODIFIED GLUTAMATE RECEPTORS. **Michael A. Kienzler**, Andreas Reiner, Dirk Trauner, Ehud Isacoff

**3486-Pos** **Board #B641**
OPTOGENETIC GQ SIGNALING IN CARDIOMYOCYTES. **Thomas Beiert**, Tobias Bruegmann, Bernd K. Fleischmann, Philipp Sasse

**3487-Pos** **Board #B642**
OPTIMIZING OF LOCAL NANO-PARTICLE HEATING FOR THERMO-MAGNETIC STIMULATION OF CELLS. **Maral Alyari**, Katie Spoth, Heng Huang, Hongwang Zhang, Hao Zeng, Arnd Pralle

**3488-Pos** **Board #B643**
TEMPERATURE-MEDIATED EFFECTS OF MILLIMETER WAVE STIMULATION ON MEMBRANE PROTEIN FUNCTION. Mikhail G. Shapiro, **Michael F. Priest**, Peter H. Siegel, Francisco Bezanilla

**3489-Pos** **Board #B644** **EDUCATION TRAVEL AWARDEE**
LIGHT-CONTROLLED MITOGEN-ACTIVATED PROTEIN KINASE (MAPK) SIGNALING PATHWAY IN LIVE CELLS. **Kai Zhang**, Liting Duan, Ziliang Lin, Kijung Sung, Yasuko Osakada, Bianxiao Cui

**3490-Pos** **Board #B645**
REMOTE CONTROL OF MYOSIN SPEED AND DIRECTIONALITY USING LIGHT-ACTIVATED GEAR-SHIFTING. **Muneaki Nakamura**, Zev Bryant

**3491-Pos** **Board #B646**
GENERATION OF A LIGHT INHIBITED SRC KINASE THROUGH INSERTION OF LOV INTO THE CATALYTIC DOMAIN. **Pei-Hsuan Chu**, Andrei V. Karginov, David G. Shirvanyants, Nikolay V. Dokholyan, Klaus M. Hahn

**3492-Pos** **Board #B647**
IN VIVO IMAGING OF ODOR-EVOKED RESPONSES IN THE OLFACTORY BULB USING ARCLIGHT, A NOVEL FP VOLTAGE PROBE. **Douglas A. Storace**, Uhna Sung, Jelena Platisa, Lawrence B. Cohen, Vincent A. Pieribone

**3493-Pos** **Board #B648**
MODIFICATION OF ARCLIGHT, A GENETICALLY-ENCODED VOLTAGE SENSITIVE PROBE: A STUDY OF MECHANISM. **Zhou Han**, Lei Jin, Dzmitriy Turavets, Lawrence B. Cohen, Josef Lazar, Vincent A. Pieribone

**3494-Pos** **Board #B649** **EDUCATION TRAVEL AWARDEE**
NEAR-IR RESONANCE RAMAN AND UV-VISIBLE ABSORPTION KINETIC SPECTROSCOPY OF OPTOGENETIC ARCHAERHODOPSIN NEURONAL SILENCERS: EFFECTS OF MEMBRANE POTENTIAL. **John I. Ogren**, Erica C. Saint Clair, Sergey Mamaev, Daniel Russano, Joel M. Kralj, Kenneth J. Rothschild

**3495-Pos** **Board #B650** **EDUCATION TRAVEL AWARDEE**
OPTICAL CONTROL OF PROTEIN ACTIVITY BY FLUORESCENT PROTEIN DOMAINS. **Xin X. Zhou**

## Fluorescence & Other Luminescence II (Boards #B651–#B672)

**3496-Pos** **Board #B651**
SUBCELLULAR IMAGING OF PROTEIN-PROTEIN INTERACTIONS IN LIVE EPITHELIAL CELLS USING SINGLE PARTICLE TRACKING-FLIM-FRET. **Luca Lanzano**, Hector Giral, Moshe Levi, Enrico Gratton

**3497-Pos** **Board #B652**
ROLE OF CFTR IN HOST DEFENCE AGAINST PSEUDOMONAS AERUGINOSA. **Asmahan AbuArish**, Elvis Pandzic, Paul Wiseman, John Hanrahan

**3498-Pos** **Board #B653**
NOVEL FLUOROGENIC PROBES FOR THE DETECTION OF REACTIVE OXYGEN SPECIES IN THE LIPID MEMBRANE OF LIVE CELLS. **Lana Greene**, Katerina Krumova, Gonzalo Cosa

**3499-Pos** **Board #B654**
FEMTOSECOND FLUORESCENCE DYNAMICS OF TRYPTOPHAN AND 5-FLUOROTRYPTOPHAN IN MONELLIN: SLOW WATER RELAXATION UNMASKED. **Jianhua Xu**, Binbin Chen, Patrik Callis, Henriette Rozeboom, Jaap Broos, Jay Knutson

**3500-Pos** **Board #B655**
MECHANISTIC INSIGHTS INTO REVERSIBLE PHOTOACTIVATION IN PROTEINS OF THE GFP FAMILY. **Karin Nienhaus**, Susan Gayda, G: Ulrich Nienhaus

**3501-Pos** **Board #B656**
EPIDERMAL GROWTH FACTOR RECEPTOR LOCALIZATION IN CELL MEMBRANES INVESTIGATED BY IMAGING FCS. **Thorsten Wohland**, Nirmalya Bag, Xiaoxiao Ma, Shuangru Huang

**3502-Pos** **Board #B657**
FROM SINGLE-MOLECULE FLUORESCENCE TO QUANTIATIVE STRUCTURAL MODELS OF DYNAMIC PROTEINS: HUMAN GUANYLATE BINDING PROTEIN 1. **Thomas-Otavio Peulen**, Carola Hengstenberg, Markus Richert, Alessandro Valeri, Alexander Schug, Abhinav Verma, Claus A. M. Seidel, Christian Herrmann

**3503-Pos** **Board #B658**
DIFFUSION-ENHANCED FRET BETWEEN MEMBRANE PROTEINS. **Tien-Hung Lan**, Nevin A. Lambert

**3504-Pos** **Board #B659**
APPLICATIONS OF PHASOR PLOTS TO DYNAMIC POLARIZATION STUDIES. **Carissa M. Vetromile**, David M. Jameson

**3505-Pos** **Board #B660**
SIMULATIONS OF FLUORESCENT PROBES ATTACHED TO SERCA. **Bengt Svensson**, Xiaoqiong Dong, Elizabeth L. Lockamy, Howard S. Young, David D. Thomas

**3506-Pos** **Board #B661**
DETERMINATION OF PROTEIN COMPLEXES WITH NADH IN LIVE CELLS. **Michelle A. Digman**, Sohail Jahid, Lucy Chiang, Enrico Gratton

**3507-Pos** **Board #B662**
TWO PHOTON PHOTOPHYSICS OF FLUORESCENT PROTEIN CALCIUM INDICATORS. **John J. Macklin**, Jasper Akerboom, Eric R. Schreiter, Lin Tian, Ronak Patel, Jörg Mütze, Vijay Iyer, Bill Karsh, Jennifer Colonell, Timothy D. Harris, Loren L. Looger

**3508-Pos** **Board #B663**
ENGINEERING, CHARACTERIZATION AND USAGE OF A GREEN-TO-RED PHOTOCONVERTIBLE DRONPA MUTANT. **Benjamien Moeyaert**, Ngan Nguyen Bich, Luc Van Meervelt, Hideaki Mizuno, Peter Dedecker, Johan Hofkens

**3509-Pos** **Board #B664**
BAYESIAN FLUORESCENCE CORRELATION MICROSCOPY TO RESOLVE HETEROGENEITY IN MEMBRANE PROTEIN DYNAMICS. **Syuan-Ming Guo**, Xiaoxiao Ma, Nirmalya Bag, Nilah Monnier, Jun He, Thorsten Wohland, Mark Bathe

**3510-Pos** **Board #B665**
MODELING FLUORESCENCE OBSERVABLES, PARTICULARLY FOR FRET EXPERIMENTS, USING MARKOV CHAIN ANALYSIS OF MOLECULAR DYNAMICS AND QUANTUM MECHANICS SIMULATIONS. Amy L. Speelman, Aurora Munoz-Losa, Katie L. Hinkle, Darren B. VanBeek, Benedetta Mennucci, **Brent P. Krueger**

**3511-Pos** **Board #B666**
A MICROPLATE-BASED INSTRUMENT FOR RESOLVING FLUORESCENCE LIFETIMES. **Karl J. Petersen**, Sutton E. Higgins, Kurt C. Peterson, Gregory D. Gillispie, David D. Thomas

**3512-Pos** **Board #B667**
TIME RESOLVED FLUORESCENCE STUDIES OF GENETICALLY ENCODED PROTEIN SENSOR FREX FOR NADH AND PH LEVELS. **Yuting Chen**, Sanjun Zhang, Rongrong Liang, Mengfang Chang, Haifeng Pan, Yuzheng Zhao, Yi Yang, Jianhua Xu

**3513-Pos** **Board #B668**
IMPROVING FRET DYNAMIC RANGE WITH BRIGHT GREEN AND RED FLUORESCENT PROTEINS. **Amy J. Lam**, François St-Pierre, Yiyang Gong, Jesse D. Marshall, Michael R. McKeown, Mark J. Schnitzer, Roger Y. Tsien, Michael Z. Lin

**3514-Pos** **Board #B669**
MD$^{+}$QM CALCULATIONS EXPLORE THE ORIGINS OF DIFFERENCES AMONGST THE RED FLUORESCENT PROTEINS. **J. Nathan Scott**, Patrik R. Callis

**3515-Pos** **Board #B670**
FEMTOSECOND FLUORESCENCE DYNAMICS OF TRP-TRP DIPEPTIDE IN WATER AND ITS INTERACTION WITH DNA. **Yan Chen**, Haifeng Pan, Zhandong Tao, Menghui Jia, Sanjun Zhang, Jianhua Xu, Jay Knutson

**3516-Pos** **Board #B671**
PHOSPHOLIPASE Cβ BINDS TO C3PO AND ITS COMPONENTS THAT ORCHESTRATES RNA INTERFERENCE. **Shriya Sahu**, Finly Philip, Suzanne Scarlata

**3517-Pos** **Board #B672**
ULTRAFAST FLUORESCENCE SPECTROSCOPY AND CELL IMAGING TECHNIQUES IN EXPLORING THE CAFFEINE MEDIATED DISSOCIATION OF MUTAGEN FROM BIOMIMETICS, NUCLEIC ACIDS AND CELLS. **Soma Banerjee**, Samir Kumar Pal

## Vibrational Spectroscopy (Boards #B673–#B677)

**3518-Pos** **Board #B673**
DFT-LEVEL CALCULATIONS OF IR, VCD AND RAMAN SPECTRA FOR 13C-LABELED BETA SHEETS. **William R.W. Welch**, Jan Kubelka, Timothy A. Keiderling

**3519-Pos** **Board #B674**
EXPANDING THE UTILITY OF 4-CYANO-L-PHENYLALANINE AS A VIBRATIONAL REPORTER OF PROTEIN ENVIRONMENTS. Christopher Bazewicz, Melanie Liskov, Kevin Hines, **Scott Brewer**

**3520-Pos** **Board #B675**
2-DEUTERATED HISTIDINE IS A RAMAN REPORTER OF HISTIDINE'S PROTONATION STATE, HYDROGEN BONDING, AND METAL COORDINATION. **Matthew G. Romei**, Kevin W. Hoffman, Casey H. Londergan

**3521-Pos** **Board #B676**
THE WATER COMBINATION BAND REPORTS SOLUTE-INDUCED CHANGES IN THE DYNAMIC STRUCTURE OF BULK WATER. **Matthew S. Puretz**, Orianna S. Chegwidden, Casey H. Londergan

**3522-Pos** **Board #B677**
HEAT TRANSFER PATHWAYS IN PROTEINS. **Timo M.D. Graen**, Helmut Grubmüller

## Bioengineering (Boards #B678–#B697)

**3523-Pos** **Board #B678**
RATIONAL DESIGN OF A ZINC PHTHALOCYANINE BINDING PROTEIN. **Andrew C. Mutter**, Ronald L. Koder, Sunaina Singh, Jessica A. Norman

**3524-Pos** **Board #B679**
PHOTO-REGULATION OF SMALL G PROTEIN RAS MUTANTS USING PHOTOCHROMIC MOLECULE. **Seigo Iwata**

**3525-Pos** **Board #B680**
A LATTICE MODEL OF CROSS-LINKED POLYMERIC MATERIALS: THE ROLE OF FRUSTRATION. **C. Brad Bennett**, James Kruczek, D. A. Rabson, W. Garrett Matthews, Sagar A. Pandit

**3526-Pos** **Board #B681**
AN ACTIVE GEL BASED ON DNA AND DNA-ASSOCIATED MOTOR PROTEINS. **Chang-Young Park**, Olivier J.N. Bertrand, Deborah K. Fygenson, Omar A. Saleh

**3527-Pos** **Board #B682**
DESIGNING MICRODEVICES OPERATED THROUGH SELF-ORGANIZATIONS OF MICROTUBULES AND KINESIN MOTORS. **Takahiro Nitta**, Ayumu Miyata, Yoshiyasu Usami, Susumu Aoyama, Yuichi Hiratsuka

**3528-Pos** **Board #B683**
CONCURRENT TRANSCRIPT AND PROTEIN QUANTIFICATION IN A MASSIVE SINGLE CELL ARRAY ENABLES POPULATION-WIDE OBSERVATION OF ONCOGENE ESCAPE. **Seung-min Park**, Jae Young Lee, Soongweon Hong, Ivan K. Dimov, Keyu Li, Anna M. Wu, Shannon Mumenthaler, Parag Mallick, Luke P. Lee

**3529-Pos** **Board #B684**
ENHANCING AUTOMATIC MASS DETECTION IN ULTRASOUND BREAST IMAGES USING COMPUTER ASSISTED DETECTION. **Farzan Khatib**, Firouzeh Ghafourian Nasab

**3530-Pos** **Board #B685**
MODULATION OF THE INVASIVE PHENOTYPE OF ENGINEERED BREAST TUMORS BY THE PHYSICAL AND CELLULAR MICROENVIRONMENT. **Alexandra S. Piotrowski**, Joe Tien, Celeste M. Nelson

**3531-Pos** **Board #B686**
FIBRILLAR COLLAGEN IS EQUIVALENT TO STIFF MATRIX IN DRIVING MARROW STROMAL CELL DIFFERENTIATION INTO A MATRIX-DEFICIENT, MYOFIBROBLASTIC-LIKE PHENOTYPE. **P. C. Dave P. Dingal**, Matthew Raab, Palak Shah, Jae-Won Shin, Dennis Discher

**3532-Pos** **Board #B687**
MODELING SCALE-UP OF ADHERENT CELL CULTURES ON MICROCARRIERS VIA BEAD TO BEAD TRANSFER. **Aravind R. Rammohan**, Srikanth Raghavan, Martial Hervy

**3533-Pos** **Board #B688**
THEORETICAL-EXPERIMENTAL STUDIES OF ELECTRIC FIELD-INDUCED CELL RESPONSES. **Toloo Taghian**, Abdul Q. Sheikh, Daria Narmoneva, Andrei Kogan

**3534-Pos** **Board #B689**
IMPROVING LONGEVITY OF FIBRIN SEALANT IN A PROTEOLYTIC ENVIRONMENT. **Binoy (Ben) K. Bordoloi**, Rodney L. Eisenberg, Nayan J. Sarma

**3535-Pos** **Board #B690**
ROBUST HIGH PERFORMANCE AQUAPORIN BASED BIOMIMETIC MEMBRANES. **Claus Hélix-Nielsen**, Yang Zhao, Changquan Qiu, Søren Mentzel, Jaume Torres, Tang Chuyang, Oliver Geschke, Anthony G. Fane

**3536-Pos** **Board #B691**
MEMBRANE PROTEIN SYNTHESIS IN GIANT VESICLES. **Susanne F. Fenz**, Rita Sachse, Stefan Kubick, Thomas Schmidt

**3537-Pos** **Board #B692**
HIGH THROUGHPUT LIPID BILAYER PLATFORM. **Bin Lu**, Gayane Kocharyan, Jacob Schmidt

**3538-Pos** **Board #B693**
MOLECULAR DYNAMICS OF PEPTIDE FOLDING AND AGGREGATION AT THE VAPOR-WATER INTERFACE. **Christoph Globisch**, Mara Jochum, Christine Peter

**3539-Pos** **Board #B694**
IMPACT OF INITIAL VASCULAR PERMEABILITY AND RECOVERY SPEED OF DISRUPTED BLOOD-BRAIN BARRIER ON NANODRUG DELIVERY INTO THE BRAIN TISSUE. **Kuo-Wei Lu**, Hsin-Yu Wu, Chih-Kang Huang, Tzyy-Leng Horng, Cheng-Ying Chou, Win-Li Lin

**3540-Pos** **Board #B695**
A SYNTHETIC 'SELF' PEPTIDE THAT INHIBITS PHAGOCYTIC CLEARANCE OF NANOPARTICLES. **Nate Bade**

**3541-Pos** **Board #B696**
ELECTRICAL PROPERTIES OF SUCROSE SOLUTIONS FOR DIABETIC APPLICATIONS. **Christopher E. Bassey**, Sammy Cowell

**3542-Pos** **Board #B697**
NEXT GENERATION HEMOGLOBIN BASED OXYGEN CARRIER, OXYVITA C, WITH COAGULATION CAPACITY USING A MODIFIED LYOPHILIZATION PROCESS: PROTECTION OF COMPONENTS. **John P. Harrington**, Hanna Wollocko, Artur Wollocko, Edyta Kostecki