Tuesday, February 28, 2012

Daily Program Summary

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

7:30 AM–5:00 PM	**Registration**	**Lobby G**
7:30 AM–10:00 PM	**Family Room**	**Room 29D**
8:00 AM–9:00 AM	**BPS Business Meeting**	**Room 23BC**
8:00 AM–4:30 PM	**Poster Viewing**	**Hall FGH**
8:00 AM–5:30 PM	**Career Center**	**Room 26B**
8:00 AM–6:00 PM	**Child Care**	**Marriott, Rancho Santa Fe**
8:15 AM–10:15 AM	**Symposium: Response of Single Molecules to Force: Bridging Length Scales** *Wendy Thomas, University of Washington, Chair* HOW THE MECHANICS OF SINGLE MOLECULES DETERMINE CELL ADHESIVE BEHAVIOR. *Wendy E. Thomas* OPTOMECHANICAL ANALYSIS OF REPEAT PROTEINS. *Taekjip Ha* FORCE TRANSMISSION IN THE ACTIN CYTOSKELETON. *Margaret Gardel* MECHANOREGULATION IN NANOSCALE BIOLOGY: FROM HEMOSTASIS TO SINGLE-MOLECULE CENTRIFUGATION. *Wesley P. Wong*	**Ballroom 20A**
8:15 AM–10:15 AM	**Symposium: Transporter-Channel Interface** *David Gadsby, Rockefeller University, Chair* GATING ION TRANSLOCATION THROUGH THE NA,K-ATPASE PUMP. *David C. Gadsby* CLC TRANSPORTERS: THE SEARCH FOR CONFORMATIONAL CHANGE. *Merritt Maduke* GLUTAMATE TRANSPORTER-ASSOCIATED ANION CHANNELS. *Christoph Fahlke* THE KATP CHANNEL - A TRANSPORTER CHANNEL COMPLEX: ITS ROLE IN PHYSIOLOGY AND DISEASE. *Frances Ashcroft*	**Ballroom 20D**
8:15 AM–10:15 AM	**Platform: Excitation-Contraction Coupling**	**Ballroom 20BC**
8:15 AM–10:15 AM	**Platform: Protein-Ligand Interactions**	**Room 24ABC**
8:15 AM–10:15 AM	**Platform: Channel Regulation & Modulation**	**Room 25ABC**
8:15 AM–10:15 AM	**Platform: Membrane Structure II**	**Room 29ABC**
8:15 AM–10:15 AM	**Platform: Cell & Bacterial Mechanics & Motility II**	**Room 30ABC**
8:15 AM–10:15 AM	**Platform: Biotechnology & Bioengineering**	**Room 31ABC**
9:00 AM–10:00 AM	**Subgroup Chairs Meeting**	**Room 32A**
9:00 AM–10:30AM	**Exhibitor Presentation: Applied Precision, A GE Healthcare Company** **Advances in Live-Cell Super-Resolution Imaging**	**Room 22**
9:30 AM–10:30 AM	**Career Center Workshop: Networking for Those Who Hate to Network**	**Room 26A**
10:00 AM–5:00 PM	**Exhibits**	**Hall FGH**
10:15 AM–11:00 AM	**Coffee Break**	**Hall FGH**
10:45 AM–12:45 PM	**Symposium: Awards Symposium** *Richard Aldrich, University of Texas, Austin, Society President, Chair* A NOVEL ROLE FOR GXXXG MOTIFS IN MEMBRANE PROTEINS REVEALED BY NMR STUDIES OF ALZHEIMER'S DISEASE AYMLOID PRECURSOR PROTEIN IN BICELLES. *Charles Sanders* MEMBRANE-ACTIVATED PEPTIDES: PORE FORMATION AND OTHER ACTIVITIES. *Huey W. Huang* THE ELEGANT ROLE OF STRUCTURAL SYMMETRY IN TRANSPORT ACROSS MEMBRANES. *Lucy R. Forrest* SOME SURPRISES IN THE BIOPHYSICS OF PROTEIN DYNAMICS. *Vijay Pande* LIFE AT THE SINGLE MOLECULE LEVEL: IMAGING AND SEQUENCING OF SINGLE CELLS. *Sunney Xie*	**Ballroom 20A**

10:45 AM–12:45 PM	**Minisymposium: Ligand-gated Channels**	**Room 24ABC**
10:45 AM–12:45 PM	**Platform: Imaging & Optical Microscopy: New Fluorescent Methods & Probes**	**Ballroom 20BC**
10:45 AM–12:45 PM	**Platform: DNA, RNA Structure & Conformation**	**Room 25ABC**
10:45 AM–12:45 PM	**Platform: Membrane Protein Structure II**	**Room 29ABC**
10:45 AM–12:45 PM	**Platform: Calcium Signaling Proteins**	**Room 30ABC**
10:45 AM–12:45 PM	**Platform: Membrane Physical Chemistry II**	**Room 31ABC**
11:00 AM–12:30 PM	**Exhibitor Presentation: SDx Tethered Membranes**	**Room 22**
12:00 PM–2:00 PM	**Postdoc to Faculty Q&A: Transitions Forum & Luncheon**	**Room 32A & 32B**
12:30 PM–2:00 PM	**Faculty Positions at Predominantly Undergraduate Institutions: Finding a Job and Finding Success**	**Room 30D**
1:00 PM–2:30 PM	**Networking with Minority Biophysicists: Resources and Opportunities**	**Room 23BC**
1:00 PM–2:30 PM	**US Investment in Energy Research: What Happens Next?**	**Room 28AB**
1:30 PM–3:00 PM	**The Basics, the Discoveries, and the Controversies: Educational Workshop**	**Room 28E**
1:45 PM–3:00 PM	**Snack Break**	**Hall FGH**
1:45 PM–3:45 PM	**Poster Presentations**	**Hall FGH**
2:30 PM–3:30 PM	**Career Center Workshop: Wherever You Go, There You Are: Self-Reflection as a Career Tool**	**Room 26A**
2:30 PM–4:00 PM	**Transitioning from Academia to Industry**	**Room 28CD**
3:00 PM–5:00 PM	**Education Committee Meeting**	**Room 33C**
4:00 PM–6:00 PM	**Symposium: Soft Lithography for Biology** *Christopher Chen, University of Pennsylvania, Chair* NEXT GENERATION PROTEOMICS: TOWARDS HIGH-THROUGHPUT PROTEIN ANALYSIS VIA MICROFLUIDIC INTEGRATION & SOFT MATERIALS. *Amy Herr* MICROFLUIDIC PLATFORM FOR VASCULAR BIOLOGY: ANGIOGENESIS AND ANASTOMOSIS IN MICROFLUIDIC DEVICES. *Noo Li Jeon* BIOLOGICAL LARGE SCALE INTEGRATION. *Stephen Quake* ENGINEERED MICROENVIRONMENTS: A MATERIALS APPROACH TO THE REGULATION OF CELL FUNCTION. *Christopher S. Chen*	**Ballroom 20A**
4:00 PM–6:00 PM	**Symposium: Large Complexes and Machines - Dissecting Mechanism** *Geeta Narlikar, University of California, San Francisco, Chair* MECHANISM AND FUNCTION OF THE EUKARYOTIC RING-SHAPED CHAPERONIN TRIC/CCT. *Judith Frydman* CONFORMATIONAL DYNAMICS, STRUCTURE & SUBSTRATE PROTEIN INTERACTIONS OF HSP90 CHAPERONES. *David Agard* UNEXPECTED SOPHISTICATION AND COMPLEXITY OF CHEMOMECHANICAL CONTROL LINKAGES IN NUCLEIC ACID MOTOR. *James M. Berger* MECHANISMS OF CHROMATIN REMODELING MOTORS. *Geeta Narlikar*	**Ballroom 20D**
4:00 PM–6:00 PM	**Platform: Micro & Nanotechnology: Nanopores II**	**Ballroom 20BC**
4:00 PM–6:00 PM	**Platform: Membrane Protein Function**	**Room 24ABC**
4:00 PM–6:00 PM	**Platform: Voltage-gated Ca Channels**	**Room 25ABC**
4:00 PM–6:00 PM	**Platform: Interfacial Protein-Lipid Interactions II**	**Room 29ABC**
4:00 PM–6:00 PM	**Platform: Cardiac Muscle: Myosin Binding Proteins**	**Room 30ABC**
4:00 PM–6:00 PM	**Platform: Mitochondria in Cell Life & Death**	**Room 31ABC**
6:00 PM–10:00 PM	**New Council Dinner & Meeting**	**Hilton, Sapphire 410**

7:30 PM–9:30 PM	**Workshop: Measuring, Modeling, and Designing Protein Recognition Specificity** **Ballroom 20A** *Ora Schueler-Furman, Hebrew University, Jerusalem, Chair* COMPUTATIONAL DESIGN OF PROTEINS WHICH BROADLY NEUTRALIZE INFLUENZA. *Sarel Fleishman* SYNTHETIC PROTEINS ENGINEERED FOR THE MODULATION OF CELL SIGNALING. *Sachdev Sidhu* MAKING PICKY PROTEINS: COMPUTATIONAL DESIGN OF INTERACTION SPECIFICITY. *Gevorg Grigoryan* STRUCTURE-BASED CHARACTERIZATION OF PEPTIDE-MEDIATED PROTEIN INTERACTIONS. *Ora Schueler-Furman*
7:30 PM–9:30 PM	**Workshop: Protein Reconstitution in Artificial Membrane Systems** **Ballroom 20D** *Stephen Sligar, University of Illinois at Urbana-Champaign, Chair* SELF-ASSEMBLED NANOMETER SCALE LIPID BILAYERS FOR ELUCIDATING THE STRUCTURE AND FUNCTION OF MEMBRANE PROTEINS. *Stephen G. Sligar* PLATFORMS FOR CHARACTERIZATION OF MEMBRANE PROTEIN INTERACTIONS. *Kalina Hristova* FINDING THE RIGHT STRAW IN A HAYSTACK: HOW LIPID-DETERGENT INTERACTIONS MAY AFFECT THE SOLUBILISATION AND RECONSTITUTION OF MEMBRANE PROTEINS. *Heiko Heerklotz* SPATIAL ORGANIZATION AND SIGNAL TRANSDUCTION IN CELL MEMBRANES. *Jay Groves*
8:00 PM–10:00 PM	**SOBLA (The Society for Latinoamerican Biophysicists)** **Room 23BC**

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Child Care

8:15 AM–10:15 AM, BALLROOM 20A
Symposium
Response of Single Molecules to Force: Bridging Length Scales

Chair
Wendy Thomas, University of Washington

2067-SYMP 8:15 AM
HOW THE MECHANICS OF SINGLE MOLECULES DETERMINE CELL ADHESIVE BEHAVIOR. **Wendy E. Thomas**, Matthew J. Whitfield, Olga Yakovenko

NO ABSTRACT 8:45 AM
OPTOMECHANICAL ANALYSIS OF REPEAT PROTEINS. **Taekjip Ha**

2068-SYMP 9:15 AM
FORCE TRANSMISSION IN THE ACTIN CYTOSKELETON. **Margaret Gardel**

2069-SYMP 9:45 AM
MECHANOREGULATION IN NANOSCALE BIOLOGY: FROM HEMOSTASIS TO SINGLE-MOLECULE CENTRIFUGATION. **Wesley P. Wong**

8:15 AM–10:15 AM, BALLROOM 20D
Symposium
Transporter-Channel Interface

Chair
David Gadsby, Rockefeller University

2070-SYMP 8:15 AM
GATING ION TRANSLOCATION THROUGH THE NA,K-ATPASE PUMP. Natascia Vedovato, Ayako Takeuchi, Pablo Artigas, Nicolás Reyes, **David C. Gadsby**

2071-SYMP 8:45 AM
CLC TRANSPORTERS: THE SEARCH FOR CONFORMATIONAL CHANGE. **Merritt Maduke**

2072-SYMP 9:15 AM
GLUTAMATE TRANSPORTER-ASSOCIATED ANION CHANNELS. **Christoph Fahlke**

NO ABSTRACT 9:45 AM
THE KATP CHANNEL–A TRANSPORTER CHANNEL COMPLEX: ITS ROLE IN PHYSIOLOGY AND DISEASE. **Frances Ashcroft**

8:15 AM–10:15 AM, BALLROOM 20BC
Platform
Excitation-Contraction Coupling

Co-Chairs
Mashiko Hoshijima, University of California, San Diego
Peter Lipp, Saarland University, Germany

2073-PLAT 8:15 AM
3D IMAGING OF NANOSCOPIC MEMBRANE SYSTEMS REGULATING CARDIAC EXCITATION-CONTRACTION COUPLING: MULTI-COLOR OPTICAL SUPER-RESOLUTION AND SERIAL BLOCK-FACE SCANNING ELECTRON MICROSCOPY. **Joseph Isaac S. Wong**, David Baddeley, Eric A. Bushong, Mark Ellisman, Masahiko Hoshijima, Christian Soeller

2074-PLAT 8:30 AM
JUNCTIONAL CLEFT $[CA]_i$ MEASUREMENTS USING NOVEL CLEFT-TARGETED CA SENSORS. **Sanda Despa**, Julie Bossuyt, Bo Shui, Michael I. Kotlikoff, Donald M. Bers

2075-PLAT 8:45 AM
ACTIVATION OF CALCIUM RELEASE FROM RYR CLUSTERS DEPENDS ON THEIR DISTANCE FROM THE SARCOLEMMA. **Natalia S. Torres**, Frank B. Sachse, Kenneth W. Spitzer, John HB Bridge

2076-PLAT 9:00 AM
PIXEL-WISE FITTING: NOISE-FREE ANALYTICAL 3D VISUALISATION OF CALCIUM HANDLING IN CARDIAC MYOCYTES. Qinghai Tian, Lars Kaestner, **Peter Lipp**

2077-PLAT 9:15 AM
IDENTIFICATION OF THE FIRST MUTATIONS IN THE HUMAN TRIADIN GENE, ASSOCIATED TO CATECHOLAMINERGIC TACHYCARDIA, A PATHOLOGY OF THE CARDIAC CALCIUM RELEASE COMPLEX. Nathalie Roux-Buisson, Marine Cacheux, Anne Fourest-Lieuvin, Jérémy Fauconnier, Julie Brocard, Alain Lacampagne, Julien Fauré, Joël Lunardi, **Isabelle Marty**

2078-PLAT 9:30 AM
EFFECTS OF AUTONOMIC AGENTS ON CA^{2+} CYCLING IN CANINE ATRIAL MYOCYTES DURING RAPID PACING. **Gary L. Aistrup**, Hemanth Koduri, Aaron Kunamalla, Manvinder Kumar, Jon Cordeiro, Rishi Arora, J. Andrew Wasserstrom

2079-PLAT 9:45 AM
LOCALIZATION AND DYNAMICS OF PHOSPHATIDYLINOSITOL 4,5-BISPHOSPHATE (PIP_2) IN ADULT SKELETAL MUSCLE FIBERS. **Genaro C. Barrientos**, Marino DiFranco, Julio L. Vergara

2080-Plat 10:00 AM
DECREASED FATIGUE RESISTANCE IS AN EARLY FUNCTIONAL DEFECT IN SKELETAL MUSCLES OF MITOCHONDRIAL-DNA-MUTATOR MICE. **Håkan Westerblad**, Niklas Ivarsson, Arthur J. Cheng, Andreas Fahlström, Andres Hernandez

8:15 AM–10:15 AM, Room 24ABC

Platform
Protein-Ligand Interactions

Co-Chairs
Michael Schnieders, University of Texas, Austin
Ernesto Fuentes, University of Iowa

2081-Plat 8:15 AM
IMPROVING THE ACCURACY OF KNOWLEDGE-BASED SCORING FUNCTIONS FOR PROTEIN-LIGAND INTERACTIONS BY ACCOUNTING FOR SPARSE DATA IN THE TRAINING SET. **Sam Z. Grinter**, Xiaoqin Zou

2082-Plat 8:30 AM
PHARMACEUTICAL APPLICATIONS OF THE POLARIZABLE AMOEBA POTENTIAL, INCLUDING PROTEIN-LIGAND BINDING AFFINITY AND DRUG SOLUBILITY, USING THE FORCE FIELD X SOFTWARE. **Michael J. Schnieders**, Yue Shi, Johnny Wu, Jonas Baltrusaitis, Wei Yang, Pengyu Ren

2083-Plat 8:45 AM
MLOK1 LIGAND BINDING SIMULATIONS INDICATE AN INDUCED-FIT MECHANISM. **Béla Voß**, Sebastian Peuker, U. Benjamin Kaupp, Helmut Grubmüller

2084-Plat 9:00 AM
PATHWAY AND MECHANISM OF DRUG BINDING TO G-PROTEIN-COUPLED RECEPTORS. Ron O. Dror, **Albert C. Pan**, Daniel H. Arlow, David W. Borhani, Paul Maragakis, Yibing Shan, Huafeng Xu, David E. Shaw

2085-Plat 9:15 AM
A GENERAL PREDICTION METHOD OF SCORPION TOXINS' KV-CHANNEL SELECTIVITY PROFILES USING HADDOCK. **Po-chia Chen**, Serdar Kuyucak

2086-Plat 9:30 AM
DESIGN AND DEVELOPMENT OF DRUGS THAT TARGET VIRUS ION CHANNELS. Matthew R. Rosenberg, Nicole C. Norris, Llara M. Weaver, **Marco G. Casarotto**

2087-Plat 9:45 AM
KINOME-WIDE SPECTROSCOPIC STUDY OF DRUG BINDING SITE ELECTROSTATICS. **Nick Levinson**, Steven G. Boxer

2088-Plat 10:00 AM
SPECIFICITY, STRUCTURE AND DYNAMICS OF TIAM1 PDZ DOMAIN LIGAND-BOUND COMPLEXES. **Ernesto J. Fuentes**, Xu Liu, Tyson R. Shepherd, David C. Speckhard, Ann M. Murray

8:15 AM–10:15 AM, Room 25ABC

Platform
Channel Regulation & Modulation

Co-Chairs
Marco Colombini, University of Maryland, College Park
David Yue, Johns Hopkins University

2089-Plat 8:15 AM
STRUCTURAL BASIS FOR ALCOHOL MODULATION OF PENTAMERIC LIGAND-GATED ION CHANNELS. **Rebecca J. Howard**, Samuel Murail, Kathryn E. Ondricek, Pierre-Jean Corringer, Erik Lindahl, James R. Trudell, R Adron Harris

2090-Plat 8:30 AM
CERAMIDE CHANNEL REGULATION BY BCL-2 FAMILY PROTEINS: MOLECULAR INSIGHTS. Meenu N. Perera, Shang-Hsuan Lin, Kaiti Chang, **Marco Colombini**

2091-Plat 8:45 AM
ACTIVATION OF M-TYPE POTASSIUM CHANNELS BY DIFFERENT MEMBRANE PHOSPHOLIPIDS AND ANALOGS. **Vsevolod Telezhkin**, Alastair J. Gibb, David A. Brown

2092-Plat 9:00 AM
BK CHANNEL MODULATION BY LEUCINE-RICH REPEAT CONTAINING PROTEINS. **Jiusheng Yan**, Richard W. Aldrich

2093-Plat 9:15 AM
A MODULAR HEAT-SENSING DOMAIN ACTIVATES $K_{2P}2.1$ THROUGH A HEAT-INSENSITIVE GATE. **Sviatoslav Bagriantsev**, Kimberly Clark, Daniel L. Minor

2094-Plat 9:30 AM
K2P1 ASSEMBLES WITH K2P3 OR K2P9 TO FORM SUMO-REGULATED TASK BACKGROUND CHANNELS IN CEREBELLAR GRANULE NEURONS. **Leigh D. Plant**, Leandro Zuniga, Dan Araki, Jeremy D. Marks, Steve AN Goldstein

2095-Plat 9:45 AM
ACTIVITY-DEPENDENT TRANSCRIPTIONAL REGULATION OF M-TYPE K+ CHANNELS BY AKAP79/150-MEDIATED NFAT ACTIONS. **Jie Zhang**, Mark Shapiro

2096-Plat 10:00 AM
CALCIUM BINDING PROTEINS (CABPS) SELECTIVELY MODULATE CAV1 VERSUS CAV2 CHANNELS. **Philemon S. Yang**, Manu B. Johny, David T. Yue

8:15 AM–10:15 AM, Room 29ABC

Platform
Membrane Structure II

Co-Chairs
Simon Scheuring, INSERM/Curie Institute, France
Klaus Gawrisch, NIAAA, NIH

2097-Plat 8:15 AM
RESOLVING THE STRUCTURE OF ORDERED DOMAINS IN SINGLE HYDRATED LIPID BILAYERS BY NEW X-RAY DIFFRACTION METHODOLOGY. **Roy Ziblat**, Leslie Leiserowitz, Lia Addadi

2098-Plat 8:30 am
CURVATURE ELASTIC PROPERTIES OF PHOSPHATIDYLETHANOLAMINES WITH MONO-AND POLYUNSATURATED HYDROCARBON CHAINS–AN NMR AND X-RAY DIFFRACTION STUDY. Walter E. Teague, Olivier Soubias, Nola L. Fuller, R. Peter Rand, **Klaus Gawrisch**

2099-Plat 8:45 am
IMPACT OF STEROL TILT ON MEMBRANE BENDING RIGIDITY IN CHOLESTEROL AND 7DHC-CONTAINING DMPC MEMBRANE. **George Khelashvili**, Michael Rappolt, See-Wing Chiu, Georg Pabst, Daniel Harries

2100-Plat 9:00 am
ENHANCED LIPID DIFFUSION AND MIXING IN ACCELERATED MOLECULAR DYNAMICS. **Yi Wang**, Phineus R L Markwick, Cesar A F de Oliveira, J. Andrew McCammon

2101-Plat 9:15 am
GLYCOPHORIN A HELIX INSERTION, POSITIONING, AND DIMERIZATION IN MODEL MEMBRANES. **Taras V. Pogorelov**, Emad Tajkhorshid

2102-Plat 9:30 am
COMPLETE LATERAL AND ANGULAR DIFFUSION AND PROTEIN-PROTEIN INTERACTION DESCRIPTION OF A MEMBRANE PROTEIN. Ignacio Casuso, Jean-Pierre Duneau, Mohamed Chami, Perrine Paul-Gilloteaux, Mohamed Husain, Jonathan Khao, Henning Stahlberg, James Sturgis, **Simon Scheuring**

2103-Plat 9:45 am
PROBING DIELECTRIC AND HYDROGEN BONDING GRADIENTS IN BIOLOGICAL MEMBRANES. **Tatyana I. Smirnova**, Maxim A. Voynov, Oleg G. Poluektov, Alex I. Smirnov

2104-Plat 10:00 am
PULMONARY SURFACTANT REDUCES SURFACE TENSION TO LOW VALUES NEAR ZERO THROUGH A MODIFIED SQUEEZE-OUT MECHANISM. **Fred Possmayer**, Nora Keating, Yi Y. Zuo, Nils O. Petersen, Ruud A. Veldhuizen

8:15 am–10:15 am, Room 30ABC

Platform
Cell & Bacterial Mechanics & Motility II

Co-Chairs
Lina Gonzalez, Carnegie Mellon University
Jung-Chi Liao, Columbia University

2105-Plat 8:15 am
FLEXURAL RIGIDITY AND SHEAR STIFFNESS OF FLAGELLA. **Gang Xu**, Kate S. Wilson, Ruth J. Okamoto, Jin-Yu Shao, Susan K. Dutcher, Philip V. Bayly

2106-Plat 8:30 am
STRUCTURE OF TRYPANOSOMA BRUCEI FLAGELLUM ACCOUNTS FOR ITS BIHELICAL MOTION. **Michael F. Schmid**, Alexey Y. Koyfman, Ladan Gheiratmand, Caroline J. Fu, Dandan Huang, Htet A. Khant, Cynthia Y. He, Wah Chiu

2107-Plat 8:45 am
HYDRODYNAMICS OF THE DOUBLE-WAVE STRUCTURE OF INSECT SPERMATOZOA. **On Shun Pak**, Saverio Eric Spagnolie, Eric Lauga

2108-Plat 9:00 am
EFFECT OF REPROGRAMMING ON PRIMARY CILIA MECHANICS. **Bhavik Nathwani**, Christine Miller, Jung-Chi Liao

2109-Plat 9:15 am
TWITCHING FLOW TAXIS UPSTREAM MOTILITY OF SURFACE ATTACHED BACTERIA. **Yi Shen**, Albert Siryaporn, Sigolene Lecuyer, Zemer Gitai, Howard A. Stone

2110-Plat 9:30 am
MICROSCOPIC ANALYSIS OF BACTERIAL MOTILITY AT HIGH PRESSURE. **Masayoshi Nishiyama**, Yoshiyuki Sowa

2111-Plat 9:45 am MINORITY TRAVEL AWARDEE
INTEGRATED GLOBAL AND LOCAL FIELD SENSING IN MAGNETOSPIRILLUM MAGNETOTACTICUM. **Lina M. Gonzalez**, Warren C. Ruder, Eli Zenkov, Phillip R. LeDuc, William C. Messner

2112-Plat 10:00 am
SYNCHRONIZATION OF SWIMMING MICROORGANISMS. **Gwynn J. Elfring**, Eric Lauga

8:15 am–10:15 am, Room 31ABC

Platform
Biotechnology & Bioengineering

Co-Chairs
Hee Cheol Cho, Cedars Sinai Heart Institute
Catherine Coirault, INSERM, France

2113-Plat 8:15 am
DNA BASED DUAL-SPRING CROSS SHAPED NANOACTUATOR. **Alexander H. Mo**, Preston B. Landon, Ratnesh Lal

2114-Plat 8:30 am
CREATION OF A BIOLOGICAL WIRE USING CELL-TARGETED PARAMAGNETIC BEADS. **Eugenio Cingolani**, Vittoria Ionta, Alessandro Giacomello, Eduardo Marbán, Hee Cheol Cho

2115-Plat 8:45 am
MOLECULARLY DEFINED RE-WIRING OF ELECTRON TRANSPORT IN LIVING CELLS. **Heather M. Jensen**, Jay T. Groves, Caroline M. Ajo-Franklin

2116-Plat 9:00 am
SENSITIVE AND SELECTIVE NUCLEIC ACID CAPTURE WITH SHIELDED COVALENT PROBES. **Jeffrey R. Vieregg**, Hosea Nelson, Brian Stoltz, Niles A. Pierce

2117-Plat 9:15 am
DISCOVERY OF VEGF-KDR BINDING INHIBITORS BY SCREENING SMALL-MOLECULE MICROARRAYS WITH LABEL-FREE ELLIPSOMETRIC SCANNERS. **James P. Landry**, Yiyan Fei, Xiangdong Zhu, Yaohuang Ke, Y. Peter Li, Guoliang Yu

2118-Plat 9:30 am
3D CULTURE OF HUMAN MUSCLE CELLS MODULATES CELL-MATRIX ADHESIONS AND ACTIN CYTOSKELETON ORGANIZATION. Stéphane Chiron, Carole Tomczak, Alain Duperray, Jeanne Lainé, Gisèle Bonne, Thomas Eschenhagen, Claude Verdier, **Catherine Coirault**

2119-Plat 9:45 am
ACTIVE MICROPATTERNS, NEW TOOL FOR SINGLE CELL STUDIES. **Martial Balland**, Kalpana Mandal, Lionel Bureau

2120-Plat 10:00 am
CONTROLLING EMBRYONIC CELL SHEET MIGRATION USING MICROFLUIDICS. **Melis Hazar**, YongTae Kim, Jiho Song, Philip R. Leduc, Lance A. Davidson

9:00 am–10:00 am, Room 32A

Subgroup Chairs Meeting

9:00 am–10:30 am, Room 22

Exhibitor Presentation
Applied Precision, A GE Healthcare Company

Advances in Live-Cell Super-Resolution Imaging

3D super-resolution microscopy represents a new approach that is challenging our understanding of the inner workings of the cell. The ability to see the inner structure of the cell, at resolutions previously unobtainable, is enabling a new era of discovery in biological science.

Now Applied Precision is proud to push this envelope further by introducing the OMX V4 platform and the revolutionary OMX Blaze Live Cell Super-Resolution System. Come join us at our presentation to learn about:

- OMX V4 System and approaches to super-resolution imaging
- Live-cell super-resolution imaging
- New approach localization microscopy with Monet™
- Latest research using OMX technology

9:30 am–10:30 am, Room 26A

Career Center Workshop
Networking for Those Who Hate to Network

Does the thought of networking make your blood run cold? Do you cower in a corner at networking events, afraid to make contact but frustrated because you know that you should be doing something? Or are you OK with the social aspect of networking, but just don't know what to do afterwards? By now, you probably know that you have to network, network, network to find a job or jump start any kind of career. It doesn't matter how smart or talented you are, you need help from other people to truly achieve your personal definition of success. This session will provide networking tips, strategies and opportunities to put these ideas into actions.

10:00 am–5:00 pm, Hall FGH

Exhibits

10:15 am–11:00 am, Hall FGH

Coffee Break

10:45 am–12:45 pm, Ballroom 20A

Symposium
Awards Symposium

Chair
Richard Aldrich, University of Texas, Austin, Society President

10:45 am
A NOVEL ROLE FOR GXXXG MOTIFS IN MEMBRANE PROTEINS REVEALED BY NMR STUDIES OF ALZHEIMER'S DISEASE AYMLOID PRECURSOR PROTEIN IN BICELLES. **Charles Sanders**, Anatrace Membrane Protein Award

11:00 am
MEMBRANE-ACTIVATED PEPTIDES: PORE FORMATION AND OTHER ACTIVITIES. **Huey W. Huang**, Avanti Award in Lipids

11:15 am
THE ELEGANT ROLE OF STRUCTURAL SYMMETRY IN TRANSPORT ACROSS MEMBRANES. **Lucy R. Forrest**, Margaret Oakley Dayhoff Award

11:30 am
SOME SURPRISES IN THE BIOPHYSICS OF PROTEIN DYNAMICS. **Vijay Pande**, Michael & Kate Bárány Award

11:45 am
LIFE AT THE SINGLE MOLECULE LEVEL: IMAGING AND SEQUENCING OF SINGLE CELLS. **Sunney Xie**, Founders Award

10:45 am–12:45 pm, Room 24ABC

Minisymposium
Ligand-gated Channels

Chair
Cynthia Czajkowski, University of Wisconsin, Madison

2121-MiniSymp 10:45 am
A PROKARYOTIC PERSPECTIVE ON PENTAMERIC LIGAND-GATED ION CHANNEL STRUCTURE AND FUNCTION.
Raimund Dutzler

2122-MiniSymp 11:05 am
SITE-DIRECTED SPIN LABELING REVEALS PENTAMERIC LIGAND-GATED ION CHANNEL GATING MOTIONS.
Cosma D. Dellisanti, James M. Raspanti, Valerie A. Grant, Susan M. Hanson, Borna Ghosh, Kenneth A. Satyshur, Candice S. Klug, Cynthia Czajkowski

2123-MiniSymp 11:25 am
THE RING OF GLUTAMATES IN THE CHARGE-SELECTIVITY FILTER REGION OF THE NICOTINIC RECEPTOR FORMS A SYSTEM OF UNANTICIPATED COMPLEXITY.
Gisela D. Cymes, **Claudio Grosman**

2124-MiniSymp 11:45 am **INTERNATIONAL TRAVEL AWARDEE**
CONTRIBUTION OF AGONIST BINDING SITES AND COUPLING REGIONS TO ACTIVATION AND DESENSITIZATION OF HOMOMERIC CYS-LOOP RECEPTORS.
Cecilia B. Bouzat, Natalia D. Andersen, Jeremias Corradi, Steven M. Sine

2125-MiniSymp 12:05 pm
STRUCTURAL DISSECTION OF NMDA RECEPTOR PHARMACOLOGY. Hiro Furukawa, **Hiro Furukawa**

2126-MiniSymp 12:25 pm
MECHANISM OF ACTIVATION IN NMDA RECEPTORS.
Vasanthi Jayaraman, Anu Rambhadran

10:45 AM–12:45 PM, BALLROOM 20BC

Platform
Imaging & Optical Microscopy: New Fluorescent Methods & Probes

Co-Chairs
Antoine Delon, Université Joseph Fourier/CNRS, France
Birgit Plochberger, Vienna University of Technology, Austria

2127-PLAT 10:45 AM
COMBINED SINGLE MOLECULE FLUORESCENCE AND FORCE MICROSCOPY TO STUDY LIPID TRANSFER FROM LIPOPROTEINS TO BIOMEMBRANES. **Birgit Plochberger**, Clemens Röhrl, Mario Brameshuber, Julian Weghuber, Christian Rankl, Parmindar Kaur, Josef Madl, Robert Ros, Stuart M. Lindsay, Peter Hinterdorfer, Herbert Stangl, Gerhard J. Schütz

2128-PLAT 11:00 AM
INTRACELLULAR PRESSURE MEASUREMENT BY USING PRESSURE SENSITIVE YELLOW FLUORESCENT PROTEIN. **Tomonobu M. Watanabe**, Katsumi Imada, Keiko Yoshizawa, Masayoshi Nishiyama, Chiaki Kato, Fumiyoshi Abe, Toshio Yanagida

2129-PLAT 11:15 AM
BINDING-ACTIVATED LOCALIZATION MICROSCOPY OF DNA STRUCTURES. **Ingmar Schoen**, Jonas Ries, Enrico Klotzsch, Helge Ewers, Viola Vogel

2130-PLAT 11:30 AM
A SIMPLE, VERSATILE METHOD FOR GFP-BASED SINGLE MOLECULE LOCALIZATION MICROSCOPY. **Jonas Ries**, Charlotte Kaplan, Evgenia Platonova, Hadi Mohammad Eghlidi, Helge Ewers

2131-PLAT 11:45 AM
BIOLOGICAL STRUCTURE FROM PRECISE AND ACCURATE ESTIMATION OF FLUOROPHORE ORIENTATIONS AND DISTANCES: PROOF-OF-PRINCIPLE USING INTERNALLY LABELED DSDNA. **Kim I. Mortensen**, Jongmin Sung, Henrik Flyvbjerg, James A. Spudich

2132-PLAT 12:00 PM
ADVANCE HIGH RESOLUTION DNA MAPPING TECHNIQUE TO IDENTIFY GENOMIC VARIATIONS. **Murat Baday**, Alex Hastie, Aaron Cravens, Deren E. Kudeki, Ming Xiao, Paul Selvin

2133-PLAT 12:15 PM
SPATIOTEMPORAL MEASUREMENT OF THE TEMPERATURE CHANGES IN ACIDIC ORGANELLES WITH FLUORESCENT NANOTHERMOMETERS. **Kotaro Oyama**, Masao Takabayashi, Satoshi Arai, Shinji Takeoka, Shin'ichi Ishiwata, Madoka Suzuki

2134-PLAT 12:30 PM
ADAPTIVE OPTICS FOR FLUORESCENCE CORRELATION SPECTROSCOPY. **Antoine Delon**, Charles-Edouard Leroux, Irène Wang, Jacques Derouard

10:45 AM–12:45 PM, ROOM 25ABC

Platform
DNA, RNA Structure & Conformation

Co-Chairs
Peter Qin, University of Southern California, Los Angeles
Erwin Peterman, VU University Amsterdam, The Netherlands

2135-PLAT 10:45 AM
TORQUE SPECTROSCOPY OF SEQUENCE-DEPENDENT STRUCTURAL TRANSITIONS IN DNA. **Florian C. Oberstrass**, Louis E. Fernandes, Zev Bryant

2136-PLAT 11:00 AM
TWIST, STRETCH AND MELT: QUANTIFYING HOW DNA COMPLIES TO TENSION. Peter Gross, Niels Laurens, Lene Oddershede, Ulrich Bockelmann, Gijs J.L. Wuite, **Erwin J. Peterman**

2137-PLAT 11:15 AM
DIRECT MECHANICAL MEASUREMENTS REVEAL THE MATERIAL PROPERTIES OF 3D DNA-ORIGAMI. **Dominik J. Kauert**, Thomas Kurth, Tim Liedl, Ralf Seidel

2138-PLAT 11:30 AM
SINGLE-MOLECULE ANALYSIS OF THE FUNCTIONAL STRUCTURE OF TELOMERASE RNP. **John Y. Wu**, Mariana Mihalusova, Michael D. Stone, Xiaowei Zhuang

2139-PLAT 11:45 AM
GLOBAL STRUCTURE OF A THREE-WAY JUNCTION IN A PHI29 PACKAGING RNA DIMER DETERMINED USING SITE-DIRECTED SPIN LABELING. Xiaojun Zhang, **Peter Qin**

2140-PLAT 12:00 PM
VISUALIZING LARGE RNA MOLECULES IN SOLUTION. **Ajaykumar Gopal**, Z Hong Zhou, Charles M. Knobler, William M. Gelbart

2141-PLAT 12:15 PM
THE STRUCTURE AND FUNCTION OF HIGHLY BENT TOROIDAL DNA IN BACTERIOPHAGE φ29. **Andrew D. Hirsh**, Maryna Taranova, Todd D. Lillian, Troy A. Lionberger, Ioan Andricioaei, Noel C. Perkins

2142-PLAT 12:30 PM
STRUCTURE AND DYNAMICS OF THE BACTERIAL CHROMOSOME IN E. COLI. **Nastaran Hadizadeh**, Calin C. Guet, Reid C. Johnson, John F. Marko

10:45 AM–12:45 PM, ROOM 29ABC

Platform
Membrane Protein Structure II

Co-Chairs
Linda Columbus, University of Virginia
Gary Lorigan, Miami University

2143-PLAT 10:45 AM
THE STRUCTURE OF THE CHEMOKINE RECEPTOR CXCR1 IN PHOSPHOLIPID BILAYERS AND INTERACTIONS WITH IL-8. **Sang Ho Park**, Bibhuti B. Das, Jasmina Racic, Fabio Casagrande, Ye Tian, Francesca M. Marassi, Henry Nothnagel, Mignon Chu, Hans Kiefer, Klaus Maier, Anna De Angelis, Stanley J. Opella

2144-Plat 11:00 AM
HETEROOLIGOMERIZATION OF MEMBRANE PEPTIDES INVOLVED IN TUBERCULOSIS: MGTC AND MGTR.
Frantz L. Jean-Francois, Alissa Myrick, Likai Song, Eric Rubin, Timothy A. Cross

2145-Plat 11:15 AM
SOLUTION STRUCTURE AND PEPTIDOGLYCAN INTERACTION OF RV0899, A VIRULENCE FACTOR FROM MYCOBACTERIUM TUBERCULOSIS. **Yong Yao**, Neha Barghava, Michael Niederwiser, Francesca Marassi

2146-Plat 11:30 AM
STRATEGIES FOR THE SOLUTION NMR STRUCTURE DETERMINATION OF BETA-BARREL MEMBRANE PROTEINS.
Linda Columbus, Daniel A. Fox, Ryan H. Lo

2147-Plat 11:45 AM
PROBING THE STRUCTURE OF MEMBRANE PROTEINS WITH ESEEM AND DEER PULSED EPR TECHNIQUES. **Gary A. Lorigan**

2148-Plat 12:00 PM
STRUCTURE OF THE PHOSPHOLAMBAN/CA^{2+}-ATPASE COMPLEX IN LIPID BILAYERS BY HYBRID SOLID-STATE NMR METHODS. **Martin Gustavsson**, Raffaello Verardi, Nathaniel J. Traaseth, Gianluigi Veglia

2149-Plat 12:15 PM
NMR STRUCTURE DETERMINATION OF VPU FROM HIV-1.
Hua Zhang, Yan Wang, Stanley J. Opella

2150-Plat 12:30 PM
STRUCTURE-FUNCTION INVESTIGATION OF A TRANSGLYCOSYLASE ASSOCIATED PROTEIN FROM MYCOBACTERIUM TUBERCULOSIS. **Dylan T. Murray**, Jay Griffin, Philip Gao, Timothy A. Cross

10:45 AM–12:45 PM, Room 30ABC

Platform
Calcium Signaling Proteins

Co-Chairs
Katalin Torok, St. George's University of London, United Kingdom
Lydia Reznichenko, University of California, San Diego

2151-Plat 10:45 AM
STRUCTURAL BASIS FOR THE $MG^{(2+)}$-DEPENDENT MODULATION OF CALMODULIN ACTIVITY. **F. Timur Senguen**, Zenon Grabarek

2152-Plat 11:00 AM
LOBE-SPECIFIC FUNCTIONS OF CALCIUM.CALMODULIN IN ALPHA-CALCIUM.CALMODULIN-DEPENDENT PROTEIN KINASE II ACTIVATION. **Katalin Torok**, Abdirahman M. Jama, Jonathan P. Gabriel, Stephen Martin

2153-Plat 11:15 AM
MICROTUBULE DEPENDENT MECHANO-TRANSDUCTION DRIVES OXIDATIVE STRESS AND CALCIUM DYSREGULATION IN DYSTROPHIC SKELETAL MUSCLE. **Ramzi J. Khairallah**, Francesca Sbrana, Guoli Shi, Mariateresa Tedesco, Benjamin L. Prosser, Roberto Raiteri, W. Jonathan Lederer, Christopher W. Ward

2154-Plat 11:30 AM
NAADP-INDUCED CALCIUM RELEASE IN PULMONARY ARTERIAL AND AORTIC SMOOTH MUSCLE CELLS IS MEDIATED BY CROSS-ACTIVATION OF NAADP-RECEPTOR AND RYANODINE RECEPTOR-GATED CALCIUM STORES.
Yong-Liang Jiang, Amanda H.Y. Lin, Suengwon Lee, Yang Xia, **James S.K. Sham**

2155-Plat 11:45 AM
INCREASED CALCIUM INFLUX AND DECREASED BUFFERING CAPACITY OF INTRACELLULAR STORES UNDERLIE NEUROPATHOLOGY INDUCED BY OVER-EXPRESSION OF α-SYNUCLEIN. **Lidia Reznichenko**, Qun Cheng, Kristal Nizar, Sergey L. Gratiy, Payam A. Saisan, Edward M. Rockenstein, Tanya González, Cristina Patrick, Brian Spencer, Paula Desplats, Anders M. Dale, Anna Devor, Eliezer Masliah

2156-Plat 12:00 PM
SERAF, A NOVEL REGULATOR OF STORE OPERATED CALCIUM ENTRY. **Raz Palty**, Adi Raveh, Ruth Meller, Ido Kaminsky, Eitan Reuveny

2157-Plat 12:15 PM
BIOPHYSICAL AND PHARMACOLOGICAL CHARACTERISATION OF CALCIUM CHANNELS IN HUMAN MAST CELLS. **Jasmine Farrington**, Claire L. Tree-booker, Peter Peachell, Elizabeth P. Seward

2158-Plat 12:30 PM
ACTIVATION OF ARC CHANNELS, A NONCAPACITATIVE ORAI CHANNEL, IS INDEPENDENT OF THE N-TERMINAL DOMAINS OF STIM1. Jill L. Thompson, **Trevor J. Shuttleworth**

10:45 AM–12:45 PM, Room 31ABC

Platform
Membrane Physical Chemistry II

Co-Chairs
Linda Johnston, National Research Council Canada
Andreas Janshoff, Institute of Physical Chemistry, Germany

2159-Plat 10:45 AM
SUPPORTED LIPID BILAYERS ON BIOCOMPATIBLE POLYSACCHARIDE MULTILAYERS. **Linda J. Johnston**, Kirk Mulligan, Zygmunt J. Jakubek

2160-Plat 11:00 AM
TEMPERATURE DEPENDENT FCS SHOWS MAMMALIAN CELL MEMBRANE IS NOT POISED NEAR MISCIBILITY TRANSITION TEMPERATURE. **Il-Hyung Lee**, Hector Huang, Adam Smith, Jay T. Groves

2161-Plat 11:15 AM
EFFECT OF MECHANICAL STRESSES ON LIPID MEMBRANE PHASE PROPERTIES. **Thomas Portet**, Sharona E. Gordon, Sarah L. Keller

2162-Plat 11:30 AM
ROTATIONAL DIFFUSION OF MICROMETER-SIZED SOLID DOMAINS IN LIPID MEMBRANES. **Eugene P. Petrov**, Rafayel Petrosyan, Petra Schwille

2163-Plat 11:45 AM
MEMBRANE CRITICALITY ENRICHES COMPONENTS AT SITES OF ADHESION. **Jiang Zhao**, Jing Wu, Sarah Veatch

2164-Plat 12:00 pm
OBSERVATION OF INHOMOGENEITY IN THE LIPID COMPOSITION OF INDIVIDUAL NANOSCALE LIPOSOMES.
Jannik Larsen, Nikos S. Hatzakis, Elisa Elizondo, Ingrid Cabrera, Jaume Veciana, Nora Ventosa, Dimitrios Stamou

2165-Plat 12:15 pm
STUDYING FUSION OF INFLUENZA TO SUPPORTED LIPID BILAYERS USING INDIVIDUAL VIRION IMAGING TECHNIQUES. **Deirdre A. Costello**, Susan Daniel

2166-Plat 12:30 pm
WEAK CARBOHYDRATE-CARBOHYDRATE INTERACTIONS MEASURED BY COLLOIDAL PROBE MICROSCOPY.
Baerbel Lorenz, Marieelen Oelkers, Christian Brand, Ella Kriemen, Milena Stephan, Eva Sunnick, Deniz Yüksel, Krishna Kumar, Daniel B. Werz, **Andreas Janshoff**

11:00 am–12:30 pm, Room 22

Exhibitor Presentation SDx Tethered Membranes

Dr. Bruce Cornell will demonstrate stable, ready-to-use bilayer membranes tethered to patterned gold electrodes in a six well flow cell cartridge, tethaPlate™, and the SDx Tethered Membranes tethaPod™, a plug-and-play conductance and capacitance reader. He will discuss how to tailor lipid densities and spacer lengths to allow ionic conduction measurement of medium molecular weight ion channels such as VDAC, NaChBac, mechanosensitive channels, hemolysin, chloride channels, and Kv channels.
Speakers
Bruce Cornell, SDx Tethered Membranes

12:00 pm–2:00 pm, Room 32A & 32B

Postdoc to Faculty Q&A: Transitions Forum & Luncheon

This question-and-answer luncheon, sponsored by the Committee for Professional Opportunities for Women (CPOW) is designed for postdocs finishing and actively applying for academic faculty positions. New faculty and recently tenured faculty in basic science and/or medical school departments will lead the discussion as well as experienced senior-level faculty who have served as department chairs and/or part of faculty search committees. Topics for discussion include how to prepare the curriculum vitae, the interview process, how to negotiate the job offer, and advice for new faculty as they balance research with their department obligations. Pre-registration was required.
Speakers
Emil Reisler, University of California, Los Angeles
Gaudenz Danuser, Harvard Medical School
Alessio Accardi, Weill Cornell Medical College
Justin Taraska, NHLBI, NIH
Gabriela Popescu, SUNY Buffalo
Shai Silberberg, NINDS, NIH

12:30 pm–2:00 pm, Room 30D

Faculty Positions at Predominantly Undergraduate Institutions Finding a Job and Finding Success

This panel, sponsored by the Education Committee, will feature successful faculty who will discuss being a faculty member at an undergraduate institution. They will give tips to graduate students and postdocs looking for jobs, in addition to providing helpful advice to new faculty at PUIs.
Speakers
Scott Feller, Wabash College
Shelli Frey, Gettysburg College
Benjamin Stottrup, Augsburg College

1:00 pm–2:30 pm, Room 23BC

Networking with Minority Biophysicists: Resources and Opportunities

The Minority Affairs Committee (MAC) is sponsoring a networking event for minority students and scientists. Join MAC members for coffee, cookies, and mingling.
Speaker
Angel Garcia, Rensselaer Polytechnic Insitute

1:00 pm–2:30 pm, Room 28AB

US Investment in Energy Research: What Happens Next?

The Presidential Administration has shown its commitment to creating new sources of energy and making our lives more energy efficient. Researchers are working diligently on these challenges and are making progress, but where does US policy stand on adopting and implementing these technologies? Is the public ready to make the necessary changes? This session will explore the intersection of energy sciences, politics, and the public.
Speakers
Scott Ander, University of San Diego School of Law
Robert B. Weisenmiller, California Energy Commission
Robert Blankenship, Washington University in St. Louis
Additional speaker to be announced.

1:30 pm–3:00 pm, Room 28E

The Basics, the Discoveries, and the Controversies Educational Workshop

The pace of new discoveries frequently does not allow scientists outside of a specific field to keep up with important new developments and breakthroughs. Furthermore, one of the major difficulties for a student entering a new field is gaining a perspective in what is known, what is really known and what are the main unknowns. The goal of this series of educational workshops is to help attendees understand the "big picture" and to facilitate cross-talk and collaborations between experts in different fields. This session is sponsored by the Education Committee.
Speakers
Jie Liang, University of Illinois, Chicago
Computational Study of Biological Systems at Multi-Scale: Protein Structure, Function, Assemblies, Networks, and Cells
Nagarajan Vaidehi, City of Hope National Medical Center
Current Status of Molecular Dynamics Simulations and Its Applications to Protein Dynamics

1:45 pm–3:00 pm, Hall FGH

Snack Break

1:45 pm–3:45 pm, Hall FGH

Poster Presentations

(For a complete listing of Tuesday Poster Presentations, see page 135.)
Posters will be on display until 4:30 pm. Exhibit Hall closes promptly at 5:00 pm for exhibits tear-down. Authors with odd-numbered boards will present from 1:45 pm–2:45 pm, and those with even-numbered boards

will present from 2:45 PM–3:45 PM. Additional hours during the day may be posted by the authors as desired. Paper may also be left on the board so that visitors may request an appointment.

2:30 PM–3:30 PM, ROOM 26A

Career Center Workshop
Wherever You Go, There You Are: Self-Reflection as a Career Tool

Your career and your life choices start with you; a painfully obvious statement, but one that we often overlook. Truly understanding yourself — your likes/ dislikes, your passions, preferences, and personality quirks —— will lead not only to career success but to a fulfilling life. This workshop will give you some of the tools and techniques that can be used to translate self-reflection into meaningful career choices regardless of where you are in your career.

2:30 PM–4:00 PM, ROOM 28CD

Transitioning from Academia to Industry

Panelists from the industry sector will discuss the process of finding an industry job coming from an academic background.

Speakers
Mary Canady, Comprendia LLC
Karen Kustedjo, BP
Dipesh Risal, Illumina
Matt Zierhut, Amylin Pharmaceuticals

3:00 PM–5:00 PM, ROOM 33C

Education Committee Meeting

4:00 PM–6:00 PM, BALLROOM 20A

Symposium
Soft Lithography for Biology

Chair
Christopher Chen, University of Pennsylvania

2167-SYMP 4:00 PM
NEXT GENERATION PROTEOMICS: TOWARDS HIGH-THROUGHPUT PROTEIN ANALYSIS VIA MICROFLUIDIC INTEGRATION & SOFT MATERIALS. **Amy Herr**

2168-SYMP 4:30 PM
MICROFLUIDIC PLATFORM FOR VASCULAR BIOLOGY: ANGIOGENESIS AND ANASTOMOSIS IN MICROFLUIDIC DEVICES. **Noo Li Jeon**, Yoojin Chung

2169-SYMP 5:00 PM
BIOLOGICAL LARGE SCALE INTEGRATION. **Stephen Quake**

2170-SYMP 5:30 PM
ENGINEERED MICROENVIRONMENTS: A MATERIALS APPROACH TO THE REGULATION OF CELL FUNCTION. **Christopher S. Chen**

4:00 PM–6:00 PM, BALLROOM 20D

Symposium
Large Complexes and Machines — Dissecting Mechanism

Chair
Geeta Narlikar, University of California, San Francisco

2171-SYMP 4:00 PM
MECHANISM AND FUNCTION OF THE EUKARYOTIC RING-SHAPED CHAPERONIN TRIC/CCT. **Judith Frydman**

2172-SYMP 4:30 PM
CONFORMATIONAL DYNAMICS, STRUCTURE & SUBSTRATE PROTEIN INTERACTIONS OF HSP90 CHAPERONES. **David Agard**

2173-SYMP 5:00 PM
UNEXPECTED SOPHISTICATION AND COMPLEXITY OF CHEMOMECHANICAL CONTROL LINKAGES IN NUCLEIC ACID MOTOR. **James M. Berger**, Nathan D. Thomsen

2174-SYMP 5:30 PM
MECHANISMS OF CHROMATIN REMODELING MOTORS. **Geeta Narlikar**, John Leonard III, Lisa Racki, Nariman Naber, Roger Cooke, Yifan Cheng

4:00 PM–6:00 PM, BALLROOM 20BC

Platform
Micro & Nanotechnology: Nanopores II

Co-Chairs
Mariam Ayub, University of Oxford, United Kingdom
Meni Wanunu, Northeastern University

2175-PLAT 4:00 PM
NEW TECHNIQUE OF DNA SENSING: NANORIBBON TRANSVERSE ELECTRODES. **Vita Solovyeva**, Edmond Chow, Myung-Ho Bae, David Estrada, Shouvik Banerjee, Ashkan Behnam, Vincent E. Dorgan, Woo-Jin Chang, Eric Pop, Rashid Bashir

2176-PLAT 4:15 PM
HIGH-BANDWIDTH SOLID-STATE NANOPORE SENSORS. **Jacob Rosenstein**, Meni Wanunu, Marija Drndic, Kenneth L. Shepard

2177-PLAT 4:30 PM
SINGLE MOLECULE RNA BASE IDENTIFICATION WITH A BIOLOGICAL NANOPORE. **Mariam Ayub**, Hagan Bayley

2178-PLAT 4:45 PM
NANOPORE ANALYSIS OF INDIVIDUAL RNA/ANTIBIOTIC COMPLEXES. **Meni Wanunu**

2179-PLAT 5:00 PM
DEVELOPING NANOPORES WITH FLUID WALLS FOR IMPROVED, SINGLE-MOLECULE BIOSENSORS. **Erik C. Yusko**, Alex M. Petti, Panchika Prangkio, Ryan C. Rollings, Jiali Li, Jerry Yang, Michael Mayer

2180-PLAT 5:15 PM
TRANSLOCATION OF DNA-PROTEIN COMPLEXES THROUGH SOLID-STATE NANOPORES. **Cees Dekker**

2181-PLAT 5:30 PM
STOCHASTIC SENSING OF PROTEINS WITH RECEPTOR-MODIFIED SOLID-STATE NANOPORES. **Ruoshan Wei**, Robert Tampé, Ulrich Rant

2182-PLAT 5:45 PM
PROTEIN UNFOLDING AND STABILITY MEASUREMENT USING A SOLID-STATE NANOPORE. **Kevin Freedman**, Anmiv Prabhu, Per Jemth, Joshua Edel, MinJun Kim

4:00 PM–6:00 PM, ROOM 24ABC

Platform
Membrane Protein Function

Co-Chairs
Ana-Nicoleta Bondar, Freie University Berlin, Germany
Jonathan Sachs, University of Minnesota

2183-PLAT 4:00 PM
PLASTICITY OF THE ASIALOGLYCOPROTEIN RECEPTOR DECIPHERED BY ENSEMBLE FRET AND SINGLE-MOLECULE COUNTING PALM. **Malte Renz**, Brian Daniels, Gyorgy Vamosi, Irwin Arias, Jennifer Lippincott-Schwartz

2184-PLAT 4:15 PM
SIGNALING IN THE TUMOR NECROSIS FACTOR SUPERFAMILY IS DRIVEN BY FORMATION OF RECEPTOR NETWORKS: UNRAVELING THE STRUCTURAL AND DYNAMIC PARADIGM. Christopher C. Valley, Andrew K. Lewis, Deepti Mudaliar, **Jonathan N. Sachs**

2185-PLAT 4:30 PM
ENTROPIC TENSION IN CROWDED MEMBRANES. **Martin Lindén**, Pierre Sens, Rob Phillips

2186-PLAT 4:45 PM
LIPID-COUPLED DOCKING OF TRANSMEMBRANE SUBSTRATE BY THE GLPG RHOMBOID PROTEASE FROM ESCHERICHIA COLI. **Ana-Nicoleta Bondar**, Stephen H. White

2187-PLAT 5:00 PM
SIMULATION STUDIES OF TRANSPORT OF HYDROPHOBIC COMPOUNDS THROUGH OUTER MEMBRANE PROTEINS OF GRAM NEGATIVE BACTERIA. **Pragya Chohan**, Syma Khalid, Mark Sansom

2188-PLAT 5:15 PM
SPONTANEOUS MOVEMENT OF TRANSMEMBRANE SEGMENTS FROM SECY INTO THE MEMBRANE. **James C. Gumbart**, Benoit Roux, Klaus Schulten

2189-PLAT 5:30 PM
SELECTIVITY OF THE SECYEG PROTEIN TRANSLOCATION CHANNEL. Denis Knyazev, Alexander Lentz, **Peter Pohl**

2190-PLAT 5:45 PM
A FRAMEWORK FOR RECONSTITUTION OF MAMMALIAN MEMBRANE PROTEINS INTO PURE LIPID GIANT UNILAMELLAR VESICLES. **Marcus D. Collins**, Sharona E. Gordon

4:00 PM–6:00 PM, ROOM 25ABC

Platform
Voltage-gated Ca Channels

Co-Chairs
Henry Colecraft, Columbia University
Kurt Beam, University of Colorado School of Medicine

2191-PLAT 4:00 PM CPOW TRAVEL AWARDEE
REM INHIBITS CAV1.2 CHANNELS USING BOTH BETA-BINDING DEPENDENT AND INDEPENDENT MECHANISMS. **Tingting Yang**, Akil Puckerin, Lin-ling He, Henry Colecraft

2192-PLAT 4:15 PM
GEM STABILIZES VOLTAGE-GATED CALCIUM CHANNELS IN THE INACTIVATED STATE: IMPLICATIONS FOR HUMAN DISEASE. **Zafir Buraei**, Rose Levenson-Palmer, Scott Dobbins, Jian Yang

2193-PLAT 4:30 PM
EFFECTS OF TRYPTOPHAN SUBSTITUTIONS FOR HIGHLY-CONSERVED PHENYLALANINES IN THE SKELETAL MUSCLE L-TYPE CALCIUM CHANNEL. Roger A. Bannister, Ong Moua, Christopher A. Ahern, **Kurt G. Beam**

2194-PLAT 4:45 PM
THE DISTAL CARBOXY TAIL (DCT) OF $CA_V1.4$ MODULATES MORE THAN CA^{2+}/CAM-DEPENDENT INACTIVATION (CDI). **Paul J. Adams**, Ivy E. Dick, Manu B. Johny, Hojjat Bazzazi, Phil S. Yang, David T. Yue

2195-PLAT 5:00 PM
ANALYSIS OF COMPETITION BETWEEN CABP1 AND CALMODULIN ON THE VOLTAGE-GATED CALCIUM CHANNEL CAV1.2. **Felix Findeisen**, Daniel L. Minor

2196-PLAT 5:15 PM
NANOMETER RESOLUTION OF CAV-GENERATED CA^{2+} GRADIENTS. **Michael R. Tadross**, Richard W. Tsien, David T. Yue

2197-PLAT 5:30 PM
INHIBITORY CAV2.2 PEPTIDES EFFECTS IN SUPERIOR CERVICAL GANGLION NEURONES. **Giovanna Bucci**, Christian Vogl, Cesare Usai, Sumiko Mochida, Gary J. Stephens

2198-PLAT 5:45 PM
CA^{2+} SIGNALING AMPLIFICATION BY OLIGOMERIZATION OF L-TYPE CAV1.2 CHANNELS. **Rose E. Dixon**, Can Yuan, Manuel F. Navedo, Edward P. Cheng, Luis F. Santana

4:00 PM–6:00 PM, ROOM 29ABC

Platform
Interfacial Protein-Lipid Interactions II

Co-Chairs
Jefferson Knight, University of Colorado Denver
Olivier Soubias, NIH

2199-PLAT 4:00 PM
SYNAPTOTAGMIN C2 DOMAIN MEMBRANE TARGETING: KINETIC AND MECHANISTIC DIVERSITY AMONG ISOFORMS FROM DIFFERENT CELL TYPES. Devin S. Brandt, Matthew Coffman, Joseph J. Falke, **Jefferson Knight**

2200-PLAT 4:15 PM
HOW PIP2 LIPIDS REGULATE THE POSITION AND PHOSPHORYLATION OF THE SYNTAXIN N-TERMINUS. **George Khelashvili**, Aurelio Galli, Harel Weinstein

2201-PLAT 4:30 PM
STRUCTURE AND KINETICS OF PTEN TUMOR SUPPRESSOR ASSOCIATION WITH LIPID MEMBRANES. **Siddharth Shenoy**, Prabhanshu Shekhar, Frank Heinrich, Hirsh Nanda, Joseph Curtis, Katrice King, Arne Gericke, Alonzo Ross, Mathias Lösche

2202-PLAT 4:45 PM
EXPLORING FLUORESCENCE LIFETIME AND HOMO-FRET MEASUREMENTS TO MONITOR LYSOZYME OLIGOMERIZATION IN ANIONIC LIPID MEMBRANES: RELATION TO "AMYLOID-LIKE" FIBRIL FORMATION. **Ana M. Melo**, Aleksander Fedorov, Manuel Prieto, Ana Coutinho

2203-Plat 5:00 pm
EFFECTS OF LIPIDS ON THE CONFORMATION AND AGGREGATION OF THE REPEAT DOMAIN OF A FUNCTIONAL AMYLOID, PMEL17. **Zhiping Jiang**, Ryan P. McGlinchey, Candace M. Pfefferkorn, Jennifer C. Lee

2204-Plat 5:15 pm
RECOGNITION SPECIFICITY OF PROTEINS AND BIOMEMBRANES: A COMPUTATIONAL VIEW. **Roman G. Efremov**, Pavel E. Volynsky, Darya V. Pyrkova, Anastasia G. Konshina, Nikolay A. Krylov, Vladimir M. Pentkovsky

2205-Plat 5:30 pm
CARDIOLIPINS BINDING SITES ON RESPIRATORY CHAIN COMPLEXES. **Clement Arnarez**

2206-Plat 5:45 pm
CHOLESTEROL ENHANCES OR REDUCES METARHODOPSIN II FORMATION DEPENDING ON BILAYER THICKNESS. **Olivier Soubias**, Walter E. Teague, Kirk G. Hines, Klaus Gawrisch

4:00 pm–6:00 pm, Room 30ABC

Platform
Cardiac Muscle: Myosin Binding Proteins

Co-Chairs
Abbey Weith, University of Vermont
Brett Colson, University of Minnesota

2207-Plat 4:00 pm
CARDIAC MYOSIN BINDING PROTEIN-C SLOWS CROSS-BRIDGE KINETICS AND INCREASES MGATP SENSITIVITY. **Bertrand C.W. Tanner**, Yuan Wang, Jeffrey Robbins, Bradley M. Palmer

2208-Plat 4:15 pm
ACTIVATION OF CARDIAC THIN FILAMENTS BY N-TERMINAL DOMAINS OF CARDIAC MYOSIN BINDING PROTEIN C. **Howard D. White**, Samantha Harris

2209-Plat 4:30 pm
EFFECTS OF MYOSIN BINDING PROTEIN-C ISOFORM, PHOSPHORYLATION, AND DOMAINS ON THE ROTATIONAL DYNAMICS OF ACTIN FILAMENTS. **Brett A. Colson**, Inna N. Rybakova, Richard L. Moss, Ewa Prochniewicz, David D. Thomas

2210-Plat 4:45 pm
MYOSIN BINDING PROTEIN-C SLOW: AN INTRICATE SUBFAMILY OF PHOSPHOPROTEINS. **Maegen Ackermann**, Jane Valenti, Aikaterini Kontrogianni-Konstantopoulos

2211-Plat 5:00 pm
IDENTIFICATION AND CHARACTERIZATION OF A NEW PHOSPHORYLATION SITE ON CARDIAC MYOSIN BINDING PROTEIN C. **Diederik W.D. Kuster**, Steven B. Marston, Cris G. dos Remedios, Jeroen A.A. Demmers, Jolanda van der Velden

2212-Plat 5:15 pm
PHOSPHORYLATION OF CARDIAC MYOSIN BINDING PROTEIN-C ACTS AS ON/OFF SWITCH TO MODULATE CMYBP-C'S INHIBITION OF ACTOMYOSIN POWER GENERATION IN THE LOAD-CLAMP LASER TRAP ASSAY. **Abbey Weith**, Greg Hoeprich, James Gulick, Jeffrey Robbins, David Warshaw

2213-Plat 5:30 pm
MECHANICAL STABILITY OF THE CARDIAC MYOSIN BINDING PROTEIN-C (CMYBP-C) MOTIF IS PHOSPHORYLATION-DEPENDENT. **Arthur J. Michalek**, James Gulick, Jeffrey Robbins, David M. Warshaw

2214-Plat 5:45 pm
A NEW MOUSE MODEL IN WHICH THE PROXIMAL TANDEM IG ELEMENT OF TITIN IS TRUNCATED (IGKO)–ASSESSMENT OF DIASTOLIC FUNCTION. **Charles S. Chung**, Kirk R. Hutchinson, Methajit Methawasin, Nathan E. Cromer, Xiuju Luo, Caiying Guo, Henk L. Granzier

4:00 pm–6:00 pm, Room 31ABC

Platform
Mitochondria in Cell Life & Death

Co-Chairs
Tatiana Rostovtseva, NIH
Gerhard Gröbner, Umeå University, Sweden

2215-Plat 4:00 pm
VDAC PHOSPHORYLATION IN CONTROL OF MITOCHONDRIAL RESPIRATION. **Kely L. Sheldon**, Eduardo N. Maldonado, John J. Lemasters, Sergey M. Bezrukov, Tatiana K. Rostovtseva

2216-Plat 4:15 pm
THE ISOFORM SPECIFIC N TERMINUS OF VDAC2 IS DISPENSABLE FOR TBID INDUCED CYTOCHROME C RELEASE. **Shamim Naghdi**, Peter Varnai, Laszlo Hunyady, Gyorgy Hajnoczky

2217-Plat 4:30 pm
PATCH-CLAMP ANALYSIS OF MITOCHONDRIAL CA^{2+} UNIPORTER IN DIFFERENT TISSUES. **Francesca Fieni**, Yuriy Kirichok

2218-Plat 4:45 pm
SR-MITOCHONDRIAL ULTRASTRUCTURE IN THE HEART OF NORMAL AND ETHANOL-FED RATS. Gyorgy Csordas, David Mankus, Tanvir Shaikh, Xing Meng, Jan Hoek, **Carmen Mannella**, Gyorgy Hajnoczky

2219-Plat 5:00 pm
BCL-XL INCREASES BAX MITOCHONDRIAL LOCALIZATION AND ACTIVATION IN NON-APOPTOTIC CELLS. **Laurent M. Dejean**, Thibaud T. Renault, Oscar Teijido, Gisele Velours, Yogesh Tengarai Ganesan, Nadine Camougrand, Bruno Antonsson, Stephen Manon

2220-Plat 5:15 pm
THE PHYSIOLOGICAL RESPONSE OF INTACT *EX VIVO* MITOCHONDRIA UPON APOPTOTIC STRESS: INSIGHT INTO THE REGULATION OF APOPTOSIS AT A MITOCHONDRIAL LEVEL. Martin N. Lidman, Marcus Wallgren, Olivier Keech, Yong-Zhi Guo, Tor Ny, **Gerhard Gröbner**

2221-Plat 5:30 pm
NEAR INFRARED LIGHT-DEPENDENT NITRIC OXIDE EFFECT ON MITOCHONDRIAL RESPIRATION. Garth Brandal, Phillip F. Pratt, **Martin Bienengraeber**

2222-Plat 5:45 pm
SPATIAL FOURIER TRANSFORM (SFT) FOR ROBUST DETECTION OF MITOCHONDRIAL DEPOLARIZATION IN ISCHEMIC MYOCARDIUM. **Paul W. Venable**, Tyson G. Taylor, Junko Shibayama, Mark Warren, Kenneth W. Spitzer, Alexey V. Zaitsev

6:00 PM–10:00 PM, HILTON, SAPPHIRE 410

New Council Dinner & Meeting

7:30 PM–9:30 PM, BALLROOM 20A

Workshop
Measuring, Modeling, and Designing Protein Recognition Specificity

Chair
Ora Schueler-Furman, Hebrew University, Jerusalem, Israel

2223-WKSHP 7:30 PM
COMPUTATIONAL DESIGN OF PROTEINS WHICH BROADLY NEUTRALIZE INFLUENZA. **Sarel Fleishman**

2224-WKSHP 8:00 PM
SYNTHETIC PROTEINS ENGINEERED FOR THE MODULATION OF CELL SIGNALING. **Sachdev Sidhu**

2225-WKSHP 8:30 PM
MAKING PICKY PROTEINS: COMPUTATIONAL DESIGN OF INTERACTION SPECIFICITY. **Gevorg Grigoryan**

2226-WKSHP 9:00 PM
STRUCTURE-BASED CHARACTERIZATION OF PEPTIDE-MEDIATED PROTEIN INTERACTIONS. **Ora Schueler-Furman**

7:30 PM–9:30 PM, BALLROOM 20D

Workshop
Protein Reconstitution in Artificial Membrane Systems

Chair
Stephen Sligar, University of Illinois at Urbana-Champaign

2227-WKSHP 7:30 PM
SELF-ASSEMBLED NANOMETER SCALE LIPID BILAYERS FOR ELUCIDATING THE STRUCTURE AND FUNCTION OF MEMBRANE PROTEINS. **Stephen G. Sligar**

2228-WKSHP 8:00 PM
PLATFORMS FOR CHARACTERIZATION OF MEMBRANE PROTEIN INTERACTIONS. **Kalina Hristova**

2229-WKSHP 8:30 PM
FINDING THE RIGHT STRAW IN A HAYSTACK: HOW LIPID-DETERGENT INTERACTIONS MAY AFFECT THE SOLUBILISATION AND RECONSTITUTION OF MEMBRANE PROTEINS. **Heiko Heerklotz**

2230-WKSHP 9:00 PM
SPATIAL ORGANIZATION AND SIGNAL TRANSDUCTION IN CELL MEMBRANES. **Jay Groves**

8:00 PM–10:00 PM, ROOM 23BC

SOBLA
(The Society for Latinoamerican Biophysicists)

1:45 PM–3:45 PM, HALL FGH

TUESDAY POSTER SESSIONS

Posters should be mounted at 6:00 PM on Monday and removed NO LATER THAN 4:30 PM on Tuesday. Posters will be on view until 10:00 PM the night before presentation. Poster numbers shown refer to the program order of abstracts as they appear in the online Abstracts Issue. Board numbers indicate where boards are located in the Exhibit Hall.

On Tuesday the Exhibit Hall will close completely at 5:00 PM to accommodate the tear down of exhibits. It is important to remove your poster NO LATER than 4:30 PM. Posters remaining on boards after 5:00 PM will be discarded. Posters being presented on Wednesday are to be mounted between 7:00 AM and 8:00 AM on Wednesday.

ODD-NUMBERED BOARDS 1:45 PM–2:45 PM	EVEN-NUMBERED BOARDS 2:45 PM–3:45 PM
BOARD NUMBERS	**CATEGORY**
Board #B1-#B21	Protein Aggregates II
Board #B22-#B41	Protein Conformation II
Board #B42-#B72	Protein Dynamics II
Board #B73-#B104	Protein Folding & Stability II
Board #B105-#B134	Protein-Ligand Interactions II
Board #B135-#B149	Heme Proteins
Board #B150-#B179	Membrane Protein Structure II
Board #B180-#B200	Protein Biophysics in vivo
Board #B201-#B228	Chromatin
Board #B229-#B251	Protein-Nucleic Acid Interactions II
Board #B252-#B280	Membrane Active Peptides II
Board #B281-#B307	Interfacial Protein-Lipid Interactions II
Board #B308-#B331	Membrane Fusion
Board #B332-#B352	Membrane Structure II
Board #B353-#B382	Calcium Signaling Proteins
Board #B383-#B412	Membrane Receptors & Signal Transduction I
Board #B413-#B442	Membrane Transporters & Exchangers I
Board #B443-#B450	Nucleocytoplasmic Transport
Board #B451-#B463	Voltage-gated Na Channels II
Board #B464-#B488	Voltage-gated K Channels: Gating II
Board #B489-#B498	TRPC Channels
Board #B499-#B516	Inward Rectifier K Channels
Board #B517-#B541	Cardiac Electrophysiology II
Board #B542-#B545	Smooth & Skeletal Muscle Electrophysiology
Board #B546-#B550	Neuronal Systems & Modeling
Board #B551-#B570	Anion Channels
Board #B571-#B589	Excitation-Contraction Coupling II
Board #B590-#B621	Cardiac Muscle III
Board #B622-#B645	Cell & Bacterial Mechanics & Motility III
Board #B646-#B669	Unconventional Myosins
Board #B670-#B682	Oxidative Phosphorylation & Mitochondrial Metabolism
Board #B683-#B698	Electron & Proton Transfer
Board #B699-#B715	Molecular Mechanics & Force Spectroscopy II
Board #B716-#B724	Emerging Single Molecule Techniques III
Board #B725-#B747	Micro & Nanotechnology: Nanopores II
Board #B748-#B765	Atomic Force Miscroscopy
Board #B766-#B779	Vibrational Spectroscopy
Board #B780-#B807	Computational Methods II

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

Protein Aggregates II (Boards #B1-#B21)

2231-Pos Board #B1
MAPPING PROTEIN-INDUCED MEMBRANE RESTRUCTURING BY COUPLED TOTAL INTERNAL REFLECTION FLUORESCENCE AND ATOMIC FORCE MICROSCOPY. **Gillian Vanderlee**, Jean-Christopher Rochet, Christopher M. Yip

2232-Pos Board #B2
MODELING ALZHEIMER'S ION CHANNEL STRUCTURES IN LIPID BILAYERS FORMED BY D- AND L-ENANTIOMERS OF BETA-AMYLOID (1-42) PEPTIDE. **Hyunbum Jang**, Ricardo Capone, Samuel A. Kotler, Fernando Teran Arce, Laura Connelly, Srinivasan Ramachandran, Bruce L. Kagan, Ratnesh Lal, Ruth Nussinov

2233-Pos Board #B3
CHAPERON AND LIPID COMPOSITION REQUIREMENTS FOR TRANSMEMBRANE INSERTION OF CESA HELICES 4 AND 5. Le Li, Maxim A. Voinov, **Alex I. Smirnov**

2234-Pos Board #B4
THE EFFECT OF Aβ ON IAPP AGGREGATION AT AN ISOLATED β-CELL MEMBRANE. **Janine Seeliger**, Katrin Weise, Roland Winter

2235-Pos Board #B5 INTERNATIONAL TRAVEL AWARDEE
ALPHA-SYNUCLEIN AMYLOID OLIGOMERS EXHIBIT BETA-SHEET ANTIPARALLEL STRUCTURE AS REVEALED BY FTIR SPECTROSCOPY. **Maria Soledad Celej**, Rabia Sarroukh, Erik Goormaghtigh, Gerardo Fidelio, Jean-Marie Ruysschaert, Vincent Raussens

2236-Pos Board #B6
AMYLOID BETA PEPTIDE: THE INFLUENCE OF INTRINSIC FACTORS ON FIBRIL FORMATION. **Risto Cukalevski**, Birgitta Frohm, Barry Boland, Sara Linse

2237-Pos Board #B7
THE EFFECT OF A MEMBRANE MIMICKING DETERGENT ON ALZHEIMER'S AMYLOID PEPTIDE AGGREGATION STUDIED BY EPR. Maryam Hashemi Shabestari, Nico J Meeuwenoord, Dmitri V. Filippov, **Martina Huber**

2238-Pos Board #B8
A CONVENTIONAL AND 2DCOS INFRARED STUDY OF AMYLOID FIBRIL FORMATION. Marcos Garcia Pacios, Nagore Andraka, Igor de la Arada, **Jose Luis R. Arrondo**

2239-Pos Board #B9
MECHANISM OF NON-SPECIFIC INHIBITORS OF AMYLOID ASSEMBLY: INTERACTIONS OF LACMOID WITH THE AMYLOID BETA PEPTIDE. **Axel Abelein**, Benedetta Bolognesi, Christopher M. Dobson, Astrid Gräslund, Christofer Lendel

2240-Pos Board #B10
UNDERSTANDING FORMATION AND STRUCTURE OF PEPTIDE NANOFIBERS VIA STEERED MD SIMULATIONS. Ozge Engin, Beytullah Ozgur, **Mehmet Sayar**

2241-Pos Board #B11
SECOND VIRIAL COEFFICIENTS AS DETERMINED USING SELF INTERACTION CHROMATOGRAPHY AND PROTEIN AGGREGATION IN SOLUTION. **Amanda Quigley**, Daryl Williams

2242-Pos Board #B12
THE ROLE OF INTERFACES IN THE NUCLEATION OF AMYLOID NANOTUBES. **Neil R. Anthony**, David G. Lynn, Keith M. Berland

2243-Pos Board #B13
SINGLE MOLECULE STUDIES OF INTERACTION BETWEEN ALZHEIMER'S AMYLOID-β PEPTIDES OF DIFFERENT LENGTHS. **Pavithra Aravamudhan**, Ari Gafni, Duncan Steel

2244-Pos Board #B14
STRUCTURES AND DYNAMICS IN AMYLOID-BETA DIMERS: EFFECTS OF ZINC BINDING AND CHELATION. **Robin K. Lammi**, Emily Amenson, Rebecca Mitchum, Abigail Bradner, Iris Strzyzewski

2245-Pos Board #B15
COMPARISON OF EPITAXIALLY AND SOLUTION-GROWN AMYLOID ß25-35 FIBRILS. **Ünige Murvai**, Judit Somkuti, Katalin Soós, Botond Penke, László Smeller, Miklós S.Z. Kellermayer

2246-Pos Board #B16
CELLULAR INTERNALIZATION OF MONOMERIC AND OLIGOMERIC AMYLOID-BETA 42 PEPTIDE. **Sha Jin**, Jan Bieschke

2247-Pos Board #B17
BIOPHYSICAL STUDIES ON PROTEIN AGGREGATION AND AMYLOID FIBRIL FORMATION. **Mily Bhattacharya**, Neha Jain, Priyanka Dogra, Soumyadyuti Samai, Smita Patil, Samrat Mukhopadhyay

2248-Pos Board #B18
SINGLE MOLECULE FLUORESCENCE STUDIES OF AMYLOID-BETA 1-42 AGGREGATION. **Jennie A. Flint**, Priyanka Narayan, Mathew H. Horrocks, Sarah L. Shammas, David Klenerman

2249-Pos Board #B19
REPLICA EXCHANGE STATISTICAL TEMPERATURE MOLECULAR DYNAMICS SIMULATIONS OF PEPTIDE DIMERIZATION. **Alan van Giessen**, Matthew Church, Christine Ferry

2250-Pos Board #B20
PROTEIN STRUCTURE IN AMORPHOUS SOLID PHASE. **Sheila Khodadadi**, Susan Krueger, Joseph E. Curtis

2251-Pos Board #B21
OSMOLYTE EFFECT ON AGGREGATION OF ß-LACTOGLOBULIN AMYLOID-PRONE PEPTIDES BY EXPLICIT MOLECULAR DYNAMICS SIMULATION. stéphane Abel, **Nicolas Taulier**, Wladimir Urbach, Marcel Waks

Protein Conformation II (Boards #B22-#B41)

2252-Pos Board #B22
CONFORMATIONAL DYNAMICS OF THE *E. COLI* SOS MUTAGENESIS PROTEIN UMUD. **Penny Beuning**, Jaylene Ollivierre, Jacquelyn Sikora

2253-Pos Board #B23 MINORITY TRAVEL AWARDEE
PERSISTENT ALPHA-HELICAL CONTENT AND LOCAL HELICAL STRUCTURAL FLUCTUATIONS FROM A MOLTEN GLOBULE TO ORDERED PEPTIDE TRANSITION. **Mia Brown**, Jason Cooley, Renee JiJi, Ronald Koder, Andrew Mutter

2254-Pos Board #B24
PROBING THE TEMPERATURE DEPENDENCE OF STRUCTURE AND DYNAMICS OF THERMOPHILIC LACTATE DEHYDROGENASE FROM TH. MARITIMA. **Huo-Lei Peng**, Hua Deng, Robert Callender

2255-Pos **Board #B25**
HETEROSPECTRAL 2D CORRELATION ANALYSISOF THE REDOX INDUCED TWO-STEP CONFORMATIONAL TRANSITION OF CYTOCHROME C. **Christoph Nowak**, Melanie Larisika

2256-Pos **Board #B26**
INVESTIGATIONS OF THE ATPASE MECHANISM OF HSP70 MOLECULAR CHAPERONES UPON SUBSTRATE BINDING USING PROTEIN ENGINEERING AND COMPUTATIONAL TECHNIQUES. **Gizem Dinler Doganay**, Umut Gunsel, Bulent Balta, Irem Avcılar, Ani Kıçik

2257-Pos **Board #B27**
DYNAMIC MOTIONS OF THE G PROTEIN SUBUNIT G ALPHA I1 WHILE COMPLEXED TO THE GEF RIC-8A. **Labe Black**, Celestine Thomas, J. B. A. Ross, Stephen Sprang

2258-Pos **Board #B28**
DIRECT CHARACTERIZATION OF PROTEIN OLIGOMERS AND THEIR QUATERNARY STRUCTURES BY SINGLE-MOLECULE FRET. **Cheol-Hee Kim**, Jae-Yeol Kim, Byung Il Lee, Nam Ki Lee

2259-Pos **Board #B29**
STRUCTURAL MODELING OF PSD-95 AND OTHER MAGUKS USING SINGLE-MOLECULE FRET. **James J. McCann**, R Bryan Sutton, Mark E. Bowen

2260-Pos **Board #B30**
EXAMINATIONS OF ANTIBODY STRUCTURE USING SINGLE MOLECULE FÖRSTER RESONANCE ENERGY TRANSFER. **Cathrine A. Southern**, Michael T. Kelliher, Ian D. Agne, Irina Timoshevskaya, Kelly A. Mueller, Ramiah D. Jacks, Ashley E. Hall

2261-Pos **Board #B31** **INTERNATIONAL TRAVEL AWARDEE**
NORMAL MODE COMPARISON ELUCIDATES DYNEIN WALKING MECHANISM TRIGGERED BY ATP HYDROLYSIS. **Soojin Jo**, Sangjae Seo, Min Hyeok Kim, Byeong Soo Lim, Moon Ki Kim

2262-Pos **Board #B32**
CHANGES IN BOND-ORIENTATIONAL ORDER OF RESIDUES ARE ASSOCIATED WITH SHIFTS IN ENERGY LANDSCAPES. **Ali Rana Atilgan**, Osman Burak Okan, Canan Atilgan

2263-Pos **Board #B33**
EXACT EXPRESSIONS FOR MANY-BODY ATOMIC DISPLACEMENT CORRELATIONS IN THE ANISOTROPIC NETWORK MODEL. **Osman B. Okan**, Aravind Rammohan, Rahmi Ozisik

2264-Pos **Board #B34**
EXPLORING THE ENERGY LANDSCAPES OF PROTEIN FOLDING SIMULATIONS WITH BAYESIAN COMPUTATION. **Nikolas S. Burkoff**, Csilla Varnai, Stephen A. Wells, David L. Wild

2265-Pos **Board #B35**
NMR CHARACTERIZATION OF THE STRUCTURAL EFFECTS OF CHARGE REPULSION IN AN ANTIBIOTIC PEPTIDE MODEL. **Kevin P. Larsen**, Adrienne P. Loh

2266-Pos **Board #B36**
STRUCTURAL EFFECTS OF STERIC HINDRANCE REVEALED BY SEQUENCE PERMUTATION IN ANTIBIOTIC PEPTIDE MODELS. Theodore L. Savage, Luke D. Oetzel, Emma E. Sabel, **Adrienne P. Loh**

2267-Pos **Board #B37**
CHARACTERIZING TRANSITION PATHWAYS IN THE TRANSPORT CYCLE OF ABC TRANSPORTER MSBA. **Wenxun Gan**, Mahmoud Moradi, Emad Tajkhorshid

2268-Pos **Board #B38**
CONFORMATIONAL ANALYSIS REVEALS DISTINCT MECHANICAL TRANSDUCTION MECHANISMS OF RECA-LIKE MOLECULAR MOTORS. **Jung-Chi Liao**

2269-Pos **Board #B39**
STRUCTURAL AND ENERGETIC DETAILS OF THE DNA-BINDING AND CLEAVAGE CORE OF SACCHAROMYCES CEREVISIAE TOPOISOMERASES II LINKED TO DNA THROUGH ITS ACTIVE SITE TYROSINE. **Ahmet Mentes**, Eunae Kim, Ioan Andricioaei

2270-Pos **Board #B40**
IMPORTANCE OF LOCAL INTERACTIONS FOR THE STABILITY OF INHIBITORY HELIX 1 OF ETS-1 IN THE APO STATE. **Aleksandra M. Karolak**, Arjan van der Vaart

2271-Pos **Board #B41**
FAST AND ACCURATE CALCULATION OF SMALL MOLECULE SOLVATION FREE ENERGIES USING REPLICA EXCHANGE ACCELERATED MOLECULAR DYNAMICS. **Mehrnoosh Arrar**, William Sinko, Mikolai Fajer, Cesar Agusto F. de Oliveira, J. Andrew McCammon

Protein Dynamics II (Boards #B42-#B72)

2272-Pos **Board #B42** **MINORITY TRAVEL AWARDEE**
ALLOSTERIC INHIBITORS ALTER THE DYNAMIC AND THERMODYNAMIC PROPERTIES OF THE RNA POLYMERASE FROM HEPATITIS C VIRUS. **Brittny Davis**, Ian Thorpe

2273-Pos **Board #B43** **INTERNATIONAL TRAVEL AWARDEE**
MODELING BINDING INTERFACES IN GAL3P-GAL80P AND GAL1P-GAL80P COMPLEXES: IMPLICATION FOR GAL GENES REGULATION. **Sanjay K. Upadhyay**, Y. U. Sasidhar

2274-Pos **Board #B44** **EDUCATION TRAVEL AWARDEE**
IMPACT OF K24N MUTATION ON P53TAD AND ITS INTERACTION WITH MDM2. **Yingqian Ada Zhan**, F. Marty Ytreberg

2275-Pos **Board #B45**
BACKBONE 'STRETCHED;' BACKBONE 'CURLED': CONFORMATIONAL SIMILARITY FOR TRP DIPEPTIDES PARALLELS FLUORESCENCE EMISSION AND UVRR W10 SHIFTS. Azaria S. Eisenberg, Moshe Nathan, **Laura J. Juszczak**

2276-Pos **Board #B46**
ATOMISTIC SIMULATIONS OF DOMINANT PATHWAYS IN PROTEIN FOLDING: FROM A SIMPLE WW DOMAIN TO A COMPLEX A KNOTTED PROTEIN. **Pietro Faccioli**, Silvio a Beccara, Tatjana Skrbic, Roberto Covino

2277-Pos **Board #B47**
THE GEOMETRICAL ORIGINS OF A PROTEIN FOLDING MECHANISM. **Heiko Lammert**, Jeffrey K. Noel, Jose N. Onuchic

2278-Pos **Board #B48**
ENTROPIC INSIGHTS FROM MILLISECOND PROTEIN SIMULATIONS. **Andrew T. Fenley**, Michael K. Gilson

2279-Pos **Board #B49**
ANALYSIS OF NATIVE H/D EXCHANGE DYNAMICS IN EX1/EX2 CONDITIONS USING STRUCTURE BASED MODEL SIMULATIONS. **Patricio O. Craig**, Ryan MB Hoffman, Joachim Lätzer, Patrick Weinkam, Elizabeth A. Komives, Peter G. Wolynes

2280-Pos **Board #B50**
INVERSE TEMPERATURE JUMP SYSTEM TO STUDY FAST PROTEIN FOLDING KINETICS. **Mark E. Polinkovsky**, Yann Gambin, Michael Erickstad, Ashok Deniz, Alex Groisman

2281-Pos **Board #B51** **INTERNATIONAL TRAVEL AWARDEE**
STRUCTURE AND DYNAMICS OF MOLTEN GLOBULAR INTERMEDIATES ENCOUNTERED DURING THE UNFOLDING OF BARSTAR. **Saswata S. Sarkar**, Jayant B. Udgaonkar, Guruswamy Krishnamoorthy

2282-Pos **Board #B52**
CONFORMATIONAL FLEXIBILITY AND THE MECHANISM OF ALLOSTERIC TRANSITIONS IN CALMODULIN. Prithviraj Nandigrami, **John J. Portman**

2283-Pos **Board #B53**
GNEIMO CONSTRAINED DYNAMICS METHOD: A TOOL FOR PROTEIN STRUCTURE REFINEMENT AND CONFORMATIONAL CHANGES. **Nagarajan Vaidehi**

2284-Pos **Board #B54**
MODELS WITH ENERGY PENALTY ON INTER-RESIDUAL ROTATION ADDRESS INSUFFICIENCY OF CONVENTIONAL ELASTIC NETWORK MODELS. **Lee Wei Yang**

2285-Pos **Board #B55**
THE DYNASOME AS THE MISSING LINK BETWEEN PROTEIN STRUCTURE AND FUNCTION. **Tim Meyer**, Ulf Hensen, Jürgen Haas, Rene Rex, Gert Vriend, Helmut Grubmüller

2286-Pos **Board #B56**
EXPLORING PH DEPENDENT LANDSCAPE SHIFTS OF PROTEINS. **Canan Atilgan**, Ayse Ozlem Aykut, Sunita Negi, Ali Rana Atilgan

2287-Pos **Board #B57**
TRANSITION PATHWAYS OF PROTEINS EXPLORED BY COMBINING MOLECULAR DYNAMICS SIMULATIONS AND MONTE CARLO SAMPLING OF COLLECTIVE MODES. **Mert Gur**, Jeffry Madura, Ivet Bahar

2288-Pos **Board #B58**
A PHYLOGENETIC ANALYSIS OF NORMAL MODES EVOLUTION IN ENZYMES AND ITS RELATIONSHIP TO ENZYME FUNCTION. **Jason Lai**, Jing Jin, Jan Kubelka, David Liberles

2289-Pos **Board #B59**
LINKAGE BETWEEN DYNAMICS AND ASSEMBLY OF RIBOSOMAL PROTEINS. **Brittany Burton**, Michael T. Zimmerman, Robert L. Jernigan, Yongmei Wang

2290-Pos **Board #B60**
COARSE-GRAINED SIMULATIONS ON MULTIMERIC ASSEMBLY OF LIGAND-BINDING DOMAINS IN NUCLEAR RECEPTORS. **Sichun Yang**

2291-Pos **Board #B61**
USING DELAUNAY TESSELLATION OF PROTEINS TO IMPROVE CURRENT ENM. **Alberto Perez**, Justin MacCallum, Michelle Hummel, Evangelos Coutsias, Ken A. Dill

2292-Pos **Board #B62**
INTRINSIC DYNAMICS OF THE REGULATORY LIGHT CHAIN: IMPLICATIONS ON MUSCLE CONTRACTION. **Arianna Fornili**, Mark Pfuhl, Franca Fraternali

2293-Pos **Board #B63**
THE STRUCTURAL BASIS OF HIGHER ACTIVITY OF TRUNCATED CYCLIN E1-CDK2 COMPLEXES IN TUMOR CELLS. **Soumya L. Rath**, Sanjib Senapati

2294-Pos **Board #B64**
MOLECULAR DYNAMICS STUDY ON CONFORMATIONAL SAMPLING OF TRIOSEPHOSPHATE ISOMERASE. **Sarath C. Dantu**, Maarten G. Wolf, Gerrit Groenhof

2295-Pos **Board #B65**
HOW DOES WATER BOOST THE PROTEIN DYNAMICS? **Liang Hong**, Jeremy C. Smith

2296-Pos **Board #B66**
DIMENSIONALITY ESTIMATION OF DISORDERED PROTEIN DYNAMICS. **Joshua Phillips**, Ajay Gopinathan, Shawn Newsam, Michael E. Colvin

2297-Pos **Board #B67**
MOLECULAR DYNAMICS SIMULATIONS OF CONFORMATIONAL CHANGE IN EPAC. **Thomas B. Woolf**

2298-Pos **Board #B68** **INTERNATIONAL TRAVEL AWARDEE**
DISTINGUISHING FEATURES OF AQUAGLYCEROPORIN IN PLASMODIUM FALCIPARUM: COMPARATIVE MOLECULAR DYNAMICS SIMULATIONS OF THREE AQUAPORINS. **Ravi Kumar Verma**, Alok Jain, Ramasubbu Sankararamakrishnan

2299-Pos **Board #B69**
EXPLORING THE MECHANISM AND FUNCTIONAL (A) SYMMETRY OF ATP BINDING CASSETTE DOMAINS. **Hadas Leonov**, Martin Vesper, Bert L. de Groot

2300-Pos **Board #B70**
MOLECULAR DYNAMICS SIMULATION OF INTERACTION OF A CYTOTOXIN WITH A LIPID BILAYER: A MULTISCALE MODELING. Negin Mftouni, **Mehriar Amininasab**, Farshad Kosari

2301-Pos **Board #B71**
IMPROVING THE PERFORMANCE OF CONSTANT PH MOLECULAR DYNAMICS WITH GENERALIZED BORN ELECTROSTATICS. **Patrick G. Blachly**, Joseph W. Kaus, J. Andrew McCammon

2302-Pos **Board #B72**
THE COPPER-RELEASE PATHWAY OF THE COPA ATPASE. **Magnus Andersson**, Poul Nissen, Stephen H. White, Pontus Gourdon

Protein Folding & Stability II (Boards #B73-#B104)

2303-Pos Board #B73
DIRECT CHARACTERIZATION OF HYDROPHOBIC HYDRATION DURING COLD AND PRESSURE DENATURATION. **Silvina Matysiak**, Payel Das

2304-Pos Board #B74
MYOGLOBIN. ADDITION OF CHEMICAL DETAILS TO THE COARSE-GRAINED MODEL ENHANCES RESOLUTION OF KEY-FEATURES OF RMS-FLUCTUATION IN MONTE-CARLO SIMULATED DATA AND PRODUCES UNIVERSAL DISTRIBUTION OF AMINO-ACID CONTENT INTO FOUR TRANSITIONAL GROUPS. **Svetlana Aroutiounian**

2305-Pos Board #B75
SIZE, SHAPE AND MOTIONS OF THE SH3 DOMAIN OF THE *DROSOPHILA* ADAPTER PROTEIN DRK. **Amir Mazouchi**, Sarah Rauscher, Abdullah Bahram, Rgis Poms, Julie Forman-Kay, Claudiu Gradinaru

2306-Pos Board #B76
FOUR-STATE FOLDING OF A SH3 DOMAIN: SALT-INDUCED MODULATION OF THE STABILITIES OF THE INTERMEDIATES AND NATIVE STATE. **Amrita Dasgupta**, Jayant B. Udgaonkar

2307-Pos Board #B77
HEXAFLUOROISOPROPANOL INDUCED HELIX SHEET TRANSITION OF STEM BROMELAIN CORRELATION TO FUNCTION. **Sandeep Dave**

2308-Pos Board #B78
COLD DENATURATION IN A SMALL PROTEIN DOMAIN. **Ginka Buchner**, Natalie Shih, Jan Kubelka

2309-Pos Board #B79
PERTURBING THE CENTRAL HYDROPHOBIC CLUSTER (CHC) OF Aβ(10-35) BY INCORPORATION OF FLUORINATED PHENYLALANINE DERIVATIVES. **Anwesha Bhattacharya**, Ishita Mukerji

2310-Pos Board #B80
KINETIC STUDIES OF THE MONELLIN: EVIDENCE FOR SWITCHING BETWEEN ALTERNATIVE PARALLEL PATHWAYS. **Nilesh K. Aghera**, Jayant B. Udgaonkar

2311-Pos Board #B81
DIRECT OBSERVATION OF MULTISTATE FOLDING IN A SINGLE BETA-HELICAL PROTEIN. **Andrew Dittmore**, Eliza Mason, Peggy A. Cotter, Omar A. Saleh

2312-Pos Board #B82
ELUCIDATING THE ALPHA-SYNUCLEIN FIBRIL FOLD BY PULSED EPR. Maryam Hashemi Shabestari, Ine M.J. Segers-Nolten, Mireille M.A.E. Claessens, Bart D. van Rooijen, Vinod Subramaniam, **Martina Huber**

2313-Pos Board #B83
SMALL MOLECULE INDUCED CONVERSION OF TOXIC OLIGOMERS TO NON-TOXIC BETA-SHEET-RICH AMYLOID FIBRILS. **Jan Bieschke**

2314-Pos Board #B84
ALZHEIMER'S DISEASE AT 30? IS THAT POSSIBLE? **Nadrine S. Omar**

2315-Pos Board #B85
PEPTIDES - BETA-SHEET FOLDING FROM HAIRPINS TO AGGREGATES. **Timothy A. Keiderling**, Heng Chi, Dan McElheny

2316-Pos Board #B86
EXPLORING THE EFFECT OF MUTATIONS ON THE CONFORMATIONAL LANDSCAPE OF AMYLOIDOGENIC ANTIBODY FRAGMENTS. **Nina Pastor**, César Millán-Pacheco, Jessica Araujo-Rangel, D. Alejandro Fernández-Velasco

2317-Pos Board #B87
MONOMERIC AMYLOID β PROTEINS IN REVERSE MICELLES ARE IN FOLDED β SHEET STRUCTURE. Priscilla Yeung, **Hiroaki Komatsu**, Paul H. Axelsen

2318-Pos Board #B88
EATING AND SLEEPING, IS THIS A CURE FOR ALZHEIMER'S DISEASE? **Shawna R. Liszewski**

2319-Pos Board #B89
DIVERSITY OF SEQUENCES FOLDING TO HIGHLY AND POORLY DESIGNABLE STRUCTURES. **Sumudu P. Leelananda**, Robert L. Jernigan

2320-Pos Board #B90
MODELING CLIC2-RYR INTERACTIONS AND THE EFFECT OF DISEASE CAUSING MUTATION. **Shawn Witham**, Emil Alexov

2321-Pos Board #B91
SAMPLING OF RANDOM AMINO ACID MUTATIONS: FOLDING AND BINDING STABILITY OF COAT PROTEINS IN A SIMPLE VIRUS. **Kuo Hao Lee**, F. Marty Ytreberg

2322-Pos Board #B92
HAMILTONIAN REPLICA EXCHANGE SIMULATIONS TO ENHANCE SAMPLING FOR PROTEIN FOLDING. **Abhinav Verma**, Alexander Schug

2323-Pos Board #B93
ANALYSIS OF AMINO ACID SPECIFIC ENERGY CONTRIBUTIONS TO NATIVE CONFORMATIONS IN HIGH-RESOLUTION PROTEIN STRUCTURES. **Timo Strunk**, Moritz Wolf, Wolfgang Wenzel

2324-Pos Board #B94
ROLE OF LOCAL METAL-SITE INTERACTIONS AND BULK PROTEIN RESTRAINTS IN THE THERMODYNAMICS OF ZINC BINDING TO A ZINC FINGER PROTEIN. Purushottam Dixit, **Dilip Asthagiri**

2325-Pos Board #B95
FOLDING THERMODYNAMICS AND KINETICS OF LAMBDA-REPRESSOR FROM ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS. **Yanxin Liu**, Johan Strumpfer, Peter L. Freddolino, Martin Gruebele, Klaus Schulten

2326-Pos Board #B96
PREDICTING FOLDING RATES FROM UMBRELLA SAMPLED DATA. **Ryan MB Hoffman**, Anat Berger, Patricio O. Craig, Elizabeth A. Komives, Nicholas P. Schafer, Peter G. Wolynes

2327-Pos Board #B97
CHARACTERIZING STRUCTURAL AND DYNAMICAL IMPACTS OF AGONIST- AND ANTSGONIST-STABILIZED MUTANTS OF THE ESTROGEN RECEPTOR. **Christopher G. Mayne**, John A. Katzenellenbogen, Emad Tajkhorshid

2328-Pos **Board #B98**
FOLDING THERMODYNAMICS OF A BETA-HAIRPIN PEPTIDE: A THEORETICAL STUDY. **Min-Yeh Tsai**, Jian-Min Yuan, Yoshiaki Teranishi, Sheng-Hsien Lin

2329-Pos **Board #B99**
COMPARISON OF CHEMICAL AND THERMAL PROTEIN DENATURATION BY COMBINATION OF COMPUTATIONAL AND EXPERIMENTAL APPROACHES. **Qian Wang**, Alexander Christiansen, Antonios Samiotakis, Pernilla Wittung-Stafshede, Margaret S. Cheung

2330-Pos **Board #B100**
A SIMPLE MODEL OF PROTEIN FOLDING KINETICS BASED ON NATIVE TOPOLOGY. **Geoffrey Rollins**, Ken Dill

2331-Pos **Board #B101**
COMPUTATIONAL STUDY OF THE THERMODYNAMICS AND STABILITY OF TWO TRP-CAGE MINIPROTEIN SEQUENCES. **Charles A. English**, Angel E. Garcia

2332-Pos **Board #B102**
IS RIGIDITY CONSERVED ACROSS THE CLASS A BETA-LACTAMASE FAMILY? **Deeptak Verma**, Dennis R. Livesay

2333-Pos **Board #B103**
STRUCTURE BASED PROTEIN MODELS AND IN VITRO EXPERIMENTS TO INVESTIGATE THE FOLDING LANDSCAPE OF THE HUMAN OBESITY PROTEIN LEPTIN. **Ellinor Haglund**, Joanna I. Sulkowska, Patricia A. Jennings, José Onuchic

2334-Pos **Board #B104**
PROTEIN KNOT FORMING, TERMINAL-THROUGH-LOOP THREADING EVENTS CAN OCCUR ON THE MICROSECOND (<10) TIMESCALE. **Jeffrey Noel**, Joanna Sulkowska, Jose Onuchic

Protein-Ligand Interactions II (Boards #B105-#B134)

2335-Pos **Board #B105**
CLONING OF A NOVEL CENTRIN TARGET PEPTIDE. **Aslin M. Rodriguez**, Ana M. Gomez, Belinda Pastrana

2336-Pos **Board #B106**
REDUCED NICOTINAMIDE ADENINE DINUCLEOTIDE PHOSPHATE (NADPH) BLOCKS TRANSFER OF [2FE-2S] CLUSTERS FROM MITONEET TO AN APO-ACCEPTOR PROTEIN. **John A. Zuris**, Syed S. Ali, Howard Yeh, Tung A. Nguyen, Rachel Nechushtai, Mark L. Paddock, Patricia A. Jennings

2337-Pos **Board #B107**
MAPPING THE INOSITOL HEXAKISPHOSPHATE BINDING SITES ON THE HUMAN FIBROBLAST GROWTH FACTOR. **Rory Henderson**, T. K. S. Kumar

2338-Pos **Board #B108**
A TWO-PHOTON ABSORPTION PROBE MIMICKING NADPH THAT INHIBITS THE NITRIC OXYDE SYNTHASE. **Etienne Henry**, Yun Li, Huan Wang, Bogdan Tarus, Chantal Dessy, Patrick Tauc, Eric Deprez, Jean-Luc Boucher, Anny Slama-Schwok

2339-Pos **Board #B109**
KINETICS OF LIGAND RECEPTOR INTERACTION REVEALS THE MODE OF BINDING IN CYCLIC NUCLEOTIDE-ACTIVATED PROTEINS. **Sebastian Peuker**, Martin Held, Abhishek Cukkemane, Frank Noe, U. Benjamin Kaupp, Reinhard Seifert

2340-Pos **Board #B110**
OPPOSING EFFECTS OF PROLINE AND CALCIUM BINDING LEAD TO PLASTICITY IN ADHESIVE DIMERS OF NEURAL-CADHEIRN. **Nagamani Vunnam**, Susan Pedigo

2341-Pos **Board #B111**
ALTERNATIVE SPLICING AT CBD2 DOMAIN MODIFIES CA^{2+} SENSING PROPERTIES AT CBD1 IN REGULATORY TWO-DOMAIN TANDEM OF NCX PROTEINS. **Moshe Giladi**

2342-Pos **Board #B112** **CPOW TRAVEL AWARDEE**
DISSECTING THE ROLES OF THE EXTRACELLULAR REGIONS IN APELIN PEPTIDE-RECEPTOR BINDING. **Pascaline Ngweniform**, David N. Langelaan, Nigel Chapman, Jan K. Rainey

2343-Pos **Board #B113**
HIGH-AFFINITY BINDING OF *AEDES AEGYPTI* MEMBRANE-BOUND ALKALINE PHOSPHATASE TO THE *BACILLUS THURINGIENSIS* CRY4BA TOXIN: STRUCTURAL IMPLICATIONS FOR TOXIN-RECEPTOR INTERACTIONS. **Anon Thammasittirong**, Manasave Dechklar, Somphob Leetachewa, Kusol Pootanakit, Yoshio Okahata, Chanan Angsuthanasombat

2344-Pos **Board #B114**
ANALYSIS OF FIRST AND SECOND SHELL INTERACTIONS IN PHOSPHATE-BINDING PROTEINS. **Per Jr. Greisen**, Claus Hélix-Nielsen

2345-Pos **Board #B115**
DESIGN OF NOVEL HEPARIN BINDING PEPTIDE. **Morgan Merriman**

2346-Pos **Board #B116**
BIOPHYSICAL REGULATION OF 2D KINETICS OF PLATELET MEMBRANE RECEPTOR GPIB-ALPHA AND ITS LIGAND VWF. **Lining Ju**

2347-Pos **Board #B117**
EXPLORATION OF THE ROLE OF THE IKB PEST SEQUENCE IN STRIPPING NFKB FROM DNA. **Holly E. Dembinski**, Vera Alverdi, Hector Gonzalez, Elizabeth Komives

2348-Pos **Board #B118**
THE CASE FOR IRREVERSIBLE BINDING OF ICE-BINDING PROTEINS TO ICE. **Ido Braslavsky**, Yeliz Celik, Ran Drori, Maya Bar, Peter L. Davies

2349-Pos **Board #B119**
ENHANCER INTERACTIONS WITH ANTIFREEZE PROTEIN: MECHANISTIC INSIGHTS INTO THE EFFECT OF ANTIFREEZE ACTIVITY ENHANCEMENT. **Xin Wen**, Sen Wang, Jane Fielder, Donja Brown, Christine de la Fuente, Vonny Juwita, Eric A. Houghton, Michael A. Sacco

2350-Pos **Board #B120**
DETERMINATION OF THE CARBOHYDRATE-BINDING SPECIFICITY OF LECTIN-LIKE DOMAINS IN *VIBRIO CHOLERAE* CYTOLYSIN. **Sophia R. Levan**, Rich Olson

2351-Pos **Board #B121**
FUNCTION OF O-GLYCANS IN LEUKOCYTE ROLLING ON PSGL-1. **Caroline Whitaker**, David Ader, Michael Lawrence

2352-Pos **Board #B122**
MAPPING THE OLIGOMERIC ASSEMBLY OF PLASMA FACTOR XIII A2B2 BY HYDROGEN-DEUTERIUM EXCHANGE COUPLED WITH MALDI-TOF MASS SPECTROMETRY. **Muriel Maurer**, Ricky Woofter

2353-Pos **Board #B123**
COOMASSIE BLUE BINDING TO AMYLOID FIBRILS AND NATIVE PROTEINS. **Nils Carlsson**, Catherine C. Kitts, Bjorn Akerman

2354-Pos **Board #B124**
STRUCTURE BASED INHIBITION OF THE CALICIVIRUS RNA-DEPENDENT RNA-POLYMERASE. Eloise Mastrangelo, Margherita Pezzullo, Delia Tarantino, Roberto Petazzi, Francesca Germani, Dorothea Kramer, Jacques Rohayem, Martino Bolognesi, **Mario Milani**

2355-Pos **Board #B125**
MECHANISM OF INHIBITION BY, AND OF DRUG RESISTANCE TO,A BENZIMIDAZOLE INHIBITOR OF THE RNA-DEPENDENT RNA POLYMERASE OF BOVINE VIRAL DIARRHOEA VIRUS. **Saumya S. Pandey**, Shailendra Asthana, Paolo Lacola, Attillio Vargiu, Paolo Ruggerone

2356-Pos **Board #B126**
HUGGING INTERACTION: ASYMMETRIC BINDING OF METASTASIS ASSOCIATED PROTEIN S100A4 TO NON-MUSCLE MYOSIN 2A TAIL. **Bence Kiss**, Anette Duelli, Laszlo Radnai, Katalin A.Kekesi, Gergely Katona, Laszlo Nyitray

2357-Pos **Board #B127**
THE ROLE OF ELECTROSTATICS IN THE FUNCTION OF HOMOLOGOUS THIOESTER CONTAINING PROTEINS: INSIGHTS INTO THE EVOLUTION OF THE COMPLEMENT C3D:CR2 INTERACTION. **Chris A. Kieslich**, Dimitrios Morikis

2358-Pos **Board #B128**
COMMUNICATION BETWEEN AN ALLOSTERIC INHIBITOR BINDING SITE AND THE ACTIVE SITE IN BETA-LACTAMASE. **Deniz Meneksedag**, Asligul Dogan, Elif Ozkirimli Olmez

2359-Pos **Board #B129**
ACTIVATION MECHANISMS OF αVβ3 INTEGRIN BY BINDING TO FIBRONECTIN: A COMPUTATIONAL STUDY. Lingyun Wang, Di Pan, Qi Yan, Russell Green, **Yuhua Song**

2360-Pos **Board #B130**
LABEL-FREE INTERACTION ANALYSIS WITH MICROSCALE THERMOPHORESIS. **Philipp Baaske**, Stefan Duhr, Christoph J. Wienken, Dieter Braun

2361-Pos **Board #B131**
A NEW ITC ASSAY FOR MEASURING ULTRATIGHT AND LOW-AFFINITY PROTEIN-LIGAND INTERACTIONS. Carolyn Vargas, Jana Broecker, Georg Krainer, **Sandro Keller**

2362-Pos **Board #B132**
A CHEMICAL PROTEOMICS APPROACH TOWARD IDENTIFICATION OF HUMAN ABSCISIC ACID-BINDING PROTEINS. **Olesya A. Kharenko**, Devin Polichuk, Allison Didychuk, Michele C. Loewen

2363-Pos **Board #B133**
INVESTIGATION OF THE INFLUENCE GLYCOSAMINOGLYCAN SULFATION ON THE INTERACTION WITH INTERLEUKIN-8 BY FLUORESCENCE AND SOLUTION NMR SPECTROSCOPY. **Annelie Pichert**, Sergey A. Samsonov, Karoline Norsieck, Annette G. Beck-Sickinger, María T. Pisabarro, Daniel Huster

2364-Pos **Board #B134**
FLUORESCENT, REAGENTLESS BIOSENSORS FOR PHOSPHATE: ALTERING PROPERTIES, EXPANDING USEFULNESS. Simone Kunzelmann, Annie Nofer, Colin Davis, **Martin R. Webb**

Heme Proteins (Boards #B135-#B149)

2365-Pos **Board #B135**
PORPHYRIN-MEDIATED PHOTOINDUCED CONFORMATIONAL CHANGES TO HUMAN SERUM ALBUMIN AT PHYSIOLOGICAL AND ACIDIC PH. **Sarah C. Rozinek**, Lorenzo Brancaleon

2366-Pos **Board #B136**
HOW DOES HEMOGLOBIN CREATE SUCH DIVERSE FUNCTIONALITY OF PHYSIOLOGICAL RELEVANCE? **Takashi Yonetani**

2367-Pos **Board #B137**
PORPHYRINS AS DETECTORS OF INTERNAL ELECTRIC FIELD IN HEME PROTEINS. **Hannah E. Wagie**, Bradley M. Moran, Barry J. Prince, Jorg C. Woehl, Peter Geissinger

2368-Pos **Board #B138**
MD SIMULATIONS OF PLANT HEMOGLOBINS: THE HEXA- TO PENTA-COORDINATE STRUCTURAL TRANSITION. **Matteo Ceccarelli**, Mariano Andrea Scorciapino

2369-Pos **Board #B139**
IMPACT OF THE INTERNAL DISULFIDE BOND ON STRUCTURAL DYNAMICS IN VERTEBRATES HEXACOORDINATE HEMEOGLOBINS. **Luisana Astudillo**, Sophie Bernad, Valérie Derrien, Pierre Sebban, Jaroslava Miksovska

2370-Pos **Board #B140**
CYTOCHROME C_6 OF *CHLAMYDOMONAS REINHARDTII* - A HEME PROTEIN WITH UNUSUAL PROPERTIES. Nicole Vanderbush, Brian St Clair, Marilyn Davis, **Dan J. Davis**

2371-Pos **Board #B141**
MICRO-RAMAN SPECTROSCOPY OF THE HEMOGLOBIN IRON-HISTIDINE BOND IN SINGLE ERYTHROCYTES. Sang Hoon Park, Silki Arora, Jennifer Mauser, Debopam Chakrabarti, **Alfons Schulte**

2372-Pos **Board #B142**
INTRADIMERIC BUT NOT INTERDIMERIC INTERFACE CONTROL THE FUNCTION OF HEMOGLOBIN. **Antonio Tsuneshige**, Yusuke Tajiri, Kenji Kanaori, Yuki Yashiro, Hajime Nishihara

2373-Pos **Board #B143**
TWO TYROSYL RADICALS STABILIZE HIGH OXIDATION STATES IN CYTOCHROME *C* OXIDASE FOR EFFICIENT ENERGY CONSERVATION AND PROTON TRANSLOCATION. **Denis L. Rousseau**, Michelle A. Yu, Tsuyoshi Egawa, Kyoko Shinzawa-Itoh, Shinya Yoshikawa, Victor Guallar, Syun-Ru Yeh, Gary J. Gerfen

2374-Pos **Board #B144**
CAPTURING INSERTION AND DYNAMICS OF MEMBRANE-BOUND CYTOCHROME P450 3A4 USING A NOVEL MEMBRANE MIMETIC MODEL. **Javier L. Baylon**, Emad Tajkhorshid

2375-Pos **Board #B145**
CHARACTERIZATION OF BINDING AND ELECTRON TRANSFER BETWEEN SHEWANELLA CYTOCHROME C PEROXIDASE AND ITS MONOHEME ELECTRON DONOR C5. **Katherine E. Frato**, Sean J. Elliott

2376-Pos **Board #B146**
PYRAZOLE CYTOCHROME C COMPLEXES. **Alexander Taguchi**, Oleksandr Kokhan, Colin Wraight

2377-Pos **Board #B147**
COMPARATIVE STUDIES OF HUMAN INDOLEAMINE 2,3-DIOXYGENASE (IDO) AND TRYPTOPHAN DIOXYGENASE (TDO). **Syun-Ru Yeh**, Ariel Lewis-Ballester, Shay Karkashon

2378-Pos **Board #B148**
TIME-RESOLVED ENTHALPY AND VOLUME CHANGES FOR CO-PHOTORELEASE FROM INDOLEAMINE 2,3-DIOXYGENASE. **William A. Maza**, Carissa Vetromile, Ariel Lewis-Ballester, Syun-Ru Yeh, Randy W. Larsen

2379-Pos **Board #B149**
DESIGNING TRANSMEMBRANE ELECTRON TRANSPORT IN AMPHIPHILIC PROTEIN MAQUETTES. **Bryan A. Fry**

Membrane Protein Structure II (Boards #B150-#B179)

2380-Pos **Board #B150**
PREDICTION OF THERMOSTABLE MUTANTS OF G-PROTEIN COUPLED RECEPTOR PROTEINS USING KNOWLEDGE-BASED ENERGY FUNCTIONS. **Daniela S. Mueller**, Nagarajan Vaidehi

2381-Pos **Board #B151**
QUANTITATIVE COMPARISON OF GPCR INTERACTIONS WITH THE LIPID BILAYER OF THE CUBIC AND LAMELLAR MESOPHASES. **George Khelashvili**, Sayan Mondal, Martin Caffrey, Harel Weinstein

2382-Pos **Board #B152**
GPCRTOOKIT: A COMPUTATIONAL PLATFORM FOR STRUCTURAL COMPARISON OF GPCR CRYSTAL STRUCTURES AND HOMOLOGY MODEL REFINEMENT. **Supriyo Bhattacharya**, Michael Matthew, Adrien Larsen, Nagarajan Vaidehi

2383-Pos **Board #B153**
RHODOPSIN ACTIVATION IS MODULATED BY NON-SPECIFIC MEMBRANE LIPID-PROTEIN INTERACTIONS. **Blake Mertz**, Eglof Ritter, Franz Bartl, Michael F. Brown

2384-Pos **Board #B154**
MOLECULAR SIMULATIONS ILLUMINATE RHODOPSIN ACTIVATION BASED ON NEW CRYSTAL STRUCTURES. **Blake Mertz**, Karina Martínez-Mayorga, Alan Grossfield, Jose L. Medina-Franco, Michael C. Pitman, Scott E. Feller, Michael F. Brown

2385-Pos **Board #B155**
SAMPLING OF GPCR SECOND EXTRACELLULAR LOOPS USING GEOMETRIC CONSTRAINTS. **Hahnbeom Park**, Chaok Seok

2386-Pos **Board #B156**
PREDICTION OF THE MONOMER-MONOMER INTERFACE REGION OF THE ß2AR HOMODIMER RECEPTOR VIA DOCKING EXPERIMENTS. **Ayça Koroğlu**

2387-Pos **Board #B157**
CHARACTERIZING THE MOTION OF W6.48 IN THE ACTIVE STATE OF A GPCR. **Diane Lynch**, Dow Hurst, Tod Romo, Alan Grossfield, Patti Reggio, Mike Pitman

2388-Pos **Board #B158**
MOLECULAR DETERMINANTS FOR A MUTANT MU-OPIOID RECEPTOR IN WHICH NALOXONE ACTS AS A PARTIAL AGONIST. **Elizabeth Pearsall**, Ping-Yee Law, Patricia H. Reggio

2389-Pos **Board #B159**
TMBB-EXPLORER: A WEBSERVER TO PREDICT THE STRUCTURE, OLIGOMERIZATION STATE, PPI INTERFACE, AND THERMODYNAMIC PROPERTIES OF THE TRANSMEMBRANE DOMAINS OF OUTER MEMBRANE PROTEINS. **Hammad Naveed**, Jie Liang

2390-Pos **Board #B160**
MEMPROTMD: ADDING THE GREASE TO MEMBRANE PROTEIN STRUCTURES. **Phillip J. Stansfeld**, Mark SP Sansom

2391-Pos **Board #B161**
IDENTIFICATION AND CHARACTERIZATION OF TRANSMEMBRANE SEGMENTS. **Shaun D. Adams**

2392-Pos **Board #B162**
AN EMPIRICAL SCORING FUNCTION FOR THE TRANSMEMBRANE HELICAL PROTEIN ASSEMBLY. **Jose C. Flores**, Igor Kurnikov, Maria Kurnikova

2393-Pos **Board #B163**
STRUCTURE-FUNCTIONAL INSIGHT INTO TRANSMEMBRANE HELIX DIMERIZATION BY PROTEIN ENGINEERING, MOLECULAR MODELING AND HETERONUCLEAR NMR SPECTROSCOPY. **Eduard Bocharov**, Pavel Volynsky, Konstantin Mineev, Dmitry Lesovoy, Kirill Nadezhdin, Olga Bocharova, Marina Goncharuk, Sergey Goncharuk, Roman Efremov, Alexander Arseniev

2394-Pos **Board #B164**
TRANSMEMBRANE HELIX-HELIX INTERACTIONS IN THE HUMAN SINGLE-SPAN MEMBRANE PROTEOME. **Christian L. Ried**, Jan Kirrbach, Sebastian Kube, Dieter Langosch

2395-Pos **Board #B165**
SELF-ASSOCIATION OF TRANSMEMBRANE DOMAINS OF ERBB2 RECEPTORS IN CHOLESTEROL-CONTAINING MEMBRANES. **Manolis Doxastakis**, Anupam Prakash, Lorant Janosi

2396-Pos **Board #B166**
ASSEMBLING THE TRANSMEMBRANE DOMAIN OF VPU FROM HIV-1. **Wolfgang B. Fischer**, Li-Hua Li, Hao-Jen Hsu

2397-Pos **Board #B167**
BIOINFORMATIC ANALYSIS OF AQUAPORIN PROTEIN LIPID REQUIREMENTS. **Julie Bomholt**, Jesper S. Hansen, Per Greisen, Claus Hélix-Nielsen

2398-Pos **Board #B168**
THERMODYNAMIC MEASUREMENTS OF BILAYER INSERTION OF A SINGLE TRANSMEMBRANE HELIX. Alexander Kyrychenko, Mykola V. Rodnin, Yevgen O. Posokhov, Andrea Holt, Bernard Pucci, Antoinette Killian, **Alexey S. Ladokhin**

2399-Pos **Board #B169**
FRET INVESTIGATION OF MEMBRANE PROTEIN FOLDING: EVOLUTION OF TERTIARY STRUCTURE OF SOLUBLE AND TRANSMEMBRANE DOMAINS DURING FOLDING INTO SYNTHETIC BILAYERS. **Ignacio Lopez-Pena**, Guipeun Kang, Vanessa Oklejas, Weihan Cao, Judy E. Kim

2400-Pos **Board #B170** **INTERNATIONAL TRAVEL AWARDEE**
STRUCTURE AND DYNAMICS OF THE HUMAN ANTIMICROBIAL PEPTIDE DERMCIDIN OLIGOMER: IT IS AN ION CHANNEL. **Chen Song**, Enrica Bordignon, Marek Dynowski, Gabriel Markov, Bert L. de Groot, Ulrich Zachariae, Kornelius Zeth

2401-Pos **Board #B171**
THE ACRAB-TOLC MULTIDRUG EFFLUX PUMP: AN ALTERNATIVE COMPLEX MODEL. **Thomas H. Schmidt**, Nadine Fischer, Christian Kandt

2402-Pos **Board #B172**
CONVERSION OF AN ALPHA-HELICAL TO A BETA-SHEET MEMBRANE PROTEIN FOLD THROUGH PRO-GLY MUTATIONS IN THE LOOP OF A HUMAN CFTR TRANSMEMBRANE HAIRPIN. **Vincent G. Nadeau**, Charles M. Deber

2403-Pos **Board #B173**
SIMULATIONS OF SUBUNIT INTERACTIONS IN THE C. ELEGANS GLUCL LIGAND-GATED ION CHANNEL. **Ozge Yoluk**, Samuel Murail, Erik Lindahl

2404-Pos **Board #B174**
DETERMINING THE BINDING AFFINITY OF TOXOPLASMA ROP PROTEINS TO A MEMBRANE USING FREE ENERGY CALCULATIONS. **Nwamaka O. Onyeozili**, Keith M. Callenberg, Siyu C. Xiao, Jon P. Boyle, Michael Grabe

2405-Pos **Board #B175**
A MOLECULAR DYNAMICS STUDY OF RAS CLUSTERING IN MEMBRANE DOMAINS. **Hualin Li**, Zhenlong Li, Alemayehu Gorfe

2406-Pos **Board #B176**
PREFERENTIAL LOCATION OF AMINO ACIDS ACROSS THE MEMBRANE IN α-HELICES AND β-BARREL MEMBRANE PROTEIN STRUCTURES. **Eduardo Jardon-Valadez**, Martin B. Ulmschneider

2407-Pos **Board #B177**
BIOPHYSICAL CHARACTERIZATION OF THE FTSL/B SUBCOMPLEX OF THE BACTERIAL DIVISOM. **Loren M. LaPointe**

2408-Pos **Board #B178**
STRUCTURE AND ASSEMBLY OF *ESCHERICHIA COLI* OUTER MEMBRANE PROTEIN A . **Rosetta N. Reusch**

2409-Pos **Board #B179**
A STRUCTURAL RECOGNITION MECHANISM STUDY OF MARCH AND ITS SUBSTRATE. **Ling Wu**, Xi Cheng, Wonpil Im

Protein Biophysics in vivo (Boards #B180-#B200)

2410-Pos **Board #B180**
FOLDING DYNAMICS OF TRP-CAGE IN THE PRESENCE OF CHEMICAL INTERFERENCE AND MACROMOLECULAR CROWDING. **Margaret S. Cheung**, Antonios Samiotakis

2411-Pos **Board #B181**
PROTEIN-PROTEIN INTERACTIONS IN CROWDED CELLULAR ENVIRONMENTS. **Michael Feig**, Yuji Sugita

2412-Pos **Board #B182**
QUANTITATIVE THEORY FOR PROTEIN-PROTEIN INTERACTIONS IN A CROWDED ENVIRONMENT. **Youngchan Kim**, Jeetain Mittal

2413-Pos **Board #B183**
ATOMISTIC MODELING OF EXCLUDED-VOLUME AND SOFT INTERACTIONS IN CROWDED ENVIRONMENTS. **Sanbo Qin**, Huan-Xiang Zhou

2414-Pos **Board #B184**
TEMPLATE-DIRECTED PROTEIN MISFOLDING IN SILICO AND IN THE CELL. **Steven Samuel Plotkin**, Neil R. Cashman, Atanu Das, Will Guest

2415-Pos **Board #B185**
ELUCIDATING THE MECHANISM OF COLLAGENOLYSIS IN THE NATIVE COLLAGEN FIBRIL. **Kuojung G. Lu**, Collin M. Stultz

2416-Pos **Board #B186**
A COARSE-GRAINED MODEL FOR PROTEIN BACKBONE DYNAMICS. Andreas Wagenmann, **Tihamer Geyer**

2417-Pos **Board #B187**
USING GRAPHS TO ANALYZE SPATIAL SIMULATIONS. **Tihamer Geyer**, Florian Lauck, Volkhard Helms

2418-Pos **Board #B188**
FLUORESCENCE LIFETIME MEASUREMENTS ON LIVE CELLS IN NON-IMAGING MODE FOR HTS. **Gregory D. Gillispie**, Kurt C. Peterson

2419-Pos **Board #B189**
EFFECTS OF MACROMOLECULAR CROWDING ON PROTEIN BIOPHYSICS. **Pernilla Wittung-Stafshede**

2420-Pos **Board #B190**
LOCALIZATION OF THE ESCHERICHIA COLI DIVISOME BY NUCLEOID OCCLUSION AND MEMBRANE CURVATURE. **Jaan Mannik**, Fabai Wu, Felix J. H. Hol, Juan E. Keymer, Cees Dekker

2421-Pos **Board #B191**
MAGNETIC MANIPULATION OF SIGNALING "HOTSPOTS" INSIDE LIVING CELLS SHOWS CONTEXT-DEPENDENT AMPLIFICATION OF THE RAC PATHWAY. **Fred Etoc**, Mathieu Coppey, Domenik Lisse, Yohans Bellaiche, Jacob Piehler, Maxime Dahan

2422-Pos **Board #B192** **INTERNATIONAL TRAVEL AWARDEE**
FROM SINGLE-MOLECULE INTERACTIONS TO POPULATION-LEVEL DYNAMICS: UNDERSTANDING THE COMPLEX ORGANIZATION OF RNA POL II IN THE NUCLEUS OF LIVING CELLS. **Ibrahim I. Cisse**, Ignacio Izeddin, Sebastien Causse, Mohamed El Beheiry, Claire Dugast-Darzacq, Leila Muresan, Vincent Recamier, Maxime Dahan, Xavier Darzacq

2423-Pos **Board #B193**
ENZYME SELECTIVE FLIM IN MICROGLIA: STUDYING THE ROLE OF NADPH OXIDASE IN CHRONIC NEUROINFLAMMATION. **Raluca A. Niesner**, Jenny Gerhard, Anna-Agatha Mosakowski, Jan-Leo Rinnenthal, Anja E. Hauser, Karolin Pollok, Helena Radbruch

2424-Pos **Board #B194** **EDUCATION TRAVEL AWARDEE**
PROBE PATTERN TRANSITIONS IN BACTERIAL OSCILLATING SYSTEM USING PALM IMAGING AND NANOFLUIDIC CONFINEMENT. **Jie-Pan Shen**, Yi-Ren Chang, Chia-Fu Chou

2425-Pos **Board #B195**
MEASUREMENT AND PERTURBATION OF MORPHOGEN LIFETIME: EFFECTS ON GRADIENT SHAPE. **Jeffrey Drocco**, Oliver Grimm, David Tank, Eric Wieschaus

2426-Pos **Board #B196**
WHOLE BLOOD OF PATIENTS WITH PERIPHERAL ARTERIAL DISEASE SHOWS AN INCREASED PRODUCTION OF REACTIVE OXYGEN SPECIES AND A PROINFLAMMATORY PHENOTYPE. **Christopher Doppler**, Joern F. Dopheide, Viviane Obst, Marie-Christine Radmacher, Tommaso Gori, Ascan Warnholtz, Thomas Münzel, Christine Espinola-Klein, Andreas Daiber

2427-Pos **Board #B197**
THE T HELPER 1 TRANSCRIPTION FACTOR T BOX EXPRESSED IN T CELLS IS A MEDIATOR OF ANGIOTENSIN II INDUCED INFLAMMATION, VASCULAR DYSFUNCTION AND OXIDATIVE STRESS IN THE MURINE VASCULATURE. **Michael Hausding**, Swenja Kröller-Schön, Isabell Schmidgen, Matthias Oelze, Thomas Münzel, Andreas Daiber, Philip Wenzel

2428-Pos **Board #B198**
DO MULTIPLE PHDS MATTER? AN ANALYSIS OF THE DUAL PHD DOMAINS OF RCO1. **Julia F. Nepper**, Jorge Y. Martinez-Marquez, Brian D. Strahl

2429-Pos **Board #B199**
ROBUST AND SENSITIVE CONTROL OF AMMONIUM SEQUESTRATION IN ESCHERICHIA COLI. **Minsu Kim**, Zhongge Zhang, Alex Groisman, Terry Hwa

2430-Pos **Board #B200**
DESIGNED RED FLUORESCENT CALCIUM SENSOR WITH ULTRAFAST KINETIC PROPERTIES. **You Zhuo**, Shen Tang, Yusheng Jiang, Florence Reddish, Hing Wong, Jenny Jie Yang

Chromatin (Boards #B201-#B228)

2431-Pos **Board #B201**
SPATIO-TEMPORAL ORGANIZATION OF TRANSCRIPTION COMPARTMENTS WITHIN LIVING CELLS. **Shovamayee Maharana**, Shivashankar G.V.

2432-Pos **Board #B202**
GEOMETRIC REGULATION OF CHROMATIN REMODELING IS DEPENDENT ON ACTO-MYOSIN CONTRACTILITY. **Nikhil Jain**

2433-Pos **Board #B203**
IMPACT OF NUCLEAR MORPHOLOGY ON GENE EXPRESSION DURING CELLULAR DIFFERENTIATION AND DEVELOPMENT. **Abhishek Kumar**

2434-Pos **Board #B204**
THE EFFECT OF NUCLEOSOME STABILITY ON GENE EXPRESSION LEVEL. **Rasesh Y. Parikh**

2435-Pos **Board #B205**
STRUCTURAL TRANSITIONS IN HIGHER ORDER CHROMATIN ASSEMBLY AND NUCLEAR PLASTICITY DURING STEM CELL DIFFERENTIATION. **Shefali Talwar**, Shivashankar G.V.

2436-Pos **Board #B206**
SINGLE-MOLECULE STUDIES OF THE BACTERIAL SEGREGOSOME COMPONENT SPO0J. **Thomas G.W. Graham**

2437-Pos **Board #B207**
3D ORGANIZATION OF THE INTERPHASE NUCLEUS USING SOFT X RAY TOMOGRAPHY. **Bertrand P. Cinquin**, Rosanne Boudreau, Mark Legros, Carolyn Larabell

2438-Pos **Board #B208**
ULTRASTRUCTURAL PROBES OF CLUSTERS OF OPEN REGULATORY ELEMENTS (CORE) WITHIN CHROMATIN. **John H. Frenster**, Jeannette A. Hovsepian

2439-Pos **Board #B209**
BIOPHYSICAL CHARACTERIZATION OF A RECOMBINANT CHROMATIN-LIPOSOME AGGREGATES. **Nikolay V. Berezhnoy**, Nikolay Korolev, Lars Nordenskiold

2440-Pos **Board #B210**
PROBING THE FUNCTIONAL INTEGRATION OF MECHANICAL SIGNALS TO CELL NUCLEUS. **K.Venkatesan Iyer**, Shivashankar G.V.

2441-Pos **Board #B211**
STUDYING THE ROLES OF CHROMATIN INSULATORS BY SINGLE-MOLECULE METHODS. **Alessandro Valeri**, Stephanie Dejardin, Jean-Bernard Fiche, Marcelo Nöllmann

2442-Pos **Board #B212**
CHROMOSOME ORGANIZATION BY A NUCLEOID-ASSOCIATED PROTEIN IN LIVE BACTERIA. **Chongyi Chen**, Wenqin Wang, Gene-Wei Li, Xiaowei Zhuang, X. Sunney Xie

2443-Pos **Board #B213**
MECHANISM AND FUNCTION OF CHROMATIN POSITIONAL DYNAMICS. **Alexandra Zidovska**, David A. Weitz, Timothy J. Mitchison

2444-Pos **Board #B214**
BIVALENT RECOGNITION OF A SINGLE NUCLEOSOME BY THE TANDEM PHD FINGERS OF CHD4 IS REQUIRED FOR CHD4-MEDIATED REPRESSION. **Catherine A. Musselman**, Julita Ramirez, Jennifer K. Sims, Robyn E. Mansfield, Samuel S. Oliver, John M. Denu, Joel P. Mackay, Paul A. Wade, James Hagman, Tatiana G. Kutateladze

2445-Pos **Board #B215**
IMPROVED SINGLE-MOLECULE IMAGING BASED ON PHOTON COUNTING WITH AN EMCCD CAMERA. **Abbas Padeganeh**, Etienne Lareau, Olivier Daigle, Anne-Marie Ladouceur, Paul Maddox

2446-Pos **Board #B216**
CHROMATIN STRUCTURE AND DYNAMICS: HISTONE VARIANTS AND REMODELING COMPLEXES. Fabien Montel, Hervé Ménoni, Dimitar Angelov, Stefan Dimitrov, Martin Castelnovo, **Cendrine Faivre-Moskalenko**

2447-Pos **Board #B217**
NUCLEOSOME DYNAMICS STUDIED BY SINGLE PAIR FRET AND COMPUTER SIMULATIONS. Vera Böhm, Katalin Tóth, Karine Voltz, Karolin Luger, Jeremy C. Smith, **Jörg Langowski**

2448-Pos **Board #B218**
EFFECTS OF CPG METHYLATION ON THE STRUCTURE AND ASSEMBLY OF A NUCLEOSOME. **Juyeon Lee**, Tae-Hee Lee

2449-Pos **Board #B219**
EFFECTS OF COVALENT MODIFICATIONS ON THE STRUCTURE AND ASSEMBLY OF NUCLEOSOMES. Ju Yeon Lee, Sijie Wei, **Tae-Hee Lee**

2450-Pos **Board #B220**
THE EFFECTCS OF HISTONE H4 ACETYLATIONS IN NUCLEOSOME-NUCLEOSOME INTERACTIONS AND ON CHROMATIN FOLDING AND FIBRE-FIBRE ASSOCIATION. **Lars Nordenskiöld**, Nikolay Korolev, Abdollah Allahverdi, Ying Liu, Renliang Yang, Yanping Fan, Chuan-Fa Liu

2451-Pos **Board #B221**
SEQUENCE-SPECIFIC ASYMMETRIC BINDING OF LINKER HISTONE TO NUCLEOSOME. **Victor Zhurkin**, Tatiana Nikitina, Difei Wang, Feng Cui, Michael Gomberg, Sergei Grigoryev

2452-Pos **Board #B222**
DNA SEQUENCE DEPENDENT AFFINITIES FOR NUCLEOSOME FORMATION CALCULATED BY THERMODYNAMIC INTEGRATION. **Gregory G. Putzel**, Nimesh Jain, Igal Szleifer

2453-Pos **Board #B223**
SINGLE-MOLECULE TWIST AND STRETCH OF MONONUCLEOSOME USING OPTICAL TORQUE WRENCH. **Jen-Chien Chang**, Michel de Messieres, Olga I. Kulaeva, Vasily M. Studitsky, Arthur La Porta

2454-Pos **Board #B224**
SINGLE MOLECULE FORCE SPECTROSCOPY REVEALS A LEFT HANDED HELICAL FOLDING FOR THE 30 NM CHROMATIN FIBER. **He Meng**, Thijn van der Heijden, Fabrizio Martino, Daniela Rhodes, John van Noort

2455-Pos **Board #B225**
CHROMATIN STRUCTURE AND DYNAMICS IN RESPONSE TO EXTERNAL FORCES AND TORQUES. **Gaurav Arya**, Irina V. Dobrovolskaia

2456-Pos **Board #B226** **EDUCATION TRAVEL AWARDEE**
LOOPING AND LONG-DISTANCE COMMUNICATION ON CHROMATIN. **Nicolas Clauvelin**, Vasily Studitsky, Wilma K. Olson

2457-Pos **Board #B227**
COMPUTER SIMULATION OF CHROMATIN: INTERDEPENDENCY BETWEEN NUCLEOSOME POSITIONS AND CHROMATIN STRUCTURE. **Oliver Müller**, Nick Kepper, Robert Schöpflin, Ramona Ettig, Karsten Rippe, Gero Wedemann

2458-Pos **Board #B228**
CHROMATIN ARCHITECTURE RECONSTRUCTION. **Philipp M. Diesinger**, Miriam Fritsche, Keyao Pan, Dieter Heermann, Mark Bathe

Protein-Nucleic Acid Interactions II (Boards #B229-#B251)

2459-Pos **Board #B229**
WHAT STRUCTURAL ELEMENTS MAKE A G-QUADRUPLEX PHYSIOLOGICALLY VIABLE? Sujay Ray, Mohammad H. Qureshi, Dominic Malcolm, Ugur Celik, John J. Portman, **Hamza Balci**

2460-Pos **Board #B230**
RATIONAL DESIGN OF POTENT DIMERIC LIGANDS AS POTENTIAL THERAPUTIC AGENTS FOR MYOTONIC DYSTROPHY TYPE I (DM1). **Amin H. Jahromi**, Steven C. Zimmerman

2461-Pos **Board #B231**
STRUCTURAL AND FUNCTIONAL CONSEQUENCES OF PHOSPHATE-ARSENATE SUBSTITUTIONS IN SELECTED NUCLEOTIDES: DNA, RNA, AND ATP. **Buyong Ma**, Yu Xu, Ruth Nussinov

2462-Pos **Board #B232**
OLIGOMERIC ASSEMBLY OF HIV-1 REV ON THE REV RESPONSE ELEMENT: ROLE OF CELLULAR COFACTORS. **Rajan Lamichhane**, Rae M. Robertson-Anderson, Svitlana Y. Berezhna, Edwin JC van der Schans, David P. Millar

2463-Pos **Board #B233**
HISTIDINE-TAG-SPECIFIC OPTICAL PROBES FOR ANALYTICAL ULTRACENTRIFUGATION ANALYSIS. **Heather E. Elverson**, Lance M. Hellman, Manana Melikishvili, Chunxia Zhao, Sidney W. Whiteheart, Michael G. Fried

2464-Pos **Board #B234**
DIRECT MEASUREMENT OF HIV-1 REVERSE TRANSCRIPTASE BINDING KINETICS, ONE COMPLEX AT A TIME. **Grant D. Schauer**, Nicolas Sluis-Cremer, Sanford H. Leuba

2465-Pos **Board #B235**
THE DEVELOPMENT OF METHODS FOR THE SITE-SPECIFIC FLUORESCENT LABELING OF SPLICEOSOMAL PROTEINS FOR USE IN SINGLE-MOLECULE STUDIES. **Matthew L. Kahlscheuer**, Nils G. Walter

2466-Pos **Board #B236**
QUANTIFYING ACTIN MRNA EXPRESSION WITH SUPER RESOLUTION FLUORESCENCE MICROSCOPY. **Benjamin Flottmann**, Manuel Gunkel, Sebastian Malkusch, Mike Heilemann

2467-Pos **Board #B237**
DNA INTERACTIONS KINETICS OF HIV-1 NUCLEOCAPSID PROTEINS BY SINGLE MOLECULE DNA STRETCHING. **Jialin Li**, Robert Gorelick, Ioulia Rouzina, Karin Musier-Forsyth, Mark Williams

2468-Pos **Board #B238**
STABILIZING LABILE DNA-PROTEIN COMPLEXES IN POLYACRYLAMIDE GELS. **Nina Y. Sidorova**, Stevephen Hung, Donald C. Rau

2469-Pos **Board #B239**
MECHANOCHEMISTRY OF THE RAD5 DOUBLE-STRANDED DNA TRANSLOCASE. **Zsuzsa S. Kocsis**, Lajos Pintér, Lajos Haracska, Mihály Kovács

2470-Pos **Board #B240**
REVERSIBLE DNA IMMOBILIZATION ON THE NEUTRAVIDIN COATED SURFACES. Taeho Yeom, Yoori Kim, **Kyubong Jo**

2471-Pos **Board #B241**
DISTINCT UNCOILING MECHANISMS OF HUMAN NUCLEAR AND MITOCHONDRIAL TYPE IB TOPOISOMERASES. **Yeonee Seol**, Hongliang Zhang, Ilaria Dalla Rosa, Yves Pommier, Keir C. Neuman

2472-Pos **Board #B242**
A NEW ROLE FOR UVRB IN NER? SINGLE MOLECULE IMAGING OF THE NER COMPLEX UVRBC-DNA. **Craig D. Hughes**, Mohammed A. Towheed, Michelle Simons, Hong Wang, Bennett Van Houten, Neil M. Kad

2473-Pos **Board #B243**
SUBSTRATE INTERACTIONS OF A HUMAN DNA ALKYLTRANSFERASE. **Michael G. Fried**, Ingrid Tessmer, Manana Melikishvili

2474-Pos **Board #B244**
SINGLE-MOLECULE STUDIES OF TRANSCRIPTION INITIATION USING A VESICLE APPROACH. **Diego Duchi Llumigusin**, Nicole Robb, Kristofer Gryte, Achillefs N. Kapanidis

2475-Pos **Board #B245**
DYNAMIC SWITCH BETWEEN ASSEMBLY STATES OF THE HUMAN BLOOM'S SYNDROME HELICASE DURING HOMOLOGOUS RECOMBINATION. **Kata Sarlos**, Máté Gyimesi, Ricardo H. Pires, Nikolett T. Nagy, Károly Módos, Miklós S.Z. Kellermayer, Mihály Kovács

2476-Pos **Board #B246** **MINORITY TRAVEL AWARDEE**
SINGLE-MOLECULE STUDIES OF RESTRICTION ENDONUCLEASE KINETICS. **Candice M. Etson**, Frances Wilburn, Thomas Moody, Victoria Fashakin, David R. Walt

2477-Pos **Board #B247**
G4 QUADRUPLEX RECOGNITION IN THE HUMAN DEAH-BOX HELICASE RHAU. **Markus Meier**, Shawn Xiong, Natalie Okun, Trushar R. Patel, Evan Booy, Lynda Donald, Sean McKenna, Jörg Stetefeld

2478-Pos **Board #B248**
SINGLE MOLECULE OBSERVATION OF MICRORNA PROCESSING ENZYMES AT ACTION. Kyu-Hyeon Yeom, **Chirlmin Joo**

2479-Pos **Board #B249**
HELICASE-INITIATED ASSEMBLY OF THE PRIMOSOME. **Michal R. Szymanski**, Maria J. Jezewska, Wlodek Bujalowski

2480-Pos **Board #B250**
NON-EQUILIBRIUM TOPOLOGY SIMPLIFICATION BY TYPE II TOPOISOMERASES: A TEST OF KINETIC PROOFREADING. **Yeonee Seol**, Ashley H. Hardin, Gilles Charvin, Keir C. Neuman

2481-Pos **Board #B251**
AN ENTHALPIC "ON/OFF SWITCH" LINKING DNA BINDING AND NUCLEOTIDE INCORPORATION ACTIVITY IN POL I DNA POLYMERASES. **Hiromi S. Brown**, Vince J. LiCata

Membrane Active Peptides II (Boards #B252-#B280)

2482-Pos **Board #B252**
THE CLUSTERING OF ANIONIC LIPIDS BY HIGHLY CATIONIC CELL PENETRATING PEPTIDES, AS WITH ANTIMICROBIAL PEPTIDES, CAN CONTRIBUTE TO THEIR ANTIMICROBIAL ACTIVITY. **Raquel F. Epand**, Parvesh Wadhwani, N Heidenrich, J. Burck, Anna S. Ulrich, Richard M. Epand

2483-Pos **Board #B253**
EFFECTS OF TRYPTOPHAN CONTENT AND BACKBONE SPACING ON UPTAKE EFFICIENCY OF CELL-PENETRATING PEPTIDES. **Hanna A. Rydberg**, Maria Matson, Helene L. Åmand, Elin K. Esbjörner, Bengt Nordén

2484-Pos **Board #B254**
DIRECT PENETRATION OF CELL-PENETRATING PEPTIDES ACROSS LIPID BILAYERS. **Andrew Wang**, Nicholas Melosh

2485-Pos **Board #B255**
SNAKE VENOM-DERIVED PEPTIDES AS TOOLS FOR INTRACELLULAR DELIVERY. **Margarida Rodrigues**, Andrea Santos, Beatriz G. de la Torre, Gandhi Rádis-Baptista, David Andreu, Nuno Santos

2486-Pos **Board #B256**
BACTERIAL UPTAKE OF THE CELL-PENETRATING PEPTIDE PVEC. **Begum Alaybeyoglu**, Ihsan Omur Akdag, Elif Ozkirimli Olmez

2487-Pos **Board #B257**
INVESTIGATION OF THE SELF-ASSOCIATION OF δ-LYSIN VARIANTS VIA FLUORESCENCE ANISOTROPY. **Francis Dean O. Ablan**, Paulo F. Almeida

2488-Pos **Board #B258**
SELF-ASSEMBLY OF THE MEMBRANE-BOUND β-STRANDED PEPTIDE $(KIGAKI)_3$ INTO IMMOBILIZED AMYLOID FIBRILS OBSERVED BY SOLID-STATE ^{19}F-NMR. **Parvesh Wadhwani**, Erik Strandberg, Nico Heidenreich, Jochen Buerck, Susanne Fanghaenel, Anne S. Ulrich

2489-Pos **Board #B259**
PHOSPHATIDYLETHANOLAMINE ENHANCES AMYLOID FIBER DEPENDENT MEMBRANE FRAGMENTATION. **Michele F.M, Sciacca**, Jeffrey R. Brender, Dong-kuk Lee, Ayyalusamy Ramamoorthy

2490-Pos **Board #B260**
COPPER MODULATES Aβ42 AGGREGATION IN MODEL MEMBRANES. Marc-Antoine Sani, Daniel K. Weber, John D. Gehman, **Frances Separovic**

2491-Pos **Board #B261**
THE CONFORMATION OF AMYLOIDOGENIC PEPTIDES IS GOVERNED BY (TRANSIENT) INTERFACES AND INFLUENCED BY METAL ION COMPLEXATION. **Maria Hoernke**, Beate Koksch, Gerald Brezesinski

2492-Pos **Board #B262**
MEMBRANE BINDING AND TUBULATION BY N-BAR: THE EFFECT OF MEMBRANE COMPOSITION AND MEMBRANE LATERAL TENSION. **Jaime B. Hutchison**, A. D. Dinsmore, R. M. Weis

2493-Pos **Board #B263**
COMPETITIVE BINDING TO LIPID BILAYERS BY PEPTIDES AND DRUGS. **Chang-Chun Lee**, Yen Sun, Huey W. Huang

2494-Pos **Board #B264**
MEMBRANE PERMEABILITY OF A PEPTIDE DRUG CAI THAT IS HYDROCARBON-STAPLED TO A HELIX(NYAD-1). **Tzu-Lin Sun**, Chang-Chen Lee, Yen Sun, Huey W. Huang

2495-Pos **Board #B265**
PERMEATION OF AMPHIPATHIC DRUG THROUGH A LIPID BILAYER: CURCUMIN. **Yen Sun**, Chang-Chun Lee, Huey W. Huang

2496-Pos **Board #B266**
CONJUGATION OF CHOLESTEROL TO HIV-1 FUSION INHIBITOR C34 SYNERGISTICALLY POTENTIATES PEPTIDE-MEMBRANE INTERACTION. **Pedro M. Matos**, Axel Hollmann, Miguel A. Castanho, Nuno C. Santos

2497-Pos **Board #B267**
DECODING DISTINCT MEMBRANE INTERACTIONS OF HIV-1 INHIBITORS ENFUVIRTIDE AND T-1249 USING ATOMIC FORCE MICROSCOPY COMBINED WITH FLUORESCENCE METHODOLOGIES. **Henri G. Franquelim**, A. Salomé Veiga, Nuno C. Santos, Miguel A. Castanho

2498-Pos **Board #B268**
TRANSFER FREE ENERGIES FROM SPONTANEOUS BILAYER INSERTION OF WATER SOLUBLE TRANS-MEMBRANE HELICES. **Martin B. Ulmschneider**, Stephen H. White

2499-Pos **Board #B269**
MODULATING TRANSMEMBRANE α-HELIX INTERACTIONS THROUGH PH. **Derek P. Ng**, Charles M. Deber

2500-Pos **Board #B270**
THERMODYNAMIC APPROACH TO LARGE-SCALE MODELING OF ALPHA-HELICES IN MEMBRANES. **Andrei L. Lomize**, Henry I. Mosberg, Irina D. Pogozheva

2501-Pos **Board #B271**
EFFECTS OF KL4-TYPE PEPTIDES ON THE SURFACE ACTIVITY AND STABILITY OF PULMONARY SURFACTANT FILMS AS EVALUATED IN THE CAPTIVE BUBBLE SURFACTOMETER. **Olga Lucia Ospina Ramirez**, Jesus Perez-Gil, Ismael Mingarro

2502-Pos **Board #B272**
INTERACTION OF HYDROPHOBIC SURFACTANT PROTEINS WITH ORIENTED PHOSPHOLIPID BILAYERS. **Kamlesh Kumar**, Ryan Loney, Mariya Chavarha, Shankar B. Rananavare, Stephen B. Hall

2503-Pos **Board #B273**
ANIONIC PHOSPHOLIPIDS CHANGE THE EFFECT OF THE HYDROPHOBIC SURFACTANT PROTEINS ON STRUCTURES OF HEXAGONAL LIPIDS. **Mariya Chavarha**, Ryan Loney, Kamlesh Kumar, Shankar B. Rananavare, Stephen B. Hall

2504-Pos **Board #B274** **EDUCATION TRAVEL AWARDEE**
EFFECTS OF HIDROPHOBIC SURFACTANT PROTEINS SP-B AND SP-C ON THE MECHANICAL PROPERTIES AND STRUCTURAL STABILITY OF PHOSPHOLIPID BILAYERS. **Elisa Parra**, Lara H.-Moleiro, Ivan Lopez-Montero, Antonio Cruz, Francisco Monroy, Jesus Perez-Gil

2505-Pos **Board #B275**
PEPTIDE-LIPID REACTIVITY IN MEMBRANES. Robert H. Dods, Jackie A. Mosely, **John M. Sanderson**

2506-Pos **Board #B276**
PROTECTION OF THE MEMBRANE PERMEABILITY BARRIER BY ANNEXINS. **Carl E. Creutz**

2507-Pos **Board #B277**
IMMOBILIZATION OF LIPID BILAYER DISKS ON QCM-D SENSORS FOR THE STUDY OF PEPTIDE-LIPID INTERACTIONS. **Victor Agmo Hernandez**, Karin Reijmar, Katarina Edwards

2508-Pos **Board #B278**
DISENTANGLEMENT OF HETEROGENEOUS SOLID-STATE NMR PARAMETER MEASUREMENTS IN MODEL MEMBRANES. **John D. Gehman**, Marc-Antoine Sani, Frances Separovic, Anil K. Mehta

2509-Pos **Board #B279**
SAMPLING ISSUES IN ATOMISTIC SIMULATIONS OF PEPTIDES AT CYCLOHEXANE/WATER AND POPC/WATER INTERFACES. **Gurpreet Singh**, D. Peter Tieleman

2510-Pos **Board #B280**
STRUCTURE ANALYSIS AND MD SIMULATION OF THE BIOFILM PROMOTING PEPTIDE TISB FROM E. COLI. **Sebastian Prock**, Thomas Steinbrecher, Jochen Buerck, Parvesh Wadhwani, Benjamin Zimpfer, Marcus Elstner, Anne S. Ulrich

Interfacial Protein-Lipid Interactions II (Boards #B281-#B307)

2511-Pos **Board #B281**
CONFORMATIONAL DYNAMICS OF MEMBRANE-BOUND α-SYNUCLEIN IN A HIGHLY MOBILE MEMBRANE MIMETIC. **Joshua V. Vermaas**, Emad Tajkhorshid

2512-Pos **Board #B282**
ROLE OF THE CYCLIZATION IN DE NOVO DESIGN OF ANTIMICROBIAL PEPTIDE MIMICS. **Konstantin Andreev**, Marija Kosutic, Andrey Ivankin, Mia Huang, Kent Kirschenbaum, David Gidalevitz

2513-Pos **Board #B283**
NSAIDS INTERACT WITH DPPC MONOLAYERS. **Jaime Larsen**, David D. Busath

2514-Pos **Board #B284**
OPTICAL ISSUES FOR THE RAPID DETERMINATION OF SURFACE TENSION USING CAPTIVE BUBBLES. **Hamed Khoojinian**, Jim P. Goodarzi, Stephen B. Hall

2515-Pos **Board #B285**
A SYSTEMATIC APPROACH TOWARDS ELUCIDATION OF THE MODE OF ACTION OF A BACTERIAL THERMOSENSOR. **Joost Ballering**, Larisa E. Cybulski, Diego de Mendoza, J. Antoinette Killian

2516-Pos **Board #B286**
HOW DOES THERMOSENSOR DESK MEASURE MEMBRANE THICKNESS? TRYPTOPHAN FLUORESCENCE AND MUTAGENESIS ANALYSIS. **Larisa E. Cybulski**, Diego de Mendoza, Joost Ballering, Antoinette Killian

2517-Pos **Board #B287**
CHARACTERIZATION OF OXIDIZED PHOSPHOLIPID CONTAINING RECONSTITUTED HIGH DENSITY LIPOPROTEIN PARTICLE. **Subhabrata Kar**, Rajan K. Tripathy, Mitul A. Patel, Abhay H. Pande

2518-Pos **Board #B288**
PROBING THE ACTIVATOR AND HYDROPHOBIC SUBSTRATE BINDING SITES OF PTEN BY 31P NMR. **Yang Wei**, Mary F. Roberts

2519-Pos **Board #B289**
OSH4 MEMBRANE BINDING THROUGH MOLECULAR DYNAMICS. **Brent Rogaski**, Jeffery B. Klauda

2520-Pos **Board #B290**
INTERMEMBRANE LIPID TRANSFER IS FACILITATED BY MITOCHONDRIAL NUCLEOSIDE DIPHOSPHATE KINASE D. **Malgorzata Tokarska-Schlattner**, Andy Amoscato, Yulia Y. Tyuina, Sacnicte Ramirez Rios, Raquel F. Epand, Richard M. Epand, Marie-Lise Lacombe, Uwe Schlattner, Valerian E. Kagan

2521-Pos **Board #B291**
MOLECULAR BASIS FOR IMMUNE RECOGNITION OF EXPOSED PHOSPHATIDYLSERINE VIA THE TIM FAMILY OF PROTEINS. **Gregory T. Tietjen**, Ernesto Vargas, Chiu-Hao Chen, Mark Schlossman, Binhua Lin, Mati Meron, Erin Adams, Ka Yee Lee

2522-Pos **Board #B292**
INVESTIGATION OF THE SIGNAL SENSING MECHANISM BY THE BACTERIAL THERMOSENSOR DESK USING MOLECULAR DYNAMICS METHODS. **Anastassiia Moussatova**, D. Peter Tieleman

2523-Pos **Board #B293**
THE ROLE OF "RAFT-LIKE" MEMBRANES ON ANTIMICROBIAL PEPTIDE-LIPID BILAYER INTERACTIONS. **Austin J. McHenry**, Michele F.M. Sciacca, Jeffrey R. Brender, Kevin Hartman, Ayyalusamy Ramamoorthy

2524-Pos **Board #B294**
GLYCOLIPID TRANSFER PROTEIN (GLTP) DOMAIN OF PHOSPHOINOSITOL 4-PHOSPHATE ADAPTOR PROTEIN-2 (FAPP2): LIPID TRANSFER SPECIFICITY AND PHYSICAL FEATURES. Ravi Kanth Kamlekar, Yong-guang Gao, Dhirendra Simanshu, Franklyn G. Prendergast, Sergei Y. Venyaminov, Lucy Malinina, Julian G. Molotkovsky, Dinshaw J. Patel, **Rhoderick E. Brown**

2525-Pos **Board #B295**
ENHANCED DETECTION OF LIPID TRANSFER PROTEIN ACTIVITY BY RESONANCE ENERGY TRANSFER WITH TETRAMETHYL-BODIPY LABELED LIPIDS. **Xiuhong Zhai**, Ivan A. Boldyrev, Helen M. Pike, Howard L. Brockman, Julian G. Molotkovsky, Rhoderick E. Brown

2526-Pos **Board #B296**
DEVELOPMENT OF BIOCOMPATIBLE POLYMERS FOR MODULATING LIPID MEMBRANE INTEGRITY. **Jia-Yu Wang**, Brent Hammer, Phullara Shelat, Jeremy Marks, Todd Emrick, Ka Yee C. Lee

2527-Pos **Board #B297**
DETERIORATION OF PULMONARY SURFACTANT BY VOLATILE ANESTHETICS. **Leonel S. Malacrida**, Olga Cañadas, Elena Lopez-Rodriguez, Horacio Botti, Jesús Perez-Gil, Ana Denicola, Cristina Casals, Arturo Briva

2528-Pos **Board #B298**
EXPLORING HYDROPHOBIC MISMATCH'S IMPACTS ON DISSOCIATION OF GRAMICIDIN A CHANNELS USING MOLECULAR DYNAMICS FREE ENERGY SIMULATIONS. **Andrew H. Beaven**, Taehoon Kim, Phillip Morris, Olaf S. Anderson, Wonpil Im

2529-Pos **Board #B299**
MAB10F5 IS AN ANTI-PHOSPHOLIPID ANTIBODY THAT BINDS IN THE BASAL GANGLIA IN VIVO. **Marie Kelly-Worden**, Mathew Osborne, Robyn Gebhard

2530-Pos **Board #B300**
EXPERIMENTAL STUDY OF AMYLOIDOGENIC PROTEIN ADSORPTION TO SUPPORTED LIPID BILAYERS. **Erik Hellstrand**, Marie Grey, Marie-Louise Ainalem, Tommy Nylander, Sara Linse, Emma Sparr

2531-Pos **Board #B301**
PR3 INTERACTS DIRECTLY TO LIPID BILAYERS: EVIDENCE FROM MD SIMULATIONS AND SPR EXPERIMENTS. **Anne-Sophie Schillinger**, Cedric Grauffel, Oyvind Halskau, Nathalie Reuter

2532-Pos **Board #B302**
THE ROLE OF PROTEIN CONTEXT IN DISEASE-RELATED HUNTINGTIN PROTEIN/LIPID INTERFACE INTERACTIONS. **Karlina J. Kauffman**, Kathleen A. Burke, Justin Legleiter, Shelli L. Frey

2533-Pos **Board #B303**
THE UNI- TO MULTILAMELLAR TRANSITION OF MIXED ANIONIC AND ZWITTERIONIC VESICLES INDUCED BY CYTOCHROME-C: A SMALL ANGLE X-RAY SCATTERING STUDY. **Leandro R S Barbosa**, Alessio Correani, Alessio Romaldini, Francesco Spinozzi, Paolo Mariani, Rosangela Itri

2534-Pos **Board #B304**
MOLECULAR DYNAMICS PREDICTION AND REFINEMENT OF TRANSMEMBRANE HELIX DIMERS. **Liqun Zhang**, Alexander Sodt, Rick Venable, Richard W. Pastor, Matthias Buck

2535-Pos **Board #B305**
HIGHLY PEGYLATED STERICALLY STABILIZED MICELLES IN AQUEOUS MEDIA: STRUCTURE, DYNAMICS, AND STORAGE OF THERAPEUTIC AGENTS. **Lela Vukovic**, Fatima A. Khatib, Stephanie P. Drake, Antonett Madriaga, Kenneth S. Brandenburg, Alan T. Tang, Neil Shah, Petr Kral, Hayat Onyuksel

2536-Pos **Board #B306**
EFFECT OF LIPID UNSATURATION ON MEMBRANE PROTEIN STRUCTURE AND FUNCTION FROM MULTI-MICROSECOND MOLECULAR DYNAMICS SIMULATIONS. **Igor Vorobyov**, Matthew B. Roark, Scott E. Feller, Toby W. Allen

2537-Pos **Board #B307**
WATER BETWEEN LIPIDS: DOMAINS FOR PEPTIDES INSERTION? **Edgardo A. Disalvo**, Ana Bouchet, Maria Frias, Hugo Almaleck, Fabiana Lairion, Florencia Martini, Sergio Garay, Daniel Rodrigues, Fernando Herrera, Axel Hollmann

Membrane Fusion (Boards #B308-#B331)

2538-Pos **Board #B308**
SNARE-MEDIATED FUSION PORE DYNAMICS FROM QUANTITATIVE TIRF MICROSCOPY. **Benjamin S. Stratton**, Jason M. Warner, George Wei, Hahn Chong, Erdem Karatekin, Ben O'Shaughnessy

2539-Pos **Board #B309**
COOPERATIVITY OF SNARE COMPLEXES IN MEMBRANE FUSION: MECHANISMS OF SNARE CLUSTER-MEDIATED DOCKING AND FUSION. **Jason M. Warner**, Benjamin S. Stratton, Erdem Karatekin, Ben O'Shaughnessy

2540-Pos **Board #B310**
DIRECT OBSERVATION OF DUAL PATHWAYS OF YEAST MINIMAL-MACHINERY-SNARE DRIVEN VESICLE FUSION. **Je-Kyung Ryu**, Jun Hyuk Moon, Malgi Choi, Kipom Kim, Yeon-Kyun Shin, Mahn Won Kim, Tae-Young Yoon

2541-Pos **Board #B311**
SOLUTION SINGLE VESICLE FUSION ASSAY REVEALS PIP_2 MEDIATED SEQUENTIAL ACTIONS OF SYNAPTOTAGMIN-1 ONTO SNARES. **Jea-Yeol Kim**, Bong-Kyu Choi, Mal-Gi Choi, Sun-Ae Kim, Yeon-Kyun Shin, Nam Ki Lee

2542-Pos **Board #B312**
STRUCTURAL MODEL OF THE JUXTAMEMBRANE REGION OF THE *TRANS*-SNARE COMPLEX WITH EPR. **Xiaochu Lou**

2543-Pos **Board #B313**
SINGLE VESICLE FUSION SYSTEM FOR CONTENT MIXING AND SNARE COMPLEX FORMSTION. **Woori Bae**, Mal-Gi Choi, Tae-Young Yoon

2544-Pos **Board #B314**
INSIGHTS INTO MEMBRANE FUSION FROM MOLECULAR DYNAMICS SIMULATIONS OF SNARE PROTEINS. **Alex Tek**, Peter J. Bond, Mark S. P. Sansom, Marc Baaden

2545-Pos **Board #B315**
HIV GP41 TRANS-MEMBRANE DOMAIN PROMOTES BOTH STALK AND FUSION PORE FORMATION IN POLY(ETHYLENE-) GLYCOL MEDIATED MEMBRANE FUSION. Hirak Chakraborty, Sekaran Moses Dennison, David G. Klapper, **Barry R. Lentz**

2546-Pos **Board #B316**
SYNAPTOBREVIN TRANS-MEMBRANE DOMAIN FORMS A COMPLEX THAT ENHANCES THE RATE OF "STALK" AND PORE FORMATION IN PEG-MEDIATED VESICLE FUSION. **Pradip K. Tarafdar**, Barry R. Lentz

2547-Pos **Board #B317**
DIRECT VISUALIZATION OF LARGE AND PROTEIN-FREE HEMIFUSION DIAPHRAGMS. **Joerg Nikolaus**, Jason M. Warner, Ben Oâ€™Shaughnessy, Andreas Herrmann

2548-Pos **Board #B318**
STUDYING X31 INFLUENZA MEMBRANE BINDING AND FUSION USING STOCHASTIC ASSAYS AND SIMULATIONS. **Donald Lee**, Vikram Thapar, Deirdre Costello, Paulette Clancy, Gary Whittaker, Susan Daniel

2549-Pos **Board #B319**
A QUANTITATIVE MODEL FOR FORMATION OF PROTEIN-MEDIATED PROTRUSIONS, BASED ON CONTINUUM ELASTICITY THEORY. **Rodion Molotkovsky**, Joshua Zimmerberg, Fredric S. Cohen, Sergey Akimov

2550-Pos **Board #B320**
TIRFING INSULIN-STIMULATED GLUT4 TRANSLOCATION WITH A QUENCH-BASED MEHTOD. **Yu Chen**, Jennifer Lippincott-Schwartz

2551-Pos **Board #B321**
A DYNAMIC MODEL OF FUSION PORES IN LIPID BILAYERS. **Rolf Ryham**, Fredric S. Cohen, Robert Eisenberg, Chun Liu

2552-Pos **Board #B322** **MINORITY TRAVEL AWARDEE**
EFFECT OF PHOSPHATIDYLSERINE ON ASYMMETRIC MEMBRANE FUSION. **Gladys Diaz Vazquez**, Hirak Chakraborty, Pradip Tarafdar, Barry R. Lentz

2553-Pos **Board #B323** **CPOW TRAVEL AWARDEE**
ROLE OF LIPID TILT IN ENDOCYTOSIS. **Padmini Rangamani**, David Steigmann, George Oster

2554-Pos **Board #B324**
REDOX POTENTIALS IN THE REGULATION OF VIRAL FUSION. Ruben M. Markosyan, **Fredric S. Cohen**

2555-Pos **Board #B325**
ACIDIC LIPID,NBD-PG HAS CRUCIAL EFFECT ON THE VOLTAGE-DEPENDENCE OF VIRUS FUSION. **Ruben M. Markosyan**, Fredric S. Cohen

2556-Pos **Board #B326**
$_p$H-SENSITIVE PEGYLATED CATIONIC LIPID-DNA COMPLEXES FOR GENE DELIVERY: TRANSFECTION EFFICIENCY AND LIVE CELL IMAGING STUDIES. **Chia-Ling Chan**, Ramsey Majzoub, Rahau S. Shirazi, Keng-San Liang, Kai K. Ewert, Cyrus R. Safinya

2557-Pos **Board #B327**
DYNAMIC CA^{2+}-DEPENDENT ACTIVITY OF MEMBRANE-ANCHORED SYNAPTOTAGMIN 1 OBSERVED AT THE CONTENT MIXING LEVEL. **Mi-sook Sung**, Tae-sun Lee, Mal-gi Choi, Woori Bae, Han-Ki Lee, Yeon-Kyun Shin, Tae-Young Yoon

2558-Pos **Board #B328**
REAL-TIME IMAGING OF RETROVIRUS-ENDOSOME FUSION FOLLOWED BY RELEASE AND TRAFFICKING OF THE VIRAL CORE. **Sergi Padilla-Parra**, Mariana Marin, Naoyuki Kondo, Gregory B. Melikyan

2559-Pos **Board #B329**
WHOLE CELL ELECTRICAL ACCESS OBTAINED BY ELECTROPORATION OF A SYNTHETIC BILAYER APPROXIMATING THE PLASMA MEMBRANE. Srujan K. Dondapati, Gerhard Baaken, Juan Del Rio Martinez, **Jan C. Behrends**

2560-Pos **Board #B330**
ENGULFMENT OF MODEL MEMBRANES BY ALVEOLAR MACROPHAGES. **Matthew J. Justice**, Daniela N. Petrusca, Justin Williams, Kelly S. Schweitzer, Irina Petrache, Stephen R. Wassall, Horia I. Petrache

2561-Pos **Board #B331**
MICROFLUIDIC CONSTRUCTION OF SYNTHETIC CELLULAR STRUCTURES. **Gage A. Brummer**, Sandro Matosevic, Brian M. Paegel

Membrane Structure II (Boards #B332-#B352)

2562-Pos **Board #B332**
STRUCTURAL PROPERTIES OF WATER AT INTERFACES. **Alexius Otto**

2563-Pos **Board #B333**
LATERAL PRESSURE PROFILE IN A LIPID MEMBRANE WITH CURVATURE: ANALYTICAL EXPRESSION. Anna A. Drozdova, **Sergei I. Mukhin**

2564-Pos **Board #B334**
ROLE OF MEMBRANE TENSION ON PHYSICAL PROPERTIES OF DOPC LIPID BILAYER. **Srinivas R. Alla**, Mirianas Chachisvilis

2565-Pos **Board #B335**
SIMULATIONS OF PEGYLATED AND TETHERED LIPID BILAYERS. Shou-Chuang Yang, Chueh Liu, **Roland Faller**

2566-Pos **Board #B336**
STRUCTURAL CORRELATIONS AND THERMODYNAMICS OF THE GEL PHASE IN LIPID BILAYERS. **Richard O. Tjörnhammar**, Olle Edholm

2567-Pos **Board #B337**
COMPARISON OF ORIENTATIONAL TEXTURE IN LIPID BILAYERS AND LANGMUIR MONOLAYERS. **Jes Dreier**, Jonathan Brewer, Adam Cohen Simonsen

2568-Pos **Board #B338**
WIDE-FIELD TIME RESOLVED ANISOTROPY FOR IN-SITU LIPID PHASE DYNAMICS. Neda Dadashvand, Felix Schupp, **Christina M. Othon**

2569-Pos **Board #B339**
ELECTROSTATIC EFFECTS ON MODEL BILAYER STABILITY AND STRUCTURE. **James M. Marr**, Zachary D. Schultz

2570-Pos **Board #B340**
ANOMALOUS FREEZING BEHAVIOR OF NANOSCALE LIPOSOMES. **Eric J. Spangler**, Mohamed Laradji, P.B. Sunil Kumar

2571-Pos **Board #B341**
MEMBRANE STRUCTURE OF SMALL UNILAMELLAR VESICLES DETERMINED BY SMALL ANGLE X-RAY SCATTERING: A COMPARISON OF FULL AND LOCAL SPECTRUM FITTINGS. **Ming-Tao Lee**, Wei-Yu Lin, Wei-Chin Hung

2572-Pos **Board #B342**
MOLECULAR STRUCTURE OF PHOSPHATIDYLGLYCEROL BILAYERS: FLUID PHASE LIPID AREAS AND BILAYER THICKNESSES AS A FUNCTION OF TEMPERATURE. Jianjun Pan, **Frederick Heberle**, Norbert Kucerka, Stephanie Tristram-Nagle, Michelle Szymanski, Mary Koepfinger, John Katsaras

2573-Pos **Board #B343**
THE DETAILED SCATTERING DENSITY PROFILE MODEL OF PG BILAYERS AS DETERMINED BY MOLECULAR DYNAMICS SIMULATIONS, AND SMALL-ANGLE NEUTRON AND X-RAY SCATTERING EXPERIMENTS. **Norbert Kucerka**, Bryan Holland, Jianjun Pan, Frederick A. Heberle, Chris G. Gray, Bruno Tomberli, John Katsaras

2574-Pos **Board #B344**
A NOVEL FRAMEWORK FOR IN-HOUSE HIGH THROUGHPUT MEASUREMENTS OF LIPID PHASE BEHAVIOUR. **Sowmya Purushothaman**

2575-Pos **Board #B345**
SHAPE ENTROPY AND THE TIME SCALES FOR THERMODYNAMICS IN BIOLOGICAL SYSTEMS. **Peter Salamon**, Mariam Ghochani, James Nulton, Terrence G. Frey, Avinoam Rabinovitch, Arlette RC Baljon

2576-Pos **Board #B346**
INVESTIGATION OF LIPID DISTRIBUTION BY COHERENT ANTI-STOKES RAMAN SCATTERING. **Lawrence O. Itela**, Zachary D. Schultz

2577-Pos **Board #B347**
COMPUTER SIMULATION OF CYTOSKELETON-INDUCED BLEBBING IN LIPID MEMBRANES. **Mohamed Laradji**, Eric J. Spangler, P.B. Sunil Kumar

2578-Pos **Board #B348**
IMAGING OF SUPPORTED BILAYERS MODIFIED BY BUTANOL AND HEXANOL, AND BY THE SOLVENT DECANE. **An T. Ngo**, Catherine E. Morris, Béla Joós, Linda J. Johnston

2579-Pos **Board #B349**
SUCROSE EXCLUSION AND INCLUSION IN A LIPID-WATER SYSTEM. Kyle T. Bussis, Evan M. Jensen, **Paul E. Harper**

2580-Pos **Board #B350**
MEMBRANE AREA DEFORMATION UNDER OSMOTIC STRESS: DEUTERIUM NMR APPROACH. **K. J. Mallikarjunaiah**, Jacob J. Kinnun, Horia I. Petrache, Michael F. Brown

2581-Pos **Board #B351**
INFLUENCE OF THE INTERDIGITATED GEL PHASE IN MIXTURES OF ETHER-LINKED AND MONOFLUORINATED ESTER-LINKED PHOSPHOLIPIDS. **Eric A. Smith**, Phoebe K. Dea

2582-Pos **Board #B352**
NANOPARTICLE-INDUCED HOLES IN MODEL MEMBRANES. Fang Zhao, Jenny Perez-Holmberg, Rickard Frost, Zareen Abbas, Martin Hassellöv, Bengt Kasemo, **Sofia Svedhem**

Calcium Signaling Proteins (Boards #B353-#B382)

2583-Pos **Board #B353**
SPONTANEOUS CA^{2+} OSCILLATIONS IN BEATING HUMAN INDUCED PLURIPOTENT STEM CELL-DERIVED CARDIOMYOCYTES (HIPSC-CM) AND RAT NEONATAL CARDIOMYOCYTES (RN-CM). **Xiao-Hua Zhang**, Susannah L. Stone, Azra Fatima, Jürgen Hescheler, Tomo Saric, Martin Morad

2584-Pos **Board #B354**
CA^{2+} SIGNALING IN CARDIOMYOCYTES DERIVED FROM HUMAN INDUCED PLURIPOTENT STEM CELLS (HIPSC). **Juan Jose Arnaiz-Cot**, Azra Fatima, Susannah L. Stone, Lars Cleemann, Jürgen Hescheler, Tomo Saric, Martin Morad

2585-Pos **Board #B355**
ERK-MEDIATED DECODING OF CALCIUM OSCILLATIONS IN PANCREATIC BETA CELLS. **Ambhighainath Ganesan**, Andre Levchenko, Jin Zhang

2586-Pos **Board #B356**
ENDOPLASMIC RETICULUM PROTEIN 44 MEDIATES CELL MIGRATION. Yingxiao Chen, Wenxuan Yin, Yanyun Wu, Congyan Pan, Lin Miao, **Guangju Ji**

2587-Pos **Board #B357** **EDUCATION TRAVEL AWARDEE**
DISEASE RELATED MUTATIONS ADJACENT TO PREDICTED MULTIPLE CA^{2+} BINDING SITES OF CA^{2+}-SENSING RECEPTOR ALTERING INTRACELLULAR CA^{2+} OSCILLATIONS VIA EXTRACELLULAR CALCIUM AND AMINO ACID SIGNALING. **Chen Zhang**, Fadil Hannan, Yun Huang, Yusheng Jiang, Mulpuri Nagaraju, Rajesh Thakker, Donald Hamelberg, Edward Brown, Jenny Yang

2588-Pos **Board #B358**
CA^{2+} AND MG^{2+} INDUCED CONFORMATIONAL CHANGES IN DOWNSTREAM REGULATORY ANTAGONIST MODULATOR (DREAM) MEASURED BY EXTRINSIC HYDROPHOBIC PROBES. **Walter Gonzalez**, Jaroslava Miksovska

2589-Pos **Board #B359**
MG^{2+}/CA^{2+} INDUCED CHANGES IN STRUCTURE, DYNAMICS AND STABILITY OF DREAM PROTEIN. **Khoa Pham**, Jaroslava Miksovska

2590-Pos **Board #B360**
FINE TUNING OF CALMODULIN'S AFFINITY FOR CA^{2+} BY TARGET PROTEINS. **Miao Zhang**, Ji-Fang Zhang

2591-Pos **Board #B361**
INSIGHTS INTO THE MECHANISM OF METAL ION BINDING TO AN EF-HAND FROM THE X-RAY STRUCTURE OF $MG^{(2+)}$-BOUND N-DOMAIN OF CALMODULIN. **Zenon Grabarek**, F. Timur Senguen

2592-Pos **Board #B362**
SITE-SPECIFIC METHIONINE OXIDATION AND CALMODULIN MOLECULAR DYNAMICS. Ryan H. Abdella, Deanna L. Thorson, Rebecca J. Moen, **Jennifer C. Klein**, David D. Thomas

2593-Pos **Board #B363**
CALMODULIN PREVENTS THE INHIBITORY EFFECT OF NEUROTOXIC β-AMYLOID PEPTIDE ON SYNAPTOSOMAL PLASMA MEMBRANE $^{CA2+}$-ATPASE. **Ana M. Mata**, María Berrocal, María Vazquez-Hernandez, M. Rosario Sepulveda

2594-Pos **Board #B364**
ROLE OF NEUROGRANIN IN THE REGULATION OF CALMODULIN DYNAMICS. **Anuja Chandrasekar**, Yoshihisa Kubota, Neal M. Waxham

2595-Pos **Board #B365**
MODULATING DRUG EFFECTS OF METABOTROPIC GLUTAMATE RECEPTOR 1 ALPHA (MGLUR1α) BY EXTRACELLULAR CA^{2+}. **Yusheng Jiang**, Jenny Yang

2596-Pos **Board #B366**
DEPOLARIZATION-INDUCED INTRACELLULAR CA^{2+} RELEASE IN POSTGANGLIONIC SYMPATHETIC NEURONS FROM ADULT MICE. Hongli Sun, Wen Tao, John H. Schild, Baiyan Li, Peng-Sheng Chen, **Michael Rubart**

2597-Pos **Board #B367**
CAMKII REGULATION OF CALCIUM HOMEOSTASIS AND NEURONAL ACTIVITY. **Nicole M. Ashpole**, Weihua Song, Tatiana Brustovetsky, Nickolay Brustovetsky, Andy Hudmon

2598-Pos **Board #B368**
CA^{2+} SIGNALING IN RAT VENTRICULAR MYOCYTES. **Abhilash Krishna**, Miguel Valderrabano, Philip T. Palade, John W. Clark Jr.

2599-Pos **Board #B369**
INHIBITION OF AKT ATTENUATES ISOPROTERENOL-INDUCED RYR-DEPENDENT DIASTOLIC CA^{2+} RELEASE IN RABBIT VENTRICULAR MYOCYTES. **Stephen Shonts**, Sathya Velmurugen, Ashley Millard, Thomas Shannon

2600-Pos **Board #B370**
RANOLAZINE ALTERS THE PROPERTIES OF LOCALIZED CA^{2+} SPARKS AND INHIBITS GLOBAL CA^{2+} WAVES IN RAT MYOCYTES. **Derek Steele**, Zhaokang Yang

2601-Pos **Board #B371** **EDUCATION TRAVEL AWARDEE**
VOLTAGE DEPENDENCE OF CALCIUM SPIKE CHARACTERISTICS IN RAT CARDIAC MYOCYTES. **Matej Hotka**, Radoslav Janíček, Alexandra Zahradníková, jr., Eva Poláková, Alexandra Zahradníková, Ivan Zahradník

2602-Pos **Board #B372** **INTERNATIONAL TRAVEL AWARDEE**
REFRACTORINESS OF CALCIUM RELEASE UNITS IN RAT CARDIAC MYOCYTES. **Radoslav Janicek**, Alexandra Zahradníková, Jr., Eva Poláková, Alexandra Zahradníková, Ivan Zahradník

2603-Pos **Board #B373**
CYCLOPIAZONIC ACID DIFFERENTLY MODULATES JUNCTIONAL AND NON-JUNCTIONAL CA^{2+} TRANSIENTS IN RAT ATRIAL MYOCYTES. **Joon-Chul Kim**, Nana Kang, Pyung Keun Myung, Sun-Hee Woo

2604-Pos **Board #B374**
ECCENTRIC EXERCISE ELICITS ELEVATION OF RESTING CALCIUM IN SKELETAL MUSCLE. PERIODIC ACCELERATION ENHANCED THE RECOVERY. **Jose R. Lopez**, Jose Mosquera, Alfredo Mijares, P. D. Allen

2605-Pos **Board #B375**
BASAL PKC ACTIVITY REGULATES SPONTANEOUS FIRING OF CARDIAC PACEMAKER CELLS. **Tatiana M. Vinogradova**, Edward G. Lakatta

2606-Pos **Board #B376**
HOW CA^{2+}-ACTIVATED, CAMP/PKA-DEPENDENT PHOSPHORYLATION SIGNALING MEDIATES PACEMAKER CELL ACTIVITY: EXPERIMENTAL AND *IN SILICO* BIOCHEMICAL AND BIOPHYSICS PERSPECTIVES. **Yael Yaniv**, Victor A. Maltsev, Edward G. Lakatta

2607-Pos **Board #B377**
CROSSTALK BETWEEN CALCIUM AND CAMP IN PANCREATIC ALPHA CELLS. **Nancy M. Lorenzon**, Julie Imseis, Liang Liang, Colette Crane, Larissa Ikenouye, Monika Pauckova, Joseph K. Angleson

2608-Pos **Board #B378**
SUBCELLULAR MODELING OF PKA ACTIVATION AND CAMP DIFFUSION IN LOCALIZED MICRODOMAINS OF ADULT CARDIOMYOCYTES. **Britton W. Boras**, Andrew McCulloch

2609-Pos **Board #B379**
EPAC ACTIVATION OF CARDIAC MUSCLE. **Sarbjot Kaur**, Cherrie H.T. Kong, Mark B. Cannell, Marie Louise Ward

2610-Pos **Board #B380**
P21-ACTIVATED KINASE (PAK1) IS A DIRECT MODULATOR OF CARDIAC EXCITATION-CONTRACTION COUPLING (ECC) GAIN. Jaime DeSantiago, Dan J. Bare, Katherine A. Sheehan, Yunbo Ke, R. John Solaro, **Kathrin Banach**

2611-Pos **Board #B381**
INCREASED RESTING CALCIUM MODULATES NF-κB ACTIVITY AND INOS EXPRESSION IN MDX MYOTUBES. **Francisco Altamirano**, José R. López, Carlos Henriquez, Paul D. Allen, Enrique Jaimovich

2612-Pos **Board #B382**
VERSICAN, MATRIX-GLA PROTEIN, AND DEATH-ASSOCIATED PROTEIN EXPRESSION AFFECT MUSCLE SATELLITE CELL PROLIFERATION AND DIFFERENTIATION. Sandra G. Velleman, Kelly R.B. Sporer, Catherine W. Ernst, Kent M. Reed, Katherine Stanchak, **Gale M. Strasburg**

Membrane Receptors & Signal Transduction I (Boards #B383-#B412)

2613-Pos **Board #B383**
EFFECT OF LIGAND BINDING ON THE DIFFUSION AND DISTRIBUTION OF THE G PROTEIN-COUPLED RECEPTOR CCR5 IN THE CELL MEMBRANE. Zuleika Calderin-Sollet, Oliver Hartley, **Alexandre Fuerstenberg**

2614-Pos **Board #B384**
MOLECULAR MECHANISMS OF GRADIENT SENSING IN EWING'S SARCOMA CELLS. **Elena Beletkaia**, Susanne F. Fenz, Ewa Snaar-Jagalska, Pancras Hogendoorn, Thomas Schmidt

2615-Pos **Board #B385**
MOLECULAR SIMULATIONS REVEALING DYNAMICS OF A CHEMOKINE RECEPTOR HOMODIMER. **Sara E. Nichols**, Yi Wang, J. Andrew McCammon

2616-Pos **Board #B386**
SCREENING OF GPCR C-TERMINAL TAILS FOR INTERACTIONS WITH PSD-95 - A QUANTITATIVE APPROACH TO IDENTIFY AND CHARACTERIZE GPCR-PDZ INTERACTIONS. Thor C. Møller, **Volker F. Wirth**, Nina I. Roberts, Birgitte P.S. Jacky, Anders Bach, Kristian Strømgaard, Thue W. Schwartz, Karen L. Martinez

2617-Pos **Board #B387**
MULTISCALE SIMULATIONS SUGGEST A MECHANISM FOR INTEGRIN INSIDE-OUT ACTIVATION. **Antreas C. Kalli**, Iain D. Campbell, Mark S.P. Sansom

2618-Pos **Board #B388**
SINGLE MOLECULE STUDY OF THROMBOSPONDIN-1 RECEPTORS IN THE ENDOTHELIAL CELL PLASMA MEMBRANE. Anindya Chanda, John Githaka, Gaudenz Danuser, Nicolas Touret, **Khuloud Jaqaman**

2619-Pos **Board #B389**
LARGE SCALE, HIGH RESOLUTION MODELS OF RECEPTOR TYROSINE KINASE SIGNALING NETWORKS. **Edward C. Stites**, Matthew S. Creamer, Meraj Aziz, William S. Hlavacek, Richard G. Posner

2620-Pos **Board #B390**
INVESTIGATING STRUCTURE AND SEQUENCE DEPENDENCE IN THE DIMERIZATION OF G PROTEIN-COUPLED RECEPTORS. Hao Wang, **Jennifer M. Johnston**, Davide Provasi, Marta Filizola

2621-Pos **Board #B391**
INTERACTION WITH THE MEMBRANE UNCOVERS ESSENTIAL DIFFERENCES BETWEEN HIGHLY HOMOLOGOUS GPCRS. **Sayan Mondal**, George Khelashvili, Jennifer Khangulova (Johnston), Hao Wang, Davide Provasi, Olaf S. Andersen, Marta Filizola, Harel Weinstein

2622-Pos **Board #B392**
FREE ENERGY DIFFERENCE CALCULATIONS ON THERMODYNAMIC MODEL OF BETA 2 ADRENERGIC RECEPTOR ACTIVATION. **Jackson Chief Elk**, Stephen R. Sprang, J.B Alexander Ross

2623-Pos **Board #B393**
FUNCTIONALLY IMPORTANT STRUCTURALLY-SPECIFIC HOMODIMERIZATION OF THE GLUCAGON LIKE PEPTIDE 1 RECEPTOR. **Kaleeckal G. Harikumar**

2624-Pos **Board #B394**
SITE-DIRECTED FLUORESCENCE STUDIES OF PURIFIED, FUNCTIONAL CANNABINOID RECEPTOR CB1: AGONIST-INDUCED CONFORMATIONAL CHANGES IN TM6 ARE BLOCKED BY AN ALLOSTERIC MODULATOR AND ENHANCED BY A NOVEL CB1 SPECIFIC ANTIBODY. **Jonathan F. Fay**, David L. Farrens

2625-Pos **Board #B395**
MODEL FOR THE OLIGOMER FORMATION OF SEROTONIN RECEPTORS BASED ON QUANTITATIVE LUX-FRET MEASUREMENTS. **Andre Zeug**, Andrew Woehler, Erwin Neher, Evgeni Ponimaskin

2626-Pos **Board #B396**
UNDERSTANDING THE INTERACTION BETWEEN MELANOPSIN AND ARRESTIN USING FRET. **Devyani T. Ujla**, Evan Cameron, Phyllis Robinson Ph.D

2627-Pos **Board #B397**
MAPPING INTERACTIONS BETWEEN THE AMINO-TERMINAL REGION OF SECRETIN AND ITS RECEPTOR USING DISULFIDE-TRAPPING. **Maoqing Dong**, Xiequn Xu, Alicja Ball, Joshua A. Makhoul, Polo P.C. Lam, Delia I. Pinon, Patrick M. Sexton, Ruben Abagyan, Laurence J. Miller

2628-Pos **Board #B398**
CELL-DERIVED VESICLES AS A MINIMAL CELL PROTOTYPE. **Luigino Grasso**, Romain Wyss, Joachim Piguet, Michael Werner, Pedro Pascoal, Ghérici Hassaïne, Ruud Hovius, Horst Vogel

2629-Pos **Board #B399**
PROBING THE RECEPTOR DIMER INTERFACES OF G-PROTEIN COUPLED RECEPTOR IN MODEL MEMBRANES. **Xavier Periole**, Adam M. Knepp, Tom P. Sakmar, Siewert-Jan Marrink, Thomas Huber

2630-Pos **Board #B400**
DYNAMIC ASSEMBLY OF THE RECEPTOR-G-PROTEIN SIGNALING COMPLEX. **Thomas Huber**, Xavier Periole, Adam M. Knepp, Siewert-Jan Marrink, Parag Mukhopadhyay, Thomas P. Sakmar

2631-Pos **Board #B401**
ARRESTIN ALLOWS ALL-TRANS-RETINAL TO ENTER THE LIGAND BINDING POCKET OF PHOSPHORYLATED OPSIN. **Martha E. Sommer**, Klaus Peter Hofmann, Martin Heck

2632-Pos **Board #B402**
AN ACTIVATING HELIX SWITCH AT THE RHODOPSIN-TRANSDUCIN INTERFACE. **Peter W. Hildebrand**, Alexander Rose, Klaus P. Hofmann

2633-Pos **Board #B403**
INTERMEDIATES OF THE CHANNELRHODOPSIN PHOTOCYCLE. **Eglof Ritter**, Katja Stehfest, Patrick Piwowarski, André Berndt, Roman Kazmin, Peter Hegemann, Franz J. Bartl

2634-Pos **Board #B404**
OPTICAL CONTROL OF METABOTROPIC GLUTAMATE RECEPTORS FOR PROBING OF G PROTEIN SIGNALING AND RECEPTOR ACTIVATION MECHANISM. **Josh Levitz**, Benjamin Gaub, Harald Janovjak, Philipp Stawski, Dirk Trauner, Ehud Isacoff

2635-Pos **Board #B405** **INTERNATIONAL TRAVEL AWARDEE**
DECIPHERING THE CROSS-TALK OF THE PROSTAGLANDIN G-PROTEIN COUPLED RECEPTORS EP2 AND EP4: FROM MOLECULAR INSIGHTS TO NOVEL ANTI-TUMOR TARGETS. **Sandra de Keijzer**, Samantha L. Schwartz, Mark M. Rasenick, Carl G. Figdor, Vinod Subramaniam, Diane S. Lidke, Alessandra Cambi

2636-Pos **Board #B406**
DOPAMINE D2 RECEPTOR ANTAGONIST UNBINDING RATES INVESTIGATED USING A TIME-RESOLVED ION CHANNEL ACTIVATION ASSAY. **Kristoffer Sahlholm**, Sofia Frisk, Johanna Nilsson, Daniel Marcellino, Kjell Fuxe, Peter Århem

2637-Pos **Board #B407**
VOLTAGE-DEPENDENT MODULATION OF α_{2A} ADRENERGIC RECEPTOR CONFORMATIONS. **Andreas Rinne**, Alexandra Birk, Moritz Bünemann

2638-Pos **Board #B408**
DUAL-COLOR FLUORESCENT LABELING OF G PROTEIN-COUPLED RECEPTORS. **He Tian**, Saranga Naganathan, Shixin Ye, Thomas P. Sakmar, Thomas Huber

2639-Pos **Board #B409**
THE POTENTIAL ROLE OF (-)-EPIGALOCATHINE-3-GALLATE IN PROTECTING CARDIAC INJURY FROM OXIDATION STRESS THROUGH LIPID RAFTS. **Ying-Ming Liou**, Chien-Sheng Hsu, Wei-Cheng Chen

2640-Pos **Board #B410**
SUBPROTEOME OF THROMBOXANE A2 RECEPTOR IN TRANSFECTED HEK293T CELLS. **Min Li**, Enrico Stefani, Ligia Toro

2641-Pos **Board #B411**
MODULAR MECHANISM OF WNT SIGNALLING INHIBITION BY WNT INHIBITORY FACTOR 1. **Tomas Malinauskas**, Radu A. Aricescu, Lu Weixian, Christian Siebold, Yvonne E. Jones

2642-Pos **Board #B412**
PROLONGED STOCHASTIC RESONANCE IN SINGLE ION CHANNEL RECORDINGS. **Eric Stava**, Abhishek Bhat, Siyoung Choi, Minrui Yu, Hyuncheol Shin, Robert H. Blick

Membrane Transporters & Exchangers I (Boards #B413-#B442)

2643-Pos **Board #B413**
CRYSTAL STRUCTURE OF AN ASYMMETRIC TRIMER OF A BACTERIAL GLUTAMATE TRANSPORTER HOMOLOGUE. **Gregory Verdon**, Olga Boudker

2644-Pos **Board #B414**
SUBSTRATE AND SODIUM BINDING ENERGETICS TO A "STRAIGHT-JACKETED" GLUTAMATE TRANSPORTER HOMOLOGUE. **SeCheol Oh**, Nicolas Reyes, Olga Boudker

2645-Pos **Board #B415**
STRUCTURAL INTERMEDIATES IN A MODEL OF THE SUBSTRATE TRANSLOCATION PATH IN THE BACTERIAL GLUTAMATE TRANSPORTER HOMOLOGUE GLTPH. **Sebastian Stolzenberg**, George Khelashvili, Harel Weinstein

2646-Pos **Board #B416**
ION MODULATION OF GATING IN ASPARTATE TRANSPORTER GLTPH: INSIGHTS FROM MD SIMULATIONS AND FREE ENERGY COMPUTATIONS. **Bogdan Lev**, Sergei Noskov

2647-Pos **Board #B417**
NEW FRET METHODS TO STUDY CONFORMATIONAL CHANGES IN GLUTAMATE TRANSPORTER. **Xiaoyu Wang**, Marta Perez, H.Peter Larsson

2648-Pos **Board #B418**
BUILDING A TRANSPORTER: TOWARD THE CHEMICAL SEMISYNTHESIS OF INTEGRAL MEMBRANE PROTEIN TRANSPORTERS. **Paul J. Focke**, Francis I. Valiyaveetil

2649-Pos **Board #B419**
RECONSTITUTION OF AN ARGININE-AGMATINE ANTIPORTER IN AN ORIENTED SYSTEM. **Ming-Feng Tsai**, Christopher Miller

2650-Pos **Board #B420**
CHARACTERIZATION OF A NOVEL CLC HOMOLOG FROM CITROBACTER KOSERI. **Sabrina Phillips**, Ashley Lajoie, Luis Rodriguez, Kimberly I. Matulef

2651-Pos **Board #B421**
CHARACTERIZATION OF A NOVEL CLC-EC1 INHIBITOR. **Kimberly I. Matulef**, Andrew Howery, R. Lea Sanford, Sabrina Phillips, Sierra Simpson, Sherwin Abraham, Julian Whitelegge, Justin Du Bois, Olaf S. Andersen, Merritt Maduke

2652-Pos **Board #B422**
STRUCTURAL INVESTIGATIONS OF CLC-EC1, A LARGE INTEGRAL MEMBRANE PROTEIN, USING SOLUTION-STATE NMR AND NANODISC TECHNOLOGY. **Thomas A. Chew**, Sherwin J. Abraham, Shelley M. Elvington, Merritt C. Maduke

2653-Pos **Board #B423**
MONITORING SUBSTRATE-DRIVEN CONFORMATIONAL CHANGES OF CLC-EC1 BY [METHYL-13C] METHIONINE NMR. **Ricky C.K. Cheng**, Shelley M. Elvington, Merritt C. Maduke

2654-Pos **Board #B424**
LYSINE 210 REGULATES VOLTAGE-DEPENDENT GATING OF THE ANION-PROTON EXCHANGER CLC-5. **Matthias Grieschat**, Christoph Fahlke, Alexi K. Alekov

2655-Pos **Board #B425**
RATE CONSTANTS FOR ANION TRANSPORT BY STEROID-BASED SYNTHETIC ANION TRANSPORTERS. **Hongyu Li**, Germinal Magro, Luke W. Judd, Peter R. Brotherhood, David N. Sheppard, Anthony P. Davis

2656-Pos **Board #B426**
NMR STRUCTURE OF A DOUBLE-TRANSMEMBRANE FRAGMENT FROM NHE1. **Brian L. Lee**, Claudia Alves, Larry Fliegel, Brian D. Sykes

2657-Pos **Board #B427**
STRUCTURE AND FUNCTION OF A BACTERIAL HOMOLOG OF THE SLC10 FAMILY BILE ACID TRANSPORTERS. **Xiaoming Zhou**, Elena J. Levin, Matthias Quick, Yaping Pan, Hua Huang, Ruchika Sharma, James Love, Ming Zhou

2658-Pos **Board #B428**
UNRAVELING THE STRUCTURAL ORGANIZATION OF POTASSIUM UPTAKE SYSTEM KTRAB. **Ricardo Pires**, João Morais-Cabral

2659-Pos **Board #B429**
QUATERNARY STRUCTURE DETERMINATION OF THE M3 MUSCARINIC ACETYLCHOLINE RECEPTORS BASED ON SPECTRAL-FRET. **Suparna Patowary**, Elisa Alvarez Curto, Julie A. Oliver, Graeme Milligan, Valerică Raicu

2660-Pos **Board #B430**
IDENTIFYING THE LIPID-PROTEIN INTERFACE OF THE PROTON-COUPLED FOLATE TRANSPORTER USING HYDROPHOBIC PHOTOREACTIVE PROBES. **Phaneendra K. Duddempudi**, Raman Goyal, Michael P. Blanton, Michaela Jansen

2661-Pos **Board #B431**
CHARGE COMPENSATION MECHANISM OF GLUTAMATE TRANSPORT. **Christof Grewer**, Armanda Gameiro, Juddy Mwaura

2662-Pos **Board #B432**
CATION SELECTIVITY OF CORA DIVALENT TRANSPORTER FROM METHANOCOCCUS JANNASCHII. **Albert Guskov**, Nurhuda Nordin, Aline Reynaud, Said Eshaghi

2663-Pos **Board #B433**
USING TIME-RESOLVED FLUOROMETRY TO STUDY THE TRANSPORT CYCLE OF A NA+-COUPLED PHOSPHATE COTRANSPORTER. **Monica Patti**, Anne-Kristine Meinild, Ian C. Forster

2664-Pos **Board #B434**
MOLECULAR DETERMINANTS OF THE HUMAN ZINC TRANSPORTER, HZIP4. **Robert Dempski**, Sagar Antala, Tuong-Vi Nguyen

2665-Pos **Board #B435**
MOLECULAR DYNAMICS APPROACH TO DETERMINE THE IMPORTANCE OF AN ASPARAGINE RESIDUE ON CHLORIDE-DEPENDENCE IN THE HUMAN SEROTONIN TRANSPORTER. **Igor Zdravkovic**, Keith L. Henry, Eric S. Dawson, Sergei Y. Noskov

2666-Pos **Board #B436**
CARBONATE AND TUNGSTATE MEMBRANES OF NICKEL: SYNTHESIS, CHARACTERIZATION, DIFFUSIVE PROPERTIES AND ELECTROCHEMICAL BEHAVIOR. **Rafiuddin Rafiuddin**

2667-Pos **Board #B437**
SECA ALONE CAN PROMOTE PROTEIN TRANSLOCATION AND ION-CHANNEL ACTIVITY: SECYEG INCREASES EFFICIENCY AND SPECIFICITY. **Ying-Hsin Hsieh**

2668-Pos **Board #B438**
INSIGHTS ABOUT THE TRANSLOCATION KINETICS OF ANTIBIOTICS THROUGH THE *E. COLI* PORIN OMPC OBTAINED FROM SOLVATION MAPPING. **Que-Tien Tran**, Sarah Williams, Ramy Farid, Gul Erdemli, Robert Pearlstein

2669-Pos **Board #B439**
ACTIVITY OF AMB ALONG A PHASE DIAGRAM PRESENTING MICRO AND NANODOMAINS. **Rosmarbel Morales-Nava**, Gloria Amaya, Ivan Ortega-Blake

2670-Pos **Board #B440**
USING LITHIUM TO PROBE SEQUENTIAL CATION INTERACTIONS WITH GAT-1. **Anne-Kristine Meinild**, Ian C. Forster

2671-Pos **Board #B441**
INSERTION OF COLICIN E1 INTO OMP TOLC IS MEDIATED BY THE ORDERED SEGMENT OF TRANSLOCATION DOMAIN. **Stanislav D. Zakharov**, Mariya V. Zhalnina, William A. Cramer

2672-Pos **Board #B442**
MOLECULAR DETERMINANTS FOR SUBTYPE-SELECTIVE ION CHANNEL BLOCK OF NMDA RECEPTORS BY ARGIOTOXIN ANALOGS. **Anders S. Kristensen**, Mette H. Poulsen, Christel B. Jensen, Jacob Andersen, Kasper Hansen, Kristian Strømgaard

Nucleocytoplasmic Transport (Boards #B443-#B450)

2673-Pos **Board #B443**
UROCORTIN II REGULATES NFAT TRANSCRIPTION FACTOR IN ADULT RABBIT CARDIAC MYOCYTES. **Stefanie Walther**, Lothar A. Blatter

2674-Pos **Board #B444**
BINDING TO FG-NUPS IS INSUFFICIENT TO PROMOTE NUCLEAR TRANSPORT. **Li-Chun Tu**, Anton Zilman, Siegfried M. Musser

2675-Pos **Board #B445**
EFFECT OF FG MOTIFS ON ORDERING PROTEINS WITHIN THE NUCLEAR PORE COMPLEX. **Claire E. Atkinson**, Alexa L. Mattheyses, Martin Kampmann, Sanford M. Simon

2676-Pos **Board #B446**
NUCLEAR EXPORT OF SINGLE NATIVE MRNA. Jan Peter Siebrasse, Tim Kaminski, Katharina Scherer, **Ulrich Kubitscheck**

2677-Pos **Board #B447**
THREE-DIMENSIONAL CHARACTERIZATION OF THE SELECTIVE BARRIER FORMED BY UNFOLDED PROTEINS IN THE NUCLEAR PORE COMPLEX. **Jiong MA**, Alexander Goryaynov, Ashapurna Sarma, Zhen Liu, Weidong Yang

2678-Pos **Board #B448**
MOLECULAR SPRINGS IN THE NUCLEAR PORE COMPLEX OF LIVE CELLS. **Francesco Cardarelli**, Luca Lanzano, Enrico Gratton

2679-Pos **Board #B449**
PHYSICAL MODELING OF THE CONFORMATIONAL DYNAMICS OF THE FLEXIBLE UNFOLDED PROTEINS OF THE NUCLEAR PORE COMPLEX. **Anton Zilman**, Michael Opferman, Rob Coalson, David Jasnow, Paul Welch

2680-Pos **Board #B450**
FRAP ANALYSIS OF NUCLEAR EXPORT RATES IDENTIFIES INTRISIC FEATURES OF NUCLEOCYTOPLASMIC TRANSPORT. Francesco Cardarelli, Luca Tosti, Michela Serresi, Fabio Beltram, **Ranieri Bizzarri**

Voltage-gated Na Channels II (Boards #B451-#B463)

2681-Pos **Board #B451**
A PROTON LEAK CURRENT THROUGH THE CARDIAC SODIUM CHANNEL LINKED TO MIXED ARRHYTHMIA AND DILATED CARDIOMYOPATHY PHENOTYPES.
Pascal Gosselin-Badaroudine, Dagmar I. Keller, Hai Huang, Aurélien Chatelier, Mohamed Chahine

2682-Pos **Board #B452**
MUTATIONS IN SNTA1 AND SCN5A INTERACT TO INCREASE LATE SODIUM CURRENT IN A PATIENT WITH SYNCOPE. **Roumu Hu**, Bi-Hua Tan, Carmen Valdivia, Kate M. Orland, Amber Peterson, Yang He, Daniel J. Park, Jielin Pu, Jonathan C. Makielski

2683-Pos **Board #B453**
R222Q NAV1.5 MUTATION ASSOCIATED WITH A NEW SCN5A-RELATED CARDIAC ARRHYTHMIA. Gabriel Laurent, Samuel Saal, Mohamed Yassine Amarouch, Delphine Beziau, Roos F. Marsman, Christian Dina, Philippe Charron, Alice Maltret, Rodolphe Turpault, Arthur A. Wilde, Jean Eric Wolf, Gildas Loussouarn, Florence Kyndt, Vincent Probst, **Isabelle Baro**

2684-Pos **Board #B454** **EDUCATION TRAVEL AWARDEE**
ROLE OF THE CYTOPLASMIC N-TERMINAL DOMAIN OF THE CARDIAC SODIUM CHANNEL ALPHA-SUBUNIT. **Jérôme Clatot**, Azza Ziyadeh-Isleem, Alain Coulombe, Svetlana Maugenre, Isabelle Denjoy, Stephane Hatem, Pascale Guicheney, Nathalie Neyroud

2685-Pos **Board #B455**
THE ROLE OF CHANNEL PKA/PKC SITES IN METABOLIC REGULATION OF THE CARDIAC NA^+ CHANNEL. **Man Liu**, Harvey Lardin, Robert S. Kass, Samuel C. Dudley

2686-Pos **Board #B456**
FUNCTIONAL ANALYSIS OF STABLY EXPRESSED HUMAN NAV1.9. **Carlos G. Vanoye**, George R. Ehring, Alfred L. George

2687-Pos **Board #B457**
NEURONAL SODIUM CHANNELS CONTRIBUTE SIGNIFICANTLY TO THE CARDIAC REPOLARIZATION DURING ISCHEMIA. **Michael Biet**, Anh-Tuan Ton, Jean-Francois Delabre, Nathalie Morin, Robert Dumaine

2688-Pos **Board #B458**
ANALYSIS OF VOLTAGE-GATED SODIUM CHANNEL MEMBRANE DYNAMICS IN HIPPOCAMPAL NEURONS VIA A FLUORESCENT PROTEIN AND BIOTIN TAGGED NAV1.6 CHANNEL. **Elizabeth J. Akin**, Aubrey V. Weigel, Sulayman D. Dib-Hajj, Stephen G. Waxman, Diego Krapf, Michael M. Tamkun

2689-Pos **Board #B459**
NAV1.7 SPLICE VARIANT FROM HUMAN HEART COMPARED WITH NEURONAL HNAV1.7. **Antonio Guia**, Huimin Tao, Valentina Geft, Vanessa Ferraro, Crystal Bantados, Steve Saya, Andrea Ghetti

2690-Pos **Board #B460**
BIOPHYSICAL AND PHARMACOLOGICAL CHARACTERISATION OF NATIVE HUMAN $NA_V1.8$ CHANNELS FROM ISOLATED DORSAL ROOT GANGLIA (DRG). **Liz Payne**, Victor A. Panchenko, Andrea Ghetti, Paul E. Miller, Edward Stevens

2691-Pos **Board #B461**
INPUT SIGNAL PATTERNS DOMINATE A PLASTICITY OF SPIKE-ONSET LOCATION AT CORTICAL PYRAMID NEURONS THROUGH LOCAL VGSCS. **Jin H. Wang**, Rongjing Ge, Hao Qian

2692-Pos **Board #B462**
A MARKOV MODEL FOR THE HUMAN CARDIAC SODIUM CHANNEL. **Konstantin G. Kapustin**, Vladimir E. Bondarenko

2693-Pos **Board #B463**
SIMULATED BLOCK OF BRAIN NA^+ CHANNELS BY RANOLAZINE PREDICTS SELECTIVE BINDING TO INACTIVATED CONFORMATIONS. **Kris M. Kahlig**, Lynda Liu, John C. Shryock, Luiz Belardinelli, Sridharan Rajamani

Voltage-gated K Channels: Gating II (Boards #B464-#B488)

2694-Pos **Board #B464**
ROLE OF STRUCTURAL WATER IN THE STABILIZATION OF THE KCSA C-TYPE INACTIVATED SELECTIVITY FILTER: EVIDENCE FROM HIGH-RESOLUTION STRUCTURES.
Luis G. Cuello, Doris M. Cortes, Eduardo Perozo

2695-Pos **Board #B465**
A RANDOM MUTAGENESIS APPROACH TO PROBING ELECTROMECHANICAL COUPLING IN THE HYPERPOLARIZATION-ACTIVATED CHANNEL MVP.
Amelia M. Randich, Eduardo Perozo

2696-Pos **Board #B466**
INITIAL OPENING STEPS OF K+ CHANNELS PROBED BY EXTRACELLULAR MULTIVALENT CATIONS. **Clay M. Armstrong**, Toshinori Hoshi

2697-Pos **Board #B467**
MOLECULAR DETERMINANTS IN K+ CHANNEL HERG INACTIVATION GATING. **David A. Kopfer**, Ulrike Hahn, Iris Ohmert, Gert Vriend, Olaf Pongs, Bert L. de Groot, Ulrich Zachariae

2698-Pos **Board #B468**
TESTING MODELS FOR THE SLOW INACTIVATED STATE USING UNNATURAL AMINO ACID MUTAGENESIS.
Francis Valiyaveetil, Alexander Komarov, Prasanna Devaraneni

2699-Pos **Board #B469**
SHAB K CHANNEL SLOW INACTIVATION. A MECHANISM THAT DEPARTS FROM BOTH C AND U-TYPE INACTIVATION MECHANISMS. **Froylan Gomez-Lagunas**, Imilla Arias-Olguin, Elisa Carrillo

2700-Pos **Board #B470**
REDUCING S3-S4 LINKER LENGTH IN SHAKER K+ CHANNELS STABILIZES THE RELAXED STATE. **Michael F. Priest**, Jérôme J. Lacroix, Carlos A. Villalba-Galea, Francisco Bezanilla

2701-Pos **Board #B471**
VOLTAGE-CLAMPED SUPPORTED BILAYER SYSTEM TO RECORD ION CHANNEL ACTIVITY. **Homer Clark Hyde**, Jeremy Treger, Francisco Bezanilla

2702-Pos **Board #B472**
POSITION OF THE SECOND GATING CHARGE ALONG S4 IN AN INTERMEDIATE CONFORMATION OF A K+ CHANNEL VOLTAGE SENSOR. **Jerome J. Lacroix**, Stephan A. Pless, Fabiana V. Campos, Luca Maragliano, Jason D. Galpin, Christopher A. Ahern, Benoit Roux, Francisco Bezanilla

2703-Pos **Board #B473**
AN S4-S5 LINKER RESIDUE INFLUENCES KV2.1 CHANNEL GATING AND INHIBITION BY CARBON MONOXIDE RELEASING MOLECULE 2 (CORM-2). **Andres Jara-Oseguera**, Itzel G. Ishida, Gisela E. Rangel-Yescas, Leon D. Islas

2704-Pos **Board #B474**
INTRACELLULAR IONS IMPEDE VOLTAGE SENSOR RETURN IN KV1.2 CHANNELS. **Samuel J. Goodchild**, Hongjian Zhu, Chris Ahern, David Fedida

2705-Pos **Board #B475**
VOLTAGE-DEPENDENT GATING OF THE K+ CHANNEL KVLM EXPLORED THROUGH HETEROTETRAMERS. **Ruhma Syeda**, Jose S. Santos, Mauricio Montal, Hagan Bayley

2706-Pos **Board #B476**
ALLOSTERIC STABILIZATION OF FULLY RESTING VOLTAGE SENSORS BY A TARANTULA TOXIN. **Kenneth S. Eum**, Juan M. Angueyra, Heesoo Kim, Luke Chao, Bruce E. Cohen, Jon T. Sack

2707-Pos **Board #B477**
ACTIVATION GATE OPENING PRECEDES SLOW INACTIVATION IN SHAKER K+ CHANNELS. Ferenc Papp, Tibor G. Szanto, Zoltan Varga, Florina Zakany, **Gyorgy Panyi**

2708-Pos **Board #B478**
GATING PROPERTIES AND VOLTAGE SENSING IN KV1.2. **Itzel G. Ishida**, Gisela E. Rangel-Yescas, Leon D. Islas

2709-Pos **Board #B479**
POSITIONING AND GUIDANCE OF THE VOLTAGE SENSOR S4 WITHIN THE OMEGA/GATING-PORE IN THE SHAKER K-CHANNEL. **Claudia Lehmann**, Hansjakob Heldstab, Nikolaus G. Greeff

2710-Pos **Board #B480**
THE SILENT K^+ CHANNEL SUBUNIT, $K_V6.4$. INFLUENCES THE GATING CHARGE MOVEMENT OF $K_V2.1$ IN A HETEROTETRAMERIC CHANNEL COMPLEX. **Elke Bocksteins**, Alain J. Labro, Dirk J. Snyders, Durga P. Mohapatra

2711-Pos **Board #B481**
USE OF RESONANCE-WAVELENGTH GRATING OPTICAL BIOSENSORS TO DETECT CHANNEL-PROTEIN INTERACTION IN SLACK KNA CHANNELS. **Matthew R. Fleming**, Maile R. Brown, Leonard K. Kaczmarek

2712-Pos **Board #B482**
THE POTASSIUM DELAYED RECTIFIER CONDUCTANCE IN THE SARCOLEMMA AND THE TRANSVERSE TUBULAR SYSTEM MEMBRANES OF MAMMALIAN SKELETAL MUSCLE FIBERS. **Julio L. Vergara**, Marino DiFranco

2713-Pos **Board #B483**
ENHANCEMENT OF CLOSED-STATE INACTIVATION AND ER RETENTION OF KV4.3 MEDIATED BY N-TERMINAL KIS DOMAIN OF AUXILIARY KCHIP4A. **Yiquan Tang**, Ping Liang, KeWei Wang

2714-Pos **Board #B484**
TARGETED MUTAGENESIS WITH A HOMOLOGY MODEL IDENTIFIES CRITICAL RESIDUES FOR ARACHIDONIC ACID INHIBITION OF KV4 CHANNELS. **Linda M. Boland**, Robert Heler, Jessica A. Bell

2715-Pos **Board #B485**
MODIFICATION OF KV4.2 CHANNEL COMPLEXES BY THE DIPHENYLUREA COMPOUND NS5806. Katrin Witzel, Regina Westermeier, Paul Fischer, **Robert Bähring**

2716-Pos **Board #B486**
MECHANISM OF INHIBITION OF VOLTAGE-GATED POTASSIUM CHANNELS BY GUANIDINE COMPOUNDS. **Jeet Kalia**, Kenton J. Swartz

2717-Pos **Board #B487**
SEVOFLURANE: A POTENT GENERAL ANESTHETIC ENHANCER OF KV CHANNEL ACTIVATION. **Annika F. Barber**, Qiansheng Liang, Manuel Covarrubias

2718-Pos **Board #B488**
ACTIVATION AND INACTIVATION KINETICS OF THE POTASSIUM CHANNELS $K_V1.3$ AND $K_V1.5$ MEASURED ON THE CYTOPATCH™ INSTRUMENT AND THE MANUAL PATCH CLAMP: A COMPARATIVE STUDY. **Olaf Scheel**, Gesa Rascher-Eggstein, Thomas Knott

TRPC Channels (Boards #B489-#B498)

2719-Pos **Board #B489**
TRPC1 CHANNELS MEDIATE THE NONSELECTIVE CATION CURRENT AND STORE-OPERATED CALCIUM CHANNELS IN HUMAN ATRIAL MYOCYTES. Yan-Hui Zhang, Hai-Ying Sun, Hui-Jun Wu, **Gui-Rong Li**

2720-Pos **Board #B490**
TRPC3 EXPRESSION MODULATES STORE-OPERATED CURRENTS IN RBL-2H3 CELLS.**Bernhard Doleschal**, Katrin Tieber, Michael Poteser, Hannes Schleifer, Irene Frischauf, Toma N. Glasnov, C. Oliver Kappe, Christoph Romanin, Klaus Groschner

2721-Pos **Board #B491**
TRPC3 OVEREXPRESSION PROMOTES ANGIOTENSINII INDUCED CARDIAC DYSFUNCTION. **Marie-Sophie Huber**, Bernhard Doleschal, Stefan Wolf, Gerald Wölkart, Klaus Groschner

2722-Pos **Board #B492**
TRPC3 CHANNEL BLOCKERS BUT NOT TRPC6 BLOCKERS INHIBIT BACKGROUND CALCIUM INFLUX AND MODULATE CALCIUM TRANSIENTS IN MOUSE MUSCLE FIBERS. **Yaxin Zhang**, Bernd W. Pritschow, Heinrich Brinkmeier

2723-Pos **Board #B493**
A SELF-LIMITING REGULATION OF TRPC3 C6 C7 CHANNELS LINKED WITH $PI(4,5)P_2$-DIACYLGLYCEROL SIGNALING. **Yuko Imai**, Kyohei Itsuki, Yasushi Okamura, Ryuji Inoue, Mori X. Masayuki

2724-Pos **Board #B494**
SELECTIVE $G\alpha_I$ SUBUNITS AS NOVEL DIRECT ACTIVATORS OF TRPC4 AND TRPC5 CHANNELS. **Jae-pyo Jeon**, Chasik Hong, Eun-jung Park, Ju-Hong Jeon, Han Choe, ChangKook Suh, HyunJin Kim, Insuk So

2725-Pos **Board #B495**
CLOSELY SPATIO-ASSOCIATION OF TRPC4 WITH $G\alpha_1$ IN THE TRPC4 ACTIVATION PROCESS. **Jong Yun Myeong**, Jae-pyo Jeon, Chansik Hong, Ju-hong Jeon, Insuk So

2726-Pos **Board #B496**
GS REGULATES TRPC5 THROUGH IP_3 MEDIATED CA^{2+} RELEASE. **Jinsung Kim**, Chansik Hong, Jae-Pyo Jeon, Mi-Sun Kwak, Ju-Hong Jeon, Insuk So

2727-Pos **Board #B497**
CHEMICAL MODIFICATION OF CYSTEINE RESIDUES ACTIVATES TRPC5 CHANNELS. **Chansik Hong**, Jae-Pyo Jeon, Jinsung Kim, Ju-Hong Jeon, Insuk So

2728-Pos **Board #B498**
DIFFERENTIAL MODULATION OF DETERGENTS ON SINGLE CHANNEL ACTIVITY OF TRPC4/C5. **Dhananjay Thakur**, Carmen Dessauer, Michael X. Zhu

Inward Rectifier K Channels (Boards #B499-#B516)

2729-Pos **Board #B499**
CRYSTAL STRUCTURE OF A PROKARYOTIC KIR CHANNEL IN AN OPEN CONFORMATION. Vassiliy N. Bavro, Rita De Zorzi, Matthias R. Schmidt, Joao R.C. Muniz, Lejla Zubcevic, Mark S.P. Sansom, Catherine Venien-Bryan, **Stephen J. Tucker**

2730-Pos **Board #B500**
COMPARISON OF THE STRUCTURE OF A BACTERIAL POTASSIUM CHANNEL IN BOTH 2D AND 3D CRYSTALS. **Rita De Zorzi**, William V. Nicholson, Stephen J. Tucker, Catherine Vénien-Bryan

2731-Pos **Board #B501**
MOLECULAR BASIS OF PIP2 GATING KIRBAC1.1. **Shizhen Wang**, Sarah Heyman, Decha Enkvetchakul, Colin G. Nichols

2732-Pos **Board #B502**
THE MOLECULAR BASIS OF PHOSPHOINOSITIDE ACTIVATION OF HUMAN INWARD RECTIFIER (KIR2.1) CHANNELS. **Nazzareno D'Avanzo**, Sunjoo Lee, Wayland W.L. Cheng, Colin G. Nichols

2733-Pos **Board #B503**
NOVEL CHEMICAL PROBES FOR POLYAMINE BINDING IN THE INWARD-RECTIFIER KIR2.1. **Xinyang Huang**, Harley Kurata

2734-Pos **Board #B504**
THE ASYMMETRIC LIPID BILAYER REVEALED SIDEDNESS OF THE EFFECTIVE PHOSPHOLIPIDS ON THE SINGLE-CHANNEL PROPERTIES OF THE KCSA POTASSIUM CHANNEL. **Masayuki Iwamoto**, Shigetoshi Oiki

2735-Pos **Board #B505**
INHIBITION OF MTHK K^+ CHANNELS BY MG^{2+} AND POLYAMINES: INWARD RECTIFICATION WITH A SHORT PORE. **Andrew S. Thomson**, Brad S. Rothberg

2736-Pos **Board #B506**
RESIDUES AT THE OUTER MOUTH OF KIR1.1 DETERMINE K-DEPENDENT GATING. **Henry Sackin**, Mikheil Nanazashvili, Hui Li, Lawrence G. Palmer, Lei Yang

2737-Pos **Board #B507**
RAS-ASSOCIATED (RA) DOMAIN OF OF SORTING NEXIN 27 (SNX27) IS CRITICAL FOR REGULATING GIRK CHANNELS. **Bartosz Balana**, Laia Bahima, Karthik Bodhinathan, Natalie M. Taylor, Margaret Y. Nettleton, Francisco Ciruela, Paul A. Slesinger

2738-Pos **Board #B508**
ENGINEERING THE ALCOHOL POCKET TO CREATE A CHEMICALLY-ACTIVATED GIRK CHANNEL. **Karthik Bodhinathan**, Paul A. Slesinger

2739-Pos **Board #B509**
INVERSE AGONIST-LIKE ACTION OF CADMIUM ON G-PROTEIN-GATED INWARD-RECTIFIER K+ CHANNELS. **Atsushi Inanobe**, Takanori Matsuura, Atsushi Nakagawa, Yoshihisa Kurachi

2740-Pos **Board #B510**
PREFERENTIAL ASSOCIATION WITH $G\beta\gamma$ OVER $G\alpha$ GOVERNS THE ACTIVITY OF A G PROTEIN-ACTIVATED K+ CHANNEL. Daniel Yakubovich, Shai Berlin, Moran Rubinstein, Uri Kahanovich, Carmen W. Dessauer, **Nathan Dascal**

2741-Pos **Board #B511**
THE POTASSIUM CHANNEL KIR2.1 ACTIVITY IS REQUIRED FOR OSTEOBLASTOGENESIS. Sonia Zaddam, Sabrina Sacconi, Claude Desnuelle, Ez-zoubir Amri, **Bendahhou Saïd**

2742-Pos **Board #B512**
MECHANISM OF LQTS9 ASSOCIATED MUTANT, CAVEOLIN3-F97C, REGULATION OF KIR2.1 CHANNELS. **Ravi Vaidyanathan**, Amanda L. Vega, Qing Zhou, Jonathan C. Makielski, Lee L. Eckhardt

2743-Pos **Board #B513**
CHOLESTEROL REGULATES PROKARYOTIC KIR CHANNEL BY DIRECT BINDING TO CHANNEL PROTEIN. Dev Singh, Tzu-Pin Shentu, Decha Enkvetchakul, **Irena Levitan**

2744-Pos **Board #B514**
ION-CHANNEL COUPLED RECEPTORS: NEW TOOLS FOR THE STUDY OF RECEPTORS AND CHANNELS. Lydia N. Caro, Christophe J. Moreau, Argel Estrada-Mondragón, Jean Revilloud, **Michel Vivaudou**

2745-Pos **Board #B515**
SUR1 L0 AND KIR6.2 M0 CAN PARTNER IN KATP GATING: EVIDENCES FROM DIABETOGENIC MUTATIONS. **Andrey Petrovich Babenko**

2746-Pos **Board #B516**
MOLECULAR MODELLING AND EXPERIMENTAL ANALYSIS OF THE ATP SENSITIVITY OF CLONED SMOOTH MUSCLE KATP CHANNELS. **Andrew Chadburn**, Alessandro Grottesi, Keith Smith, Oscar Moran, Paolo Tammaro

Cardiac Electrophysiology II (Boards #B517-#B541)

2747-Pos **Board #B517**
PATIENT-SPECIFIC INDUCIBLE PLURIPOTENT STEM CELLS REVEAL MECHANISM OF PERSONALIZED THERAPY FOR AN INHERITED CARDIAC ARRHYTHMIA. **Kai Wang**, Cecile Terrenoire, Kevin J. Sampson, Vivek Lyer, Kelvin W. Chan Tung, Jonathan Lu, Wendy Chung, Robert H. Pass, Gordon Keller, Darrell N. Kotton, Robert S. Kass

2748-Pos **Board #B518**
ALTERNATING CYCLE LENGTHS INCREASES DISPERSION OF ACTION POTENTIAL DURATIONS (APD) IN TRANSGENIC RABBIT MODEL OF LONG QT SYNDROME TYPE 2. **Tae Yun Kim**, Paul Jeng, Chantel Taylor, JungMin Hwang, Xuwen Peng, Gideon Koren, Bum-Rak Choi

2749-Pos **Board #B519**
QTC INTERVAL IS PROLONGED IN HYPERCHOLESTEROLEMIC MICE. Éric Lizotte, **Sophie Mathieu**, Gracia El Gebeily, Scott A. Grandy, Céline Fiset

2750-Pos **Board #B520**
QUANTIFYING IMPORTANCE OF REPOLARIZATION CURRENTS UNDERLYING PHYSIOLOGICAL VARIABILITY IN RABBIT CELLULAR ELECTROPHYSIOLOGY. **Philip M. Gemmell**, Kevin Burrage, Blanca Rodriguez, T. Alexander Quinn

2751-Pos **Board #B521** **CPOW TRAVEL AWARDEE**
PLURIPOTENT STEM CELL MODELS OF A CARDIAC SODIUM CHANNELOPATHY. **Simona Casini**, Richard P. Davis, Cathelijne W. van den Berg, Carol Ann Remme, Cheryl Dambrot, Dorien Ward-van Oostwaard, Arthur A.M. Wilde, Connie R. Bezzina, Arie O. Verkerk, Christian Freund, Christine L. Mummery

2752-Pos **Board #B522**
CHARACTERIZATION OF 3 NOVEL NAV1.5 CHANNEL MUTATIONS ASSOCIATED WITH THE BRUGADA SYNDROME. **Kirstine Calloe**, Marwan M. Refaat, Soren Grubb, Julianne Wojciak, Joan Carroll, Nancy M. Thomsen, Robert L. Nussbaum, Melvin M. Scheinman, Nicole Schmitt

2753-Pos **Board #B523**
PROFILE OF THE LATE SODIUM CURRENT DURING CARDIAC ACTION POTENTIAL IN GUINEA PIG VENTRICULAR CARDIOMYOCYTES. **Balazs Horvath**, Zhong Jian, Shaden Khabbaz, Tamas Banyasz, Leighton T. Izu, Ye Chen-Izu

2754-Pos **Board #B524**
PREDICTING THE EFFECTS OF NONSPECIFIC CHANNEL BLOCKING DRUGS HAS VARIABLE SUCCESS RATES BETWEEN DIFFERENT VENTRICULAR MYOCYTE ACTION POTENTIAL MODELS. **Kathleen R. McGovern**, Eric A. Sobie

2755-Pos **Board #B525**
MECHANISMS FOR INCREASED ARRHYTHMIA RISK IN AGED HEARTS. **Thao P. Nguyen**, Aneesh Bapat, Jong-Hwan Lee, Ali Sovari, Michael Fishbein, James Weiss, Hrayr Karagueuzian

2756-Pos **Board #B526**
HOW DO L-TYPE CALCIUM CURRENT KINETICS CONTRIBUTE TO EARLY AFTERDEPOLARIZATIONS IN CARDIAC MYOCYTES? **Roshni V. Madhvani**, Yuanfang Xie, Antonios Pantazis, Alan Garfinkel, Zhilin Qu, James N. Weiss, Riccardo Olcese

2757-Pos **Board #B527**
A CARDIAC SPECIFIC INDUCIBLE MOUSE MODEL OF TIMOTHY SYNDROME 2. Glenna CL Bettt, Stanley Fernandez, Albert Nayeri, Agniezka Lis, James A. Fallavollita, **Randall L. Rasmusson**

2758-Pos **Board #B528**
NONLINEAR THRESHOLD BEHAVIOR IN THE INDUCTION OF ARRHYTHMIAS BY CHANNELS BEARING TIMOTHY SYNDROME MUTATIONS. **Ivy E. Dick**, Rosy Joshi-Mukherjee, Wanjun Yang, David T. Yue

2759-Pos **Board #B529**
EFFECT OF ACIDOSIS ON VENTRICULAR L-TYPE CALCIUM CURRENT DURING ACTION POTENTIALS. **Noriko Saegusa**, Emma Moorhouse, Richard D. Vaughan-Jones, Kenneth W. Spitzer

2760-Pos **Board #B530**
EFFECTS OF ANANDAMIDE ON ELECTRICAL ACTIVITY, CALCIUM TRANSIENTS AND CONTRACTION IN GUINEA PIG CARDIAC VENTRICULAR MYOCYTES. **Emma L. Bolton**, Derek A. Terrar

2761-Pos **Board #B531**
THE ROLE OF CAVEOLAE AND MEMBRANE CONFORMATION IN LOAD-INDUCED VENTRICULAR CONDUCTION SLOWING. **Adam T. Wright**, Ingrid R. Niesman, David M. Roth, Hemal H. Patel, Jeffrey H. Omens, Andrew D. McCulloch

2762-Pos **Board #B532**
IONIC MECHANISM FOR THE FORMATION OF EXCITABLE SCROLL WAVE FILAMENTS. **Ashley E. Raba**, Jacques Beaumont

2763-Pos **Board #B533**
COMPUTATIONAL PREDICTIONS OF TISSUE-SPECIFIC CONSEQUENCES OF LONG QT MUTATIONS: ROLE OF THE PURKINJE FIBER. **Vivek Iyer**, Kevin Sampson, Robert Kass

2764-Pos **Board #B534**
OPTICAL SCREENING OF ELECTRICAL, MECHANICAL, AND SIGNALING FUNCTION ON ADULT CARDIAC MYOCYTES AS ALTERNATIVE QT-SCREEN. **Ksenia Blinova**, Richard A. Gray

2765-Pos **Board #B535**
IMPACT OF MULTIPLE IONIC CHANGES IN ARRHYTHMIC RISK BIOMARKERS IN HUMAN VENTRICULAR ELECTROPHYSIOLOGY. **Jose F. Rodriguez**, Jesus Carro Fernandez, Esther Pueyo, Kevin Burrage, Blanca Rodriguez

2766-Pos **Board #B536**
ACTION POTENTIAL DURATION MAPS IN HOMOGENEOUS CARDIAC VENTRICULAR TISSUE SLICES ARE INDEPENDENT OF CHANGES IN STIMULATION SITE. **Ken Wang**, Peter Lee, David Gavaghan, Peter Kohl, Christian Bollensdorff

2767-Pos **Board #B537**
PLURIPOTENT CELL-DERIVED CARDIOMYOCYTES: ONE CELL TYPE AS A PREDICTIVE TOOL FOR THE ASSESSMENT OF DRUG EFFICACY AND SAFETY ON A VARIETY OF CARDIAC TARGETS. **Ralf F. Kettenhofen**, Kristina Tressat, Olga Rubenchik, Sonja Stoelzle, Ming Yu, Eike Sonnenhol, Mark Meininghaus, Bernd Kalthof, Heribert Bohlen, Silke Schwengberg, Eugen Kolossov

2768-Pos **Board #B538**
EXPLORING STEM CELL-DERIVED CARDIOMYOCYTES WITH AUTOMATED PATCH CLAMP TECHNIQUES. **Rikke L. Schrøder**, Mette Christensen, Blake Anson, Morten Sunesen

2769-Pos **Board #B539**
INDIVIDUAL CELL ELECTROPHYSIOLOGY (ICE) OF CARDIAC MYOCYTES _ USING INNOVATIVE 'ONION-PEELING' TECHNIQUE TO STUDY THE ICE OF EXCITABLE CELLS. Tamas Banyasz, Zhong Jian, Balazs Horvath, Leighton T. Izu, **Ye Chen-Izu**

2770-Pos **Board #B540**
ELECTROPHSIOLOGICAL TOOLS TO STUDY CARDIOMYOCYTES FROM SINGLE CELL TO ORGAN LEVEL. **Udo Kraushaar**, Katharina Stuerz, Dietmar Hess, Thomas Meyer, Elke Guenther

2771-Pos **Board #B541**
QUASI-*IN VIVO* ELECTROCARDIOGRAM MEASUREMENT USING CONVOLUTION OF FIELD POTENTIAL PROPAGATION IN THE *ON-CHIP* CARDIOMYOCYTES NETWORK CIRCUIT. **Fumimasa Nomura**, Tomoyuki Kaneko, Tomoyo Hamada, Akihiro Hattori, Kenji Yasuda

Smooth & Skeletal Muscle Electrophysiology (Boards #B542-#B545)

2772-Pos **Board #B542**
TARGETING AND FUNCTIONAL EXPRESSION OF TRANSGENIC CHLORIDE CHANNELS (CLC-1) IN SKELETAL MUSCLE FIBERS OF ADULT MICE. **Marino G. Di Franco**, Marbella Quinonez, Julio L. Vergara

2773-Pos **Board #B543**
MODIFICATION OF WOMEN UTERINE CONTRACTILE ACTIVITIES BY CHRONIC T4-TREATMENT ARE RELATED TO CHANGES IN CA^{2+} AND K^{+} CONDUCTANCE: CLINICAL TO BENCH SIDE ANALYSIS. **Stephanie Corriveau**, Simon Blouin, Éric Rousseau, Jean-Charles Pasquier

2774-Pos **Board #B544**
THE EFFECTS OF IONS AND WATER ON ACTIN-MYOSIN BINDING ENERGETICS AND MECHANICS. **Del R. Jackson, Jr.**, Milad Motarjemi, Travis Stewart, Christine R. Cremo, Josh E. Baker

2775-Pos **Board #B545**
VALIDATION OF XE991 USE AS A SELECTIVE IRREVERSIBLE BLOCKER OF NATIVE KV7 CHANNELS IN SMOOTH MUSCLE MYOCYTES. **Lyubov I. Brueggemann**, Kenneth L. Byron

Neuronal Systems & Modeling (Boards #B546-#B550)

2776-Pos **Board #B546**
SPONTANEOUS EXCITATION PATTERNS AND PROPAGATION IRREGULARITIES COMPUTED FOR MYELINATED AXONS WITH INJURY-LIKE IMPAIRMENTS OF NODAL NA/K PUMPS AND SODIUM CHANNELS. Na Yu, **Catherine E. Morris**, Bela Joos, Andre Longtin

2777-Pos **Board #B547**
ESTIMATION OF POPULATION-SPECIFIC SYNAPTIC CURRENTS FROM LAMINAR MULTIELECTRODE LOCAL FIELD POTENTIAL RECORDINGS. **Sergey L. Gratiy**, Anna Devor, Gaute T. Einevoll, Anders M. Dale

2778-Pos **Board #B548**
THE COFILIN SIGNALING PATHWAY IN DENDRITIC SPINES. **Paul J. Michalski**, Leslie M. Loew

2779-Pos **Board #B549**
RELATION BETWEEN THE INFORMATION CARRIER IN NERVOUS SYSTEMS AND THE DEPENDENCE OF A NEURON MODEL BEHAVIOR ON THE PAST ACTIVITY. **Takanobu Yamanobe**

2780-Pos **Board #B550** **EDUCATION TRAVEL AWARDEE**
VOLUME CONTROL IN THE PVN: A ROLE FOR TRPV4. **Claire Feetham**, Richard Barrett-Jolley

Anion Channels (Boards #B551-#B570)

2781-Pos **Board #B551**
ALLOSTERIC COUPLING BETWEEN THE CFTR CHLORIDE CHANNEL'S NBD1 HETERODIMER INTERFACE AND INTRACELLULAR DOMAINS. **Jennifer Dawson**, Julie Forman-Kay

2782-Pos **Board #B552**
A HOMOLOGY-BASED MOLECULAR MODEL OF THE CLOSED STATE OF HUMAN CFTR. **Kazi Shefaet Rahman**, Guiying Cui, Nael A. McCarty, Stephen C. Harvey

2783-Pos **Board #B553**
SEPARATION AND ACCESSIBILITY OF THE NUCLEOTIDE-BINDING DOMAIN (NBD) HETERODIMERIZATION INTERFACE WHEN A CFTR CHANNEL CLOSES. **Luiz A. Poletto Chaves**, David C. Gadsby

2784-Pos **Board #B554**
ON THE COUPLING MECHANISM OF CFTR GATING BY ATP HYDROLYSIS. **Kangyang Jih**, Tzyh-Chang Hwang

2785-Pos **Board #B555**
DECLARATION OF INDEPENDENCE BY CFTR'S TRANSMEMBRANE DOMAINS. **Xiaolong Gao**, Yonghong Bai, Tzyh-Chang Hwang

2786-Pos **Board #B556**
THREE CHARGED AMINO ACIDS IN THE OUTER VESTIBULE OF CFTR STABILIZE THE OPEN PORE ARCHITECTURE. **Guiying Cui**, Christopher Kuang, Chengyu Z. Prince, Nael A. McCarty

2787-Pos **Board #B557**
EFFECTS OF GENISTEIN AND CURCUMIN ON NON ATP-HYDROLYTIC CFTR MUTANTS. Yumi Nakamura, Akiko Hanyuda, Ying-Chun Yu, Tomoka Hagiya-Furukawa, Mitsuhiko Odera, Tzyh-Chang Hwang, Minoru Sakurai, Masato Yasui, **Yoshiro Sohma**

2788-Pos **Board #B558**
EVOLUTIONARY AND MECHANISTIC INSIGHTS INTO ABC EXPORTERS. **Attila Gulyas-Kovacs**, David C. Gadsby

2789-Pos **Board #B559**
VOLTAGE-DEPENDENT GATING OF CLC-2 CHLORIDE CHANNEL. Jorge E. Sanchez-Rodriguez, Juan A. Contreras-Vite, Pablo G. Nieto-Delgado, Alejandra Castro-Chong, Jose A. De Santiago-Castillo, **Jorge Arreola**

2790-Pos **Board #B560**
ALKALINE PH BLOCK OF CLC-K KIDNEY CHLORIDE CHANNELS MEDIATED BY A PORE LYSINE RESIDUE. **Antonella Gradogna**, Michael Pusch

2791-Pos **Board #B561**
FLUORIDE TRANSPORT IN A STRANGE SUBCLASS OF BACTERIAL CLC PROTEINS. **Randy Stockbridge**, Christopher Miller

2792-Pos **Board #B562**
AGE-DEPENDENCE OF CHLORIDE CURRENTS IN MUSCLE FIBERS FROM CONTROL AND MYOTONIC (HSA^{LR}) MICE. **Carl H. Yu**, Marino DiFranco, Marbella Quinonez, Julio L. Vergara

2793-Pos **Board #B563**
FUNCTIONAL REGULATION OF CLC-3 IN THE MIGRATION OF VASCULAR SMOOTH MUSCLE CELLS. **Sindura B. Ganapathi**, Shun-Guang Wei, Fred S. Lamb, Stephen B. Shears

2794-Pos **Board #B564**
DISEASE-RELATED MODIFICATION OF CHLORIDE CONDUCTANCE IN SKELETAL MUSCLE OF DYSTROPHIC MICE: EXPRESSION OF CLC-1 CHANNEL AND ROLE OF INFLAMMATION AND OXIDATIVE STRESS-RELATED SIGNALING. Giulia M. Camerino, Anna Cozzoli, Roberta F. Capogrosso, Maria M. Dinardo, **Annamaria De Luca**

2795-Pos **Board #B565**
SINGLE MOLECULE OPTICAL DETERMINATION OF BESTROPHIN STOICHIOMETRY. **Shashank Bharill**, Ehud Y. Isacoff

2796-Pos **Board #B566**
DROSOPHILA BESTROPHIN 1 IS A SWELL ACTIVATED CHLORIDE CHANNEL. **Stephanie C. Stotz**, Myles B. Keating, David E. Clapham

2797-Pos **Board #B567**
CLIC1 FUNCTIONAL EXPRESSION IN THE PLASMA MEMBRANE CORRELATES WITH HUMAN GLIOBLASTOMA AGGRESSIVENESS. **Nicoletta Savalli**, Marina Angelini, Matteo Setti, Daniela Osti, Giuliana Pelicci, Michele Mazzanti

2798-Pos **Board #B568**
MUTATION OF THE HIGHLY CONSERVED PORE-LINING LEUCINE RESIDUE INCREASES AGONIST SENSITIVITY OF A GLUTAMATE-GATED CHLORIDE CHANNEL. **Shawnalea Frazier**, Bruce Cohen, Henry Lester

2799-Pos **Board #B569**
CHARACTERIZING ATP PERMEATION THROUGH MVDAC1 USING MARKOV STATE MODELS (MSMS). **Om P. Choudhary**, Joshua Adelman, Jeff Abramson, Michael Grabe

2800-Pos **Board #B570**
PATHWAY RECONSTITUTION OF ABSCISIC ACID HORMONE ACTIVATION OF SLAC1 ANION CHANNELS VIA NOVEL ABA SIGNALING PROTEIN KINASE. **Dennis Brodsky**, Benjamin Brandt, Shaowu Xue, Juntaro Negi, Koh Iba, Jaakko Kangasjarvi, Julian Schroeder

Excitation-Contraction Coupling II (Boards #B571-#B589)

2801-Pos **Board #B571**
INCREASED MIR-129 IN HEART FAILURE LEADS TO DIMINISHED CALCIUM RELEASE BY DOWNREGULATION OF JUNCTOPHILIN 4. **Jennifer A. Rochira**, Karim Roder, Weiyan Li, Radmila Terentyeva, Yukiko Kunitomo, Terry S. Elton, Dmitry Terentyev

2802-Pos **Board #B572**
NOGO-A MODULATES CALCIUM HANDLING AND CONTRACTILITY IN CARDIOMYOCYTES. **Jason P. Sarkey**, Margaret J. McShane, Pieter P. de Tombe, Jody L. Martin

2803-Pos **Board #B573** **EDUCATION TRAVEL AWARDEE**
MULTIPLE, DYNAMIC, PACKING STRATEGIES OF RYANODINE RECEPTORS IN VENTRICLE. **Parisa Asghari**, David R.L. Scriven, Edwin D.W. Moore

2804-Pos **Board #B574**
HOW SPATIOTEMPORAL CLUSTERING OF L-TYPE CA^{2+} CHANNELS REGULATES CA^{2+} SIGNALS IN RAT VENTRICULAR MYOCYTES? Yuhui Cheng, Peter Kekenes-Huskey, Michael Holst, J Andrew McCammon, **Anushka Michailova**

2805-Pos **Board #B575**
T-TUBULE MORPHOLOGY AND LOCAL CA^{2+}-INDUCED CA^{2+} RELEASE IN RAT VENTRICULAR CARDIOMYOCYTES ARE SENSITIVE TO CHRONIC CHANGES IN MECHANICAL LOAD OF THE HEART. **Punam Kukadia**, Michael Ibrahim, Manoraj Navaratnarajah, Urszula Siedlecka, Carin Van Doorn, Magdi H. Yacoub, Cesare M. Terracciano

2806-Pos **Board #B576**
TRANSVERSE TUBULE STRUCTURE IS RELATED TO CONTRACTILE FUNCTION IN HUMAN HEART FAILURE. **David Crossman**, Peter Ruygrok, Alistair Young, Christian Soeller, Mark Cannell

2807-Pos **Board #B577**
INTRACELLULAR DYSSYNCHRONY IN CALCIUM REMOVAL IN VENTRICULAR CARDIAC MYOCYTES. **Frank R. Heinzel**, Felix Hohendanner, Niall Macquaide, Michael Sacherer, Gudrun Antoon, Karin Sipido, Burkert Pieske

2808-Pos **Board #B578**
USING MULTI-COLOR SUPER-RESOLUTION MICROSCOPY TO PROBE THE ORGANIZATION OF DYADIC PROTEINS WITHIN RAT CARDIAC MYOCYTES. **David Baddeley**, Isuru D. Jayasinghe, Cherrie H. T. Kong, Xander H. T. Wehrens, Mark B. Cannell, Christian Soeller

2809-Pos **Board #B579**
FEED FORWARD MODELING. FIXING THE FORCE FREQUENCY RELATIONSHIP. **Jose L. Puglisi**, Leighton Izu, Ye Chen-Izu, Donald M. Bers

2810-Pos **Board #B580**
TRPC1 AND TRPC4 CHANNELS CONTRIBUTE TO BASAL CARDIAC CALCIUM SIGNALLING VIA A CONSTITUTIVELY ACTIVE BACKGROUND CALCIUM ENTRY. **Peter Lipp**, Qinghai Tian, Martin Oberhofer, Karin Hammer, Juan E. Camacho-Londono, Petra Weissgerber, Marc Freichel, Lars Kaestner

2811-Pos **Board #B581**
RELATIONSHIP BETWEEN CA^{2+} ALTERNANS AND T-WAVE ALTERNANS: ROLE OF CALSEQUESTRIN AND SORCIN. Azade D. Petrosky, Bernardo Zepeda, Alexander B. Petrosky, Dmytro Kornyeyev, Paola Contreras, Hector H. Valdivia, **Ariel L. Escobar**

2812-Pos **Board #B582**
LOCAL CONTROL MODEL ILLUSTRATES HOW ACTION POTENTIAL MORPHOLOGY AFFECTS CA^{2+} RELEASE. **Laura D. Gauthier**, Joseph L. Greenstein, Raimond L. Winslow

2813-Pos **Board #B583**
ADENOSINE A2A RECEPTOR ACTIVATION DECREASES BEAT-TO-BEAT STABILITY OF INTRACELLULAR CALCIUM TRANSIENTS AND THEIR PROPAGATION IN ATRIAL MYOCYTES. Barriga Montserrat, Cristina E. Molina, Anna Llach, Nuria Cabello, Alex Vallmitjana, Raul Benitez, Josep Padro, Juan Cinca, **Leif Hove-Madsen**

2814-Pos **Board #B584**
ACUTE CHEMOTHERAPEUTIC TREATMENT INDUCES CHRONIC PHOSPHORYLATION OF THE CARDIAC RYANODINE RECEPTOR. Marie Janczura, Anneke Blackburn, Angela F. Dulhunty, **Nicole A. Beard**

2815-Pos **Board #B585**
ROS AND CAMKII MODULATE SODIUM OVERLOAD-INDUCED CALCIUM LEAK FROM RYANODINE RECEPTORS IN VENTRICULAR MYOCYTES. **Serge Viatchenko-Karpinski**, Dmytro Kornyeyev, Peidong Fan, John Shryock, Luiz Belardinelli, Lina Yao

2816-Pos **Board #B586**
HYPERALDOSTERONISM SEVERELY EFFECTS CALCIUM HANDLING, CONTRACTILITY AND ACTION POTENTIALS IN ISOLATED CARDIOMYOCYTES OF RATS. **Martin Oberhofer**, Qinghai Tian, Jan-Christian Reil, Hans-Ruprecht Neuberger, Peter Lipp

2817-Pos **Board #B587**
REGULATORY ROLE OF HISTIDINE RICH CALCIUM BINDING PROTEIN (HRC) IN CARDIAC SARCOPLASMIC RETICULUM CA^{2+} RELEASE COMPLEX. **Shilpa Rani**, Chang Sik Park, Do Han Kim

2818-Pos **Board #B588**
SEVERE CARDIAC HYPERTROPHY AND DEPRESSED CONTRACTILITY IN TRANSGENIC MICE WITH CO-OVEREXPRESSION OF CALSEQUESTRIN AND SERCA2A. **Uwe Kirchhefer**, Hideo A. Baba, Larry R. Jones, Joachim Neumann, Wilhelm Schmitz, Frank U. Mueller

2819-Pos **Board #B589**
ABLATION OF HISTIDINE-RICH CALCIUM BINDING PROTEIN (HRC) RESULTS IN SEVERE CARDIAC HYPERTROPHY AND DYSFUNCTION IN PRESSURE OVERLOAD MODEL. **Chang Sik Park**, Hyeseon Cha, Sora Jin, Woo Jin Park, Jung Hee Cho, Do Han Kim

Cardiac Muscle III (Boards #B590-#B621)

2820-Pos **Board #B590**
MYOFILAMENT PHOSPHORYLATION AND FUNCTION IN DIASTOLIC HEART FAILURE. Nazha Hamdani, Margaret M. Redfield, **Wolfgang A. Linke**

2821-Pos **Board #B591**
TROPONIN PHOSPHORYLATION CROSSTALK. **Benjamin R. Nixon**, Sean C. Little, Elizabeth A. Brundage, Rebecca S. Guenthardt, Jonathan P. Davis, Brandon J. Biesiadecki

2822-Pos **Board #B592**
TARGET SPECIFIC PHOSPHORYLATION OF CARDIAC TROPONIN I AND SEX DIMORPHIC MYOFILAMENT FUNCTION IN R403Q MICE. **Laurel McKee**, Jessica Regan, Hao Chen, John Walker, Leslie A. Leinwand, John P. Konhilas

2823-Pos **Board #B593**
LENGTH DEPENDENCE OF CARDIAC MYOCYTE FORCE GENERATION IS MEDIATED BY CTNI PHOSPHORYLATION. **Laurin M. Hanft**, Brandon J. Biesiadecki, Kerry S. McDonald

2824-Pos **Board #B594**
SINGLE MOLECULE FRET MEASUREMENTS OF CARDIAC TROPONIN IN FREELY DIFFUSING ASSEMBLIES. **Maria E. Moutsoglou**, Gi-Ho Kim, Tyrel R. Deutscher, Tanya A. Baldwin, John M. Robinson

2825-Pos **Board #B595**
CONFORMATIONAL CHANGES IN TROPONIN WITHIN THE CARDIAC MYOFILAMENT. **Bing Sun**, Gi-Ho Kim, Maria E. Moutsoglou, Tyrel R. Deutscher, Tanya A. Baldwin, John M. Robinson

2826-Pos **Board #B596**
A NOVEL METHOD FOR INTRODUCING FLUORESCENTLY LABELED TROPONIN INTO LIVE CARDIAC MYOCYTES. **Tyrel R. Deutscher**, Maria E. Moutsoglou, Tanya A. Baldwin, Allison L. McEldowny, John M. Robinson

2827-Pos **Board #B597**
INHIBITION OF ANGIOTENSIN II-INDUCED VENTRICULAR HYPERTROPHY AND FIBROSIS BY MODULATION OF PAK1 ACTIVITY. **Yunbo Ke**, Domenico M. Taglieri, Monasky M. Michelle, R. John Solaro

2828-Pos **Board #B598**
DOES UNCOUPLING OF TROPONIN I PHOSPHORYLATION FROM CHANGES IN MYOFIBRILLAR CA^{2+}-SENSITIVITY PLAY A ROLE IN THE PATHOGENESIS OF CARDIOMYOPATHY? **Andrew E. Messer**, Massimiliano Memo, Christopher R. Bayliss, Man Ching Leung, Steven B. Marston

2829-Pos **Board #B599**
MIR-208A TARGETED SUPPRESSION OF PDE4D DIRECTLY ENHANCES MYOCYTE CONTRACTILE FUNCTION VIA PKA-MEDIATED PHOSPHORYLATION OF CTNI AND PLN. **Fikru B. Bedada**, Joseph M. Metzger

2830-Pos **Board #B600**
REGULATORY LIGHT CHAIN PHOSPHORYLATION MIMIC S15D CAUSES PARTIAL RESCUE OF ISOMETRIC FORCE PRODUCTION IN FHC CAUSING MUTATION D166V. **William M. Schmidt**, Priya Muthu, James Watt, Jeffrey Moore, Danuta Szczesna-Cordary

2831-Pos **Board #B601**
PHYSIOLOGICAL EFFECTS OF FHC-CAUSING K104E MUTATION IN THE MYOSIN REGULATORY LIGHT CHAIN. **Wenrui Huang**, Katarzyna Kazmierczak, Priya Muthu, Yingcai Wang, Jingsheng Liang, Ana I. Rojas, Theodore P. Abraham, Danuta Szczesna-Cordary

2832-Pos **Board #B602**
MYOSIN REGULATORY LIGHT CHAIN PHOSPHORYLATION RESCUES CARDIAC DYSFUNCTION CAUSED BY FAMILIAL HYPERTROPHIC CARDIOMYOPATHY-LINKED MUTATIONS. **Priya Muthu**, Katarzyna Kazmierczak, Wenrui Huang, Ana I. Rojas, Danuta Szczesna-Cordary

2833-Pos **Board #B603**
NOVEL PHOSPHORYLATION SITES AND REDUCED PHOSPHORYLATION LEVELS IN HUMAN CARDIAC MYBP-C FROM FAILING HEARTS. **Viola Kooij**, Weihua Ji, Sheng-bing Wang, Cris dos Remedios, Anne M. Murphy, Jennifer E. Van Eyk

2834-Pos **Board #B604**
EFFECTS OF HCM MISSENSE MUTATIONS IN THE M DOMAIN OF CARDIAC MYOSIN BINDING PROTEIN C ON CALCIUM SENSITIVITY OF FORCE AND RATE IN RAT TRABECULAE. **Kristina L. Bezold**, Samantha P. Harris

2835-Pos **Board #B605**
COMMON MECHANICAL PROPERTIES OF RECOMBINANT AND NATIVE CARDIAC MYOSIN BINDING PROTEIN-C BY ATOMIC FORCE MICROSCOPE. **Arpad Karsai**, Miklós S. Z. Kellermayer, Samantha P. Harris

2836-Pos **Board #B606**
THE EFFECTS OF C-TERMINAL MUTATIONS ON THE FOLDING OF CARDIAC MYOSIN BINDING PROTEIN-C. Ashley Holly, Tzvia I. Cuperman, Chad Liber, Xiang Ji, Sakthivel Sadayappan, **Natosha L. Finley**

2837-Pos **Board #B607**
HUMAN SIGNALING SCAFFOLD PROTEIN (MAKAP) BINDING KINETICS TO PKA AND PHOSPHODIESTERASE (PDE4DE): IMPLICATIONS FOR A POSSIBLE ROLE IN HEART FAILURE. Abeer Rababa'h, John Craft, Cori Wijaya, **Bradley K. McConnell**

2838-Pos **Board #B608**
SINGLE MOLECULE STUDIES OF A TITIN MUTATION LINKED TO CARDIAC DISEASE. **Brian R. Anderson**, Julius Bogomolovas, Siegfried Labeit, Henk Granzier

2839-Pos **Board #B609**
EFFECT OF SHORTENING TITIN'S PROXIMAL IG SEGMENT ON PASSIVE CELLULAR MECHANICS. **Methajit Methawasin**, Charles S. Chung, Joshua Nedrud, Michiel Helmes, Henk L. Granzier

2840-Pos **Board #B610**
THE MULTIFUNCTIONAL CALCIUM/CALMODULIN-DEPENDENT PROTEIN KINASE II DELTA (CAMKIIδ) PHOSPHORYLATES TITIN N2B AND PEVK SPRING ELEMENTS. **Carlos G. Hidalgo**, Mei Methawasin, Charles S. Chung, Julius Bogomolovas, Alexander Gash, Siegfried Labeit, Alicia Mattiazzi, Henk Granzier

2841-Pos **Board #B611**
HYPOTHYROIDISM EFFECTS ON WILD TYPE AND MUTANT RATS WITH ALTERED CARDIAC TITIN EXPRESSION. **Jonathan M. Pleitner**, Wei Guo, Benjamin Schmitt, Jai Patel, Timothy Hacker, Marion Greaser

2842-Pos **Board #B612**
CHARACTERIZATION OF MYOCARDIAL PASSIVE STIFFNESS IN A MOUSE MODEL OF VOLUME OVERLOAD HEART FAILURE. **Kirk Hutchinson**

2843-Pos **Board #B613**
STRUCTURAL INVESTIGATION OF THE ACIDOSIS RESISTANT CARDIAC TROPONIN I MUTANT A162H. **Sandra E. Pineda-Sanabria**, Ian M. Robertson, Monica X. Li, Brian D. Sykes

2844-Pos **Board #B614**
TRANSGENIC MICE WITH A LOW EXPRESSION RATE OF THE FHC LINKED MUTATION CTNI-ΔK184 EXHIBIT PREDOMINANTLY SIGNS OF DIASTOLIC DYSFUNCTION. Bogdan Iorga, Natascha Blaudeck, Alfredo López Davila, Sarah Moellendorf, Axel Gödecke, Robert Stehle, **Gabriele Pfitzer**

2845-Pos **Board #B615** **EDUCATION TRAVEL AWARDEE**
CARDIAC TROPONIN I C-TERMINAL MUTATIONS (K178E AND K179E) CAUSE SEVERE HEART FAILURE AND EARLY MORTALITY IN TRANSGENIC MICE. **Pierre-Yves Jean-Charles**, Yuejin Li, Changlong Nan, Nariman Gobara, Xupei Huang

2846-Pos **Board #B616**
RESCUE OF A DILATED CARDIOMYOPATHY MOUSE MODEL CAUSED BY A MUTATION IN TROPOMYOSIN (E54K) BY EXPRESSION OF SLOW SKELETAL TROPONIN I. **Chad M. Warren**, Marco S.L. Alves, Eric M. Montminy, Jillian N. Simon, Robert D. Gaffin, Sudarsan Rajan, David F. Wieczorek, R. John Solaro, Beata M. Wolska

2847-Pos **Board #B617**
MOLECULAR MECHANISMS OF A164H CTNI. **Brian R. Thompson**, Evelyne Houang, Yuk Sham, Joseph M. Metzger

2848-Pos **Board #B618**
SMALL RESIDUE SUBSTITUTIONS AT CARDIAC TROPONIN I SER43/SER45 PRODUCE DISTINCT FUNCTIONAL RESPONSES. **Sarah E. Kampert**, Tamara K. Stevenson, Ryan P. O'Connell, Gail L. Romanchuk, Margaret V. Westfall

2849-Pos **Board #B619**
UPREGULATION OF RESTRICTIVE N-TERMINAL TRUNCATION OF CARDIAC TROPONIN T IN ISCHEMIA-REPERFUSION PRESERVES VENTRICULAR FUNCTION. **Han-Zhong Feng**, Heidi L. Lujan, Karin Przyklenk, Stephen E. DiCarlo, J.-P. Jin

2850-Pos **Board #B620**
TOAD CARDIAC MUSCLE UTILIZES SOLELY SLOW SKELETAL MUSCLE TROPONIN T CORRESPONDING TO RESISTANCE TO VENTRICULAR AFTERLOAD. **Han-Zhong Feng**, J.-P. Jin

2851-Pos **Board #B621**
ALTERATIONS IN HYPER-VARIABLE N-TERMINAL REGION OF CARDIAC TROPONIN T RESULT IN DIMINISHED CARDIAC MYOFILAMENT FUNCTION. **Sampath K. Gollapudi**, Ranganath Mamidi, Srilakshmi Mallampalli, Murali Chandra

Cell & Bacterial Mechanics & Motility III (Boards #B622-#B645)

2852-Pos **Board #B622**
THE MECHANICS OF FILOPODIAL RETRACTION. **Thomas Bornschlögl**

2853-Pos **Board #B623**
ROLE OF CELL BODY AND MICROVILLUS DEFORMABILITY IN SECONDARY ADHESION OF LEUKOCYTES. **Alex C. Szatmary**, Charles D. Eggleton

2854-Pos **Board #B624**
3D VESICLE MEMBRANE SIMULATION. **Stephen P. Gray**, Gray S. Crenshaw, Jung-Wook Park, Rolf J. Ryham

2855-Pos **Board #B625**
PROBING THE INITIAL STAGES OF PHAGOCYTOSIS WITH MAGNETIC MICROPARTICLES. **Matthias Irmscher**, Arthur M. de Jong, Menno W.J. Prins, Holger Kress

2856-Pos **Board #B626**
COMPARISON OF THE PHAGOCYTOSIS MECHANICS OF NEUTROPHILS, MONOCYTES, AND MACROPHAGES. **Cheng-Yuk Lee**, Marc Herant, Alexander Mankovich, Jonathan Lam, Volkmar Heinrich

2857-Pos **Board #B627**
HYDRODYNAMICS FOR SIMPLE FLUID QUANTITATIVELY DESCRIBES THE FLOW DYNAMICS IN C. ELEGANS ONE-CELL STAGE EMBRYO. **Ritsuya Niwayama**, Kyosuke Shinohara, Akatsuki Kimura

2858-Pos **Board #B628**
CELLULAR RHEOLOGY AND HYDRAULICS. Emadaldin Moeendarbary, Leo Valon, Andrew Harris, Dale Moulding, Adrian Thrasher, Eleanor Stride, L Mahadevan, **Guillaume Charras**

2859-Pos **Board #B629**
POWER-LAW RHEOLOGY OF NORMAL AND CANCER CELLS INVESTIGATED BY ATOMIC FORCE MICROSCOPY.
Ryosuke Takahashi, Yusuke Mizutani, Koichi Kawahara, Takaharu Okajima

2860-Pos **Board #B630** **EDUCATION TRAVEL AWARDEE**
MULTISCALE SIMULATION OF MALARIA-INFECTED ERYTHROCYTES AND SPHEROCYTES OF HEREDITARY SPHEROCYTOSIS PASSING ENDOTHELIAL SLITS IN THE SPLEEN. **Zhangli Peng**, Igor Pivkin, Ming Dao

2861-Pos **Board #B631**
INSTANTANEOUS MASS PROFILING OF LIVE CELLS VIA LIVE CELL INTERFEROMETRY. Jennifer Chun, Thomas Zangle, Jason Hong, James Gimzewski, Michael Teitell, **Jason Reed**

2862-Pos **Board #B632**
MEASURING THE MECHANICS OF CULTURED CELL MONOLAYERS. **Andrew R. Harris**

2863-Pos **Board #B633**
ACTIN CYTOSKELETON AND ADHESION SITE ORGANIZATIONS OF SINGLE CELL SPREADING CONSTRAINED ON MICROFABRICATED SUBSTRATES.
Benoit Vianay, Céline Labouesse

2864-Pos **Board #B634**
LYMPHOCYTE DYNAMICS ON ALIGNED ENDOTHELIAL CELLS.
Kwang Hoon Song, Jongcheol Choi, Keon Woo Kwon, Junsang Doh

2865-Pos **Board #B635**
UNIVERSAL RHEOLOGICAL PROPERTIES OF CELLS IN INTERMEDIATE STATES OBSERVED IN STRESS RELAXATION OF CELL SHEETS. **Masahiro Tsuchiya**, Yusuke Mizutani, Koichi Kawahara, Takaharu Okajima

2866-Pos **Board #B636**
VISCOELASTIC PROPERTIES OF VASCULAR ENDOTHELIAL CELLS EXPOSED TO UNIAXIAL STRETCH. **Kathryn E. Osterday**, Thomas Chew, Phillip Loury, Jason Haga, Juan C. del Alamo, Shu Chien

2867-Pos **Board #B637**
EXTRACELLULAR MATRIX PRESENTATION MODULATES VASCULAR SMOOTH MUSCLE CELL MECHANOTRANSDUCTION. **Brett C. Isenberg**, Olga V. Sazonova, Jacob Herrmann, Alexander D. Valentine, Matthew A. Nugent, Joyce Y. Wong

2868-Pos **Board #B638**
HUVEC CHEMOTAXIS AND FORCE GENERATION DEPEND ON SUBSTRATE MECHANICS AND CHEMICAL GRADIENT.
Randi Saunders, Micah Dembo, Daniel Hammer

2869-Pos **Board #B639**
CELLULAR MECHANO-STIMULATION BY ADJUSTING THE VISCOUS DRAG OF CELL-SUBSTRATE LINKERS IN BIOMEMBRANE-MIMICKING CELL SUBSTRATES.
Yu-Hung Lin, Daniel E. Minner, Lena Lautscham, Andreas Schoenborn, Wolfgang Goldmann, Ben Fabry, Christoph A. Naumann

2870-Pos **Board #B640**
EFFECT OF BIOMECHANICAL CUE ON CELL CYTOSKELETAL ORGANIZATION BY TFM AND MICROPATTERNING TECHNIQUE - A NOVEL APPROACH. **Kalpana Mandal**, Irène Wang, Martial Balland

2871-Pos **Board #B641**
FABRICATION OF HYDROGELS WITH GRADIENT OF COMPLIANCE: APPLICATION TO CELL MECHANOTAXIS AND DUROTAXIS. **Raimon Sunyer**, Albert J. Jin, Ralph Nossal, Dan L. Sackett

2872-Pos **Board #B642**
DYNAMICS OF A MICROSPHERE IN AN ANISOTROPIC GEL: A FRONTIER IN INTRACELLULAR MICRORHEOLOGY.
Manuel Gomez-Gonzalez, Katie Osterday, Juan C. del Alamo

2873-Pos **Board #B643**
INFLUENCE OF ANISOTROPIC SUBSTRATE STIFFNESS ON CELL BEHAVIOR. **Srikanth Raghavan**, Aravind R. Rammohan, Martial Hervy

2874-Pos **Board #B644**
ROLE OF ANISOTROPIC FOCAL ADHESION GROWTH ON CELLULAR TRACTION AND SHAPE. **Aravind R. Rammohan**, Srikanth Raghavan, Magdalena Stolarska

2875-Pos **Board #B645**
A MECHANOCHEMISTRY MODEL OF FOCAL ADHESION DYNAMICS IN CELL MIGRATION. **Zhanghan Wu**, Sergey Plotnikov, Clare M. Waterman, Jian Liu

Unconventional Myosins (Boards #B646-#B669)

2876-Pos **Board #B646**
CLASS-1 MYOSINS AT THE INTERPHASE BETWEEN SPINDLES AND MEMBRANES. Falk K. Hartmann, Jan Lohöfener, Agrani Rump, Jonathan Gerber, **Georgios Tsiavaliaris**

2877-Pos **Board #B647**
ASYMMETRIC MOTILITY POWERED BY MYO1C ON LIPID MEMBRANES. **Serapion Pyrpassopoulos**, Elizabeth A. Feeser, E. M. Ostap

2878-Pos **Board #B648**
MYO1C IS BUILT FOR SUSTAINED POWER UNDER LOAD, NOT TENSION SENSING. **Michael J. Greenberg**, Tianming Lin, Yale E. Goldman, Henry Shuman, E. Michael Ostap

2879-Pos **Board #B649**
INTERACTIONS OF CALMODULIN AND THE IQ MOTIFS OF A TYPE I MYOSIN IN FISSION YEAST. **Christopher J. Alexander**, Daniel P. Mulvihill, Michael A. Geeves

2880-Pos **Board #B650**
ACTIN STRAIGHTENS THE MYOSIN RELAY HELIX DURING THE POWERSTROKE. **Joseph M. Muretta**, Karl J. Petersen, Margaret Titus, David D. Thomas

2881-Pos **Board #B651**
DIFFERENTIAL IMPACT OF TEMPERATURE AND MAGNESIUM ON MYOSIN V AND MYOSIN II. Anja M. Swenson, Darshan Trivedi, Yasuharu Takagi, James R. Sellers, **Christopher M. Yengo**

2882-Pos **Board #B652**
MAGNESIUM REGULATES MYOSIN V MOTOR ACTIVITY BY ALTERING KEY CONFORMATIONAL CHANGES IN THE NUCLEOTIDE BINDING POCKET. **Darshan V. Trivedi**, Anja Swenson, Christopher M. Yengo

2883-Pos **Board #B653**
THE SUBSTEP OF MYOSIN VA IS ASSOCIATED WITH AN INCREASE IN STIFFNESS OF THE MYOSIN VA HEAD DOMAIN. Aike T. Schweda, Nils F. Hahn, John Sleep, Walter Steffen, **Bernhard Brenner**

2884-Pos **Board #B654**
SINGLE MOLECULE MEASUREMENT OF THE MYOSIN V ENERGY TRANSDUCTION PROCESS. **Keisuke Fujita**, Mitsuhiro Iwaki, Atsuko H. Iwane, Toshio Yanagida

2885-Pos **Board #B655**
CARGO ACTIVATION OF FULL LENGTH MYOSIN VA BY MELANOPHILIN OBSERVED AT THE SINGLE MOLECULE LEVEL. **Maria Sckolnick**, Elena B. Krementsova, David M. Warshaw, Kathleen M. Trybus

2886-Pos **Board #B656**
STEPPING DYNAMICS OF MYOSIN VA MOTORS PHYSICALLY-LINKED THROUGH A COMMON QDOT-CARGO. **M. Yusuf Ali**, Andrej Vilfan, Kathleen M. Trybus, David M. Warshaw

2887-Pos **Board #B657**
INTERACTING BEHAVIOR OF TWO MYOSIN VA MOTORS COUPLED VIA A DNA SCAFFOLD. **Hailong Lu**, Carol S. Bookwalter, Elena B. Krementsova, Michael R. Diehl, Kathleen M. Trybus

2888-Pos **Board #B658**
PROCESSIVITY DETERMINANTS OF ENGINEERED MYOSINS. **Tony D. Schindler**, Zev Bryant

2889-Pos **Board #B659**
OPTICAL CONTROL OF SPEED AND DIRECTIONALITY IN ENGINEERED MYOSIN MOTORS. **Muneaki Nakamura**, Zev Bryant

2890-Pos **Board #B660**
STEPPING OF MYOSIN V WITH POINT MUTATIONS IN THE CONVERTER. **Sergey V. Mikhailenko**, Takashi Ohki, Jun-ichi Yoshimoto, Hiroaki Kubota, Yusuke Oguchi, Shin'ichi Ishiwata

2891-Pos **Board #B661**
CONSERVATION ANALYSIS OF MYOSIN FAMILIES. **Yuan Zhang**, Jung-Chi Liao

2892-Pos **Board #B662**
THE ADJACENT BINDING STATE ENABLES MYOSIN VI DUAL FUNCTION. **Keigo Ikezaki**, Tomotaka Komori, Mitsuhiro Sugawa, Yoshiyuki Arai, So Nishikawa, Atsuko Hikikoshi Iwane, Toshio Yanagida

2893-Pos **Board #B663**
MYOSIN VI COMES TOGETHER - STRUCTURE AND MOTOR REGULATION BY BINDING PARTNERS. **Christopher P. Toseland**, Heike Ellrich, Natalia Fili, Christopher Batters, Claudia Veigel

2894-Pos **Board #B664**
EXAMINATION OF THE KINETICS OF MYOSIN VI DURING ENDOCYTOSIS. **Lisa M. Bond**, John Kendrick-Jones, Folma Buss, James R. Sellers

2895-Pos **Board #B665**
THE SHAKER-1 MOUSE MYOSIN VIIA HAS A DRASTICALLY COMPROMISED ATP HYDROLYSIS MECHANISM. **Eva Forgacs**, Betty Belknap, Howard D. White, Jessica M. Haithcock

2896-Pos **Board #B666**
SINGLE MOLECULE MOVEMENT OF FULL-LENGTH MYOSIN X. **Osamu Sato**, Satoshi Komatsu, Tomonobu M. Watanabe, Kazuaki Homma, Mitsuo Ikebe

2897-Pos **Board #B667**
EXPLORING BUNDLE SELECTIVITY OF MYOSIN X FORCED DIMER CONSTRUCTS IN VIVO. **Alicja Janik**, Ronald S. Rock

2898-Pos **Board #B668**
FUNCTIONAL CHARACTERIZATION OF HUMAN MYOSIN-18A AND ITS INTERACTION PARTNERS. **Manuel H. Taft**, Elmar Behrmann, Lena-Christin Weidemann, Stefan Raunser, Dietmar J. Manstein

2899-Pos **Board #B669**
PARASITE MOTILITY: MECHANISMS OF A NOVEL MOLECULAR MOTOR, MYOSIN XXI. **Christopher Batters**, Katy Woodall, Christopher Toseland, Claudia Veigel

Oxidative Phosphorylation & Mitochondrial Metabolism (Boards #B670-#B682)

2900-Pos **Board #B670**
CRYSTALLOGRAPHIC AND FUNCTIONAL EVIDENCE FOR INVOLVEMENT OF THE FLEXIBLE C-TERMINUS OF SUBUNIT I OF RHODOBACTER SPHAEROIDES CYTOCHROME C OXIDASE IN PROTON PUMPING. **Jian Liu**, Carrie Hiser, Ling Qin, Shelagh Ferguson-Miller

2901-Pos **Board #B671**
THE SUBUNIT B-DIMER OF THE F1-ATPASE INFLUENCES CONFORMATIONAL TRANSITIONS DURING CATALYSIS. Susan J. Pandey, Fran Brewer, John G. Wise, **Pia D. Vogel**

2902-Pos **Board #B672**
THE C-SUBUNIT RING OF THE F1FO ATP SYNTHASE CONSTITUTES A LEAK CHANNEL THAT REGULATES CELLULAR METABOLIC EFFICIENCY BY COUNTERACTING THE H+ TRANSLOCATOR. **Kambiz N. Alavian**, Emma Lazrove, Panah Nabili, Hongmei Li, Elizabeth A. Jonas

2903-Pos **Board #B673**
BIOENERGETICS OF CONTRACTILE FUNCTION IN HEART TRABECULAE FROM DIABETIC RATS. Niraj Bhatt, Miguel A. Aon, Xiaoxu Shen, Brian O'Rourke, Weidong Gao, **Sonia Cortassa**

2904-Pos **Board #B674**
PALMITATE IMPROVES REDOX BALANCE AND ENHANCES CONTRACTILITY WHILE OFFSETTING ADVERSE EFFECTS OF HYPERGLYCEMIA IN THE DIABETIC CARDIOMYOCYTE. Carlo G. Tocchetti, Viviane Caceres, Nazareno Paolocci, **Miguel A. Aon**

2905-Pos **Board #B675**
EVIDENCE FOR CHAOS IN MITOCHONDRIAL DYNAMICS. **Jackelyn M. Kembro**, Sonia Cortassa, Miguel A. Aon

2906-Pos **Board #B676**
A QUANTITATIVE DESCRIPTION OF OXIDATIVE PHOSPHORYLATION IN CARDIAC MITOCHONDRIA. **Kalyan C. Vinnakota**, Fan Wu, Daniel A. Beard

2907-Pos **Board #B677**
ALKALINIZATION TRANSIENTS IN INDIVIDUAL MITOCHONDRIA. **Jaime Santo Domingo**, Nicolas Demaurex

2908-Pos **Board #B678**
PERMEABILIZED RAT CARDIOMYOCYTE RESPONSE DEMONSTRATES INTRACELLULAR ORIGIN OF DIFFUSION OBSTACLES. **Natalja Jepihhina**, Nathalie Beraud, Mervi Sepp, Rikke Birkedal, Marko Vendelin

2909-Pos **Board #B679**
DISTRIBUTION OF INTRACELLULAR ADP DIFFUSION RESTRICTION IN TROUT CARDIOMYOCYTES. **Niina Sokolova**, Marko Vendelin, Rikke Birkedal

2910-Pos **Board #B680**
VOLTAGE DEPENDENT ANION CHANNEL-3 (VDAC3) IS THE MAJOR ISOFORM CONTRIBUTING TO MITOCHONDRIAL METABOLISM IN HEPG2 CELLS AND IS REGULATED BY FREE TUBULIN AND ERASTIN. **Eduardo N. Maldonado**, David N. DeHart, Jyoti R. Patnaik, Kely L. Sheldon, Tatiana K. Rostovtseva, Yefim Manevich, Danyelle Townsend, John J. Lemasters

2911-Pos **Board #B681**
NRF2 CONTROLS MITOCHONDRIAL BIOENERGETICS. **Kira M. Holmstrom**, Liam Baird, Albena T. Dinkova-Kostova, Andrey Y. Abramov

2912-Pos **Board #B682**
A SURFACE PLASMON RESONANCE-BASED TWO-DIMENSIONAL SCREEN FOR PROTEIN KINASE SUBSTRATES IDENTIFIES FUMARASE AS AMPK TARGET. Anna Klaus, Cécile Polge, Sarah Zorman, Yolanda Auchli, Réné Brunisholz, **Uwe Schlattner**

Electron & Proton Transfer (Boards #B683-#B698)

2913-Pos **Board #B683**
NEGATIVE COOPERATIVITY IN THE REDUCTION OF EXCITONICALLY INTERACTING B-HEMES OF THE CYTOCHROME B6F COMPLEX. S. Saif Hasan, Stanislav D. Zakharov, **William A. Cramer**

2914-Pos **Board #B684** **INTERNATIONAL TRAVEL AWARDEE**
ENERGY TRANSDUCTION BY BACTERIAL COMPLEXES I. Ana P. Batista, Bruno C. Marreiros, **Manuela M. Pereira**

2915-Pos **Board #B685**
ELECTRON TUNNELING IN RESPIRATORY COMPLEX I. **Tomoyuki Hayashi**, Alexei A. Stuchebrukhov

2916-Pos **Board #B686**
THE ROLE OF ACID RESIDUES IN NA+ UPTAKE AND BINDING IN NA+-NQR FROM VIBRIO CHOLERAE. **Blanca Barquera**, Oscar Juarez, Michael E. Shea, Jonathan Cho, Darcie Cook

2917-Pos **Board #B687**
SUICIDE INACTIVATION IN *RHODOBACTER SPHAEROIDES* CYTOCHROME *C* OXIDASE LACKING SUBUNIT III COINCIDES WITH RELEASE OF CU_B AND MAJOR CONFORMATIONAL CHANGES IN SUBUNIT I. **Lawrence J. Prochaska**, Robert R. Geyer, Jonathan P. Hosler, Audie Thompson, Lakshman Varanasi, Gerald M. Alter, Aimin Liu

2918-Pos **Board #B688**
NEW LIGANDS OF THE CONSERVED STEROID BINDING SITE OF CYTOCHROME C OXIDASE. **Carrie Hiser**, Leann Buhrow, Jian Liu, Shelagh Ferguson-Miller

2919-Pos **Board #B689**
A KINETIC MODEL OF PROTON TRANSPORT IN A MULTI-REDOX CENTER PROTEIN: CYTOCHROME C OXIDASE. **Johannes Srajer**, Andreas Schwaighofer, Asmorom Kibrom, Christoph Nowak, Renate L.C. Naumann

2920-Pos **Board #B690**
INTERFACIAL PROTON DIFFUSION. **Denis Knyazev**, Peter Pohl

2921-Pos **Board #B691**
TUNING THE MIDPOINT POTENTIAL OF THE PRIMARY QUINONE IN RHODOBACTER SPHAEROIDES PHOTOSYNTHETIC REACTION CENTERS BY MUTATION OF RESIDUE M265. **Aidas J. Mattis**, Colin A. Wraight

2922-Pos **Board #B692**
KINETICS OF PROTON RELEASE AND UPTAKE BY CHANNELRHODOPSIN-2. Ionela Radu, Melanie Nack, Coral del Val, Ana-Nicoleta Bondar, Stefania Abbruzzetti, Schulz Bernd, Ramona Schlesinger, Cristiano Viappiani, **Joachim Heberle**

2923-Pos **Board #B693**
DESIGN AND CHARACTERIZATION OF A MULTI-COFACTOR BINDING PROTEIN WITH IMPLICATIONS FOR PHOTOACTIVATED WATER OXIDATION. **Nathan M. Ennist**, Tammer Farid, Goutham Kodali, P. Leslie Dutton

2924-Pos **Board #B694**
BIOLUMINESCENCE OF SCINTILLONS ISOLATED FROM *NOCTILUCA MILIARIS* IS INHIBITED BY DIVALENT METAL CATIONS, SUGGESTING PROTON CHANNEL INVOLVEMENT. **Deri Morgan**, Boris Musset, Vladimir V. Cherny, Susan M.E. Smith, Woody Hastings, Thomas E. DeCoursey

2925-Pos **Board #B695**
DOES ASPARTATE112 MUTATION CONVERT THE HUMAN VOLTAGE GATED PROTON CHANNEL INTO A HYDROXIDE CHANNEL? **Boris Musset**, Susan M.E. Smith, Kethika Kulleperuma, Sindhu Rajan, Deri Morgan, John Holyoake, Vladimir V. Cherny, Régis Pomès, Thomas E. DeCoursey

2926-Pos **Board #B696**
GROUND-STATE PROTON TRANSFER IN GREEN FLUORESCENT PROTEIN MEASURED BY NMR. **Luke M. Oltrogge**, Steven G. Boxer

2927-Pos **Board #B697**
THE SPATIAL MAPPING OF THE METABOLIC COFACTOR NADH WITHIN LIVE PROGENITOR STEM CELLS. **Belinda Wright**, Laura M. Andrews, Julie Markham, Mark R. Jones, Chiara Stringari, Michelle A. Digman, Enrico Gratton

2928-Pos **Board #B698**
ON THE MECHANISM OF SYNERGISTIC CYTOTOXICITY OF VITAMINS C AND K_3: EXPERIMENTS *IN VITRO* AND QUANTUM-CHEMICAL ANALYSIS. Alytis Gruodis, Nurija Galikova, Karolis Šarka, Rita Saulė, Danutė Batiuškaitė, **Gintautas Saulis**

Molecular Mechanics & Force Spectroscopy II (Boards #B699-#B715)

2929-Pos **Board #B699**
SINGLE-MOLECULE RUPTURE DYNAMICS ON MULTIDIMENSIONAL LANDSCAPES. **Yohichi Suzuki**, Olga K. Dudko

2930-Pos **Board #B700**
MECHANICAL FEATURES OF TRANSTHYRETIN: PROBING FOLDING INTERMEDIATES OF AN AMYLOID FORMING PROTEIN BY SINGLE MOLECULE FORCE SPECTROSCOPY. **Ricardo H. Pires**, Maria J. Saraiva, Ana M. Damas, Miklós S. Kellermayer

2931-Pos **Board #B701**
FOLDING-UNFOLDING KINETICS OF SKELETAL-MUSCLE TITIN MOLECULES EXPLORED WITH FORCE-CLAMP OPTICAL TWEEZERS. **Zsolt Martonfalvi**, Pasquale Bianco, Miklos Kellermayer

2932-Pos **Board #B702**
OPTIMIZING BEAD SIZE IMPROVES FORCE PRECISION IN OPTICAL TRAPS. **Rebecca K. Montange**, Matthew S. Bull, Elisabth R. Shanblatt, Thomas T. Perkins

2933-Pos **Board #B703**
NANOSCALE 3D DYNAMICS OF OPTICALLY TRAPPED SPHERES INTERACTING WITH ADHERENT CELL LAMELLAE. **Igor R. Kuznetsov**, Evan Evans

2934-Pos **Board #B704**
EFFECT OF CELL AND MICROVILLUS MECHANICS ON THE TRANSMISSION OF APPLIED LOADS TO SINGLE BONDS IN DYNAMIC FORCE SPECTROSCOPY. **Vijay K. Gupta**, Charles D. Eggleton

2935-Pos **Board #B705**
QUANTIFYING FORCE-DEPENDENT BINDING KINETICS OF DNA-RUTHENIUM COMPLEXES. **Meriem Bahira**, Micah J. McCauley, Ioulia Rouzina, Fredrik Westerlund, Mark C. Williams

2936-Pos **Board #B706**
SINGLE-MOLECULE INVESTIGATIONS OF VON WILLEBRAND FACTOR IN HYDRODYNAMIC FLOW. **Darren Yang**, Theodore Feldman, Daniel Cheng, Ken Halvorsen, Wesley P. Wong

2937-Pos **Board #B707**
REAL-TIME ACTIVATION OF BLOOD PLATELETS STUDIED WITH MAGNETIC MICROPARTICLES. **Helena Maria van Zijp**, Mark Roest, Holger Kress, Arthur M. de Jong, Menno W.J. Prins

2938-Pos **Board #B708**
USING DNA HANDLES IN OPTICAL TWEEZERS STUDIES OF PROTEIN MECHANICS. **Naghmeh Rezaei**, Megan Miao, Benjamin P.B. Downing, Fred W. Keeley, Nancy R. Forde

2939-Pos **Board #B709**
NANOMECHANICS OF DESMIN FILAMENTS EXPLORED WITH OPTICAL TWEEZERS. **Balazs Kiss**, Pasquale Bianco, Miklos S.Z. Kellermayer

2940-Pos **Board #B710**
VERSATILE OPTICAL TWEEZERS WITH SINGLE BASE-PAIR RESOLUTION. **Iddo Heller**, Niels Laurens, Daan Vorselen, Dennis Kruijssen, Erwin J. G. Peterman, Gijs J. L. Wuite

2941-Pos **Board #B711**
ENCASED CANTILEVERS FOR ULTRA-LOW-NOISE FORCE SPECTROSCOPY OF PROTEINS AND LIGAND RECEPTOR COMPLEXES. **Dominik Ziegler**, Paul D. Ashby

2942-Pos **Board #B712**
THE MECHANISM OF THE FORMATION OF NONADHESIVE FIBRINOGEN MATRICES EXAMINED BY ATOMIC FORCE MICROSCOPY. **Ivan S. Yermolenko**, Bryant Doss, Robert Ros, Tatiana P. Ugarova

2943-Pos **Board #B713**
TOTAL INTERNAL REFLECTION FLUORESCENCE MICROSCOPY, CELL ADHESION, AND CELL TRACTION FORCE MEASUREMENTS ON SOFT SILICONE GELS. **Edgar Gutierrez**, Alexander Groisman, Eugene Tkachenko

2944-Pos **Board #B714**
NATURAL FLEXIBILITY OF TYPE I COLLAGEN MOLECULES. **Stephanie L. Holdener**

2945-Pos **Board #B715**
THE EFFECT OF TENSION ON CLOSELY SPACED NICKS IN NAKED DNA MOLECULES. Wei-Ju Chung, **Yujia Cui**, Ian C. Hsu

Emerging Single Molecule Techniques III (Boards #B716-#B724)

2946-Pos **Board #B716**
UNDER-FILLING TRAPPING OBJECTIVES OPTIMIZES THE USE OF AVAILABLE LASER POWER IN OPTICAL TWEEZERS. **Mohammed Mahamdeh**, Citlali Pérez Campos, Erik Schäffer

2947-Pos **Board #B717**
TWO-PHOTON FLUORESCENCE IMAGING OF SINGLE FLUORESCENT PROTEINS INSIDE MAMMALIAN CELLS. **Wei Cheng**, Ximiao Hou

2948-Pos **Board #B718**
INERTIAL EFFECTS OF A SMALL BROWNIAN PARTICLE CAUSE A COLORED POWER SPECTRAL DENSITY OF THERMAL NOISE. Anita Jannasch, **Mohammed Mahamdeh**, Erik Schäffer

2949-Pos **Board #B719**
A METHOD FOR TIME-RESOLVED RATIOMETRIC DETECTION OF PLASMON COUPLING BETWEEN GOLD NANOPARTICLES FOR SINGLE-MOLECULE BINDING ASSAYS. **Diane M. Wiener**, Troy A. Lionberger

2950-Pos **Board #B720**
VISUALIZING SINGLE DNA MOLECULES IN NANOFLUIDIC CHANNELS. Jens Wigenius, Lena Nyberg, Fredrik Persson, **Fredrik Westerlund**

2951-Pos **Board #B721**
INTER-DOMAIN DYNAMICS OF PHOSPHOGLYCERATE KINASE STUDIED BY SINGLE-MOLECULE FRET. **Matteo Gabba**, Tobias Rosenkranz, Jörg Fitter

2952-Pos **Board #B722**
HIGH-DENSITY SINGLE PARTICLE TRACKING ON THE PLASMA MEMBRANE USING HIGH-SPEED HYPERSPECTRAL IMAGING. **Patrick J. Cutler**, Michael D. Malik, Sheng Liu, Jason M. Byars, Diane S. Lidke, Keith A. Lidke

2953-Pos **Board #B723**
A NOVEL, WAFER-LEVEL METHOD TO FABRICATE ZERO-MODE WAVEGUIDES FOR SINGLE MOLECULE DETECTION. **Troy A. Lionberger**, Chu-hsiang Teng, Pei-Cheng Ku, Edgar Meyhöfer

2954-Pos **Board #B724**
QUANTITATIVE FLUORESCENT LABELING OF ALDEHYDE-TAGGED PROTEINS FOR SINGLE-MOLECULE IMAGING. **Xinghua Shi**, Yonil Jung, Li-Jung Lin, Cheng Liu, Cong Wu, Isaac K. O. Cann, Taekjip Ha

Micro & Nanotechnology: Nanopores II (Boards #B725-#B747)

2955-Pos Board #B725
DECONSTRUCTING STRUCTURAL TRANSITIONS OF BIOMOLECULES. **Michael Zwolak**, Chih-Chun Chien, Kirill Velizhanin, Yoni Dubi

2956-Pos Board #B726
A MULTICHANNEL ELECTROPHYSIOLOGY WORKBENCH FOR SINGLE ION CHANNEL SCREENING. **Federico Thei**, Michele Rossi, Emanuele Giordano, Stefano Severi, Marco Tartagni

2957-Pos Board #B727
DYNAMIC MODULATION OF MULTI-CELLULAR CLUSTERS BY REPETITIVE MICROSCOPE PROJECTION PHOTOLITHOGRAPHY USING BIO-FRIENDLY PHOTORESIST. **Jongcheol Choi**, Kwang Hoon Song, Hong-Ryul Jung, Junsang Doh

2958-Pos Board #B728
AUTOMATION OF CLASSICAL PATCH CLAMP EXPERIMENTS FEATURING MULTI CHANNEL RECORDINGS, OPTICAL CELL SELECTION AND ULTRA FAST COMPOUND APPLICATION. **Timm Danker**, Elke Guenther

2959-Pos Board #B729
INTRACELLULAR RECORDING OF CARDIOMYOCYTE ACTION POTENTIALS BY NANOELECTRODE ARRAYS. **Carter (Ziliang) Lin**, Chong Xie, Lindsey Hanson, Yi Cui, Bianxiao Cui

2960-Pos Board #B730
A MICRO-FLUIDIC POWER GENERATION USING AN ELECTRICAL DOUBLE LAYER. **Jong Kyun Moon**, Jaeki Jeong, Hyuk Kyu Pak

2961-Pos Board #B731
ALTERING THE CELLULAR MORPHOLOGY RESULTS IN THE MECHANICAL REGULATION OF NUCLEAR SHAPE AND FUNCTIONS BY CENTRAL ACTIN FILAMENTS. Marie Versaevel, Thomas Grevesse, **Sylvain Gabriele**

2962-Pos Board #B732
ELECTROPHYSIOLOGY METHODS TO INVESTIGATE MOLECULAR INTERACTIONS BETWEEN NANOPARTICLES AND LIPID BILAYERS. **Alexander Negoda**, Ying Liu, Georgina A. Comiskey, Quanxuan Zhang, Gregory L. Baker, Robert M. Worden

2963-Pos Board #B733
POREGENIC - PATCH ON CHIP SYSTEM FOR ADHERENT CELLULAR NETWORKS. **Denise Franz**, Carsten Tautorat, Oliver Klink, Uwe Scheffler, Thomas Kroeger, Jan Gimsa, Werner Baumann, Helmut Beikirch, Philipp Julian Koester

2964-Pos Board #B734
BIOLOGICAL ACTIVITY OF GABA NEUROTRANSMITTER CONJUGATED WITH GOLD NANOPARTICLES IN XENOPUS LAEVIS OOCYTES TRANSFECTED WITH GABA RHO 1 RECEPTOR. **D. Cornejo-Monroy**, F. Dardon, J. Nunez, A. Martinez-Torres, V.M. Castano, N. Camacho-Calderon, G. Zaldivar-Lelo de Larrea, E.A. Lopez-Arvizu, C. Saldana

2965-Pos Board #B735
LOCALIZATION OF LIQUID-ORDERED/LIQUID-CRYSTALLINE PHASE SEPARATION AT A LIPID BILAYER SUSPENDED OVER MICROWELLS. **Koji Sumitomo**, Yukihiro Tamba, Aya Tanaka, Keiichi Torimitsu

2966-Pos Board #B736
NANOSTRAWS FOR DIRECT FLUIDIC INTRACELLULAR ACCESS. **Alexander M. Xu**, Jules J. VanDersarl, Nicholas A. Melosh

2967-Pos Board #B737
AN INTEGRATED CELL LYSIS CHIP. **Jongil Ju**, Ki-Bong Song

2968-Pos Board #B738
ALZHEIMER'S DISEASE PATHOGENIC FACTOR METHOD SENSING USING THE PHOTO-SENSITIVE FIELD-EFFECT TRANSISTOR. **Cheol-Joo Chae**, Hye-Rim Shin, Kwan-Su Kim, Ki-Bong Song

2969-Pos Board #B739
A SUBMICRON COULTER COUNTER FOR ENUMERATION OF VIRUSES AND NANOPARTICLES. **Gregory Damhorst**, B. Murali Venkatesan, Shouvik Banerjee, Vita Solovyeva, Rashid Bashir

2970-Pos Board #B740
A NOVEL SILICONE MAGNETIC MICROSPHERE FOR LIGAND-TARGETED DRUG DELIVERY. **Julie C. Ronecker**, Benjamin A. Evans

2971-Pos Board #B741
SILICONE-BASED MAGNETIC MICROSPHERES FOR MAGNETIC HYPERTHERMIA THERAPEUTICS. **Alison E. Deatsch**, Benjamin A. Evans

2972-Pos Board #B742
MAGNETICALLY ACTUATED ARTIFICIAL CILIA AS MICROFLUIDIC MIXERS. **Michael F. Berg**, Willem Prinz, Benjamin Evans

2973-Pos Board #B743
INTRACELLULAR TRAFFICKING AND MOLECULAR EFFECTS OF PEPTIDE FUNCTIONALIZED GOLD NANOPARTICLES ON HEP-2 CELLS. **Pooja M. Tiwari**, Komal Vig, Michael E. Miller, Shree R. Singh

2974-Pos Board #B744
HOLLOW GOLD NANOSHELLS FOR NEAR INFRA RED CELL BY CELL TREATMENT. **Joseph A. Zasadzinski**

2975-Pos Board #B745
CELL TYPE DEPENDENT EFFECTS OF NANOWIRE DENSITY ON CELL CULTURES. **Henrik Persson**, Jonas O. Tegenfeldt, Lars Samuelson, Stina Oredsson, Christelle N. Prinz

2976-Pos Board #B746
A SELF-ASSEMBLING POLYPEPTIDE NANOPARTICLE VACCINE FOR AVIAN INFLUENZA. **Tobias Neef**, Sankhiros Babapoor, Christian Mittelholzer, Senthil Raman, Mazar Khan, Peter Burkhard

2977-Pos Board #B747
HIGHLY ORIENTED, FUNCTIONALIZED NANOARRAY BASED ON EPITAXIALLY GROWN Aß25-35 FIBRILS. Ricardo RH Pires, Judit Sallai, Katalin Soos, Botond Penke, **Miklos SZ Kellermayer**

Atomic Force Miscroscopy (Boards #B748-#B765)

2978-Pos Board #B748
DIRECT VISUALIZATION OF CELLOBIOHYDROLASE ON CRYSTALLINE CELLULOSE USING HIGH-SPEED ATOMIC FORCE MICROSCOPY. **Takayuki Uchihashi**, Kiyohiko Igarashi, Anu Koivula, Masahisa Wada, Merja Penttil, Masahiro Samejima, Toshio Ando

2979-Pos **Board #B749**
TOWARDS TRACKING MOVING SINGLE MOLECULES IN ATOMIC FORCE MICROSCOPY. **Peng Huang**, Sean B. Andersson

2980-Pos **Board #B750**
ENCASED CANTILEVERS AND ALTERNATIVE SCAN ALGORITHMS FOR ULTRA-GANTLE HIGH SPEED ATOMIC FORCE MICROSCOPY. **Paul Ashby**, Dominik Ziegler, Andreas Frank, Sindy Frank, Alex Chen, Travis Meyer, Rodrigo Farnham, Nen Huynh, Ivo Rangelow, Jen-Mei Chang, Andrea Bertozzi

2981-Pos **Board #B751**
ULTRASENSITIVE FORCE SPECTROSCOPY WITH TUNING FORK BASED FREQUENCY MODULATION. **Aaron Lewis**, Andrey Ignatov, Alina Strinkovsy, Ori Avayu, Patricia Hamra

2982-Pos **Board #B752**
MEASURING A STABILIZATION CONSTANT BETWEEN TWO BIO-MOLECULES USING ATOMIC FORCE MICROSCOPY. **Byung I. Kim**, Jennifer Rice, Hyonjee Joo, Joseph Holmes, Jonathan Walsh

2983-Pos **Board #B753**
CONDUCTING ATOMIC FORCE MICROSCOPY FOR SIMULTANEOUS IMAGING OF STRUCTURE AND IONIC CURRENT THROUGH NANOPORES. **Brian Meckes**, Fernando T. Arce, Alan Gillman, Alexander Mo, Ratnesh Lal

2984-Pos **Board #B754**
IN-VITRO NEAR-FIELD ABLATION OF BIOLOGICAL SAMPLES IN THE MID-IR WAVELENGTH REGION. **Deepa Raghu**, Joan Hoffmann, Benjamin gamari, Mark Reeves

2985-Pos **Board #B755**
TIME-RESOLVED SINGLE MOLECULE MICROSCOPY COUPLED WITH ATOMIC FORCE MICROSCOPY. **Marcelle Koenig**, Marcus Sackrow, Samantha Fore, Felix Koberling, Uwe Ortmann, Rainer Erdmann

2986-Pos **Board #B756**
SINGLE FIBRONECTIN TYPE III MODULE DESORPTION FROM HYDROPHILIC AND HYDROPHOBIC SURFACES: STUDY BY SINGLE MOLECULE FORCE AND RAMAN SPECTROSCOPY. **Weiqing Shi**, Shan Zou, Gilbert C. Walker

2987-Pos **Board #B757**
INCREASED ADHESION OF GLYCATED PROTEINS TO ARTERIOLAR VASCULAR SMOOTH MUSCLE CELLS AS DETERMINED BY ATOMIC FORCE MICROSCOPY. **Srijita Dhar**, Zhe Sun, Yan Yang, Gerald A. Meininger, Michael A. Hill

2988-Pos **Board #B758**
A METHOD TO RESOLVE ATOMIC FORCE MICROSCOPY FEATURE DEFINITION ISSUES FOR CELLS CULTURED ON NANOFIBRILLAR SCAFFOLDS. **Kan Xie**, Volkan M. Tiryaki, Virginia M. Ayres

2989-Pos **Board #B759**
THE EFFECTS OF CONTACT TIME ON THE ADHESIVE PROPERTIES OF AN ESTABLISHED BACTERIAL BIOFILM. **Anne E. Murdaugh**, He Xu, Megan Nunez, Katherine Aidala

2990-Pos **Board #B760**
INVESTIGATING THE SURFACE STRUCTURE AND ANTIBODY RECOGNITION FORCES OF *TANNERELLA FORSYTHIA* BY SCANNING PROBE MICROSCOPY. **Yoo Jin Oh**, Gerhard Sekot, Linda Wildling, Paul Messner, Christina Schäffer, Peter Hinterdorfer

2991-Pos **Board #B761**
RECEPTOR ARRAYS FOR THE SELECTIVE AND EFFICIENT CAPTURING OF VIRAL PARTICLES, PROTEINS AND NANOPARTICLES. **Markus Kastner**, Philipp D. Pollheimer, Juergen Danzberger, Andreas Ebner, Dieter Blaas, Hermann J. Gruber, Stefan Howorka, Peter Hinterdorfer

2992-Pos **Board #B762**
CHARACTERIZATION OF ENHANCED MONOVALENT AND BIVALENT THROMBIN DNA APTAMER BINDING USING SINGLE MOLECULE FORCE SPECTROSCOPY. **Andreas Ebner**

2993-Pos **Board #B763** **EDUCATION TRAVEL AWARDEE**
CHARACTERIZATION OF GLUCOCORTICOID RECEPTOR-HSP90 CHAPERONE MACHINERY HETEROCOMPLEX ASSEMBLY USING ATOMIC FORCE MICROSCOPY. **John Goertz**, Patrick J. M. Murphy

2994-Pos **Board #B764**
ALZHEIMER'S β-AMYLOID ALL-D-ENANTIOMERS AND NATIVE ALL-L-ENANTIOMERS EXHIBIT SIMILAR PORE STRUCTURES IN LIPID BILAYERS: ATOMIC FORCE MICROSCOPY. **Laura S. Connelly**, Fernando Teran Arce, Hyunbum Jang, Ricardo Capone, Samuel Kotler, Bruce Kagan, Ruth Nussinov, Ratnesh Lal

2995-Pos **Board #B765**
SCANNING PROBE MICROSCOPY OF SERPIN POLYMERS. **Pawel A. Osmulski**, Maria Gaczynska, Przemek Karpowicz, Srividya Madabhushi, Monika Tokmina-Lukaszewska, Christine Stuart, Wesley Jong, Malgosia Mikolajczyk, Martha C. Anderson, Ewa Marszal

Vibrational Spectroscopy (Boards #B766-#B779)

2996-Pos **Board #B766**
DEEP-UVRR SPECTROSCOPY STUDIES OF AMYLOIDOGENIC TRANSTHYRETIN FRAGMENTS. **Carol A. Roach**, Renee D. JiJi

2997-Pos **Board #B767**
IN VIVO MOLECULAR LABELING OF HALOGENATED VOLATILE ANESTHETICS VIA INTRINSIC MOLECULAR VIBRATIONS USING NONLINEAR RAMAN SPECTROSCOPY. **Masahiko Kawagishi**, Takayuki Suzuki, Yu Nagashima, Sumio Terada, Kazuhiko Misawa

2998-Pos **Board #B768**
CELL SURFACE PROTEIN DETECTION USING SURFACE-ENHANCED RAMAN SCATTERING (SERS) GOLD NANOPARTICLES. **Christina M. MacLaughlin**, Shell Ip, Nisa Mullaithilaga, Edward Parker, Chen Wang, Gilbert C. Walker

2999-Pos **Board #B769** **EDUCATION TRAVEL AWARDEE**
MICRO-RAMAN OF CANCER CELLS: TOWARD LABEL-FREE SORTING OF CIRCULATING TUMOR CELLS FROM WHOLE BLOOD. **Gregory L. Futia**, Allison G. Caster, Omid Masihzadeh, Kian Behbakht, Emily A. Gibson

3000-Pos **Board #B770**
STUDY OF ENERGETIC PARTICLE INDUCED BIOLOGICAL EFFECT THROUGH FTIR AND RAMAN MICRO-SPECTROSCOPY. **Qing Huang**, Jinghua Liu, Xiaoli Wei, Yusheng Fang, Zhigang Ke, Zeming Qi, Zengliang Yu

3001-Pos **Board #B771**
SIMULATING THE AMIDE I IR SIGNAL OF A PEPTIDE IN SOLUTION USING A CLASSICAL IMPLICIT WATER APPROXIMATION. **William R. Welch**

3002-Pos **Board #B772**
MEASURING MOMENTS OF PROTEIN CONFORMATION DISTRIBUTIONS USING INFRARED SPECTROSCOPY. **Curtis W. Meuse**

3003-Pos **Board #B773**
ISOTOPE-EDITED FT-IR SPECTRA OF ISOTOPMERS OF HELICAL HEXAMERS OF ALPHA-AMINOISOBUTYRIC ACID. **Matthew A. Kubasik**, Steven F. Hannigan

3004-Pos **Board #B774**
UNDER PRESSURE: MEASURING DESOLVATION OF MODEL α-HELICAL PEPTIDES. **Teraya Donaldson**, Alice Smith-Gicklhorn, Sean M. Decatur

3005-Pos **Board #B775**
DEPENDENCE OF PLANT CELL WALL COMPOSITION AND STRUCTURE ON CELLULOSE SYNTHASE-LIKE KNOCK OUT MUTANT. **Andreia M. Smith-Moritz**, Jeemeng Lao, Joshua L. Heazlewood, Pamela C. Ronald, Miguel E. Vega-Sanchez

3006-Pos **Board #B776**
FTIR STUDY OF TEMPERATURE AND PH EFFECTS ON AMINO ACID SIDE-CHAINS. **Benjamin A. Anderson**

3007-Pos **Board #B777**
A CO-TRANSLATIONALLY INSERTABLE DONOR-ACCEPTOR PAIR FOR THE REAL TIME STUDY OF VIBRATIONAL ENERGY TRANSFER IN PROTEINS. **Henrike M. Mueller-Werkmeister**, Jens Bredenbeck

3008-Pos **Board #B778**
MOLECULAR STRUCTURE AND STABILITY OF PHOSPHOLIPID MONOLAYERS PROBED BY VIBRATIONAL SUM FREQUENCY SPECTROSCOPY (VSFS). **Jonathan F. D. Liljeblad**, Vincent Bulone, Eric C. Tyrode, Magnus C. Johnson, Mark W. Rutland

3009-Pos **Board #B779**
DIGITAL PARALLEL ACQUISITION IN FREQUENCY DOMAIN FOR THE CHARACTERIZATION OF TISSUE SPATIAL HETEROGENEITIES. **Cosimo Arnesano**, Ylenia Santoro, Enrico Gratton

Computational Methods II (Boards #B780-#B807)

3010-Pos **Board #B780**
CROSS-TALK AND INFORMATION TRANSFER IN MAMMALIAN AND BACTERIAL SIGNALING. **Samanthe Lyons**, Ashok Prasad

3011-Pos **Board #B781**
A 3D INTEGRATED MODEL OF CARDIOMYOCYTES REVEALED THE IMPORTANT ROLE OF CARDIAC T-TUBULE STRUCTURE FOR THE MAINTENANCE OF CONTRACTILE FUNCTION. **Asuka Hatano**, Jun-ichi Okada,Takumi Washio, Toshiaki Hisada, Seiryo Sugiura

3012-Pos **Board #B782**
FINITE-ELEMENT MODEL OF THE SILK ELECTROGELATION PROCESS. **Nikola Kojic**, Matthew J. Panzer, Gary G. Leisk, Milos Kojic, David L. Kaplan

3013-Pos **Board #B783**
MULTIVALENT SYSTEMS OF CATCH BONDS EXHIBIT IDEAL BOND BEHAVIOR. **Lauren A. White**, Brian Walton, William H. Guilford

3014-Pos **Board #B784**
MULTISCALE MODELING OF O2 TRANSPORT IN ARTICULAR CARTILAGE. **Hadi Mohammadi**, Kibret Mequanint, Walter Herzog

3015-Pos **Board #B785**
STOCHASTICITY IN ACTION POTENTIAL DURATION ENHANCES DISPERSION OF REPOLARISATION AT FAST PACING RATES. **John Walmsley**, Kevin Burrage, Joe M. Pitt-Francis, Gary R. Mirams, Blanca Rodriguez

3016-Pos **Board #B786**
INTRODUCTION OF NON-LINEAR ELASTICITY MODELS FOR THE CHARACTERIZATION OF ISOLATED ADULT CARDIOCYTE CONTRACTILITY. Carlos Bazan, **Trevor Hawkins**, David Torres Barba, Peter Blomgren, Paul Paolini

3017-Pos **Board #B787**
BIFURCATION DYNAMICS FROM INTERACTING TRANSCRIPTION FACTORS OF STEM CELLS. **Ilyssa A. Summer**

3018-Pos **Board #B788**
SYSTEMATIC MODELING OF PHARMACOKINETICS BASED ON MULTI-SCALE IMAGING. **Lei Tang**, Jing Su, Anne L. van de Ven, Brian E. O'Neill, Zheng Li, King C. Li, Xiaobo Zhou

3019-Pos **Board #B789**
ON MECHANISMS OF REGULATION OF TISSUE ELONGATION IN DROSOPHILA WING. **Yingzi Li**, Hammad Naveed, Sema Kachalo, Lisa X. Xu, Jie Liang

3020-Pos **Board #B790**
A MATHEMATICAL MODEL FOR NEPHRIN LOCALIZATION IN PODOCYTE FOOT PROCESSES. **Cibele V. Falkenberg**, Michael L. Blinov, Evren U. Azeloglu, Susana R. Neves, Ravi Iyengar, Leslie M. Loew

3021-Pos **Board #B791**
MODELING OF PARTICLE NUMBER FLUCTUATIONS IN ENTIRE CELLS. **Thomas Kühn**, Jussi Timonen, Jörg Langowski

3022-Pos **Board #B792**
NUMERICAL ANALYSIS OF INTRACELLULAR ACTIN NETWORK DYNAMICS RELATED ON CELL MOVEMENTS. **Michiko Sugawara**, Hao Liu

3023-Pos **Board #B793**
A STATISTICAL ALGORITHM FOR QUANTIFYING CELLULAR ALIGNMENT DISTRIBUTIONS. **Alexander R. Nectow**, Eun Seok Gil, David L. Kaplan, Misha E. Kilmer

3024-Pos **Board #B794**
MULTI-COMPARTMENTAL TRANSPORT OF ANTI-HIV MOLECULES INTO AND THROUGH MUCOSA. **David F. Katz**, Yajing Gao, Sophia Chang

3025-Pos **Board #B795**
STUDIES OF THE SHAPE OF GROWING TUMORS. **Shiva Rudraraju**, Kristen L. Mills, Ralf Kemkemer, Krishna Garikipati

3026-Pos **Board #B796**
A LIKELIHOOD BASED CALCULATION FOR ELEMENTS OF A SINGLE PARTICLE TRACKING COST MATRIX. **Peter K. Relich**, Patrick J. Cutler, Fang Huang, Keith A. Lidke

3027-Pos **Board #B797**
ENERGY LANDSCAPE EVOLUTION OF SINGLE-MOLECULE PROTEIN GUIDED BY CONFORMATIONAL FLUCTUATION. **Chien Y. Lin**, June Y. Huang, Leu-Wei Lo

3028-Pos **Board #B798**
DYNAMIC CLAMP CONDUCTANCE INJECTION SOFTWARE BASED ON THE QNX REAL TIME OPERATING SYSTEM WITH ERROR CONTROL AND AN IMPLICIT INTEGRATION METHOD. **Hugo Zeberg**, Abraham Wolk, Hugh Robinson, Peter Arhem

3029-Pos **Board #B799**
REGIME-CHANGING HIDDEN MARKOV MODELING AND STATISTICAL ANALYSIS FOR COMPLEX SINGLE-MOLECULE TIME SERIES. **Kristofer Gryte**, Alistair Wardrope, Geraint Evans, Stephan Uphoff, Ludovic Le Reste, Achillefs N. Kapanidis

3030-Pos **Board #B800**
SPECIFICATION, CONSTRUCTION, AND EXACT REDUCTION OF FINITE STATE TRANSITION SYSTEM MODELS OF BIOCHEMICAL PROCESSES. **Scott M. Bugenhagen**, Daniel A. Beard

3031-Pos **Board #B801**
REPORTED CELLPHONE EFFECTS ON BRAIN ENERGETICALLY CONSISTENT WITH ELECTROSTRICTION. **William J. Bruno**

3032-Pos **Board #B802**
GLOBAL SENSITIVITY ANALYSIS OF ARRHYTHMIC RISK BIOMARKERS IN CARDIAC SINGLE CELL MODELS. **Anna A. Sher**, Paul Carter, Blair Bethwaite, Denis Noble, David Abramson, David J. Gavaghan

3033-Pos **Board #B803**
LOW TEMPERATURE MATRIX ISOLATION IR-SPECTROSCOPY AND QUANTUM CHEMICAL STUDY OF β-ALANINE STRUCTURE. **Daryna Smyrnova**, Stepan Stepanian

3034-Pos **Board #B804**
ATOMISTIC SIMULATION STUDIES OF THE PERMEATION OF ORGANIC MOLECULES THROUGH LIPID MEMBRANES. **Zhaleh Ghaemi Bafghi**, Alessandro Laio, Paolo Carloni

3035-Pos **Board #B805**
A NEW MONTE CARLO METHOD FOR EXPLORING THE SURFACE AREA, VOLUME AND VOIDS OF MOLECULES IN PROTEIN CONTAINING LIPID BILAYERS WITH ATOMISTIC DETAIL. **Liming Qiu**, Sara Y. Cheng, Kwan H. Cheng, Mark Vaughn

3036-Pos **Board #B806**
EXTRACTING KINETIC MODELS FROM SINGLE MOLECULE EXPERIMENTS BY DIRECT INFERENCE. **Steve Presse**, Julian Lee, G.J. Peterson, Justin MacCallum, Ken A. Dill

3037-Pos **Board #B807**
MODELING FLUORESCENCE OBSERVABLES, PARTICULARLY FOR FRET EXPERIMENTS, USING MARKOV CHAIN ANALYSIS OF MOLECULAR DYNAMICS AND QUANTUM MECHANICS SIMULATIONS. Amy L. Speelman, Aurora Muñoz-Losa, Katie L. Hinkle, Darren B. VanBeek, Benedetta Mennucci, **Brent P. Krueger**