

Tuesday, March 3, 2009

Daily Program Summary

All rooms in the Boston Convention & Exhibition Center unless noted otherwise.

7:30 AM–5:00 PM	Registration/Information	North Lobby
7:30 AM–10:00 PM	Family Room	255
8:00 AM–9:00 AM	BPS Business Meeting	105
8:00 AM–5:30 PM	Career Center	Hall A
8:00 AM–6:00 PM	Child Care	Westin, Otis
8:00 AM–10:00 PM	Poster Viewing	Hall A
8:15 AM–10:15 AM	Symposium 13 G-Protein Coupled Receptor Structure and Regulation <i>Brian Kobilka</i> , Stanford University, Co-Chair <i>Jonathan A. Javitch</i> , Columbia University, Co-Chair Structure and Dynamics of the Human Beta 2 Adrenergic Receptor. <i>Brian Kobilka</i> Bret-monitoring GPCR/G Protein Interactions: New Eyes to See Texture in Ligand Efficacy. <i>Céline Galés</i> FTIR Studies on the Activation of Rhodopsin; Possible Extension to General GPCRs? <i>Friedrich Siebert</i> Asymmetrical Function of Dopamine D2 Receptor Dimers. <i>Jonathan A. Javitch</i>	Ballroom East
8:15 AM–10:15 AM	Symposium 14 RNA in Biology and Disease <i>Dinshaw Patel</i> , Memorial Sloan-Kettering Cancer Center, Chair RNA Decay by the Eukaryotic Exosome. <i>Christopher D. Lima</i> Atomic Movies of RNA Dynamics Reveal Basis for Conformational Adaptation. <i>Hashim Al-Hashimi</i> Structure and Dynamics of Protein-RNA Recognition in the Regulation of Gene Expression. <i>Michael Sattler</i> Structural Biology of Riboswitch-mediated Gene Regulation and Argonaute-mediated Gene Silencing. <i>Dinshaw Patel</i>	Ballroom West
8:15 AM–10:15 AM	Platform AG Imaging & Optical Microscopy: Instrument and Probes Developments	102 A/B
8:15 AM–10:15 AM	Platform AH Muscle Regulations	104 A/B
8:15 AM–10:15 AM	Platform AI Protein Dynamics I	151 A/B
8:15 AM–10:15 AM	Platform AJ Interfacial Protein-Lipid Interactions II	153 A/B
8:15 AM–10:15 AM	Platform AK Voltage-gated K Channels - Gating: Gating Motions & Modulations	252 A/B
8:15 AM–10:15 AM	Platform AL Membrane Transporters & Exchangers	254 A/B
9:00 AM–10:00 AM	Subgroup Chairs Meeting	152
9:00 AM–10:30 AM	Exhibitor Presentation: OriginLab	103
10:00 AM–5:00 PM	Exhibits	Hall A
10:15 AM–11:00 AM	Coffee Break	Exhibit Hall Lounge

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(Continued from previous page)

10:45 AM–1:30 PM	<p>Symposium 15 (Ballroom East)</p> <p>Awards Symposium <i>Harel Weinstein</i>, Cornell University, Society President, Chair Awardees Anatrace Membrane Protein Award: Mechanisms of Ammonia and Water Regulation and Conductance, QED! <i>Robert Stroud</i> Avanti Award in Lipids: Lollipops and Membranes. <i>Stephen H. White</i> Margaret Oakley Dayhoff Award: Combining Patch-clamp and Fluorescence to Study Structural Dynamics of Ion Channels. <i>Teresa Giraldez</i>; The Biophysics of Neural Computation. <i>Adrienne Fairhall</i>; Biophysical Tools Meet Biochemistry in Living Systems: A Tale of Protein Kinases and Second Messengers. <i>Jin, Zhang</i> Founders Award: Structures and Functions of Large Molecular Assemblies. <i>Keiichi Namba</i> Michael & Kate Bárány Award for Young Investigators: Connecting Speckles -- Relations between Cortical Actin Dynamics and Endocytosis. <i>Gaudenz Danuser</i> U.S Genomics Award for Outstanding Investigator in the Field of Single Molecule Biology: Chemistry under Force. <i>Julio Fernandez</i></p>
10:45 AM–12:45 PM	<p>Minisymposium 3 102 A/B</p> <p>Protein-Ligand Interactions in Cellular Signaling <i>Kalle Gehring</i>, McGill University, Canada and <i>Ishwar Radhakrishnan</i>, Northwestern University, Co-Chairs Resolving Cadherin Interactions at the Single Molecule Level. <i>Sanjeevi Sivasankar</i> A Fluorescence Spectroscopic Approach to Qualify the Binding Characteristics of the Intracellular Domain of Crumbs with Pdz Domain-containing Proteins in <i>Drosophila Melanogaster</i>. <i>Heike Hornen</i> Interactions of the Parkin UBL Domain with S3-containing Proteins Involved in Synaptic Vesicle Endocytosis: Structure and Role in Protein Ubiquitination. <i>Jean-Francois Trempe</i> Mechanisms Underlying the Binding Diversity of Dynein Light Chain. <i>Elisar Barbar</i> Structural Basis of RIG-I Auto-inhibition and RNA-induced Activation. <i>Anirban Adhikari</i> Cross-Correlation of Fluorescence-Quenching and Infrared Absorption in the Study of Protein Ligand Binding Sites. <i>Sinej Madathil</i></p>
10:45 AM–12:45 PM	<p>Platform AM Ballroom West</p> <p>Emerging Single Molecule Techniques I</p>
10:45 AM–12:45 PM	<p>Platform AN 104 A/B</p> <p>Actin & Actin-binding Proteins</p>
10:45 AM–12:45 PM	<p>Platform AO 151 A/B</p> <p>Protein Folding & Stability I</p>
10:45 AM–12:45 PM	<p>Platform AP 153 A/B</p> <p>Membrane Active Peptides</p>
10:45 AM–12:45 PM	<p>Platform AQ 252 A/B</p> <p>TRP Channels & Intracellular Ca²⁺ Channels</p>
10:45 AM–12:45 PM	<p>Platform AR 254 A/B</p> <p>Membrane Protein Function</p>
11:00 AM–12:30 PM	<p>Exhibitor Presentation 103</p> <p>Molecular Devices</p>
12:00 PM–2:00 PM	<p>CPOW Transition from Postdoc to Faculty Luncheon 152</p>
1:00 PM–2:00 PM	<p>Cell Press Workshop 253C</p> <p>Ensuring a Smooth Publication of Your Paper</p>
1:00 PM–2:30 PM	<p>Exhibitor Presentation 103</p> <p>Wyatt Technology Corporation</p>
1:00 PM–3:00 PM	<p>Public Affairs Committee Panel 153C</p> <p>Sustainable Energy: Basic Science and Government Policy</p>
1:30 PM–2:30 PM	<p>Education Committee Panel 252 A/B</p> <p>Integrating Teaching and Research at Undergraduate Institutions</p>

1:45 PM–3:00 PM	Snack Break	Exhibit Hall Lounge
1:45 PM–3:45 PM	Poster Presentations	Hall A
3:00 PM–4:00 PM	Education Committee Meeting	251
3:00 PM–4:30 PM	Exhibitor Presentation Brookhaven Instruments Corporation	103
4:00 PM–6:00 PM	Symposium 16 Channels, Transporters, and Pores: Ways to Cross the Membrane <i>Susan Buchanan</i> , NIDDK, NIH, Chair Proton Controlled Transport Systems: Experiments and Simulations. <i>Isaiah Arkin</i> Structural Reorganisation of a K ⁺ Channel Pore During Gating. <i>Jacqui Gulbis</i> Import and Export Across the Bacterial Outer Membrane. <i>Susan Buchanan</i> The Structure of the Auaporin-0-mediated Membrane Junction. <i>Thomas Walz</i>	Ballroom East
4:00 PM–6:00 PM	Symposium 17 The Dynamic Chromatin in Epigenetic Gene Control <i>Timothy J. Richmond</i> , ETH Zürich, Switzerland, Chair Mapping Epigenomes. <i>Tarjei Mikkelsen</i> Structure and Chemistry of Histone Acetyltransferases. <i>Ronen Marmorstein</i> Chromatin Responses to DNA Damage. <i>Andre Nussenzweig</i> Structure and Mechanism of the Yeast Isw1a Chromatin Remodeling Factor. <i>Timothy J. Richmond</i>	Ballroom West
4:00 PM–6:00 PM	Platform AS Micro & Nanotechnology: Nanopores	102 A/B
4:00 PM–6:00 PM	Platform AT Unconventional Myosins	104 A/B
4:00 PM–6:00 PM	Platform AU Protein-Ligand Interactions	151 A/B
4:00 PM–6:00 PM	Platform AV Membrane Physical Chemistry II	153 A/B
4:00 PM–6:00 PM	Platform AW Ryanodine Receptors	254 A/B
6:00 PM–10:00 PM	New Council Dinner & Meeting	Westin, Commonwealth Ballroom
7:30 PM–9:30 PM	Workshop 4 Protein Folding and Stability <i>Robit Pappu</i> , Washington University, St. Louis, Chair Using Proteins of Reduced Complexity to Learn About Cooperativity in Folding. <i>Doug Barrick</i> Prediction of Protein Functional States by Multi-Resolution Protein Modeling. <i>Cecilia Clementi</i> Protein NMR Under Physiological Conditions. <i>Gary Pielak</i> Molecular Insights into Protein Folding and Misfolding Energy Landscapes. <i>Sheena Radford</i> Effects of Sequence and Conformational Contexts in Polyglutamine Aggregation. <i>Robit Pappu</i>	Ballroom East
7:30 PM–9:30 PM	Workshop 5 Nanotechnology/Microfluidics <i>Petra Schwille</i> , Dresden University of Technology, Germany, Chair Synthetic Biology on the Nanoscale. <i>Petra Schwille</i> Fabrication of Sealed Nanofluidic Channels Integrated with Surface Electronics. <i>Robert Austin</i> Nanofabricated Fluidic Structures as a New Probe for Biophysical and Evolutionary Studies of Biomolecules and Cells. <i>Cees Dekker</i> Dynamic Liquid Film Interfaces. <i>Owe Orwar</i> Biology in Pico-Liter Droplets. <i>Darren Link</i>	Ballroom West
8:00 PM–10:00 PM	SOBLA (The Society for Latinoamerican Biophysicists)	105

Tuesday, March 3

7:30 AM–5:00 PM, NORTH LOBBY

REGISTRATION

7:30 AM–10:00 PM, ROOM 255

FAMILY ROOM

8:00 AM–9:00 AM, ROOM 105

BIOPHYSICAL SOCIETY BUSINESS MEETING

8:00 AM–5:30 PM, HALL A

CAREER CENTER

8:00 AM–6:00 PM, WESTIN, OTIS

CHILD CARE

8:00 AM–10:00 PM, HALL A

POSTER VIEWING

8:15 AM–10:15 AM, BALLROOM EAST

SYMPOSIUM 13

G-Protein Coupled Receptor Structure and Regulation

Co-Chairs: *Brian Kobilka*, Stanford University
Jonathan A. Javitch, Columbia University

1913-SYMP 8:15 AM

Structure and Dynamics of the Human beta 2 Adrenergic Receptor.
Brian Kobilka

11914-SYMP 8:45 AM

Bret-monitoring GPCR/G Protein Interactions: New Eyes To See Texture In
Ligand Efficacy. Céline Galés

1915-SYMP 19:15 AM

FTIR Studies On The Activation Mechanism Of Rhodopsin; Possible
Extension To General GPCR's. Friedrich Siebert

1916-SYMP 9:45 AM

Asymmetrical function of dopamine D2 receptor dimers.
Jonathan A. Javitch

8:15AM–10:15 AM, ROOM BALLROOM WEST

SYMPOSIUM 14

RNA in Biology and Disease

Chair: *Dinshaw Patel*, Memorial Sloan-Kettering Cancer Center

1917-SYMP 8:15 AM

RNA Decay by the Eukaryotic Exosome. Christopher D. Lima

1918-SYMP 8:45 AM

Atomic Movies of RNA Dynamics Reveal Basis for Conformational
Adaptation. Hashim Al-Hashimi

1919-SYMP 9:15 AM

Structure And Dynamics Of Protein-RNA Recognition In The Regulation
Of Gene Expression. Michael Sattler

1920-SYMP 9:45 AM

Structural biology of riboswitch-mediated gene regulation and Argonaute-
mediated gene silencing. Dinshaw Patel

8:15 AM–10:15 AM, ROOM 102A/B

PLATFORM AG

Imaging & Optical Microscopy:

Instrument and Probes Developments

Co-Chairs: *Gerard Marriott*, University of Wisconsin
Rigoberto Pantoja, California Institute of Technology

1921-PLAT 8:15 AM

Dynamic Object Tracking (DOT) Microscopy To Image Endosomal
Transport On Individual Microtubules In An Axon. **Harsha V. Mudrakola**

1922-PLAT 8:30 AM

Next Generation SICM Allows Nanoscale Imaging Of Biological Processes
In Real-time. Pavel Novak, Chao Li, Andrew Shevchuk, Ruben Stepanyan,
Matthew Caldwell, Simon Hughes, Trevor Smart, Julia Gorelik, Max Lab,
Guy Moss, Gregory Frolenkov, David Klenerman, Yuri Korchev.

1923-PLAT 8:45 AM

Optical Lock-in Detection (OLID) and OLID-FRET Imaging Microscopy.
Gerard Marriott, Yuki Yan, Shu Mao, Chutima Petchprayoon.

1924-PLAT 9:00 AM

Multiparameter Spectroscopy For Single-Molecule Fluorescence And
Confocal Imaging. Ralf Kuehnemuth, Heike Hornen, Suren Felekyan,
Stanislav Kalinin, Stefanie Weidtkamp-Peters, Claus A.M.

1925-PLAT 9:15 AM

Dual Objective Multifocal Plane Microscopy for Single Particle/Molecule
Imaging Applications. Sripad Ram, Prashant Prabhat, E. Sally Ward,
Raimund J. Ober.

1926-PLAT 9:30 AM

Compensation Of Tissue-induced PSF Aberrations Using Adaptive Phase
Modulation. Rebecca M. Williams, Warren R. Zipfel

1927-PLAT 9:45 AM

Orange and Red Fluorescent Protein Optical Highlighters.
Gert-Jan Kremers, Kristin L. Hazelwood, Christopher S. Murphy,
Michael W. Davidson, David W. Piston.

1928-PLAT 10:00 AM

Medical Endoscopes for Multiphoton Microscopy. Hyungsik Lim,
Chris Xu, Watt W. Webb

8:15 AM–10:15 AM, ROOM 104A/B

PLATFORM AH

Muscle Regulations

Co-Chairs: *Howard White*, Eastern Virginia Medical School
Jolanda van der Velden, Vrije University Medical Center

1929-PLAT 8:15 AM

Differences in the Mechanisms of Calcium Regulation of the Acceleration of
ADP Dissociation from Myosin-ADP and Myosin-ADP-Pi by Native
Cardiac Thin Filaments. Howard D. White

1930-PLAT 8:30 AM

Effects of Elevated Solvent Viscosity on Calcium Dependence of Cardiac
Myofilament Contractility. Myriam A. Badr, Aya K. Takeda, Jordan S.
Rogers, P. Bryant Chase

1931-PLAT 8:45 AM

Dynamics of Bi-Functional Labeled Tropomyosin in Muscle Ghost Fiber
Monitored by Saturation Transfer EPR. Roni F. Rayes, Arthur T. Coulton,
Michael A. Geeves, Piotr G. Fajer.

1932-PLAT 9:00 AM

C-terminal Region Of Troponin I Interacts Near Residue 146 Of
Tropomyosin In A Ca²⁺ Dependent Manner. **Amal W. Mudalige**

1933-PLAT 9:15 AM

Impaired Myofilament Contractility in Post-infarct Remodeled Myocardium
is Restored upon α -Adrenergic Stimulation. Nicky M. Boontje,
Daphne Merkus, Vincent J. de Beer, Giulia Mearini, Lucie Carrier,
Lori A. Walker, Ger JM Stienen, Dirk J. Duncker, Jolanda van der Velden.

1934-PLAT 9:30 AM

Reference Free Single Particle Analysis Of Reconstituted Thin Filaments.
Danielle M. Paul, William Lehman, Alnoor Pirani, Roger Craig,
Larry S. Tobacman, John M. Squire, Edward P. Morris.

1935-PLAT 9:45 AM
Calcium-Regulated Conformational Changes in the COOH-terminus of Troponin I. Zhiling Zhang, Steven Mottl, J.-P. Jin

1936-PLAT 10:00 AM
Cardiomyopathy Causing Mutations Stabilize an Intermediate State of Thin Filaments. Mohit C. Mathur, Tomoyoshi Kobayashi, Joseph M. Chalovich.

8:15 AM–10:15 AM, ROOM 151A/B

PLATFORM AI

Protein Dynamics I

Co-Chairs: *Oliver Beckstein*, Johns Hopkins University School of Medicine
Nicolae-Viorel Buchete, University College Dublin, Ireland

1937-PLAT 8:15 AM
Probing Conformational Motion of Serpin by Time-Resolved and Single Molecule Fluorescence. Chin Wing Ko, Wenhua Zhou, Richard J. Marsh, Daven A. Armoogum, Nick Nicolaou, Angus J. Bain, Zhenquan Wei, Aiwu Zhou, Liming Ying.

1938-PLAT 8:30 AM
Evolution of enzyme fold: Linking protein dynamics and catalysis. Pratul K. Agarwal

1939-PLAT 8:45 AM
Function And Activity Of Von Willebrand Factor Is Regulated By A hierarchy Of Mechanical Forces. Carsten Baldauf, Tobias Obser, Antje Pieconka, Sonja Schneppenheim, Ulrich Budde, Reinhard Schneppenheim, Frauke Graeter.

1940-PLAT 9:00 AM
Experimental Confirmation of an NtrC Transition Pathway Predicted by Targeted MD. Janice Velos, Ming Lei, Ce Feng Liu, Phillip Steindel, Dorothee Kern.

1941-PLAT 9:15 AM
Real-time 3D Tracking of Structural Transitions in Adenylate Kinase by Thermal Noise Imaging. Yunhsiang Hsu, Vijay Rana, Arnd Pralle.

1942-PLAT 9:30 AM
The Flexibility of Unbound Importin-beta studied by Molecular Dynamics. Christian Kappel

1943-PLAT 9:45 AM
Cooperative long range protein-protein dynamics in Purple Membrane. Maikel C. Rheinstadter, Karin Schmalzl, Kathleen Wood, Dieter Strauch.

1944-PLAT 10:00 AM
The Bcd Morphogenetic Concentration Gradient is Formed by Diffusion. Asmahan Abu-Arish, Cecile Fradin

8:15 AM–10:15 AM, ROOM 153A/B

PLATFORM AJ

Interfacial Protein-Lipid Interactions II

Co-Chairs: *Oliver Soubias*, NIAAA, NIH
Daniel Otzen, Aarhus University, Denmark

1945-PLAT 8:15 AM
Curvature and Specific Lipid-Protein Interactions Modulate Activity of Rhodopsin. Olivier Soubias, Shui-Lin Niu, Drake C. Mitchell, Klaus Gawrisch

1946-PLAT 8:30 AM
Synaptotagmin Perturbs The Acyl Chain Order Of Lipid Bilayer Membranes. Alex Liqi Lai, David S. Cafiso.

1947-PLAT 8:45 AM
Membrane structure and the activity of phospholipase and sphingomyelinase D. Kerstin Wagner, Gerald Brezesinski, Roberto Pablo Stock, Luis Alberto Bagatolli.

1948-PLAT 9:00 AM
Action Of The Antimicrobial Peptide Novicidin: Divorcing Folding From Function. Brian S. Vad, Line A. Thomsen, Soren B. Nielsen, Jan M. Pedersen, Troels Skrydstrup, Niels C. Nielsen, Zuzana Valnickova, Jan J. Enghild, Daniel E. Otzen.

1949-PLAT 9:15 AM
Membrane Tubulation by Lattices of Amphiphysin BAR Domains. Ying Yin, Anton S. Arkhipov, Klaus Schulten.

1950-PLAT 9:30 AM
Probing the Interaction of Charged Lipids with the Potassium Channel KcsA. **Philip T.F. Williamson**, Phedra Marius.

1951-PLAT 9:45 AM
Folding and Assembly of Membrane Proteins: Coarse Grained Molecular Dynamics Simulations of EmrE. **Kia Balali-mood**, Mark SP Sansom

1952-PLAT 10:00 AM
Molecular Dynamics Simulations of Apolipoprotein A-I Peptide Mimetic 4F. **Amanda M. Plain**.

8:15 AM–10:15 AM, ROOM 252A/B

PLATFORM AK

Voltage-gated K Channels - Gating: Gating Motions & Modulations

Co-Chairs: *Jianmin Cui*, Washington University
Brian Delisle, University of Kentucky

1953-PLAT 8:15 AM
The KCNE1 Subunit Modifies S2-S4 Interactions in the KCNQ1 Subunit of the IKs Channel Complex. **Dick Wu**, Kelli Delaloye, Jianmin Cui.

1954-PLAT 8:30 AM
Wild-Type KCNQ1 Modulates the Gating of the LQT1 Mutation R231C. **Daniel C. Bartos**, Jennifer L. Smith, Jennifer A. Kilby, Craig T. January, Brian P. Delisle.

1955-PLAT 8:45 AM
Gated Motions and Interactions Between the Intra-Cellular Domains of the IKs Channel Subunits. **Yoni Haitin**, Reuven Wiener, Dana Shaham, Enbal Ben-Tal, Asher Peretz, Liora Shamgar, Olaf Pongs, Joel Hirsch, Bernard Attali.

1956-PLAT 9:00 AM
Using Voltage Clamp Fluorometry to Track Voltage Sensor Movement in a Mammalian Kv1.2 Channel in the Presence of the Kvbeta1.2 Subunit. **Christian J. Peters**, Moninder Vaid, Andrew Horne, David Fedida, Eric A. Accili

1957-PLAT 9:15 AM
LRET Measurements In The Three Major Conformations Of The Shaker K Channel. **Walter Sandtner**, Jerome Lacroix, Janice Robertson, Ludvine Frezza, Clark Hyde, Francisco Bezanilla, Ana M. Correa.

1958-PLAT 9:30 AM
Probing The Length Of The Gating Pore In K-channels By Mutations Along The Spiral Arginine Thread of S4. **Tamer M. Gamal El-Din**, Dominik Grögler, Hansjakob Heldstab, Claudia Lehmann, Nikolaus G. Greeff.

1959-PLAT 9:45 AM
Structural Basis For The Coupling Between Activation And Inactivation Gating In Potassium Channels. **Luis G. Cuello**, Vishwanath Jogini, D. Marien Cortes, Albert C. Pan, Dominique G. Gagnon, Julio F. Cordero-Morales, Sudha Chakrapani, Benoit Roux, Eduardo Perozo.

1960-PLAT 10:00 AM
Mechanism Of Increased Bk Channel Activation From A Channel Mutation That Causes Epilepsy. **Bin Wang**, Brad S. Rothberg, Robert Brenner.

8:15 AM–10:15 AM, ROOM 254A/B

PLATFORM AL

Membrane Transporters & Exchangers

Co-Chairs: *Joseph Mindell*, NINDS, NIH
Nicholas Reyes, Cornell Weill Medical Center

1961-PLAT 8:15 AM
Conformational Coupling of the Nucleotide-Binding and the Transmembrane Domains in ABC Transporters. **Po-Chao Wen**, Emad Tajkhorshid.

1962-PLAT 8:30 AM
Simulating Efflux Pumps: The Extrusion Mechanism of Substrates. **Robert Schulz**, Attilio V. Vargiu, Francesca Collu, Matteo Ceccarelli, Ulrich Kleinekathofer, Paolo Ruggerone.

1963-PLAT 8:45 AM **STUDENT TRAVEL AWARDEE**
Phenylalanine 508 Forms Intra-domain Contact Crucial To CFTR Folding And Dynamics. **Adrian Wendil R. Serohijos**, Tamas Hegedus, Andrei A. Aleksandrov, Lihua He, Liying Cui, Nikolay V. Dokholyan, John R. Riordan.

1964-PLAT 9:00 AM
Substrate-Dependent Conformational Changes of a Glutamate Transporter Homologue. **Nicolas Reyes**, Chris S. Ginter, Olga Boudker.

1965-PLAT 9:15 AM
A Role for Topologically-Inverted Structural Repeats in Secondary Active Transport by Membrane Proteins of the LeuT Fold. **Lucy Forrest**, Yuan-Wei Zhang, Barry Honig, Gary Rudnick.

1966-PLAT 9:30 AM
Detecting Transport-related Conformational Changes In The Glutamate Transporter Homologue, GltPh. **Emma LR Compton**, Patricia Curran, Joseph A. Mindell.

1967-PLAT 9:45 AM
Crystal Structure Of Chloride Transporter From A Cyanobacterium. **Hariharan Jayaram**, Fang Wu, Carole Williams, Christopher Miller.

1968-PLAT 10:00 AM
Electrophysiological Investigation of the Lactose Permease from *Escherichia coli* on a Solid-Supported Membrane. **Juan J. Garcia-Celma**, Irina N. Smirnova, Ronald H. Kaback, Klaus Fendler.

9:00 AM–10:00 AM, ROOM 152

SUBGROUP CHAIRS MEETING

9:00 AM–10:30 AM, ROOM 103

EXHIBITOR PRESENTATION

OriginLab

10:00 AM–5:00 PM, HALL A

EXHIBITS

10:15 AM–11:00 AM, EXHIBIT HALL LOUNGE

COFFEE BREAK

10:45 AM–1:30 PM, BALLROOM EAST

SYMPOSIUM 15

Awards Symposium

Chair: *Harel Weinstein*, Cornell University, Society President.

1969-SYMP 10:45 AM
Mechanisms of Ammonia and Water Regulation and Conductance, QED!
Robert Stroud.

1970-SYMP 11:05 AM
Lollipops and Membranes. **Stephen H. White**.

1971-SYMP 11:25 AM
Combining Patch-clamp and Fluorescence to Study Structural Dynamics of Ion Channels. **Teresa Giraldez**.

1972-SYMP 11:45 AM
The Biophysics of Neural Computation. **Adrienne Fairhall**.

1973-SYMP 12:05 PM
Biophysical Tools Meet Biochemistry in Living Systems: A Tale of Protein Kinases and Second Messengers. **Jin Zhang**.

1974-SYMP 12:25 PM
Structures and Functions of Large Molecular Assemblies. **Keiichi Namba**.

1975-SYMP 12:45 PM
Connecting Speckles–Relations between Cortical Actin Dynamics and Endocytosis. **Gaudenz Danuser**.

1976-SYMP 1:05 PM
Chemistry Under Force. **Julio Fernandez**.

10:45 AM–12:45 PM, ROOM 102A/B

MINISYMPOSIUM 3

Protein-Ligand Interactions in Cellular Signaling

Co-Chairs: *Kalle Gehring*, McGill University, Montreal, Canada, and *Ishwar Radhakrishnan*, Northwestern University.

1977-MINISYMP 10:45 AM
Resolving Cadherin Interactions at the Single Molecule Level. **Sanjeevi Sivasankar**, Yunxiang Zhang, W. James Nelson, Steven Chu.

1978-MINISYMP 11:05 AM
A Fluorescence Spectroscopic Approach To Quantify The Binding Characteristics Of The Intracellular Domain Of Crumbs With Pdz Domain-containing Proteins In *Drosophila Melanogaster*. **Heike Homen**, Christian Schwarz, Paul J. Rothwell, Elisabeth Knust, Claus AM Seidel.

1979-MINISYMP 11:25 AM
Interaction Of The Parkin UBL Domain With SH3-containing Proteins Involved In Synaptic Vesicle Endocytosis: Structure And Role In Protein Ubiquitination. **Jean-Francois Trempe**, Karl Grenier, Chen Xiuqing, Edna Camacho, Guennadi Kozlov, Edward A. Fon, Kalle Gehring.

1980-MINISYMP 11:45 AM
Mechanisms Underlying the Binding Diversity of Dynein Light Chain. **Elisar Barbar**, Justin Hall, Gregory Benison, Paul A. Karplus, Afua Nyarko.

1981-MINISYMP 12:05 PM
Structural Basis Of RIG-I Auto-inhibition And RNA-induced Activation. **Anirban Adhikari**, Puey Ounjai, Qiu-Xing Jiang, Zhijian Chen.

1982-MINISYMP 12:25 PM
Cross-Correlation of Fluorescence-Quenching and Infrared Absorption in the Study of Protein Ligand Binding Sites. **Sineej Madathil**, Karim Fahmy.

10:45 AM–12:45 PM, BALLROOM WEST

PLATFORM AM

Emerging Single Molecule Techniques I

Co-Chairs: *Ralf Metzler*, Technical University of Munich, Germany and *Suliana Manley*, NICHD, NIH

1983-PLAT 10:45 AM
Single-Molecule Fluorescence Imaging with Sub-nanometer Resolution. **Alexandros Pertsinidis**, Yunxiang Zhang, Steve Chu.

1984-PLAT 11:00 AM
Visualizing Single-proteins On A Single DNA Molecule With Super-resolution. **Andrea Candelli**, Peter Gross, Gijs J.L. Wuite, Erwin J.G. Peterman.

1985-PLAT 11:15 AM
Visualizing the Receptor Assembly Into Clathrin-coated Pits with Super-resolution Two-color Palm and sptPALM. **Suliana Manley**, George H. Patterson, Fedor V. Subach, Vladislav V. Verkhusha, Jennifer Lippincott-Schwartz.

1986-PLAT 11:30 AM STUDENT TRAVEL AWARDEE
A Single-Molecule Study of Gene Regulation in Real Time. **Zach Hensel**, Christine L. Hatem, Jie Xiao, J

1987-PLAT 11:45 AM
Pitfalls In Single Particle Tracking In Living Cells. **Ralf Metzler**, Yong He, Stas Burov, Eli Barkai.

1988-PLAT 12:00 NOON
New Single Molecular Detection System from Three-Dimensional Tracking of Single Nanocrystals using Scanning Electron Microscope. **Yuji C. Sasaki**

1989-PLAT 12:15 PM
Calibration of Holographic Optical Tweezers for Force Measurements on Biomaterials. **Astrid van der Horst**, Nancy R. Forde.

1990-PLAT 12:30 PM
Measuring the Molecular Scale Dynamics of Protein Receptor Endocytic Trafficking in Neural Cells using Quantum Dot Bioconjugate Probes. **Tania Q. Vu**.

10:45 AM–12:45 PM, ROOM 104A/B

PLATFORM AN

Actin & Actin-binding Proteins

Co-Chairs: *Scott Kuo*, Johns Hopkins University School of Medicine, and *Mark Bathe*, Ludwig Maximilian University, Germany.

1991-PLAT 10:45 AM
Depletion of F-actin Near Surfaces. **Charles I. Fisher**, Scot C. Kuo.

1992-PLAT 11:00 AM STUDENT TRAVEL GRANT AWARDEE
Interactions of WASp Nucleation Promoting Factors with Fission Yeast Arp2/3 Complex. **Shih-Chieh Ti**, Thomas D. Pollard.

1993-PLAT 11:15 AM
Nanotether Extrusion to probe Membrane-Cytoskeleton Interaction in Model Systems. **Clément Campillo**, Léa-Laetitia Pontani, Pierre Nassoy, Patricia Bassereau, Cécile Sykes.

1994-PLAT 11:30 AM

Force Dependent Unbinding Kinetics of Actin Crosslinking Proteins Using a Four-Bead Optical Tweezers Assay. **Melanie D. Reisinger**, Matthias Rief.

1995-PLAT 11:45 AM

The Actin-binding Site of Adducin Is Regulated by Intramolecular Interactions that Occur Within a Natively Unfolded Domain. **Jiahong Shao**, Elena G. Yarmola, Minh Vo, Sarah Barilovits, Iman M. Al-Naggar, Michael R. Bubb.

1996-PLAT 12:00 NOON

Towards a Molecular Understanding of Actin Bundle Stability and Mechanics. **Mark Bathe**.

1997-PLAT 12:15 PM

Caldesmon and Tropomyosin Synergistically Regulate Actin Dynamics. **Renjian Huang**, Chih-Lueh A. Wang.

1998-PLAT 12:30 PM

Tropomyosin Phosphorylation Has Filament-Level And Crossbridge-Level Effects On Actin-Myosin Interactions. **Vijay S. Rao**, Amy M. Clobes, William H. Guilford.

10:45 AM–12:45 PM, ROOM 151A/B

PLATFORM AO**Protein Folding & Stability I**Co-Chairs: *Randy Larsen*, University of South Florida, and *Elisha Haas*, Bar Ilan University, Israel

1999-PLAT 10:45 AM

Solvation Free Energy of and Solvent Mediated Force on Proteins. **Roland Roth**, Yuichi Harano, Masahiro Kinoshita.

2000-PLAT 11:00 AM

Dissociation and Unfolding of Insulin Dimers. **Ziad Ganim**, Kevin C. Jones, Andrei Tokmakoff.

2001-PLAT 11:15 AM

Evidence For Metastable States Of Lysozyme Revealed By High Pressure FTIR Spectroscopy. **Laszlo Smeller**.

2002-PLAT 11:30 AM

Single Molecule FRET On Alpha Synuclein Membrane-bound Conformational States. **Adam Trexler**, Elizabeth Rhoades.

2003-PLAT 11:45 AM

Postdoctoral Research Scholar. **Harekrushna Sahoo**.

2004-PLAT 12:00 NOON

Measurement of Single Molecule Folding/unfolding Trajectories. **Hoi Sung Chung**, John M. Louis, William A. Eaton.

2005-PLAT 12:15 PM

Time Resolved Thermodynamics of Fast Protein Folding in Cytochrome c. **Randy W. Larsen**.

2006-PLAT 12:30 PM

Time-resolved FRET Study Shows Sub-populations of A Globular Protein Molecules at The Refolding Transition Zone. **Elisha Haas**, Dan Amir, Eitan Lerner.

10:45 AM–12:45 PM, ROOM 153 A/B

PLATFORM AP**Membrane Active Peptides**Chair: *Frances Separovic*, University of Melbourne, Australia

2007-PLAT 10:45 AM

Effects of Oxidative Stress on Aggregation and Membrane Interaction of alpha-Synuclein Characterized by Single Molecule Fluorescence. **Eva Sevcsik**, Elizabeth Rhoades.

2008-PLAT 11:00 AM

Amyloid-, Ion Channels in Artificial Lipid Bilayers and Neuronal Cells. Resolving a Controversy. **Ricardo E. Capone**, Felipe Garcia Quiroz, Panchika Prangko, Inderjeet Saluja, Anna M. Sauer, M R. Bautista, R. Scott. Turner, Jerry Yang, Michael Mayer.

2009-PLAT 11:15 AM

Lipid Membrane Penetration Forces from AFM Force Spectroscopy. **Elizabeth A. Hager-Barnard**, Benjamin D. Almquist, Nicholas A. Melosh.

2010-PLAT 11:30 AM

Membrane insertion of peptides mimicking E2 domain of Sindbis virus is modulated by cholesterol. **Thomas G. Chadwick**, Ghada A. Rabah, Brian R. Davies, Tatyana I. Smirnova.

2011-PLAT 11:45 AM

Disordered Pore Formation At Rigid/Fluid Boundary Zones As A New Mechanism For Peptide-Membrane Interaction With The Beta-sheeted Antimicrobial Peptide Cateslytin. **Frantz Jean-Francois**, Juan Elezgaray, Marie-H  ne Metz-Boutigue, Erick J. Dufourc.

2012-PLAT 12:00 NOON

High-Resolution Structure of Piscidin in Aligned Lipid Bilayers: Implications for Antimicrobial Mode of Action. **Myriam Cotten**, Riqiang Fu, Eric D. Gordon, Elaina L. Daza, Anna S. Kozlova, Daniel J. Hibbard, Mallorie M. Taylor, Jeffrey J. Ditto, Milton Truong.

2013-PLAT 12:15 PM

Membrane Thinning Is Not A Unique Signal Of Pore Formation By Antimicrobial Peptides. **Georg Pabst**, Stephan Grage, Sabine Danner-Pongratz, Weiguo Jing, Anne S. Ulrich, Anthony Watts, Karl Lohner, Andrea Hickell.

2014-PLAT 12:30 PM

Basis For The Broad-spectrum Antimicrobial Activity Of Interfacially-active Peptides. **Ramesh Rathinakumar**, William C. Wimley.

10:45 AM–12:45 PM, ROOM 252 A/B

PLATFORM AQ**TRP Channels & Intracellular Ca²⁺ Channels**Co-Chairs: *Kevin Foskett*, University of Pennsylvania School of Medicine *Wayne DeHaven*, NIEHS, NIH

2015-PLAT 10:45 AM

Two-pore Channels for Calcium Mobilization from Acidic Organelles and Cell Signaling by NAADP. **Peter J. Calcraft**, Abdelilah Arredouani, Zui Pan, Xiaotong Cheng, Jisen Tang, Margarida Ruas, Katja Rietdorf, Peihui Lin, John Parrington, Jianjie Ma, A. Mark Evans, Antony Galione, **Michael X. Zhu**.

2016-PLAT 11:00 AM

Bcl-xL Regulation of InsP3 Receptor Gating Mediated by Dual Ca²⁺ Release Channel BH3 Domains. **J. Kevin Foskett**, Jun Yang, King-Ho Cheung, Horia Vais.

2017-PLAT 11:15 AM

TRPC Channels Function Independently Of STIM1 And Orai1. **Wayne I. DeHaven**, Bertina Jones, John Petranka, Takuro Tomita, James Putney.

2018-PLAT 11:30 AM

Activation of Thermosensitive TRP Channels. **Fan Yang**, Jie Zheng.

2019-PLAT 11:45 AM

Oxidative Challenges Sensitize the Capsaicin Receptor by Covalent Cysteine Modification. **Huai-hu Chuang**, Stephanie Lin.

2020-PLAT 12:00 NOON

STUDENT TRAVEL AWARDEE PKCβII-Specific Phosphorylation Counteracts Regulation Of Trpv6 By ATP And Points Towards A Functional Difference Between Its Polymorphic Alleles. **Dalia Al-Ansary**, Ute Becherer, Veit Flockerzi, Barbara A. Niemeyer.

2021-PLAT 12:15 PM

Ca²⁺ Activates TRPM2 Channels By Binding In Deep Cavities Near The Pore, But Intracellularly Of The Gate. **L  szl   Csan  dy**, **Be  ta T  racsik**

2022-PLAT 12:30 PM

X-ray Crystal Structure Of A Trpm Assembly Domain Reveals An Antiparallel Four-stranded Coiled-coil. **Yuichiro Fujiwara**, Daniel L. Minor.

10:45 AM–12:45 PM, ROOM 254 A/B

PLATFORM AR**Membrane Protein Function**Co-Chairs: *Ana-Nicolette Bonder*, University of California, Irvine *Marwan Al-Shawi*, University of Virginia Health Science Center

2023-PLAT 10:45 AM

Simultaneous Monitoring The Two Rotary Motors Of A Single FOF1-ATP Synthase. **Monika G. D  ser**, Nawid Zarrabi, Stefan Ernst, Anastasiya Golovina-Leiker, Rolf Reuter, Stanley D. Dunn, Michael B  rsch.

2024-PLAT 11:00 AM
Tracking Single Protein Translocation Complexes In The Membranes Of Living Bacteria. **Yves Bollen**, Kah Wai Yau, Siet van den Wildenberg, Erwin Peterman.

2025-PLAT 11:15 AM
Opening the SecYEG Protein Translocon. **Ana Nicoleta Bondar**, Douglas J. Tobias, Stephen H. White.

2026-PLAT 11:30 AM
Real Time ³¹P and Steady State ¹⁹F/¹³C Solid State NMR on Integral Membrane Protein E. coli Diacylglycerol Kinase. **Sandra J. Wollschlag**, Ute A. Hellmich, Clemens Glaubitz.

2027-PLAT 11:45 AM
BetP - Structure and Function of an Osmosensor and Transporter. **Vera Ott**, Sascha Nicklisch, Igor Borovoykh, Heinz-Juergen Steinhoff, Susanne Ressel, Christine Ziegler, Reinhard Kraemer.

2028-PLAT 12:00 PM
Atomic Force Spectroscopy Measures Light Activation And Transducer Binding Induced Structural Changes In The Sensory Rhodopsin II. **Leoni Oberbarnscheidt**, Swetlana Martell, Martin Engelhard, Filipp Oesterhelt.

2029-PLAT 12:15 PM
Conformational Dynamics of PorB, a Helical Outer Membrane Protein from C. glutamicum: a Multi-scale MD Simulation Study. **Syma Khalid**.

2030-PLAT 12:30 PM
Gating-related Structural Dynamics in the Outer Vestibule of KcsA: A Functional and Spectroscopic Analysis. **H Raghuraman**, Julio F. Cordero-Morales, Vishwanath Jogini, Eduardo Perozo.

11:00 AM–12:30 PM, ROOM 103
EXHIBITOR PRESENTATION
Molecular Devices

12:00 PM–2:00 PM, ROOM 152C

Transition from Postdoc to Faculty Luncheon

A 'Question and Discussion' luncheon sponsored by CPOW will be offered for a second consecutive year. The luncheon is designed for those postdocs finishing and actively applying for academic faculty positions. New or recently-tenured faculty in basic science or medical school departments will lead the discussion, as well as experienced senior level faculty who have served as chairs of departments and/or of faculty search committees. Topics for discussion will include how to prepare the curriculum vitae, the balance research with their departmental obligations. Pre-registration was required.

1:00 PM–2:00 PM, ROOM 253C

Cell Press Workshop

Ensuring a Smooth Publication of Your Paper

Ever wonder what actually happens with your paper after acceptance, and how you can make this process go more smoothly? With an overview of a manuscript's journey from acceptance to final publication in print and online, this seminar will offer tips for the preparation of files, including the text, figures, and supplementary material; a review of important journal policies; guidelines to the proof stage; and a discussion of the common -- and avoidable -- problems that can complicate the publication process. Although this will be particularly helpful for newer authors, those with many papers under their belts are welcome, too. Light refreshments will be served.

Speakers:

Gabriel Peter-Harp, Production Manager, Biophysical Journal
Daniel Fauxsmith, Operations Supervisor, Cell Press

1:00 PM–2:30 PM, ROOM 103
EXHIBITOR PRESENTATION
Wyatt Technology Corporation

1:00 PM–3:00 PM, ROOM 153C

**SUSTAINABLE ENERGY:
BASIC SCIENCE AND GOVERNMENT POLICY**

With the recent spike in gas prices, the long term prospects of dwindling oil supplies and global warming development of sustainable energy has increased urgency. Come to this session, sponsored by the Public Affairs Committee, to learn about current research that may lead to tomorrow's fuel supply as well as international and national policies that foster the development of alternative energy sources.

Speakers:

Laura Diaz Anadon, Harvard University
Vaughan Turekian, AAAS
Additional speaker to be announced.

1:30 PM–2:30 PM, ROOM 252A/B

**INTEGRATING TEACHING AND RESEARCH AT
UNDERGRADUATE INSTITUTIONS**

This session will highlight successful methods that can be used to integrate teaching and research and help to enhance research productivity at primarily undergraduate institutions (PUI). PUI faculty will discuss various techniques that are used to integrate research or similar experiences into formal coursework. The techniques discussed have proven to be helpful in preparing students for research experiences while simultaneously promoting research productivity.

Speakers:

Karin Akerfeldt, Haverford College
Myriam Cotton, Hamilton College
Gina MacDonald, James Madison University

1:45 PM–3:00 PM, EXHIBIT HALL LOUNGE

SNACK BREAK

1:45 PM–3:45 PM, HALL A

TUESDAY POSTER PRESENTATIONS

(For a complete listing of Tuesday Poster presentations, see page 89.)

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

3:00 PM–4:00 PM, ROOM 251

EDUCATION COMMITTEE MEETING

3:00 PM–4:30 PM, ROOM 103

EXHIBITOR PRESENTATION
Brookhaven Instruments Corporation

4:00 PM–6:00 PM, BALLROOM EAST

SYMPOSIUM 16

**Channels, Transporters, and Pores:
Ways to Cross the Membrane**

Chair: *Susan Buchanan*, NIDDK, NIH

2785-SYMP 4:00 PM

Proton controlled transport systems: Experiments and Simulations.
Isaiah T. Arkin.

2786-SYMP 4:30 PM

Structural Reorganisation of a K⁺ Channel Pore During Gating.
Oliver B. Clarke, Alex Caputo, Jacqui Gulbis.

2787-SYMP 5:00 PM

Protein Export Across the E. coli Outer Membrane by the Autotransporter EspP. **Travis J. Barnard**, Nathalie Dautin, Petra Lukacic, Harris D. Bernstein, Susan K. Buchanan.

2788-SYMP 5:30 PM

Electron Microscopy of AQP0-mediated Membrane Junctions. **Thomas Walz**.

4:00 PM–6:00 PM, BALLROOM WEST

SYMPOSIUM 17

The Dynamic Chromatin in Epigenetic Gene Control

Chair: *Timothy J. Richmond*, ETH Zürich, Switzerland

2789-SYMP 4:00 PM
Mapping Epigenomes. **Tarjei Mikkelsen**.

2790-SYMP 4:30 PM
Structure And Chemistry Of The Human P300/CBP And Yeast Rtt109 Histone Acetyltransferases. **Ronen Marmorstein**.

2791-SYMP 5:00 PM
Chromatin Responses to DNA damage. **Andre Nussenzweig**.

2792-SYMP 5:30 PM
Structural Studies on the Chromatin Remodeling Factor ISW1a.
Timothy J. Richmond, Kazuhiro Yamada, Tim Frouws, Brigitte Angst, Kyoko Schimmele.

4:00 PM–6:00 PM, ROOM 102 A/B

PLATFORM AS

Micro & Nanotechnology: Nanopores

Co-Chairs: *Jacob Schmidt*, University of California, Los Angeles
Emily Gibson, University of Colorado

2793-PLAT 4:00 PM
Shippable And Indefinitely Storable Lipid Bilayer Precursor. **Tae-Joon Jeon**, Jason Poulos, Jacob Schmidt.

2794-PLAT 4:15 PM
High-Throughput DNA Assays Using Picoliter Reactor Volumes.
Joshua Edel, Andrew deMello, Monpichar Srisa-art.

2795-PLAT 4:30 PM
A Novel Experimental Approach to Characterize Membrane Protein Interactions. Myriam Reffay, Y. Gambin, H. Benabdelhak, N. Taulier, A. Ducruix, W. Urbach

2796-PLAT 4:45 PM
Electrical Communication In Droplet Interface Bilayers Networks.
Giovanni Maglia, Andrew J. Heron, William L. Hwang, Matthew A. Holden, Ellina Mikhailova, Qihong Li, Steven Cheley, Hagan Bayley.

2797-PLAT 5:00 PM
A Microfluidic Platform For High-Throughput Screening And Sorting Of Cells Based Upon FRET Response. **Emily A. Gibson**, Philip J. Dittmer, Kevin Dean, Ralph Jimenez, Amy E. Palmer.

2798-PLAT 5:15 PM
Single-molecule Studies of RNA Unzipping Kinetics Using Nanopores.
Jianxun Lin, Ralf Bundschuh, Amit Meller.

2799-PLAT 5:30 PM
Artificial Nanopores that Mimic the Transport Selectivity of the Nuclear Pore Complex. **Tijana Jovanovic-Taliman**, Jaclyn Tetenbaum-Novatt, Anna S. McKenney, Anton Zilman, Reiner Peters Michael P. Rout, Brian T. Chait.

2800-PLAT 5:45 PM
Tunable Microfluidic Devices for Dynamically Controlling Sub-Cellular Environments. **Nirveek Bhattacharjee**, Albert Folch.

4:00 PM–6:00 PM, ROOM 104 A/B

PLATFORM AT

Unconventional Myosins

Co-Chairs: *Daniel Mulvihill*, University of Kent, United Kingdom
Anne Bernheim, Ben Gurion University, Israel

2801-PLAT 4:00 PM
An Ex Vivo Motility System Reveals the Cellular Roadmap for Myosin Motors. **Crista M. Brawley**, Ronald S. Rock.

2802-PLAT 4:15 PM
TEDs Site Phosphorylation Regulates Myosin I Motor Activity And Function In Fission Yeast. **Sheran L. Attanapola**, Daniel P. Mulvihill.

2803-PLAT 4:30 PM

How Do Myosin VI and Myosin Va Navigate Intersections And Cooperate On Actin Tracks While Transporting Cargo In Vitro? **M. Y. Ali**, Kathleen M. Trybus, David M. Warshaw, H L. Sweeney.

2804-PLAT 4:45 PM

Smy1p: An Orphan Kinesin Finds a Home. **Alex R. Hodges**, Carol S. Bookwalter, Elena B. Kremensova, Kathleen M. Trybus.

2805-PLAT 5:00 PM

The molecular basis for bundle selectivity of myosin X. **Stanislav Nagy**, Ronald S. Rock.

2806-PLAT 5:15 PM

Watching 'Ankle' Action of Myosin V. **Katsuyuki Shiroguchi**, Harvey Chin, Eiro Muneyuki, Enrique M. De La Cruz, Kazuhiko Kinosita, Jr.

2807-PLAT 5:30 PM

A Branched Kinetic Pathway Facilitates Myosin Va Processivity.
Chong Zhang, Neil Kad, David M. Warshaw.

2808-PLAT 5:45 PM

Bidirectional Cooperative Motion Of Myosin-II Motors On Actin Tracks With Randomly Alternating Polarities. **Anne Bernheim**, Barak Gilboa, David Gillo, Oded Farago. Ben-Gurion

4:00 PM–6:00 PM, ROOM 151 A/B

PLATFORM AU

Protein-Ligand Interactions

Co-Chairs: *Sergey Tetin*, Abbott Labs, and
Wendy Thomas, University of Washington.

2809-PLAT 4:00 PM

The Lysine At Position 13 Of Pten'S N-terminus Is Necessary For Its Preferred Interaction With Pi(4,5)p2. Roberta E. Redfern, Alexandra D. Hill, Alonzo Ross, Arne Gericke.

2810-PLAT 4:15 PM

Structural and Biophysical Characterization of the GAF Domains from Phosphodiesterases 5 and 6. **Clemens C. Heikaus**, Sergio E. Martinez, Gabriele Varani, Joseph A. Beavo, Rachel E. Klevit.

2811-PLAT 4:30 PM

Mechanism Of Interaction Between The Volatile Anesthetic Halothane And A Model Ion Channel Protein: Fluorescence And Infrared Spectroscopy Employing A Cyano-phenylalanine Probe And Molecular Dynamics Simulation. **Jing Liu**, Hongling Zou, Joseph Strzalka, Andrey Tronin, Jonas S. Johansson, J. Kent Blasie.

2812-PLAT 4:45 PM

Binding Kinetics of Two Hyperactive Antifreeze Proteins are Revealed by Using Novel Microfluidic Devices. **Ido Braslavsky**, Yeliz Celik, Peter L. Davies.

2813-PLAT 5:00 PM

Dynamic and Structural Effects of Ligand and Coregulator Binding on Estrogen Receptor Ligand Binding Domain Measured by Electron Paramagnetic Resonance. **Stefano V. Gulla**.

2814-PLAT 5:15 PM

Structural Changes And Binding Kinetics Of Fluoro-tryptophan Substituted HyHEL-10 scFv Monitored Using 19F-NMR, High Resolution Crystal Structures And SPR-Biacore Analysis. **Mauro Acchione**, Morgan Desantis, Yi Chien, Mi Li, Claudia Lipschultz, Aranganathan Shanmuganathan, Joe Barchi, Alex Wlodawer, Sandi Smith-Gill.

2815-PLAT 5:30 PM

Kinetics and Thermodynamics of Antibody Binding to B-Type Natriuretic Peptide. **Sergey Y. Tetin**, Qiaoqiao Ruan, Sylvia C. Saldana.

2816-PLAT 5:45 PM

Allosteric Regulation Across a β -Sandwich Protein: How a Bacterial Adhesive Protein is Activated by Mechanical Force. **Wendy E. Thomas**, Isolde Le Trong, Pavel Aprikian, Manu Forero, Brian Kidd, Gianluca Interlandi, Veronika Tchesnekova, Olga Yakovenko, Viola Vogel, Ron Stenkamp, Evgeni Sokurenko.

4:00 PM–6:00 PM, ROOM 153A/B

PLATFORM AV

Membrane Physical Chemistry II

Co-Chairs: *William Wimley*, Tulane University School of Medicine, and
Alex Smirnov, North Carolina State University.

2817-PLAT 4:00 PM

Polar Residues in Transmembrane Helices can Dramatically Reduce Mobility on SDS Gels WITHOUT Dimerization. **William C. Wimley**, Kalina Hristova, Mikhail Merzliakov.

2818-PLAT 4:15 PM

Examining The Role Of Lipid Variations And Proteins On Membrane Biophysics: Synthetic Versus Natural Membrane Vesicles. Florly S. Ariola, **Ahmed A. Heikal**.

2819-PLAT 4:30 PM

Two-dimensional Calorimetry: Imaging Thermodynamics and Kinetics of Phase Transitions of Biological Membranes. Antonin Marek, **Alex I. Smirnov**.

2820-PLAT 4:45 PM

Raft recruitment of Membrane Proteins by Native Ligands and GPI-Anchored Proteins: A Model Membrane Study. Ann Kimble-Hill, Sumit Garg, Amanda Siegel, Rainer Jordan, **Christoph Naumann**.

2821-PLAT 5:00 PM

Electromechanical Forces and Flexoelectricity in Plasma Membranes. **Ben Harland**.

2822-PLAT 5:15 PM

Characterizing Changes In The Structure And Orientation Of Supported Model Membranes Upon Binding Of Cholera Toxin B. **John Jay Leitch**, Christa L. Brosseau, Sharon G. Roscoe, Jacek Lipkowski.

2823-PLAT 5:30 PM

COPI Coat Assembly Occurs on Liquid Disordered Domains and the Associated Membrane Deformations are Limited by Membrane Tension. **Jean-Baptiste Manneville**, Jean-François Casella, Ernesto Ambroggio, Pierre Gounon, Julien Bertherat, Patricia Bassereau, Jean Cartaud, Bruno Antony, Bruno Goud.

2824-PLAT 5:45 PM

The Origin of Antimicrobial Resistance and Fluidity Dependent Membrane Structural Transformation by Antimicrobial Peptide Protegrin-1. **Matthew R. Chapman**, Kin Lok H. Lam, Alan J. Waring, Robert I. Lehrer, Ka Yee C. Lee.

4:00 PM–6:00 PM, ROOM 254 A/B

PLATFORM AW

Ryanodine Receptors

Co-Chairs: *Stephan Lehnart*, Georg August University Medical School, Germany, and *S.R. Wayne Chen*, University of Calgary, Canada.

2825-PLAT 4:00 PM

A Mutation Associated with Catecholaminergic Polymorphic Ventricular Tachycardia in the Cardiac Ryanodine Receptor (RyR2-V2475F) Yields a Highly Arrhythmogenic Channel. **Nancy A. Benkusky**, Craig Weber, Joseph Scherman, Manorama Jones, Pat Powers, Timothy Hacker, Hector H. Valdivia.

2826-PLAT 4:15 PM

Mutant Ryanodine Receptor-dependent Calcium Leak, RyR2 Open Probability, Calcium Sparks And Cardiac Arrhythmogenesis. **Stephan E. Lehnart**, Chris W. Ward, Eric A. Sobie, W. J. Lederer.

2827-PLAT 4:30 PM

Reperfusion after Ischemia Causes Cytosolic Calcium Overload Due to Rapid Calcium Release from the Sarcoplasmic Reticulum. Carlos A. Valverde, Dmytro Korniyevyev, Alicia R. Mattiazzi, **Ariel L. Escobar**.

2828-PLAT 4:45 PM

Sex Differences Of RyR2 Expression And Phosphorylation In Heart Failure. **Xun Ai**, Weiwei Zhao, Donald Bers, Steven M. Pogwizd.

2829-PLAT 5:00 PM

Molecular Basis of Luminal Ca²⁺ Gating of the Cardiac Ryanodine Receptor. **SR Wayne Chen**, Wenqian Chen, Xixi Tian, Ruiwu Wang, Huihui Kong, Megan L. O'Mara, Peter P. Jones, Jeff Bolstad, Lin Zhang, D. Peter Tieleman.

2830-PLAT 5:15 PM

Altered Channel Activity Of RyR1-R163C From Malignant Hyperthermia Mutation Knock-in Mouse. **Wei Feng**, Genaro C. Barrientos, Elaine Cabralles, Isela T. Padilla, Paul D. Allen, Isaac N. Pessah.

2831-PLAT 5:30 PM

Biphasic Effects of FKBP12 on RyR1 Activity. **Cheng Long**, William Durham, JianJun Xu, RuiRui Ji, KeKe Dong, GangYi Wu, Susan L. Hamilton.

2832-PLAT 5:45 PM

A New Role for Type 1 Ryanodine Receptor. **Valerie De Crescenzo**, Elena Zvaritch, Kevin E. Fogarty, David H. MacLennan, Paul D. Allen, John V. Walsh.

6:00 PM–10:00 PM, WESTIN, COMMONWEALTH BALLROOM

NEW COUNCIL DINNER & MEETING

7:30 PM–9:30 PM, BALLROOM EAST

WORKSHOP 4

Protein Folding and Stability

Chair: Rohit Pappu, Washington University, St. Louis.

2833-WKSH 7:30 PM

Using Proteins of Reduced Complexity to Learn About Cooperativity in Folding. **Doug Barrick**.

2834-WKSH 7:55 PM

Prediction of Protein Functional States by Multi-Resolution Protein Modeling. **Cecilia Clementi**.

2835-WKSH 8:20 PM

Alpha-Synuclein Conformation Affects Its Tyrosine Dependent Oxidative Aggregation. **Gary J. Pielak**, Rebecca A.S. Ruf, Evan A.S. Lutz, Imola G. Zigonianu.

2836-WKSH 8:45 PM

How Well Evolved Is The Folding Code? **Sheena Radford**.

2837-WKSH 9:10 PM

Effects Of Sequence And Conformational Contexts In Polyglutamine Aggregation. **Rohit Pappu**.

7:30 PM–9:30 PM, BALLROOM WEST

WORKSHOP 5

Nanotechnology/Microfluidics

Chair: *Petra Schwill*, Dresden University of Technology, Germany

2838-WKSH 7:30 PM

Synthetic Biology on the Nanoscale. **Petra Schwill**.

2839-WKSH 7:55 PM

Fabrication Of Sealed Nanofluidic Channels Integrated With Surface Electronics. **Robert Austin**, Chih-kuan Tung.

2840-WKSH 8:20 PM

Nanostructures For Studying The Physics Of Biomolecules And Cells. **Cees Dekker**.

2841-WKSH 8:45 PM

Dynamic Liquid Film Interfaces. **Owe Orwar**.

2842-WKSH 9:10 PM

Biology in Pico-Liter Droplets. **Darren R. Link**.

8:00 PM–10:00 PM, ROOM 105

SOBLA (THE SOCIETY FOR LATINOAMERICAN BIOPHYSICISTS)

1:45 PM–3:45 PM, HALLS A/B/C

TUESDAY POSTER SESSIONS

Posters should be mounted at 6:00 PM on the day preceding presentation and removed by 5:30 PM on the day of the presentation. Posters will be on view until 10:00 PM the night before presentation. Abstract numbers shown refer to the program order of abstracts printed in the Abstracts Issue. Board numbers indicate where they are located in Halls A/B/C.

Authors Present

ODD NUMBERED BOARDS

1:45 PM–2:45 PM

BOARD NUMBERS

Board #B1–Board #B25
Board #B26–Board #B46
Board #B47–Board #B70
Board #B71–Board #B83
Board #B84–Board #B87
Board #B88–Board #B99
Board #B100–Board #B129
Board #B130–Board #B153
Board #B154–Board #B169
Board #B170–Board #B179
Board #B180–Board #B202
Board #B203–Board #B209
Board #B210–Board #B229
Board #B230–Board #B249
Board #B250–Board #B279
Board #B280–Board #301
Board #B302–Board #331
Board #B332–Board #B352
Board #B353–Board #B382
Board #B383–Board #B404
Board #B405–Board #B426
Board #B427–Board #B437
Board #B438–Board #B449
Board #B450–Board #B472
Board #B473–Board #B490
Board #B491–Board #B506
Board #B507–Board #B534
Board #B535–Board #B565
Board #B566–Board #B575
Board #B576–Board #B601
Board #B602–Board #B632
Board #B633–Board #B662
Board #B663–Board #B689
Board #B690–Board #B717
Board #B718–Board #B724
Board #B725–Board #B729
Board #B730–Board #B734
Board #B735–Board #B739
Board #B740–Board #B754

EVEN NUMBERED BOARDS

2:45 PM–3:45 PM

POSTER CATEGORIES

Atomic Force Microscopy
Fluorescence Spectroscopy II
Computational Methods
Biomolecular NMR Spectroscopy
X-Ray Diffraction
Cryo Electron Microscopy & Reconstruction
Protein-Nucleic Acid Interactions II
Virus Structure & Assembly
Apoptosis
Protein Dynamics III
Membrane Protein Structure II
Molecular Chaperones
Heme Proteins
Enzymes
Protein-Ligand Interactions I
Membrane Structure I
Interfacial Protein-Lipid Interactions I
Membrane Structure II
Inward Rectifier K Channels
Anion Channels
Ca-activated Channels
Cyclic Nucleotide-gated Channels
Neuronal Systems & Modeling
Voltage-gated K Channels - Gating II
Ligand-gated Channels
Ligand-gated Channels: Glutamate Receptors
Muscle: Fiber & Molecular Mechanics & Structure I
Cardiac Muscle I
Microtubules & Microtubule-associated Proteins
Microtubular Motors II
Excitation-Contraction Coupling: Cardiac
Cell & Bacterial Mechanics, Motility, & Signal Transduction
Photosynthesis & Photoreceptors
Mitochondria in Cell Life & Death
Peptide & Toxin Ion Channels
Epithelial Channels & Physiology
Intracellular Channels
Auditory Systems
Local Calcium Signaling

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Atomic Force Microscopy (Boards #B1–#B25)

2031-POS BOARD #B1

The Importance of Studying Biomolecular Processes at the Single Molecular Level. **Shaohua Xu**.

2032-POS BOARD #B2

AFM Studies of the Effect of Temperature and Electric Field on the Structure of DMPC-Cholesterol Bilayer Supported on a Au(111) Electrode Surface. **Maohui Chen**, Ming Li, Christa L. Brosseau, Jacek Lipkowski.

2033-POS BOARD #B3

How Phosphatidylinositol 4,5-bisphosphate Regulates Membrane-Cytoskeleton Interaction in Endothelial Cells? **Zhongkui Hong**, Marius Staiculescu, Mingzhai Sun, Irena Levitan, Gabor Forgacs.

2034-POS BOARD #B4

Controlling Neuronal Growth on Au Surfaces by Directed Assembly of Extracellular Matrix Proteins. **Cristian Staii**, Chris Viesselmann, Jason Ballweg, Yu Huang, Justin C. Williams, Erik W. Dent, Susan N. Coppersmith, Mark A. Eriksson.

2035-POS BOARD #B5

Lung Parenchymal Tissue Stiffness in Fibrosis and Cellular Responses to Substrate Stiffness. **Fei Liu**, Barry S. Shea, Justin D. Mih, Andrew M. Tager, Daniel J. Tschumperlin.

2036-POS BOARD #B6

New Developments in the Structural and Functional Investigation of Primary Cilia using AFM and Confocal Microscopy. **Joanna E. Evangelides**, David N. Sheppard, Terence J. McMaster.

2037-POS BOARD #B7

Revealing Restriction Enzyme Dynamics With Fast-scan Afm. **Jamie L. Gilmore**, Yuki Suzuki, Gintautas Tamulaitis, Alexander Y. Lushnikov, Virginijus Siksnys, Kunio Takeyasu, Yuri L. Lyubchenko.

2038-POS BOARD #B8

UVA Generates Pyrimidine Dimers In DNA Directly. **Yong Jiang**, Mahir Rabbi, Minkyu Kim, Changhong Ke, Whasil Lee, Robert L. Clark, Piotr A. Mieczkowski, Piotr E. Marszalek.

2039-POS BOARD #B9

AFM Visualization of the Interaction between MutS and Heteroduplex DNA. Yong Jiang, **Piotr E. Marszalek**, Celia Baitinger, Paul Modrich.

2040-POS BOARD #B10

An Atomic Force Microscopy Study of the Mechanism of Cellulose Biodegradation. **Amanda I. Quirk**, Maohui Chen, Darrell Cockburn, Anthony Clarke, John Dutcher, Sharon Roscoe, Jacek Lipkowski.

2041-POS BOARD #B11

Viscosity Effect On The AFM Force Measurement. Guoliang Yang, **Runcong Liu**.

2042-POS BOARD #B12

AFM Visualization and Force Spectroscopy of Clathrin Triskelia. Svedana Kotova, Kondury Prasad, Paul D. Smith, Eileen M. Lafer, Ralph Nossal, **Albert J. Jin**.

2043-POS BOARD #B13

Force Spectroscopy Of The Interaction Of Fibrinogen With Erythrocytes And Platelets. Filomena A. Carvalho, Simon Connell, Robert A. S. Arias, **Nuno C. Santos**.

2044-POS BOARD #B14

Force Transduction In Smooth Muscle Cells. **Andreea Trache**, Soon-Mi Lim.

2045-POS BOARD #B15

Using Atomic Force Microscopy to Measure Mechanical Strength of Nanometre Scale Protein Fibrils. **Teresa E. Lyons**, David Martin, Martin Volk.

2046-POS BOARD #B16

Mechanics of Spontaneously Beating Cardiac Myocytes Investigated by AFM. **Yusuke Mizutani**, Shinichiro Hiratsuka, Masahiro Tsuchiya, Koichi Kawahara, Hiroshi Tokumoto, Takaharu Okajima.

2047-POS BOARD #B17

Mechanical Activity At Focal Adhesion Sites. **Gerald A. Meininger**, Zhe Sun, Shaoxing Huang, Michael A. Meininger.

2048-POS BOARD #B18

Cells and Gels: A Comparison of Indentation Behavior. David C. Lin, David I. Shreiber, **Emilios K. Dimitriadis**, Ferenc Horkay.

2049-POS BOARD #B19

Physical Properties of Native Biofilm Cells Explored by Atomic Force Microscopy. Catherine B. Volle, Megan Ferguson, Kathy Aidala, Eileen M. Spain, **Megan E. Nunez**.

2050-POS BOARD #B20

Viscoelastic Indentation of Extremely Soft Biological Samples. **William J. Adams**, Megan L. O'Grady, Kaustabh Ghosh, Ashley D. Gibbs, Nicholas A. Geisse, Donald E. Ingber, Kevin Kit Parker.

2051-POS BOARD #B21

Statistics of Cell Rheology Measured by AFM. Shinichiro Hiratsuka, Yusuke Mizutani, Koichi Kawahara, Hiroshi Tokumoto, **Takaharu Okajima**.

2052-POS BOARD #B22

Single DNA Molecule Reaction Based On Dip-pen Nanolithography. **Bin Li**.

2053-POS BOARD #B23

High-speed, Thermo-chemical Nanolithography for Biological Applications. **Debin Wang**, Vamsi Kodali, William D. Underwood, Robert Szoszkiewicz, Takashi Okada, Simon C. Jones, Marcel Lucas, Jonas E. Jarvholm, William P. King, Seth R. Marder, Jennifer E. Curtis, Elisa Riedo.

2054-POS BOARD #B24

Direct Mapping Of Surface-bound Liquid With Sub-nanometer Resolution. **Kislon Voitchovsky**, Jeffrey J. Kuna, Francesco Stellacci.

2055-POS BOARD #B25

Visualizing Lipid/Water and Lipid/Ion Interactions at the Biological Interfaces with Angstrom-Resolution by Frequency Modulation Atomic Force Microscopy. **Takeshi Fukuma**.

Fluorescence Spectroscopy II (Boards #B26–B46)

2056-POS BOARD #B26

Improved Global Spectral Analysis Method for Simulating Excitation-Emission Maps of Semiconducting Single-Walled Carbon Nanotubes. **Adam Gilmore**.

2057-POS BOARD #B27

Elucidating the Molecular Basis of Cellulase Synergism Through High Resolution Quantitative Fluorescence Microscopy. **Marie K. Donnelly**, Jose M. Moran-Mirabal, Stephane C. Corgie, Harold G. Craighead, Larry P. Walker.

2058-POS BOARD #B28

Photophysical Characterization of Dye-Encapsulated Calcium Phosphate Nanoparticles. **Hari S. Muddana**, Thomas T. Morgan, Tristan Tabouillot, Erhan I. Altinoglu, James H. Adair, Peter J. Butler.

2059-POS BOARD #B29

Multi-exponential Luminescence Decay of Non-blinking CdTe Quantum Dots Upon One and Two Photon Excitation. **Etienne Henry**, Li Na, Chaoqing Dong, Jicun Ren, Eric Deprez, Jean-Claude Brochon.

2060-POS BOARD #B30

Absolute Two-photon Absorption Spectra Of Orange And Red Fluorescent Proteins. **Mikhail Drobizhev**, Shane Tillo, Nikolay Makarov, Aleksander Rebane, Thomas E. Hughes.

2061-POS BOARD #B31

Fluorescence, Cyto-, And Photo-toxicity, And Structural Studies Of Substituted Piperidones: Potential Sensitizers For Two-photon Photodynamic Therapy. **Kurt W. Short**, Tiffany L. Kinnibrugh, David M. Sammeth, Tatiana V. Timofeeva.

2062-POS BOARD #B32

Combretastatin A4 Disodium Phosphate Forms Aggregates In Solution Leading To Exciton Transfer. **Berenice Venegas**, Mohammad F. Kiani, Parkson L.-G. Chong.

2063-POS BOARD #B33

Soluble Guanylate Cyclase Conformational Regulation. **Jasmin Kristianto**, Makena Muchunku, Nancy Gerber.

2064-POS BOARD #B34

Sequence-Dependent Cy3-DNA Interactions: Effects On Fluorescence Properties. Billie Harvey, **Marcia Levitus**.

2065-POS BOARD #B35 INTERNATIONAL TRAVEL AWARDEE

Peptide-bridged Bis-phenanthridinium Derivatives In Interaction With Double Stranded DNA. **Domagoj Baretic**, Ivo Piantanida.

2066-POS BOARD #B36

Combined pH and Temperature Measurements Using Pyranine as a Probe. **Felix H.C. Wong**, Cécile Fradin.

2067-POS BOARD #B37

Components of intrinsic fluorescence revealed by Metabolic Modulation Matrix in isolated rat cardiac myocytes. Dusan Chorvat Jr, Jana Kirchnerova, **Valérie Bassien-Capsa**, Anton Mateasik, Alzbeta Chorvatova.

2068-POS BOARD #B38

Random Fluorescently Labeled Proteins: Label Distribution and Effect on Binding. **Joseph P. Skinner**, Lianli Chi, Qiaoqiao Ruan, Sylvia Saldana, Sergey Y. Tetin.

2069-POS BOARD #B39

Probing Variations In The Structural Environment Of A DNA Sequence Using Fluorescence Properties Of The Pteridine Analog Probes, 3MI and 6MI. **Mary E. Hawkins**, Aleksandr V. Smirnov, Kristi Wojtuszewski Poulin, Frank M. Balis, Jay R. Knutson.

2070-POS BOARD #B40

A Fluorescence Polarization Displacement Assay for Aggrecanase-1 and -2. **Kristina M. Cunningham**, Matthew Bursavich, Stuart Mackie, Girija Krishnamurthy, Jeremy Levin.

2071-POS BOARD #B41

Optical force measurements utilizing Lanthanide Binding Tags. **Walter Sandtner**, Bernhard Egwolf, Benoit Roux, Ana M. Correa, Francisco Bezanilla.

2072-POS BOARD #B42

Random Insertion of Split-can Venus into Kv1.4 Yields Voltage Sensitive Fluorescent Probes. **Lei Jin**, Bradley Baker, Lawrence Cohen, Carolyn Roman, Vincent Pieribone, Arnd Pralle, Ehud Isacoff, Robbie Mealer, Thomas Hughes.

2073-POS BOARD #B43

Use of Fluorescence Anisotropy to Explore the Subunit Composition of Ca²⁺/Calmodulin Protein Kinase II Holoenzymes. Srinagesh V. Koushik, Christopher Thaler, **Steven S. Vogel**.

2074-POS BOARD #B44

Backbone Fluorescent DNA Modifications: Reducing Uncertainties In FRET. **Suman Ranjit**, Marcia Levitus.

2075-POS BOARD #B45

In The Quest Of The Best Fluorescent Protein Couple For Quantitative FRET-flim. **Sergi Padilla-Parra**, Hervé Lalucque, Marie-Jo Masse, Jean Claude Mével, Nicolas Audugó Maité Coppey-Moisan, Marc Tramier.

2076-POS BOARD #B46

Improved FRET Sensing Of Membrane Voltage With Voltage Sensitive Phosphatase And New Coral Fluorescence Proteins. **Hidekazu Tsutsui**, Satoshi Karasawa, Atsushi Miyawaki, Yasushi Okamura.

Computational Methods (Boards #B47-#B70)**2077-POS BOARD #B47**

Coarse Graining Methodology for the Multiscale Simulation of Complex Biological Systems. **Kei Moritsugu**, Jeremy C. Smith, Akinori Kidera.

2078-POS BOARD #B48

Multiscale Simulation of Nucleation-limited Viral Capsid Assembly. **Navodit Misra**, Russell Schwartz.

2079-POS BOARD #B49

Improved Coarse Grained Force-Field Parameters for Biomembranes. **See-Wing Chiu**, Eric Jakobsson, H. Larry Scott.

2080-POS BOARD #B50

Hierarchical Reduction Method of Protein Structures for Understanding Protein Dynamics. **Jae In Kim**, Gwonchan Yoon, Sungsoo Na, Kilho Eom.

2081-POS BOARD #B51

Coarse-grained Molecular Dynamics of lipid bilayer membranes with multiple components. **Peng Chen**, Vivek Shenoy.

2082-POS BOARD #B52

Prediction of Membrane Binding, Orientation and Permeability of Peptide-like Molecules Using a Continuum Model of the Lipid Bilayer. **Andrei L. Lomize**, Irina D. Pogozheva, Shaomeng Wang, Henry I. Mosberg.

2083-POS BOARD #B53

Generic Coarse-Grained Model for Protein Folding and Aggregation. **Tristan Berau**, Markus Deserno.

2084-POS BOARD #B54

Martini Force Field: Extension To Carbohydrates. **Cesar A. Lopez**.

2085-POS BOARD #B55

Scaal: A Robust, Accurate, And High-efficient All-atomistic Protein Reconstruction Method From Low-resolution Protein Models. **Antonios Samiotakis**, Margaret S. Cheung, Dirar Homouz.

2086-POS BOARD #B56

Self-Learning Multiscale Simulation. **Wenfei Li**, Shoji Takada.

2087-POS BOARD #B57

Simultaneous Use Of Class-i And Class-ii Force Fields In CHARMM For Solid-liquid Multiphase Simulation Of Protein-surface Interaction. **Pradip K. Biswas**, Chris O. O'Brien, Steve J. Stuart, Robert A. Latour, Bernard R. Brooks.

2088-POS BOARD #B58

Improving Molecular Mechanics Force Fields By Comparison Of Microsecond Simulations With Nmr Experiments. **Stefano Piana-Agostinetti**, Kresten Lindorff-Larsen, Paul Maragakis, Michael P. Eastwood, Ron O. Dror, David E. Shaw.

2089-POS BOARD #B59

Extracting The Causality Of Correlated Motions From Molecular Dynamics Simulations. **Arjan van der Vaart**, Hiqmet Kamberaj.

2090-POS BOARD #B60

Numerical Techniques to Optimize Free Energy Estimation Using Thermodynamic Integration. **Conrad Shyu**, F. Marty Ytreberg.

2091-POS BOARD #B61

Free Energy Landscape of Biomolecules from Multiple Non-Equilibrium Molecular Simulations. **Shun Sakuraba**, Akio Kitao.

2092-POS BOARD #B62

The Extrapolated Motion Protocol For Molecular Dynamics Simulations: Predicting Large-scale Conformational Transitions In Mechanosensitive Channels. **Andriy Anishkin**, Sergei Sukharev.

2093-POS BOARD #B63

Collective Variable-based Calculations in NAMD. **Giacomo Fiorin**, Jerome Henin, Michael L. Klein.

2094-POS BOARD #B64

Generating Pathways for Free Energy Calculations in Proteins Using Constraint-Based Conformational Sampling. **Daniel W. Farrell**, Tatyana Mamonova, Maria Kurnikova, Michael F. Thorpe.

2095-POS BOARD #B65

Conformational Transition Path Sampling For Proteins. **Hiroshi Fujisaki**, Akinori Kidera.

2096-POS BOARD #B66

Computing Transitions in Macromolecular Systems: Dynamic Importance Sampling. **Juan R. Perilla**, Anu Nagarajan, Oliver Beckstein, Thomas B. Woolf.

2097-POS BOARD #B67

Improving The Computational Efficiency Of Non-Dynamical Approaches For Equilibrium Sampling Of All-Atom Protein Models. **Artem B. Mamonov**, Daniel M. Zuckerman.

2098-POS BOARD #B68

Evaluating The Effective Sample Size Of Equilibrium Molecular Simulations Using Automatically Approximated Physical States. **Xin Q. Zhang**, Daniel Mark Zuckerman.

2099-POS BOARD #B69

The "Weighted Ensemble" Path Sampling Method Can Find Target States Blindly And Automatically. **Bin W. Zhang**, Daniel M. Zuckerman, David Jasnow.

2100-POS BOARD #B70

Accelerated Subspace Iteration Method for Protein Normal Mode Analysis.
Reza Sharif Sedeh, Mark Bathe, Klaus-Jürgen Bathe.

Biomolecular NMR Spectroscopy (Boards #B71–#B83)**2101-POS BOARD #B71**

Structure And Alignment Of Membrane-associated Peptaibols By Oriented 15N And 31P Solid-state NMR Spectroscopy. Evgeniy Salnikov, Herdis Friedrich, Xing Li, Philippe Bertani, Siegmund Reissman, Christian Hertweck, Joe O'Neil, Tatiana Ovchinnikova, Sergei Dzuba, Jan Rapp, **Burkhard Bechinger**.

2102-POS BOARD #B72

Functional and Shunt States of Bacteriorhodopsin Identified and Characterized by Multidimensional DNP-Enhanced Solid State NMR.
Melody L. Mak-Jurkauskas, Vikram S. Bajaj, Marina Belenky, Judith Herzfeld, Robert G. Griffin.

2103-POS BOARD #B73

C15=N Torsion Measured by DNP-Enhanced Solid State NMR in Bacteriorhodopsin Intermediates. **Alexander B. Barnes**, Melody L. Mak-Jurkauskas, Yoh Matsuki, Johan Lugtenburg, Judith Herzfeld, Robert G. Griffin.

2104-POS BOARD #B74

Influence of Dynamics on The Analysis of Solid-State NMR Data From Membrane-bound Peptides. **Erik Strandberg**, Santi Esteban-Martin, JesÅs Salgado, Anne S. Ulrich.

2105-POS BOARD #B75

Dynamics of Retinal Studied by H NMR Relaxation Sheds New Light on Rhodopsin Activation. **Andrey V. Struts**, Karina MartÁ-nez-Mayorga, Gilmar F. J. Salgado, Michael F. Brown.

2106-POS BOARD #B76

Water Self-Diffusion in Cell Suspensions and Tissues: New PGSE NMR Protocols for Estimating Intracellular Diffusion, the Homogeneous Length Scale, and Membrane Permeability. **Daniel Topgaard**.

2107-POS BOARD #B77

Chemical Structure Effects on Bone Response to Mechanical Loading.
Peizhi Zhu, Jiadi Xu, Michael D. Morris, Nadder Sahar, David H. Kohn, Ayyalusamy Ramamoorthy.

2108-POS BOARD #B78

Helicobacter Pylori: How is Adhesin Baba, a Blood Group Antigen Binding Membrane Protein, Involved in Bacterial Adherence? Katja Petzold, Annelie Olofsson, Anna Arnqvist, Thomas Boren, **Gerhard Gröbner**, Juergen Schleucher.

2109-POS BOARD #B79

Structure-Activity Relationships in Two Antimicrobial Peptides Based on Chemokine Helical Segments: RP-1 and IL-8. **Sarah Bourbigot**, Valerie Booth.

2110-POS BOARD #B80

The Orientation and Location of the C-terminal Helix of Surfactant Protein B in Lipid Bilayers as Studied by Solid State NMR. **Tan-Chin Yang**, Mark McDonald, Michael Morrow, Valerie Booth.

2111-POS BOARD #B81

Magic Angle Spinning NMR Investigations of the Human Voltage Dependent Anion Channel. **Matthew Eddy**, Robert Garces, Patrick C. A. van der Wel, Gerhard Wagner, Robert Griffin.

2112-POS BOARD #B82

Ion Interactions of Gramicidin A using Multidimensional Proton Solid State NMR. **Milton L. Truong**, Riqiang Fu, Timothy A. Cross.

2113-POS BOARD #B83

Biophysical Studies Of The Hn-s Protein From Xyllela fastidiosa And Dna.
Ana-Carolina Zeri, Luciana K. Rosseli, Mauricio L. Sforça, Avram Slovic, Rogério C. Sassonia, Anete P. Souza.

X-Ray Diffraction (Boards #B84–#B87)**2114-POS BOARD #B84**

Integrative Multi-Resolution Modeling of Pleiomorphic Systems.
Mirabela Rusu, Stefan Birmanns.

2115-POS BOARD #B85

Solution Wide-angle X-ray Scattering (waxs) and its Application to Envelope Based Phasing. **Xinguo Hong**, Quan Hao.

2116-POS BOARD #B86

X-ray Solution Scattering Combined with Computation Characterizing Protein Folds and Multiple Conformational States: Computation and Application. **Sichun Yang**, Lee Makowski, Benoit Roux.

2117-POS BOARD #B87

Average Structure Of Cryo-cooled Profilin:actin From An Incommensurately Modulated Crystal. **Jason Porta**, Jeffrey Lovelace, Gloria Borgstahl.

Cryo Electron Microscopy & Reconstruction (Boards #B88–#B99)**2118-POS BOARD #B88**

Microfluidic Devices for Time-Resolved Cryo-Electron Microscopy. Zonghuan Lu, David Barnard, Tanvir R. Shaikh, Hisham Mohamed, Xing Meng, Aymen Yassin, Rajendra Agrawal, Toh-Ming Lu, **Terence Wagenknecht**.

2119-POS BOARD #B89

Learning Mixture Networks Reveal Functional Dynamics of Molecular Assemblies. **Stefan Birmanns**.

2120-POS BOARD #B90

Solving Complex Puzzles: Automated Protein Complex Assembly From Cryo-Electron Microscopy Data Via Multi-Resolution Modeling.
Jochen Heyd, Stefan Birmanns.

2121-POS BOARD #B91

Structure of a Type III Restriction Endonuclease by Single-Particle Electron Microscopy. **Youngha Hwang**, Aneel K. Aggarwal, Eva S. Vanamee, Montserrat Samsó.

2122-POS BOARD #B92

Intact Flagellar Motor Architecture Revealed by Cryo-Electron Tomography.
Jun Liu, Tao Lin, Douglas J. Botkin, Erin McCrum, Hanspeter Winkler, Steven J. Norris.

2123-POS BOARD #B93

New Insight Into Desmosome Structure By Whole Cell Cryo-electron Tomography. **Guobin Hu**, David Stokes.

2124-POS BOARD #B94

Mitochondrial Fission is Mediated by Conformational Changes in the Dynammin-related Protein, Dnm1. **Jason A. Mears**, Laura L. Lackner, Shunning Fang, Jodi M. Nunnari, Jenny E. Hinshaw.

2125-POS BOARD #B95

The Structure Of Phosphorylase Kinase Holoenzyme At Subnanometer Resolution, Location Of The Catalytic Subunit And The Substrate Glycogen Phosphorylase. Slavica Jonic, Vasiliki Skamnaki, Nick Brown, Nicolas Bischler, Nikos Oikonomakos, Nicolas Boisset, Louise Johnson, **Catherine Venien-Bryan**.

2126-POS BOARD #B96

Cryo-EM Structure of Functional BK Channels in Lipid Bilayers.
Liguo Wang, Fred Sigworth.

2127-POS BOARD #B97

Functional Tests Of Purified Slack Channel Protein For Cryo-em Structure Determination. **Youshan Yang**, Yangyang Yan, Fred J. Sigworth.

2128-POS BOARD #B98

Three-dimensional Reconstruction of Bovine Papillomavirus at Near-atomic Resolution by Single Particle Cryo Electron Microscopy. **Wolf Mathias**, Nikolaus Grigorieff, Robert L. Garcea, Stephen C. Harrison.

2129-POS BOARD #B99

High-Resolution Electron Microscopy of a Rotavirus Particle.
James Z. Chen, Ethan Settembre, Scott Aoki, Philip Dormitzer, Richard Bellamy, Stephen Harrison, Nikolaus Grigorieff.

Protein Nucleic Acid Interactions II (Boards #B100–#B129)**2130-POS BOARD #B100**

Probing DNA Unwinding By Single Helicases. **Natali Fili**, Chris Batters, Mark I. Wallace, Mark S. Dillingham, Martin R. Webb, Justin E. Molloy.

2131-POS BOARD #B101

Helicase Activity As Monitored By Dual Colour Fluorescence Correlation Spectroscopy. **L. Na**, **R. Hua**, XG. Xi, E. Deprez, J.C. Brochon.

2132-POS BOARD #B102

Single-Molecule Fluorescence Resonance Energy Transfer Studies of Hjm/Hel308 DNA Helicase in Mesophilic Archaeon, *Methanosarcina acetivorans*. **Yuyen K. Lin**, Li-Jung Lin, Isaac Cann, Ivan Rasnik.

2133-POS BOARD #B103

Protein-Induced DNA Unwinding is An Intrinsic Feature of Certain Sequence-Specific DNA-Binding Proteins. **Fenfei Leng**, Bo Chen.

2134-POS BOARD #B104

Kinetic Mechanism of Duplex rRNA Unwinding by the DEAD-box Protein, DbpA. **Arnon Henn**, Wenxiang Cao, Enrique M. De La Cruz.

2135-POS BOARD #B105

Studying RecBCD Helicase Translocation along Chi-DNA Using Tethered Particle Motion with a Stretching Force. **Hsiu-Fang Fan**, Hung-Wen Li.

2136-POS BOARD #B106

Kinetic Mechanism for Single Stranded DNA Binding and Translocation by *S. cerevisiae* Isw2. **Christopher J. Fischer**.

2137-POS BOARD #B107

Single-molecule Measurements Of DnaB. **Noah Ribeck**, Omar A. Saleh.

2138-POS BOARD #B108

Structural Transitions Of a Helicase-Partial Duplex DNA Complex during ATP Hydrolysis Cycle. **Hamza Balci**, Sinan Arslan, Sua Myong, Taekjip Ha.

2139-POS BOARD #B109

Deciphering the Mechanism of RNA helicase eIF4A in Translation Initiation. **Evrin Atas**, Yingjie Sun, Lisa Lindqvist, Jerry Pelletier, Amit Meller.

2140-POS BOARD #B110

PcrA Helicase ATPase Mechanism: RepD Modulation During Unwinding. **Christopher P. Toseland**, Martin R. Webb.

2141-POS BOARD #B111

Single-Molecule Studies Of ATP-Dependent Restriction Enzymes. **Friedrich W. Schwarz**, Subramanian P. Ramanathan, Kara van Aelst, Mark D. Szczelkun, Ralf Seidel.

2142-POS BOARD #B112

Bacteriophage Phi29 Negatively Twists DNA During Packaging. **Craig L. Hetherington**, Aathavan Karunakaran, Jorg Schnitzbauer, Paul Jardine, Shelley Grimes, Dwight Anderson, Carlos Bustamante.

2143-POS BOARD #B113

Sequence-Dependent Kinetics of One-Dimensional Diffusion of p53 on DNA. **Jason S. Leith**, Anahita Tafvizi, Fang Huang, Alan R. Fersht, Leonid A. Mirny, Antoine M. van Oijen.

2144-POS BOARD #B114

Caught in the Act: Single Molecule Structure-Function Studies of Telomerase. **John Y. Wu**, Michael D. Stone, Mariana Mihalusova, Xiaowei Zhuang.

2145-POS BOARD #B115**SRAA POSTER**

Conformation of Telomerase RNP Established through Footprinting and Single-Molecule FRET. **Mariana Mihalusova**, Michael D. Stone, John Y. Wu, Xiaowei Zhuang.

2146-POS BOARD #B116

Single-molecule Studies Of p53 Sliding Along DNA. **Anahita Tafvizi**, Jason S. Leith, Fang Huang, Alan R. Fersht, Leonid A. Mirny, Antoine M. van Oijen.

2147-POS BOARD #B117

Single-Molecule Observation of the Rotational and Translational Movement of the PCNA Sliding Clamp Along DNA. **Anna B. Kochaniak**, Satoshi Habuchi, Johannes C. Walter, Antoine M. van Oijen.

2148-POS BOARD #B118

Linear Diffusion of T7 DNA Polymerase: Thioredoxin is Required to Maintain Close Contact with DNA. **Candice M. Etsen**, Samir M. Hamdan, Charles C. Richardson, Antoine M. van Oijen.

2149-POS BOARD #B119

Protein Mediated Bridging Motifs: A Key Mechanism in Biopolymer Organization. **Paul A. Wiggins**, Remus Th. Dame, Maarten C. Noom, Gijs J. L. Wuite.

2150-POS BOARD #B120

Tyrosyl-DNA Phosphodiesterase Binds Nucleic Acids Preferentially At The 3' End. **Andrew G. Stephen**, Thomas S. Dexheimer, Christophe Marchand, Yves Pommier, Robert J. Fisher.

2151-POS BOARD #B121

A Label-Free, Force-Based Microarray Sensor. **Dominik Ho**, Katja Falter, Philip Severin, Hermann E. Gaub.

2152-POS BOARD #B122

Visualization of Force-Mediated Looping Dynamics of a Single DNA Molecule by the *E. coli* protein FIS. **John S. Graham**, Reid C. Johnson, John F. Marko.

2153-POS BOARD #B123

Distinguishing Dual DNA Binding Modes of Actinomycin D using Optical Tweezers. **Thayaparan Paramanathan**, Ioana D. Vladescu, Micah J. McCauley, Ioulia Rouzina, Mark C. Williams.

2154-POS BOARD #B124

Inducer Effects on Lac Repressor-Mediated DNA Loops: Single-Molecule FRET Studies. **Kathy Goodson**, Aaron R. Haeusler, Doug English, Jason D. Kahn.

2155-POS BOARD #B125

DNA Structure Selectivity of Escherichia coli versus Thermus aquaticus DNA Polymerase I. **Andy J. Wowor**, Kausiki Datta, Greg Thompson, Vince J. LiCata.

2156-POS BOARD #B126

Modeling The Behavior Of DNA-Loop-Extruding Enzymes. **Inaz A-A Baum-Snow**, John F. Marko.

2157-POS BOARD #B127

Klenow and Klenoq-DNA Binding: the 'Glutamate Effect' is Primarily an Osmotic Effect. **Daniel J. Deredge**, Greg S. Thompson, Ke Jiang, Shree Patel, Kausiki Datta, Vince J. LiCata.

2158-POS BOARD #B128

Atomic Force Microscopy In Solution Shows Nucleosome Positioning By Excluding Genomic Energy Barriers. **Pascale Milani**, Zofia Haftek-Terreau, Guillaume Chevereau, Cedric Vaillant, Benjamin Audit, Monique Marilley, Philippe Bouvet, Françoise Argoul, Alain Arneodo.

2159-POS BOARD #B129

Rapid Formation And Breakdown Of Protein-mediated DNA Loops. **Joel D. Revalee**, Gerhard Blab, Michael Chu, Jens-Christian Meiners.

Virus Structure & Assembly (Boards #B130-#B153)**2160-POS BOARD #B130**

Retrovirus and the Cytoskeleton: Insights Into the Mechanism for Viral Assembly. **Micha Gladnikoff**, Itay Rousso.

2161-POS BOARD #B131

Capsid Assembly in Small, Unenveloped Icosahedral DNA and RNA Viruses. **Mustafa Burak Boz**, Stephen C. Harvey.

2162-POS BOARD #B132

Assembly of Viruses and the Pseudo Law of Mass Action. **Alexander Morozov**, Robijn Bruinsma, Joseph Rudnick.

2163-POS BOARD #B133

Mechanisms Of Viral Capsid Assembly Around A Polymer. **Aleksandr Kivenson**, Michael F. Hagan.

2164-POS BOARD #B134

Conformational Changes Of Gag HIV-1 On A Tethered Bilayer Measured By Neutron Reflectivity Provides Insights Into Viral Particle Assembly. **Hirsh Nanda**, Siddhartha A.K. Datta, Frank Heinrich, Alan Rein, Krueger Susan.

2165-POS BOARD #B135

Visualizing The Biogenesis Of Individual Hiv-1 Virions In Live Cells. **Olwenn Jouvenet**.

2166-POS BOARD #B136

The Nature Of Influenza Virus Virulence/Pathogenicity. **Denis E. Kainov**, Konstantin Mueller, Chantal Snoek, Claude Muller.

2167-POS BOARD #B137

Analysis Of Influenza Hemagglutinin Ligand-binding From Mutational Data And Molecular Motion. **Peter Kasson**, Vijay Pande.

2168-POS BOARD #B138
High Resolution Optical Microscopy Analysis of Influenza Virus A Assembly. **Miriam V. Bujny**, Mark Bates, Jeremy Rossman, Robert A. Lamb, Xiaowei Zhuang.

2169-POS BOARD #B139
GP10 of Bacteriophage Phi29 Exhibits ATPase Activity. **Julia L. Jones**, David Wendell, Carlo Montemagno.

2170-POS BOARD #B140 WITHDRAWN
The mechanical properties of the icosahedral shell of Southern Bean Mosaic Virus - A molecular dynamics study. **Mareike Zink**, Helmut Grubmüller.

2171-POS BOARD #B141
Single Particle Force Spectroscopy Reveals Virus DNA Storage Strategies And Structural Properties Of Capsids And Virions. Carolina Carrasco, Mercedes Hernando, Elena Pascual, Milagros Castellanos, José López Carrascosa, Mauricio García Mateu, **Pedro J. de Pablo**.

2172-POS BOARD #B142
Protein Unfolding Revealed by Factor Analysis of Raman Spectra: Application to HK97 Virus Assembly. **George J. Thomas**, Daniel Nemecek.

2173-POS BOARD #B143
Internal Capsid-Pressure Dependence of Viral Infection by Phage Lambda. **Alex Evilevitch**, Sarah Köster, Meerim Jeembaeva, David A. Weitz.

2174-POS BOARD #B144
Counterion Release Stabilizes Multi-Shell Structures Of Virus Coat Proteins. **Peter Prinsen**, Paul van der Schoot, William M. Gelbart, Charles M. Knobler.

2175-POS BOARD #B145
Nanorheology of Viscoelastic Shells: Application to Viral Capsids. **Tatiana Kuriabova**, Alex J. Levine.

2176-POS BOARD #B146
Charting the Structure and Energetics of Packaged DNA in Bacteriophages. **Xiangyun Qiu**, Donald C. Rau, V. Adrian Parsegian, Li Tai Fang, Charles M. Knobler, William M. Gelbart.

2177-POS BOARD #B147
Modeling DNA Condensation Phenomena by Coarse-Gained Models: Packaging inside Bacteriophages and Compaction inside Bacteria. **Anton S. Petrov**, Tumpa Sarkar, Nicholas V. Hud, Stephen C. Harvey.

2178-POS BOARD #B148
Deconstructing Viral Shells To Understand Its Building Blocks. **Irena Lambrova Ivanovska**, Xabier Agirrezabala, Jose L. Carrascosa, Gijs J. L. Wuite, Christoph F. Schmidt.

2179-POS BOARD #B149
Study Of Mechanical Properties Of Bacteriophage T7. **Mercedes Hernando**, Elena Pascual, Carolina Carrasco, Alina Ionel, José López Carrascosa, Pedro J. de Pablo.

2180-POS BOARD #B150
Pushing Viruses To The Limits. **Gijs J.L. Wuite**, Melissa Gibbons, William S. Klug, Wouter Roos.

2181-POS BOARD #B151
Coarse-grained Simulations and AFM Nanoindentation Experiments on a Hepatitis B Virus Capsid. **Anton S. Arkhipov**, Wouter Roos, Gijs Wuite, Klaus Schulten.

2182-POS BOARD #B152
Capsid Reinforcement of Herpes Simplex Virus Triggered by DNA Packaging. **Wouter H. Roos**, K Radtke, E Kniesmeijer, H Geertsema, B Sodeik, G J. Wuite.

2183-POS BOARD #B153
Photoacoustic Spectroscopy Of Virus-like Particles And Virus Crystals. **Christopher C. DuFort**, Bogdan Dragnea.

Apoptosis (Boards #B154-#B169)

2184-POS BOARD #B154 **STUDENT TRAVEL AWARDEE**
Soft Laser Radiation Effects On Polyphenol Exposed Human T Leukemic Jurkat Cells. **Livia Vlaicu**, Andrei Bobocca, Magdalena Mocanu, Judit Horvath, Ervin Tanos, Eva Katona.

2185-POS BOARD #B155
Extracellular ATP Mediates FasL-induced Necrosis of Lymphoid Cells Via P2X7 Activation. **Mauricio Henriquez**, Andrew Quest.

2186-POS BOARD #B156
T Cell Receptor Regulation Of Fas-mediated Apoptotic Calcium Release. **Askar M. Akimzhanov**, Xinmin Wang, Darren Boehning.

2187-POS BOARD #B157
Novel K Channel Blocker Induces Apoptosis Via Ca Release From ER Stores. **Elena Zaks-Makhina**, Chandra Vignere, Vicenta Salvador-Recatala, Edwin S. Levitan.

2188-POS BOARD #B158
The Amino-terminal Peptide Of Bax Perturbs Intracellular Ca Homeostasis To Enhance Apoptosis In Prostate Cancer Cells. **Na Li**, Peihui Lin, Chuanxi Cai, Zui Pan, Noah Weisleder, Jianjie Ma.

2189-POS BOARD #B159
The Anti-apoptotic Mitochondrial Membrane Protein Bcl-2; An Achilles Heel Of Cancer Cells? **Marcus Wallgren**, Marc-Antoine Sani, Henrik Vestin, Erick J. Dufour, Gerhard Gröbner.

2190-POS BOARD #B160
Direct Interactions Between Tbid And Bcl-xL/DXI Are Enhanced In Lipid Membranes. **Ana J. Garcia-Saez**, Jonas Ries, Mar Orzaez, Enrique Perez-Paya, Petra Schwillle.

2191-POS BOARD #B161
Membrane Changes during Apoptosis: Part of the Process or Characteristics of the Corpse? **Elizabeth Gibbons**, Caitlin E. Askew, Katalyn R. Griffith, Michael C. Streeter, Ashley O. Warcup, Celestine H-Y Yeung, Allan M. Judd, John D. Bell.

2192-POS BOARD #B162
Chemotherapeutic Apoptosis: Who Assailed The Membrane, The Inducer Or The Induced? **Jennifer Nelson**, Kristen Barlow, D Olin Beck, Amanda Berbert, Kelly Damm, Nathan Eschenroder, Kristina Neeley, Mark Pruitt, Kyle Thompson, Brian Thurber, Celestine H-Y Yeung, Allan M. Judd, John D. Bell.

2193-POS BOARD #B163
Designing Single Fluorescent Protein Based Caspase Sensor For Monitoring Apoptosis In Living Cells. **Shenghui Xue**, Ning Chen, Yun Huang, Jenny J. Yang.

2194-POS BOARD #B164
Binding of the Pro-Apoptotic protein Bid to Mitochondrial Membranes is a Two Step Process. **Aisha Shamas-Din**, Scott Bindner, Brian Leber, David W. Andrews, Cecile Fradin.

2195-POS BOARD #B165 **SRAA POSTER**
Protein BAX During Detergent Activation: Characterization by Fluorescence Correlation Spectroscopy and Fluorescence Intensity Distribution Analysis. **Olena Ivashyna**, Ana J. García-Sáez, Jonas Ries, Eric Christenson, Petra Schwillle, Paul H. Schlesinger.

2196-POS BOARD #B166 **STUDENT TRAVEL AWARDEE**
Evidence for Lipidic Pores. **Shuo Qian**, Wangchen Wang, Lin Yang, Huey W. Huang.

2197-POS BOARD #B167
Apoptosis Induction is Associated with VDAC Oligomerization. **Varda Shoshan-Barmatz**, Nurit Keinan.

2198-POS BOARD #B168
A Stochastic Pi-calculus Model for the Intrinsic Apoptotic Pathway. **Rosaura Palma-Orozco**, Pablo Padilla-Longoria, Pablo G. Padilla-Beltran.

2199-POS BOARD #B169
Monte Carlo Simulation Shows Noisy Signaling In Apoptosis Increases Risk Of Diseases. **Subhadip Raychaudhuri**, Kavya Katipally.

Protein Dynamics III (Boards #B170-#B179)

2200-POS BOARD #B170
A Dynamics Criterion to Determine Allostery. **Ming S. Liu**, Billy D. Todd, Richard S. Sadus.

2201-POS BOARD #B171
Dynamics of Intra- and Inter-Helix Contact Formation. **Ronan D. Murphy**, Cathal Leahy, Nicolae-Viorel Buchete.

2202-POS BOARD #B172

Dr. Joseph Zhou. **Joseph X. Zhou**. Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.

2203-POS BOARD #B173

Force Spectroscopy of the Iron Atom in Heme Proteins. **J Timothy Sage**, Bogdan M. Leu, Tom H. Ching, Yong Zhang, John E. Straub, Jiyong Zhao, Wolfgang Sturhahn, E. Ercan Alp.

2204-POS BOARD #B174

Extracting Non-Gaussian Modes of Motion from the Principal Components of Gramicidin A. **Martin Kurylowicz**, Régis Pomé

2205-POS BOARD #B175

Modeling the Open-to-closed Transition of Adenylate Kinase: All-atom Molecular Dynamics Simulations and a Double-Well Network Model. **Jih-Wei Chu**.

2206-POS BOARD #B176

Inferring Maps of Forces Inside Cell Membrane Microdomains. **Jean-Baptiste Masson**, Didier Casanova, Sylvan Türkam, Guillaume Voisine, Michel-Robert Popoff, Massimo Vergassola, Antigoni Alexandrou.

2207-POS BOARD #B177

Probe of flexibility and conformational heterogeneity in Zn-cytochrome c (Zn-cyt c) folding by Three-Pulse Photon Echo Peak Shift (3PEPS) Spectroscopy. **Emily A. Gibson**, Zhaochuan Shen, Ralph Jimenez.

2208-POS BOARD #B178

Evaluation Of Three Transition Pathway Modeling Techniques In Capturing Structural Intermediates In F1 Atpase, Myosin, Kinesin, And Chaperonin Groel. **Wenjun Zheng**, Mustafa Tekpinar.

2209-POS BOARD #B179

Self Assembly Of AOT Reverse Micelles With/without Peptides. **Jianhui Tian**, Angel E. Garcia.

Membrane Protein Structure II (Boards #B180–#B202)

2210-POS BOARD #B180

Rhodopsin in Bovine Rod Outer Segment Disk Membranes Exhibits Two Thermal Transitions. **Arlene Albert**, Scott Corley.

2211-POS BOARD #B181

NMR Structure of Water-Solubilized Transmembrane Domain of Nicotinic Acetylcholine Receptor. **Tanxing Cui**, Pei Tang, Jeffery G. Saven, Roderic G. Eckenhoff, Yan Xu*.

2212-POS BOARD #B182

The Active Conformation Of Opsin (ops*): Role In Signal Transduction And Regeneration. **Klaus P. Hofmann**.

2213-POS BOARD #B183

Agonist and Inverse agonist Induced Conformation Changes in G-protein Coupled Receptors. **Nagarajan Vaidehi**.

2214-POS BOARD #B184

Probing the Dynamic Structure and Function of Intracellular Loop 2 in Structurally Cognate GPCRs. **Jufang Shan**, Ernest L. Mehler, Harel Weinstein.

2215-POS BOARD #B185

An Atomic-level Model for the Periplasmic Open State of Lactose Permease. **Pushkar Y. Pendse**, Bernard R. Brooks, Jeffery B. Klauda.

2216-POS BOARD #B186

Stochastic Switching Into Hydrolytically Active Conformations In A Homodimeric ABC Exporter. **Jussi Aittoniemi**, Heidi de Wet, Frances M. Ashcroft, Mark S. P. Sansom.

2217-POS BOARD #B187

Understanding the conformational changes in Ca-APTase using Coarse-grained and All-atom simulations with Dynamic Importance Sampling. **Anu Nagarajan**, Juan R. Perilla, Thomas B. Woolf.

2218-POS BOARD #B188

Mechanisms and Energetics of Protein/Peptide Interactions in Biological Membranes. **Wonpil Im**.

2219-POS BOARD #B189

Protein Modification Analysis of GM2 Activator Protein Mutants by High Performance nano-LC ESI FT-ICR Mass Spectrometry. **Jeff D. Carter**, Jeremiah D. Tipton, Jordan D. Mathias, Alan G. Marshall, Gail E. Fanucci.

2220-POS BOARD #B190

Purification And Reconstitution Of The Connexin43 Carboxyl Terminus Attached To The 4 Transmembrane Domain In Detergent Micelles. **Roslyn Grogely**, Admir Kellezi, Fabien Kieken, Gloria E. O. Borgstahl, Paul L. Sorgen.

2221-POS BOARD #B191

A Refinement Protocol to Define the Structure, Topology and Depth of Insertion of Membrane Proteins using Hybrid Solution/Solid-state NMR Restraints. **Lei Shi**, Nathaniel J. Traaseth, Raffaello Verardi, Gianluigi Veglia.

2222-POS BOARD #B192

Solution and Solid-State NMR Analysis of Phosphorylated and Pseudo-Phosphorylated Phospholamban. **Raffaello Verardi**, Nathaniel J. Traaseth, Martin Gustavsson, Kim H. Ha, Gianluigi Veglia.

2223-POS BOARD #B193

Hybrid Solution and Solid-State NMR Analysis of SERCA/Phospholamban Interactions in Lipid Membranes: From Structural Dynamics to Function. **Gianluigi Veglia**, Nathaniel J. Traaseth, Raffaello Verardi, Lei Shi, Kim Ha.

2224-POS BOARD #B194

Topology of Phospholamban when Bound to Ca²⁺-ATPase by Solid-State NMR. **Nathaniel Traaseth**, Raffaello Verardi, Lei Shi, Gianluigi Veglia.

2225-POS BOARD #B195

A Solid-State NMR Study on the Structure and Dynamics of the Myristoylated N-Terminus of the Human Guanylate-Cyclase Activating Protein-2. **Stephan Theisgen**, Holger A. Scheidt, Daniel Huster.

2226-POS BOARD #B196

A Molecular Gearbox: The Mechanical And Regulatory Complexity Of The Vacuolar ATPase Revealed. **Stephen P. Muench**, Markus Huss, Clair Phillips, Helmut Wiczorek, John Trinick, Michael Harrison.

2227-POS BOARD #B197

Towards an Atomic Model of the Hepatitis C Virus p7. **Chee Foong Chew**.

2228-POS BOARD #B198

Structural and Functional Studies of M2 Proton Channel from Influenza A Virus. **Mukesh Sharma**, Huajun Qin, Emily Peterson, Chris Larson, Weston Caywood, Rustin Rawlings, David Busath, Timothy A. Cross.

2229-POS BOARD #B199

EPR Spectroscopy of the C-terminal Domain of the M2 Protein from Influenza A Virus. **Emily Brown**, Phuong Nguyen, Kathleen P. Howard.

2230-POS BOARD #B200

Detection of Predominant Antiparallel Strand Registry in the Membrane-Associated HIV Fusion Peptide. **Scott D. Schmick**.

2231-POS BOARD #B201

pH-Triggered Membrane Insertion Pathway of the Diphtheria Toxin T-Domain: 1. Insertion/Refolding Intermediate. **Alexander Kyrychenko**, Mykola V. Rodnin, Yevgen O. Posokhov, Alexey S. Ladokhin.

2232-POS BOARD #B202

pH-Triggered Membrane Insertion Pathway of the Diphtheria Toxin T-Domain: 2. Role of Histidines. **Mykola V. Rodnin**, Alexander Kyrychenko, Yevgen O. Posokhov, Joshua Brettmann, Anna Thoma, Alexey S. Ladokhin.

Molecular Chaperones (Boards #B203–B209)

2233-POS BOARD #B203

Characterization of Substrate Binding to the Group II Archaeal Chaperonin from *Methanococcus maripaludis* (Mm-Cpn). **Daniel R. Goulet**, Jonathan A. King, Kelly M. Knee.

2234-POS BOARD #B204

Characterization of the Group II Chaperonin TriC derived from Human Cervical Adenocarcinoma (HeLa) Cells. **Kelly M. Knee**, Daniel R. Goulet, Shea Jameel, Jonathan A. King.

2235-POS BOARD #B205

H-B-Crystallin Suppresses The Aggregation Upon Refolding Of Its Physiological Substrates H4D-, H4C- And H4S-Crystallin. **Ligia I. Acosta-Sampson**, Jonathan King.

2236-POS BOARD #B206

Interaction between Molecular Chaperone Prefoldin with Group II Chaperonin in the Presence of Nucleotides: Implication for Substrate Transfer Mechanism from Prefoldin to Chaperonin. **Tamotsu Zako**, Yosuke Murase, Ryo Iizuka, Taro Kanzaki, Masafumi Shimizu, Masafumi Yohda, Mizuo Maeda.

2237-POS BOARD #B207

Networks of Functional Residues in GroEL and GroES. **Riina Tehver**, Jie Chen, D. Thirumalai.

2238-POS BOARD #B208

ClpXP Degradation of the DNA-Protection Protein Dps Requires Auto-Tethering to the Enzyme. **Anne S. Meyer**, Julia M. Flynn, Tania A. Baker.

2239-POS BOARD #B209

Controlling oligomerization through protein engineering: in vivo analysis of Hsp90. Natalie Wayne, **Dan Bolon**.

Heme Proteins (Boards #B210–B229)

2240-POS BOARD #B210

Reactive Vibrational Dynamics of Iron in Heme. **Alexander Barabanschikov**, J. Timothy Sage, W. Robert Scheidt, Chuanjiang Hu, Minoru Kubo, Paul M. Champion, Jiyong Zhao, Wolfgang Sturhahn, E. Ercan Alp.

2241-POS BOARD #B211

Low frequency dynamics of Cystathionine beta-synthase. **Karunakaran Venugopal**, Yuhan Sun, Zhenyu Zhang, Abdelkrim Benabbas, Sangita Singh, Ruma Banerjee, Paul M. Champion.

2242-POS BOARD #B212

Proximal Ligand Switch Triggered by Carbon Monoxide in Inducible Nitric Oxide Synthase. **Joseph Sabat**, Denis L. Rousseau, Syun-Ru Yeh. **SRAA POSTER**

2243-POS BOARD #B213

Resonance Raman Investigation of the R481 Mutants of Cytochrome c Oxidase from *R. sphaeroides*. **Tsuyoshi Egawa**, Hyun-Ju Lee, Robert B. Gennis, Syun-Ru Yeh, Denis L. Rousseau.

2244-POS BOARD #B214

Indoleamine 2, 3- Dioxygenases 2: The Missing Link For The 1-methyl-D- trp Mechanism Of Action. **Laura B. Granell-Ortiz**, Syun- Ru Yeh. **SRAA POSTER**

2245-POS BOARD #B215

Linking Heme Activation to Conformation Change in Hemoglobin Via Chain Selective Time-resolved Resonance Raman Spectroscopy on Mesoheme Hybrids. **Gurusamy Balakrishnan**, Mohammed Ibrahim, Piotr J. Mak, Jessica Hata, James R. Kincaid, Thomas G. Spiro.

2246-POS BOARD #B216

Production Of Bioactive NO From The Reaction Of Met-nitrite Hemoglobin With NO: Use Of Glassy Matrices And Sol-gels. Mahantesh Navati, Camille R. Roche, **Joel M. Friedman**.

2247-POS BOARD #B217

Novel Catalytic Antioxidative Activity of Nitroxide Radicals in the Heme/H₂O₂ system. **Uri Samuni**.

2248-POS BOARD #B218

Conformational Changes Of Ferricytochrome c Induced by pH and Temperature. **Jonathan Soffer**.

2249-POS BOARD #B219

Investigation Of The Role Of Neuroglobins In Globin Redox Reactions. **Priscilla Tosqui**, Marcio Colombo. **INTERNATIONAL TRAVEL AWARDEE**

2250-POS BOARD #B220

Conformational Heterogeneity of Cytochrome c Probed by Resonance Raman Spectroscopy as a function of pH and Temperature. **Maria Alessi**, Andrew Hagarman, Reinhard Schweitzer-Stenner.

2251-POS BOARD #B221

IResonance Raman Probes of the Internal Binding Pocket of Dehaloperoxidase from Amphitrite ornata. **Matthew K. Thompson**, Michael F. Davis, Stefan Franzen. **STUDENT TRAVEL AWARDEE**

2252-POS BOARD #B222

Spectroscopic Probes of the Reactive Intermediates of Dehaloperoxidase from Amphitrite ornata. **Reza A. Ghiladi**, Rania Dumariéh, Matthew Thompson, Zao Wang, Tatyana Smirnova, Stefan Franzen.

2253-POS BOARD #B223

Substrate binding triggers a switch in the iron coordination in dehaloperoxidase from Amphitrite Ornate. **Tatyana I. Smirnova**, Mike F. Davis, Ralph T. Weber, Stefan Franzen.

2254-POS BOARD #B224

Dynamics And Energetics Associated With Ligand Photodissociation From Co Bound Chloroperoxidase. Simona Horsa, Lin Jiang, Xiaotang Wang, **Jaroslava Miksovska**.

2255-POS BOARD #B225

Hierarchical Structures of Natural Acellular Polymeric Hemoglobins: Model for Design of a Therapeutic Hemoglobin-Based-Oxygen-Carrier (HBOC). **John P. Harrington**, Kseniya Orlik and Hanna Wollocko.

2256-POS BOARD #B226

Allosteric Mechanism of Hemoglobin: Concerted Mechanisms or Graded Mechanisms. **Takashi Yonetani**. Univ.

2257-POS BOARD #B227

Conformational Dynamics Of Cytochrome c Encapsulated In AOT Reverse Micelles. Khoa Pham, **Jaroslava Miksovska**.

2258-POS BOARD #B228

MINORITY BIOPHYSICISTS TRAVEL GRANT AWARDEE
SRAA POSTER

Substrate Stereoselectivity of Human Indoleamine 2,3- Dioxygenase. **Ariel Lewis-Ballester**, Syun- Ru Yeh.

2259-POS BOARD #B229

The Unique Dioxygen Activation Mechanism of Human Indoleamine 2,3- Dioxygenase. **Changyuan Lu**, Yu Lin, Syun-Ru Yeh.

Enzymes (Boards #B230–B249)

2260-POS BOARD #B230

STUDENT TRAVEL AWARDEE
SRAA POSTER

Substrate-Protein Interaction in Human Tryptophan dioxygenase. Dipanwita Batabyal, Syun-Ru Yeh.

2261-POS BOARD #B231

INTERNATIONAL TRAVEL AWARDEE

Insights Into The Mechanism Of The Cobalt Containing Nitrile Hydratase From *Geobacillus Pallidus*. **Bryan T. Sewell**, Jennifer C. van Wyk, Donald A. Cowan.

2262-POS BOARD #B232

Crystal Structure Of Peroxide-bound Manganese Superoxide Dismutase. **Gloria Borgstahl**, Jason Porta.

2263-POS BOARD #B233

Characterization of the Monomer-Dimer Equilibrium of Recombinant Histo-aspartic Protease from *Plasmodium falciparum*. **Huogen Xiao**, Lee-Ann Briere, Stanley D. Dunn, Rickey Y. Yada1.

2264-POS BOARD #B234

Analysis of Monomeric and Dimeric Phosphorylated Forms of PKR. **Christine Quartararo**, Eric Anderson, Raymond Brown, Yu Shi, Xudong Yao, James Cole.

2265-POS BOARD #B235

Structural Studies of Enzymatic Hydrolysis of Cellulose by Neutron Scattering and Reflectivity. **Michael S. Kent**, Jaclyn K. Murton, Elizabeth L. Carles, Frank Zendejas, Rex Hjelm, Bulent Akgun, James Browning, John Ankner, Jacob Urquidi, Blake Simmons.

2266-POS BOARD #B236

Expression And Purification Of A Stable, Monomeric Creatine Kinase. **Gregg G. Hoffman**, W Ross Ellington.

2267-POS BOARD #B237

Role of Rim Tyr/Trip Residues in Interfacial Activation of Phospholipase C Enzymes. **Su Guo**, Mary F. Roberts.

2268-POS BOARD #B238

INTERNATIONAL TRAVEL AWARDEE

Association Between Enzymes Modifies the Inhibition by Trehalose. **Daniela Araiza Olivera Toro**, Antonio Peña Díaz, Salvador Uribe Carvajal.

2269-POS BOARD #B239

Kinetic Activity of the Intact 26S Proteasome in Mice Liver: Selective Regulation of Estrogen on the Core β 2 Subunit. **Yanan Liu**, Yong Wu, Mansoureh Eghbali, Ligia Toro, Enrico Stefani.

2270-POS BOARD #B240

Characterization of the Calcium Binding Domain of NADPH Oxidase 5 (NOX5). **Chin-Chuan Wei**, Liu Qi Chen, Tremylla Johnson.

2271-POS BOARD #B241

Enzymatic Activity and Monolayer Binding of a Truncated Form of Lecithin Retinol Acyltransferase. **Sylvain Bussieres**, Jean-Sebastien Laliberte-Gemme, Rock Breton, Christian Saless.

2272-POS BOARD #B242

The Completion of chemo-mechanical coupling scheme of F1-atpase; The Determination of the timing of Pi-release. **Rikiya Watanabe**, Hiroshi Ueno, Hiroyuki Noji.

2273-POS BOARD #B243

PTEN Inhibition Study by Synthetic 3-Deoxy-PI Derivatives. **Yang Wei**, Yanling K. Wang, Yingju Xu, Scott Miller, Mary F. Roberts.

2274-POS BOARD #B244

The role of Kallikrein-kinin System in the Immune Response of Nasal Papilloma and Adventitious Sinusitis. **Nurali Q. Muhamadiev**, Botir B. Mahmudov.

2275-POS BOARD #B245

Induction Of Functional Hypoxia-inducible Factor-1 And Angiogenesis By Derivatives Of 8-hydroxyquinoline. **Eun Gyeong Yang**, Hyunung Park.

2276-POS BOARD #B246

The Exit of the Tunnel: Yeast Alcohol Dehydrogenase from the Acceptor's Point of View. **Daniel Roston**, Amnon Kohen.

2277-POS BOARD #B247

Mechanism of Action of Cyclophilin A Explored by Metadynamics Simulations. **Vanessa Leone**, Gianluca Lattanzi, Carla Molteni, Paolo Carloni.

2278-POS BOARD #B248

Reaction Mechanisms of Editing (Proofreading) by Leucyl-tRNA Synthetase Revealed by QM/MM Molecular Dynamics Simulations. **Masaru Tateno**, Yohsuke Hagiwara, Osamu Nureki.

2279-POS BOARD #B249

Redox Activity and H₂ Production Upon Glycerol Fermentation in Escherichia coli: are Hydrogenases Reversible? **Karen Trchounian**, Armen Trchounian.

Protein-Ligand Interactions I (Boards #B250-#B279)

2280-POS BOARD #B250

Localizing Fatty Acid Binding Sites on Human Serum Albumin by D-NMR. **Eileen Krenzel**, Zhongjing Chen, James A. Hamilton.

2281-POS BOARD #B251

Calcium-Dependent Interactions of Calmodulin with Calcineurin: Evidence for Domain-Reversal in Target Recognition. **Susan E. O'Donnell**, Madeline Shea.

2282-POS BOARD #B252

Structural Basis for Phosphate Stabilization of the Uniquely Coordinated Fe-2S Cluster of the Outer Mitochondrial Membrane Protein MitoNEET.* **Christina Homer**, David Yee, Herbert L. Axelrod, Aina E. Cohen, Edward C. Abresch, Charlene Chang, Rachel Nechushtai, Patricia A. Jennings, Mark L. Paddock.

2283-POS BOARD #B253

STUDENT TRAVEL AWARDEE
SRAA POSTER

Potent Inhibitors Of c-Myc-Max Dimerization Through Multivalent Binding To The Intrinsically Disordered c-Myc Monomer. **Ariele Viacava Follis**, Dalia Hammoudeh, Huabo Wang, Edward V. Prochownik, Steven J. Metallo.

2284-POS BOARD #B254

Dynamic Analysis of Beta-lactamase Ligand Recognition. **Pinar Kanlikilicer**, Nilay Budeyri, Berna Sariyar Akbulut, Amable Hortacsu, Elif Ozkirimli.

2285-POS BOARD #B255

The Role Of Dynamics On Binding Specificity And Promiscuity. **Elif Ozkirimli**, Ozlem Keskin.

2286-POS BOARD #B256

Phospho(enol)pyruvate Binding to Thermus thermophilus Phosphofructokinase. **Maria Shubina-McGresham**, Gregory D. Reinhart.

2287-POS BOARD #B257

Distinguishing Interactions Responsible for Phospho(enol)pyruvate Binding from Interactions that Communicate Allosteric Inhibition in E. coli Phosphofructokinase. **Bobby W. Laird**, Gregory D. Reinhart.

2288-POS BOARD #B258

Weak Binding of Phospho(enol)pyruvate to Phosphofructokinase from Lactobacillus delbrueckii. **Scarlett A. Blair**, Gregory D. Reinhart.

2289-POS BOARD #B259

Kinetics and Thermodynamics of the Interaction of ANS with Proteins. **Diego I. Cattoni**, Sergio B. Kaufman, F. Luis González-Flecha.

2290-POS BOARD #B260

Investigation of the Ligand-binding Mechanism of Methionine Sulfoxide Reductase A of E.coli. **Virginia F. Smith**, Nikhil Kesireddy, Joanne D. So.

2291-POS BOARD #B261

Characterization of and Kinetics studies on Lipid Extraction of GM2AP Tryptophan Mutants using Intrinsic Fluorescence and a Dansyl-Based Fluorescence Assay. **Stacey-Ann Benjamin**, Gail E. Fanucci.

2292-POS BOARD #B262

Binding of Organochloride and Pyrethroid Pesticides To Estrogen Receptors and ; A Fluorescence Polarization Assay. **Suzannah Luft**, Elias Aba Milki, Eric Glustrom, Richmond Ampiah-Bonney, Patricia B. O'Hara.

2293-POS BOARD #B263

Characterization of the Ca²⁺ Binding Affinity and Coordination Site of the LIN-12/Notch-Repeat. **Pengying Hao**.

2294-POS BOARD #B264

Regulation of Nuclear PLC₁ by a Novel Binding Partner called TRAX. **Omozo Aisiku**, Mario Rebecchi, Loren Runnels, Suzanne Scarlata.

2295-POS BOARD #B265

Hybrid Scoring and Classification Using Shape-Based Approaches to Predict Human PXR Activators. **Sandhya Kortagere**, Dmitriy Chekmarev, William J. Welsh, Sean Ekins.

2296-POS BOARD #B266

INTERNATIONAL TRAVEL AWARDEE

Fluorescence Quenching and Fluorescence Resonance Energy Transfer Studies in the Recombinant N-domain from the Plasma Membrane H(+)-ATPase, Pma. **Yadira G. Ruiz-Granados**, Nayelli Cabrera, Salvador Uribe, José G. Sampedro.

2297-POS BOARD #B267

NMR Study of the Interaction of Cardiotoxic Drugs with the Extracellular Segment Ile583 - Tyr597 from the hERG Channel. **Etienne Chartrand**, Alexandre A. Arnold, Séverine Convent, Sarah Jenna, Isabelle Marcotte.

2298-POS BOARD #B268

Protein Selectivity Factors as a Molecular Basis for Metal Toxicity. **Michael Kirberger**, Jin Zou, Jie Jiang, Jenny Yang.

2299-POS BOARD #B269

Identification Of The NHERF2 Binding Site For The Chloride/Proton Transporter CIC-5. **Leigh Wellhauser**, Himabindu Penmatsa, Anjaparavanda P. Naren, Christine E. Bear.

2300-POS BOARD #B270

Structural and Functional Role of Proline Residues in Fibroblast Growth Factor-1. **Isabelle Huber**, Rajalingam Dakshinamurthy, Suresh Kumar Krishnaswamy Thallapuram.

2301-POS BOARD #B271

Structural Changes in Monomeric HIV-RT Upon Binding the NNRTI Efavirenz. **Valerie A. Braz**, Patrick L. Wintrod, Mary D. Barkley.

- 2302-POS BOARD #B272**
Stabilizing Interactions In TNF Ligand-receptor Binding. **Christopher Valley**, Jonathan Sachs.
- 2303-POS BOARD #B273**
Understanding the Mechanism of Autoregulation of FGF Signaling. **Lindsay Rutherford**, Dakshinamurthy Rajalingam, Britton Blough, Suresh Kumar Krishnaswamy Thallapuram.
- 2304-POS BOARD #B274**
Interactions Defined between S100A13 and Annexin Peptides: Insight into Non-Classical Secretion. **Anna E. Daily**, Dakshinamurthy Rajalingam, T.K.S. Kumar.
- 2305-POS BOARD #B275**
Redefining The Interaction Domain Of Cx43CT With RXP-E And Cx43CL. **Gaelle Spagnol**, Wanda Coombs, Steven M. Taffet, Bjarne Due Larsen, Mario Delmar, Paul L. Sorgen.
- 2306-POS BOARD #B276**
Amyloid Fibrillation of Bovine Alpha Lactalbumin. **Mehriar Amininasab**, Mohamad-Bagher Ebrahim-Habibi, Azadeh Ebrahim-Habibi, Mohsen Nemat-Gorgani.
- 2307-POS BOARD #B277**
Inhibition of Influenza Virus Activity by Sialic Acid Conjugated Multivalent Particles. **Christian Sieben**, Ilona Papp, Anna Wozniak, Kai Ludwig, Christoph Böttcher, Thomas Korte, Andreas Herrmann.
- 2308-POS BOARD #B278**
Structural Explanations to Altered Drug Resistance Pathways in HIV-1 Non-Clade B Proteases. **Rajintha M. Bandaranayake**, Madhavi Kolli, Moses Prabu-Jeyabalan, Madhavi Nalam, Christina Ng, Junko Kakizawa, Annie Heroux, Nancy M. King, Wataru Sugiura, Celia A. Schiffer.
- 2309-POS BOARD #B279**
The In Vivo Analysis Of Escherichia coli's SecA Membrane Topology In The Nucleotide Binding Domain I. **Lorry M. Grady**.

Membrane Structure I (Boards #B280–#B301)

- 2310-POS BOARD #B280**
Molecular Dynamics Study of Ceramide:POPC mixtures. **Rainer Metcalf**, Sagar Pandit.
- 2311-POS BOARD #B281** **SRAA POSTER**
The Physical Properties of Sphingomyelin/Cholesterol Membranes: a Deuterium NMR Study to Map a Partial Phase Diagram. **Amirmohamad Keyvanloo**, Mehran Shaghghi, Martin Zuckermann, Jenifer Thewalt.
- 2312-POS BOARD #B282**
Inositol Phosphorylceramide - Characterization of membrane properties and their calcium dependence. **Anders Björkbom**, Henna Ohvo-Rekilä, Bodil Westerlund, Thomas K.M. Nyholm, J. Peter Slotte.
- 2313-POS BOARD #B283**
Ceramide-Enriched Membrane Domains in Red Blood Cells and the Mechanism of Sphingomyelinase-Induced Hot-Cold Hemolysis. **Felix M Goni**, Ruth L. Montes, David J. López, Luis A. Bagatolli, Martin J. Stonehouse, Michael L. Vasil, Bill X. Wu, Yusuf A. Hannun, Alicia Alonso.
- 2314-POS BOARD #B284**
Influence Of Ganglioside GM1 On Formation And Properties Of Rafts In Lipid Membranes. **Konstantin V. Pavlov**, Sergey A. Akimov, Pavel V. Bashkirov, Ivan A. Boldyrev, William G. Telford, Irina M. Molotkovskaya.
- 2315-POS BOARD #B285**
Condensing And Fluidizing Effects Of Structurally Related Gangliosides On Phospholipid Films. **Shelli L. Frey**, Eva Y. Chi, Jaroslaw Majewski, Kristian Kjaer, Ka Yee C. Lee.
- 2316-POS BOARD #B286**
Nanosopic Rearrangement Of Outer And Inner Leaflet Membrane Proteins Due To Ige Receptor Cross-linking. **Ethan N. Chiang**, Sarah Veatch, Christopher Ober, David Holowka, Barbara Baird.
- 2317-POS BOARD #B287**
Cholesterol Content And Domain Formation As Regulators Of PLA2-IIA Activity In Anionic Membranes. **Gustavo A. Arguello**, Elena M. Echeverria, Jose A. Monroy, Chad Leidy.
- 2318-POS BOARD #B288**
Comparison of Insertion and Folding of Chaperone-bound Outer Membrane Protein A (OmpA) of E. coli into Phospholipid Bilayers of Various Composition. **Geetika J. Patel**, Susanne Behrens, Otto Holst, Jörg H. Kleinschmidt.
- 2319-POS BOARD #B289**
Binding Sites of Outer Membrane Protein A (OmpA) in the Complex with the Periplasmic Chaperone Skp from E. Coli. A site-directed fluorescence study. **Jian Qu**, Susanne Behrens, Otto Holst, Jörg H. Kleinschmidt.
- 2320-POS BOARD #B290**
Super-resolution Imaging Of Hemagglutinin Clusters In Cell Membranes. **Travis Gould**, Manasa V. Gudheti, Mudalige S. Gunewardene, Samuel T. Hess.
- 2321-POS BOARD #B291**
Lipid Domains in Bacterial Membranes as a Predictor of Antimicrobial Potency. **Richard M. Epand**, Shahar Rotem, Amram Mor, Bob Berno, Raquel F. Epand.
- 2322-POS BOARD #B292**
Gene Silencing Activity of siRNA Embedded in a Bicontinuous Lipid Matrix. **Cecilia Leal**, Nathan F. Boussein, Kai K. Ewert, Cyrus R. Safinya.
- 2323-POS BOARD #B293**
Effect of Nucleic Acid Length and Chemistry on Structure-Function Properties of Cationic Lipid-Nucleic Acid Complexes. **Nathan F. Boussein**, Christopher S. McAllister, Cecilia Leal, Kai K. Ewert, Charles E. Samuel, Cyrus R. Safinya.
- 2324-POS BOARD #B294**
Self-repair Of Bacterial Cell Wall Against Multiple Puncturings By An AFM Tip. **Recep Avci**, Zhiyong Suo, Muhammedin Deliorman, Xinghong Yang, David W. Pascual.
- 2325-POS BOARD #B295**
Activation Dependent Organization of T Cell Membranes: A FCCS Study. **Martin B. Forstner**, Björn F. Lillemeier, Mark M. Davis, Jay T. Groves.
- 2326-POS BOARD #B296**
Detection of Lipid Domains in Model and Plasma Membranes by Fluorescence Lifetime Imaging Microscopy of Fluorescent Lipid Analogues. **Martin T. Stöckl**, Anna P. Plazzo, Thomas Korte, Andreas Herrmann.
- 2327-POS BOARD #B297**
Probing Membrane Domains and Diffusion Barriers in Live Sperm Cells Using Fluorescent Particle Tracking. **Paul D. Dunne**, Elizabeth A. Howes, Peter S. James, Andreas Bruckbauer, Roy Jones, David Klenerman.
- 2328-POS BOARD #B298**
Biophysical, Structural and Compositional characterization at the molecular level of Native Pulmonary Surfactant Membranes directly isolated from mice Wild-type and Knocked-out Protein D Bronco-alveolar Lavage Fluid. **Jorge Bernardino de la Serna**, Søren Hansen, Hans K. Hannibal-Bach, Adam C. Simonsen, Jens Knudsen, Luis A. Bagatolli.
- 2329-POS BOARD #B299**
Studying the In Vivo Behavior of the Vesosome. Benjamin Wong, Jason Schmidt, **Joseph Zasadzinski**.
- 2330-POS BOARD #B300**
Hyperglycemia Promotes Membrane Cholesterol Crystalline Domain Formation Through Lipid Peroxidation: Inhibition with Atorvastatin Metabolite. **Yehudi Self-Medlin**, Jungsoo Byun, Robert Jacob, Richard P. Mason.
- 2331-POS BOARD #B301**
Characterization of a New Biomimetic Multilayer System for Biomembrane Interaction Studies. **Malgorzata Hermanowska**, Jonas Borch, Adam Cohen Simonsen, Beate Klösgen.

Interfacial Protein-Lipid Interactions I (Boards #B302-#B331)

2332-POS BOARD #B302

Interaction of Tea Catechin (-)-Epigallocatechin Gallate with Lipid Bilayers. **Yen Sun**, Wei-Chin Hung, Fang-Yu Chen, Chang-Chun Lee, Huey W. Huang.

2333-POS BOARD #B303

How Do Electrostatic Interactions Affect The Behavior Of Transmembrane Peptides? **Jacques P. F. Doux**, J. Antoinette Killian.

2334-POS BOARD #B304

Orientation Of A Transmembrane Peptide Under Positive Mismatch By Computer Simulations. **Patrick F.J. Fuchs**.

2335-POS BOARD #B305

Kinetics Of Peptide (pHLIP) Insertion And Folding In A Lipid Bilayer Membrane. **Alexander Karabadzhak**, Dhammika Weerakkody, Donald M. Engelman, Oleg A. Andreev, Yana K. Reshetnyak.

2336-POS BOARD #B306

Membrane Remodeling By N-bar Domains At All Scales: Theory And Simulation Of The Ensemble Effect. **Edward R. Lyman**, Gary S. Ayton, Gregory A. Voth.

2337-POS BOARD #B307

Structural And Conformational Analysis Of A Peptide-Detergent Complex By Molecular Dynamics Simulations. **Jonathan Khao**, Jean-Pierre Duneau, James N. Sturgis.

2338-POS BOARD #B308

Detergent Localization In Model Proteo-bicelles. **Ann C. Kimble-Hill**, Divya Singh, Philip D. Laible, Deborah K. Hanson, Lionel Porcar, Paul Butler, Ursula Perez-Salas.

2339-POS BOARD #B309

Penetration of Aromatic Residues into Membrane Bilayers: A New Approach. **Darryl Aucoin**, Devin Camenares, Steven Smith.

2340-POS BOARD #B310

Characterization Of Phosphoinositide Monolayers By Infrared Spectroscopy And Epifluorescence Microscopy At The Air/water Interface. **Yasmin Blaih Isler**, Alonzo Ross, Arne Gericke.

2341-POS BOARD #B311

Orientation of Single-Span Transmembrane Peptides Investigated by Independent Solid-State NMR Methods: GALA and PISEMA. **Vitaly V. Vostrikov**, Christopher V. Grant, Stanley J. Opella, Roger E. Koeppe II.

2342-POS BOARD #B312

Conformation of the Transmembrane Domain of the Anthrax Toxin Receptor. **Christopher L. Mazzanti**, Denise V. Greathouse, James F. Hinton, Jennifer D. Lemmons, Roger E. Koeppe II.

2343-POS BOARD #B313

Studying Membrane Proteins Using Covalent Assemblies Of Well-defined Model Peptides. **Tania Rutters-Meijneke**, Dirk T.S. Rijkers, Rob M.J. Liskamp, J. Antoinette Killian.

2344-POS BOARD #B314

Biophysical Studies Of The Membrane Interactions Of A Transthyretin Fragment TTR(10-20). **Myriam Laneville**, Michèle Auger.

2345-POS BOARD #B315

Molecular Dynamics Simulations Of Alpha Synuclein In The Presence Of Sds Micelles. **James C. Patterson**, Hongyi Yang, Desmond R. Parker.

2346-POS BOARD #B316

STUDENT TRAVEL AWARDEE
SRAA POSTER

A Molecular Dynamics Study on the Binding and Interaction of the Amyloid-Beta (1-42) Peptide with Phospholipid Bilayers. **Charles H. Davis**, Max L. Berkowitz.

2347-POS BOARD #B317

Use of Transmembrane Peptides to Investigate Arginine Interactions with Lipid Bilayers. **Vitaly V. Vostrikov**, Denise V. Greathouse, Roger E. Koeppe.

2348-POS BOARD #B318

Influence of Proline upon the Folding and Geometry of the WALP19 Transmembrane Peptide. **Rachel E. Thomas**, Vitaly V. Vostrikov, Roger E. Koeppe.

2349-POS BOARD #B319

Comparison of Mechanical and Magnetic Alignment of WALP-like Peptides for Solid-State NMR. **Nicholas J. Gleason**, Vitaly V. Vostrikov, Roger E. Koeppe II.

2350-POS BOARD #B320

Half-Anchored WALP Peptides: Effect Of Anchor Position On Peptide Orientation. **Johanna M. Froyd-Rankenber**, Denise V. Greathouse, Roger E. Koeppe II.

2351-POS BOARD #B321

Mechanisms Of Antimicrobial Peptide Action Determined Using Chemical And Collisional Quenching Assays. **Aram J. Krauson**, William C. Wimley.

2352-POS BOARD #B322

Investigating the Role of Proline in Buforin II Function. **Yang Xie**, Natalya P. Maharaj, Eleanor Fleming, Donald E. Elmore.

2353-POS BOARD #B323

Clostridium Perfringens α -toxin Action Facilitates the Perfringolysin O-cholesterol Interaction. **Paul C. Moe**, Alejandro P. Heuck.

2354-POS BOARD #B324

Direct Visualization of Antibiotic-induced Pores in Phospholipid Vesicles by Cryo Electron Microscope. **Mikyung Han**, Yuan Mei, Htet Khant, Steven J. Ludtke.

2355-POS BOARD #B325

Investigating the Bactericidal Mechanism of Three Novel Histone-Derived Antimicrobial Peptides. **Anna T. Lee**, Hoi See Tsao, Natalya P. Maharaj, Donald E. Elmore.

2356-POS BOARD #B326

Investigating the Effects of Acylated Lactoferricin Peptides on the Properties of Lipid Bilayers Using Gramicidin A Channels as Probes. **Shemille A. Collingwood**, Olaf S. Andersen, Faith Hurd, Denise V. Greathouse.

2357-POS BOARD #B327

On the Role of Helix-Disrupting Amino Acid Residues in Supporting the Activity of Helical Antimicrobial Peptides Isolated from Australian Tree Frogs. **Ruthven N. Lewis**, Katalin V. Korpany, Maria Y. Lee, Frances Separovic, Colin T. Mant, Robert S. Hodges, Ronald N. McElhany.

2358-POS BOARD #B328

Fine-Tuning of Acyl-Lysine Antimicrobial Peptide Mimics. **Andrey Ivankin**, Hadar Sarig, Amram Mor, David Gidalevitz.

2359-POS BOARD #B329

Investigation of Antimicrobial and Lipid Perturbing Properties of Lactoferrin Peptides. **Laura A. Bradney**, Vitaly V. Vostrikov, Denise V. Greathouse.

2360-POS BOARD #B330

Interaction And Unfolding Of A Model Exchangeable Apolipoprotein, ApolpIII, At Lipid Model Membranes. **Edgar E. Kooijman**, David Vaknin, Wei Bu, Leela Joshi, Shin-Woong Kang, Koert N.J. Burger, Satyendra Kumar.

2361-POS BOARD #B331

Folding Of Lipid Monolayers Containing Lung Surfactant Proteins SP-B1-25 and SP-C Studied via Coarse-grained Molecular Dynamics Simulations. **Susan L. Duncan**, Ronald G. Larson.

Membrane Structure II (Boards #B332-#B352)

2362-POS BOARD #B332

Structural Changes in DMPG upon changes of ionic strength and pH - What to learn from SANS, DSC, FCS, Fluorescence Microscopy, FTIR and Viscosity Measurements. **Julia Preu**, Thomas Gutberlet, Thomas Heimburg.

2363-POS BOARD #B333

Formation of Block Liposomes is a General Phenomenon of Charged Membranes. **Alexandra Zidovska**, Kai K. Ewert, Joel Quispe, Bridget Carragher, Clinton S. Potter, Cyrus R. Safinya.

2364-POS BOARD #B334

Lipid Bilayer Pre-Transition as the Beginning of the Melting Process: a Periodic Melting. **Karin Riske**, **Rafael P. Barroso**, Cíntia C. Vequi-Suplicy, Renato Germano, Vera B. Henriques, M. Teresa Lamy.

2365-POS BOARD #B335

Phase Transitions In Charged-lipid Membranes: A Statistical Model. **Renato G. Nunes**, C. R. Barbetta, M. T. Lamy, M. N. Tamashiro, V. B. Henriques.

2366-POS BOARD #B336

Biophysical Characterization Of Phosphatidyl Alcohols In Model Membranes- Effects Of Headgroup Size. **Shishir Jaikishan**, Anders Björkbohm, J Peter Slotte.

2367-POS BOARD #B337

Measurements of Electrostatic Interactions between Charged Membranes. **Matthew J. Justice**, Carina M. Poltera, Horia I. Petrache.

2368-POS BOARD #B338

The Role of Sedimentation and Osmotic Stress in the Regulation of Surface Drag for GUVs Moving in an Electric Field. **Ivan A. Rey-Suarez**, Guillaume Gay, Alexander Ladino, Esteban Duran, Alba G. Avila, Juan C. Bricexo, Andres Gonzalez-Mancera, Chad Leidy.

2369-POS BOARD #B339

Interaction of Buffers with Lipid Membranes. **Megan M. Koerner**, Ahmad Mossa-Basha, Prashant Srinivasan, Horia I. Petrache.

2370-POS BOARD #B340

Lipid Gymnastics: Complete Acyl Chain Reversal in Oxidized Phospholipids: Evidence from Molecular Simulations. **Himanshu Khandelia**, Ole G. Mouritsen.

2371-POS BOARD #B341

Headgroup Conformations of Phospholipids from Molecular Dynamics Simulation: Sampling Challenges and Comparison to Experiment. **Alexander Vogel**, Michael F. Brown, Scott Feller.

2372-POS BOARD #B342

Self-assembly and Equilibration of Bolalipid Membranes Studied by Molecular Dynamics Simulations. **Monica Bulacu**, Siewert Jan Marrink.

2373-POS BOARD #B343

Mean Field Based Coarse-Grained Simulations of Ternary Mixtures. **Paul Tumaneng**, H.L. Scott, Sagar Pandit.

2374-POS BOARD #B344

STUDENT TRAVEL AWARDEE

Molecular Dynamics simulations of mixture of POPC and PIP2 bilayer. **Nicholas Orletsky**, James Lyon, Melissa Wiemken, Sagar A. Pandit.

2375-POS BOARD #B345

Coarse-Grained Molecular Dynamics Simulations of an Inhomogeneous Ternary Lipid Bilayer. **Jason D. Perlmutter**, Jonathan N. Sachs.

2376-POS BOARD #B346

Molecular Dynamics simulation of a large asymmetric lipid bilayer. **H. Larry Scott**, George Khelashvili, Sagar Pandit.

2377-POS BOARD #B347

Critical Instability Leads To Labyrinthine Transition In Binary Lipid/Polymer Monolayers. **Shelli L. Frey**, Rita El-Khoury, Atul N. Parikh, Ka Yee C. Lee.

2378-POS BOARD #B348

Myelin Structural Integrity in a Model for Human Early-Onset CMT1B. **Michelle Crowther**, Brian Shy, Adrienne M. Luoma, Lawrence Wrabetz, Michael E. Shy, Daniel A. Kirschner.

2379-POS BOARD #B349

Monolayers of a Mixed Phospholipid System. **Carlos Luna**, Helim Aranda-Espinoza, Amir Maldonado, Gerardo Paredes.

2380-POS BOARD #B350

Deposition of egg-PC to an Air/Water and Triolein/Water Interface. **Matthew A. Mitsche**, Donald M. Small.

2381-POS BOARD #B351

Effects of Ether vs. Ester Linkage on Lipid Bilayer Structure and Water Permeability. **Deren Guler**, Dipon Ghosh, Jianjun Pan, John F. Nagle, John C. Mathai, Mark L. Zeidel, Stephanie Tristram-Nagle.

2382-POS BOARD #B352

Electric Field Driven Conformational Changes of Gramicidin D in a Model Membrane Supported on a Au(111) Electrode Surface. **Jacek Lipkowski**, Slawomir Sek, Thamara Laredo, John R. Dutcher.

Inward Rectifier K Channels (Boards #B353-#B382)

2383-POS BOARD #B353

An Inter-intra Subunit Salt Bridge near the Selectivity Filter Stabilizes the Conducting State of Kir. **Henry Sackin**, Mikheil Nanazashvili, Hui Li, Lawrence G. Palmer, D. Eric Walters.

2384-POS BOARD #B354

Gating Sensitive Residues In The Pore Of An Inwardly Rectifying Potassium (Kir) Channel. **Murali K. Bollepalli**, Markus Rapedius, Philip Fowler, Man-Jiang Xie, Lijun Shang, Hariolf Fritzenschaft, Mark S. Sansom, Stephen J. Tucker, Thomas Baukrowitz.

2385-POS BOARD #B355

State-dependent Cysteine Modification during pH and PIP2 Gating in Kir Channels. **Markus Rapedius**, Murali K. Bollepalli, Stephen J. Tucker, Thomas Baukrowitz.

2386-POS BOARD #B356

Role of Kir-caveolin-1 Interactions in the Sensitivity of Kir to Cholesterol. **Yulia Epshtein**, Richard Minshall, Irena Levitan.

2387-POS BOARD #B357

Long Qt Syndrome Mutations In Caveolin-3 Cause Loss Of The Kir.1-mediated Inward Rectifier Potassium Current (iK1). **Amanda Vega**, Lee L. Eckhardt, Jonathan C. Makielski.

2388-POS BOARD #B358

Epidermal Growth Factor Receptor Tyrosine Kinase Stimulates Human Inward Rectifier Potassium (Kir.3) Channels. **De-Yong Zhang**, Chu-Pak Lau, Gui-Rong Li.

2389-POS BOARD #B359

The Behavior of Ions Inside the Cytoplasmic Domain of Inward Rectifier Potassium Channels. **Janice L. Robertson**, Lawrence G. Palmer, Benoit Roux.

2390-POS BOARD #B360

Modelling and Simulations of the Inward-rectifying Potassium Channel Kir. **Kaihsu Tai**, Mark S. P. Sansom.

2391-POS BOARD #B361

Mechanisms of Short-Term Desensitization of GIRK Channel Activity. **Adi Raveh**, Eitan Reuveny.

2392-POS BOARD #B362

Rhythmic Control Of Atrial GIRK Channel Function By PKC. **Emil N. Nikolov**, Diomedes E. Logothetis, Tatyana T. Ivanova-Nikolova.

2393-POS BOARD #B363

STUDENT TRAVEL AWARDEE

Evidence for a Discrete Alcohol Pocket Mediating GIRK Channel Activation. **Prafulla Aryal**, Hay Dvir, Senyon Choe, Paul A. Slesinger.

2394-POS BOARD #B364

STUDENT TRAVEL AWARDEE

Diverse Regulation of the Neuronal G-Protein Gated K⁺ Channel (GIRK), GIRK1 and GIRK2 by G_α and G_{βγ}. **Moran Rubinstein**, Shai Berlin, Tal Keren-Raifman, Sagit Peleg, Carmen Dessauer, Tatiana Ivanina, Nathan Dascal.

2395-POS BOARD #B365

Both "Constitutively-active" and "Inactive" Gai3 Mutants Interact with GIRK1/2 Heterotetramer. **Shai Berlin**, Tal Keren-Raifman, Moran Rubinstein, Tatiana Ivanina, Nathan Dascal.

2396-POS BOARD #B366

Structural Alterations in the Cytoplasmic Region of G Protein-gated Inward Rectifier Potassium Channel, Kir. 3.2. **Atsushi Inanobe**, Takano Matsuura, Haruki Nakamura, Atsushi Nakagawa, Yoshihisa Kurachi.

2397-POS BOARD #B367

Analysis of GIRK Subunit Intracellular Domain Association and Channel Function. **Erwin Gomez**, Jennifer Hipp, Radmila Sarac.

2398-POS BOARD #B368

Unique Role For The -5' Position In The Carboxyl Terminus Of GIRK3 Channel In Determining Binding Specificity To The PDZ Domain Of Sorting Nexin 7. **Bartosz Balana**, Innokentiy Maslennikov, Steven M. Thomas, Joshua Tan, Witek Kwiatkowski, Senyon Choe, Paul A. Slesinger.

2399-POS BOARD #B369

HL-1 Cardiomyocytes As A Tool For The Study Of Regulation Of Kir.1/Kir.4 Channel Activity. **Lia Baki**, Aldo A. Rodriguez, Radda Rusinova, Charles D. Anderson, Diomedes E. Logothetis.

2400-POS BOARD #B370

Characterization Of Girk1 In Different Breast Cancer Cell Lines. **Valerie Wagner**, Astrid Gorischek, Elke Stadelmeyer, Thomas Bauernhofer, Wolfgang Schreibmayer.

2401-POS BOARD #B371

The Structural Basis For Antidepressants Block Being Confined to Kir 4.1. **Kazuharu Furutani**, Atsushi Inanobe, Yoshihisa Kurachi.

2402-POS BOARD #B372

Electrostatic Interactions Between Polyamines And Charged Adducts In The Kir Inner Cavity. **Harley T. Kurata**, Alejandro Akrouh, Emily A. Zhu, Colin G. Nichols.

2403-POS BOARD #B373

Rescue and Gating of a Disease Mutation at an M2 glycine in Kir6.2 of ATP-Sensitive Potassium (KATP) Channels. **Jeremy D. Bushman**, Paul H. Tewson, Show-Ling Shyng.

2404-POS BOARD #B374

Atrophy and Phenotype Transition Signaling Exert Opposite Actions on the KATP Channels of Disused Rat Soleus Muscle. **Domenico Tricarico**, Antonietta Mele, Giulia Maria Camerino, Lorenza Brocca, Alfred L. George, Jr., Roberto Bottinelli, Diana Conte Camerino.

2405-POS BOARD #B375

Loss Of Regulation Of Primary Afferent Neuronal KATP Channels By Calcium-Calmodulin- CaMKII Mediates Hyperalgesia After SNL. **Takashi Kawano**, Vicky Zoga, Geza Gemes, Wai Meng Kwok, Mei Ying Liang, Quinn Hogan, Constantine Sarantopoulos.

2406-POS BOARD #B376

Regulation of Neuronal KATP Channels by Signaling Elicited by cGMP-Dependent Protein Kinase Activation. **Yu-Fung Lin**, Yong-ping Chai.

2407-POS BOARD #B377

Glucose Deprivation Regulates KATP Channel Trafficking via AMPK in Pancreatic Beta-Cells. **Ajin Lim**, Sun-Hyun Park, Jong-Woo Sohn, Ju-Hong Jeon, Suk-Ho Lee, Won-Kyung Ho.

2408-POS BOARD #B378

Artificial Ligand-Gated Channels Engineered by Assembly of Potassium Channels and G-Protein Coupled Receptors. **Christophe J. Moreau**, Jean Revilloud, Julien P. Dupuis, Michel Vivaudou.

2409-POS BOARD #B379

KirBac.1: It's An Inward Rectifying Potassium Channel. **Wayland W. L. Cheng**, Decha Enkvetchakul, Colin G. Nichols.

2410-POS BOARD #B380

Stabilization of KirBac.1 Tetramer by Blocking Ions. **Shizhen Wang**, Yewande Alimi, Ailing Tong, Colin G. Nichols, Decha Enkvetchakul.

2411-POS BOARD #B381

Kirbac .1 Activity in Liposomes is Suppressed by Cholesterol. **Dev K. Singh**, Decha Enkvetchakul, Colin G. Nichols, Irena Levitan.

2412-POS BOARD #B382

Physical Determinants of Strong Voltage Dependence of K⁺ Channel Block. **Yanping Xu**, Hyeon-Gyu Shin, Zhe Lu.

Anion Channels (Boards #B383–#B404)

2413-POS BOARD #B383

Three Dimensional Reconstruction of CFTR Chloride Channel Using Single Particle Analysis. **Kazuhiro Mio**, Toshihiko Ogura, Muneyo Mio, Hiroyasu Shimizu, Tzyh-Chang Hwang, Chikara Sato, Yoshiro Sohna.

2414-POS BOARD #B384

A Triad of Residues F1296-N1303-R1358 in NBD2 of CFTR is Involved in ATP-driven Gating. **Andras Szollosi**, Paola Vergani, Laszlo Csanady.

2415-POS BOARD #B385

Using Correlation Analysis To Predict Pairs Of Energetically Coupled Residues At The NBD-TMD Interface In CFTR. **Daniella Muallem**, Arturo Araujo, Paola Vergani.

2416-POS BOARD #B386

Two Distinct Gating Cycles of CFTR Chloride Channels. **MingFeng Tsai**, Hiroyasu Shimizu, Yoshiro Soma, Min Li, Tzyh-Chang Hwang.

2417-POS BOARD #B387

CFTR: Differential Reactivity, State-dependent Accessibility And Blocker Occlusion Of Cysteines Substituted For Adjacent Residues In TM6. **Yohei Norimatsu**, Anthony Ivetac, Christopher Alexander, Xuehong Liu, Mark Sansom, David C. Dawson.

2418-POS BOARD #B388

On the Mechanism of CFTR Inhibition by CFTRinh-17. **Zoia Kopeikin**, Min Li, Tzyh-Chang Hwang.

2419-POS BOARD #B389

Functional Study of CBS Domain Interaction during Common Gating of CLC-0 Chloride Channel. **Ping Liang**, Ekaterina A. Bykova, KeWei Wang, Jie Zheng.

2420-POS BOARD #B390

Deuterium Isotope Effects On Fast Gating Of The Chloride Channel Clc-0. **Giovanni Zifarelli**, Michael Pusch.

2421-POS BOARD #B391

R-helix Movement during Common Gating Affects Cl Binding in the CLC-0 Channel Pore. **Ekaterina A. Bykova**, Jie Zheng.

2422-POS BOARD #B392

Skeletal Muscle Chloride Channel, a Biophysical Sensor of Dystrophic Progression in Mdx Mouse, is a Potential Target of Pro-inflammatory Mediators. **Anna Cozzoli**, Sabata Pierno, Diana Conte Camerino, Annamaria De Luca.

2423-POS BOARD #B393

Evaluation of the Effects of Statin and Fibrate Treatment on Rat Skeletal Muscle: Biophysic, Genetic and Proteomic Studies. **Giulia M. Camerino**, Sabata Pierno, Claudio Digennaro, Maria Antonietta Pellegrino, Alfred L. George, Roberto Bottinelli, Diana Conte Camerino.

2424-POS BOARD #B394

Anomalous Mole Fraction Effect in CLC-2 Chloride Channel Pore. **Jorge E. Sanchez**, Jose A. de Santiago-Castillo, Jorge Arreola.

2425-POS BOARD #B395

Pharmacological Characterization of GaTx, a Peptide Inhibitor of CLC-2 Chloride Channels. **Christopher H. Thompson**, Cody S. Freeman, Robert J. French, Nael A. McCarty.

2426-POS BOARD #B396

Slow Gating in CLC Chloride Channels: Normal Mode Analysis. **Gennady V. Miloshevsky**, Ahmed Hassanein, Peter C. Jordan.

2427-POS BOARD #B397

Ab Initio Calculations Of Structural Rearrangements and Energetic of Glutamate148 Site Chain of the Ec-CLC H⁺/Cl⁻ Exchanger. **Pablo G. Nieto**, Ricardo Guirado, Jorge Arreola.

2428-POS BOARD #B398

Cooperative Ion Binding and Transport Mediated by a CLC-Type H⁺/Cl⁻ Exchanger. **Mattia Malvezzi**, Alessandra Picollo, Alessio Accardi.

2429-POS BOARD #B399

Fluorine-NMR Reveals Conformational Differences Between CLC-ec1 Operating In Transporter And "Channel-like" Modes. **Shelley Elvington**, Corey Liu, Merritt Maduke.

2430-POS BOARD #B400

Dynamics of Phosphate Transport by the Anion-specific Outer Membrane Protein OprP. **Prapasiri Pongprayoon**, Elizabeth Jayne Wallace, Mark S. P. Sansom.

2431-POS BOARD #B401

The Regulation of Volume-Regulated Outwardly Rectifying Anion Channels by Membrane Phosphatidylinositides in Mouse Ventricular Cells. **Kunihiko Ichishima**, Shintaro Yamamoto, Tsuguhisa Ehara.

2432-POS BOARD #B402

Regulation of swelling-activated Cl channel in HEK 93 cells by extracellular low pH. **Mei Ding**, Lars Cleemann, Martin Morad.

2433-POS BOARD #B403

Endogenous Acidification of Central Inhibitory Synapses. **Craig Dietrich**, Martin Morad.

2434-POS BOARD #B404
Voltage-dependent Gating Of Wt And D177a Eaat4-associated Anion Channels. **Peter A. Kovermann**, Christoph Fahlke.

Ca-Activated Channels (Boards #B405–#B426)

2435-POS BOARD #B405
Impaired Ca²⁺-Dependent Activation of Large Conductance Ca²⁺-Activated K⁺ Channels in the Coronary Artery Smooth Muscle Cells of Zucker Diabetic Fatty Rats. **Tong Lu**, Dan Ye, Tongrong He, Xiao-Li Wang, Hai-long Wang, Hon-Chi Lee.

2436-POS BOARD #B406
Regulation Of BK Channels By FK506 Binding Protein 1.6 In Vascular Smooth Muscle Cells. **Yun-Min Zheng**, Chun-Feng Niu, Yong-Xiao Wang.

2437-POS BOARD #B407
Role of ESCRT Proteins in Controlling the Lysosomal Degradation of KCa.1 in HEK and Endothelial Cells. **Corina M. Balut**, Yajuan Gao, Daniel C. Devor.

2438-POS BOARD #B408
Biochemical Evidence of Slo Protein Internal Myristoylation: Involvement of a Hydroxyester Chemical Bond. **Abderrahmane Alioua**, Enrico Stefani, Ligia Toro.

2439-POS BOARD #B409
Palmitoylation Controls BK Channel Regulation By Phosphorylation. **Lijun Tian**, Owen Jeffries, Heather McClafferty, Adam Molyvdas, iain Rowe, Fozia Saleem, Lie Chen, Michael J. Shipston.

2440-POS BOARD #B410
Bovine and Mouse SLO3 K⁺ Channels: Many Functional Differences Map to the Same Region. **Celia M. Santi**, Alice Butler, Aguan D. Wei, Lawrence Salkoff.

2441-POS BOARD #B411
Multiple Components of Ca-activated K Currents in Mouse Pancreatic Beta Cells. **Khaled M. Houamed**, Leslie S. Satin.

2442-POS BOARD #B412
Calcium Binding Causes A Conformational Change in The RCK Domain of The BK(Ca) Channel. **Akansha Saxena**, Jianmin Cui, David Sept.

2443-POS BOARD #B413
Comparative Mechanisms Of Activation Of The Slo BK Channel By Ca²⁺ And H⁺ Mediated By The RCK1 Domain. **Shangwei Hou**, Frank T. Horrigan, Stefan H. Heinemann, Toshinori Hoshi.

2444-POS BOARD #B414
Pharmacological Evidence For Deep Pore Gating In SK Channels. **Dorte Strobaek**, Marianne L. Jensen, Charlotte Hougaard, Ulrik S. Sørensen, David T. Brown, David P. Jenkins, Heike Wulff, Palle Christophersen.

2445-POS BOARD #B415
In Vivo Measurements Of A Ca²⁺- And Voltage-Activated K⁺ Channel Intramolecular Distances Using Genetically Encoded Reporters. **Cristian A. Zaelzer**, Walter Sandtner, Clark Hyde, Ramon Latorre, Francisco Bezanilla.

2446-POS BOARD #B416
Arterial Smooth Muscle BK Channel Beta Subunits Determine Ethanol-Induced Cerebrovascular Constriction. **Anna N. Bukiya**, Jianxi Liu, Alex M. Dopico.

2447-POS BOARD #B417
Disulfide Crosslinking Between BK Channel Alpha And Beta Subunits In The Membrane Domain. **Guoxia Liu**, Richard Weinberg, Howard Motoike, Asif Rahman, Roland Wu, Arthur Karlin, Steven O. Marx.

2448-POS BOARD #B418
Locations Of The Beta2 Transmembrane Helices In The BK Potassium Channel. **Sergey O. Zakharov**, Roland S. Wu, Guoxia Liu, Howard Motoike, Arthur Karlin, Steven O. Marx.

2449-POS BOARD #B419
The β_2 subunit modulation of BK channels is determined by membrane-spanning and cytoplasmic domains In Slo. **Urvi S. Lee**, Jianmin Cui.

2450-POS BOARD #B420
The Locations of the Beta4 Transmembrane Helices in the BK Channel. **Roland S. Wu**, Sergey I. Zakharov, Neelesh L. Chudasama, Darshan Doshi, Howard K. Motoike, Arthur Karlin, Steven O. Marx.

2451-POS BOARD #B421
Molecular and Functional Expression of the Best2 Ca²⁺-activated Cl⁻ Channel in Mouse Submandibular Salivary Gland. **Victor G. Romanenko**, Marcelo A. Catalan, Ilva Putzier, Criss Hartzell, Alan D. Marmorstein, James E. Melvin.

2452-POS BOARD #B422
Angiotensin II Activates Calcium-Dependent Cl⁻ Channels In Human Cardiac Fibroblasts. **Patrick Bois**, Antoun El Chemaly, Caroline Norez, Christophe Magaud, Frederic Becq, Jean-François Faivre.

2453-POS BOARD #B423
SKA-, A New Activator of KCa2 And KCa. Potassium Channels, Potentiates the EDHF Response and Lowers Blood Pressure. **Heike Wulff**, Ananthakrishnan Sankaranarayanan, Girija Raman, Christoph Busch, Tim Schultz, Pavel I. Zimin, Joachim Hoyer, Ralf Köhler.

2454-POS BOARD #B424
Molecular Action Of CFTR Potentiators On The Kca.1 Channel. **Ariane Longpré-Lauzon**, Line Garneau, Helene Klein, Rémy Sauvé.

2455-POS BOARD #B425
Mechanism of Benzofuroindole-induced Potentiation of BKCa channel. **Byoung-Cheol Lee**, Hyun-Ho Lim, Yong-Chul Kim, Chul-Seung Park.

2456-POS BOARD #B426
Energetic Performance is Improved by Specific Activation of K⁺ Fluxes through KCa Channels in Heart Mitochondria. **Miguel Aon**, Sonia Cortassa, Morten Grunnet, Brian O'Rourke.

Cyclic Nucleotide-gated Channels (Boards #B427–#B437)

2457-POS BOARD #B427
Structural and Energetic Analysis of the Cyclic nucleotide binding domain from the MlotiK1 Potassium Channel. **Joao Morais Cabral**, Stephen Altieri, Gina Clayton, William Silverman, Adrian Olivares, Enrique De La Cruz, Lise R. Thomas.

2458-POS BOARD #B428
Enhancement of Voltage Sensitivity of a cGMP-gated Channel. **Juan R. Martinez-Francois**, Yanping Xu, Zhe Lu.

2459-POS BOARD #B429
Lidocaine Inhibition of HCN1 Channels is Fast, Voltage-dependent and Reversible. **Raymond Yip**, Damiano Angoli, Christopher A. Ahern, Eric A. Accili.

2460-POS BOARD #B430
Ligand Binding and Gating in HCN2 Channels. **Jana Kusch**, Christoph Biskup, Susanne Thon, Eckhard Schulz, Klaus Benndorf.

2461-POS BOARD #B431
Electrophysiological Evaluation of Novel Blockers of If Current. **Martina Del Lungo**, Michele Melchiorre, Laura Sartiani, Martin Biel, Andras Varro, Maria N. Romanelli, Elisabetta Cerbai.

2462-POS BOARD #B432
Functional Consequences Of Disease-associated Mutations In The Pore Region Of Human Cone Photoreceptor CNG Channels. **Katja Koeppen**, Peggy Reuter, Thomas Ladewig, Bernd Wissinger.

2463-POS BOARD #B433
Bimodal Agonism In A Cyclic Nucleotide-Gated Channel Is Coordinated By Two Adjacent Binding Domains. **Kerry Chan**, Edgar Young.

2464-POS BOARD #B434
The Voltage Sensor Of Cnga1 Channels Becomes Functional When The Hydrophobic Bond Between Phe380 And Leu356 Is Impaired. **Monica Mazzolini**.

2465-POS BOARD #B435
Identification And Analysis Of CNGA3 And CNGB3 From Zebrafish. **Peggy Reuter**, Ronald Carpio, Katja Koeppen, Thomas Ladewig, Bernd Wissinger.

2466-POS BOARD #B436

The Cloning And Characterization Of Two Urochordate Hyperpolarization-activated Cyclic Nucleotide-modulated (HCN) Channels. **Heather A. Jackson**, Hamed Nazzari, Andrew Hegle, Timothy Jegle, Eric A. Accili.

2467-POS BOARD #B437

Evolutionary Emergence of Isoform-specific Regulation by N-glycosylation in Hyperpolarization-activated Cyclic Nucleotide-modulated (HCN) Channels. **Andrew P. Hegle**, Hamed Nazzari, Andrew Roth, Eric A. Accili.

Neuronal Systems & Modeling (Boards #B438–#B449)

2468-POS BOARD #B438

Identifying Electrically Active Cells in Neuronal Culture and Tissue using CMOS based Multi-Transistor Arrays (MTAs). **Armin Lambacher**, Veronika Vitzthum, Günther Zeck, Peter Fromherz.

2469-POS BOARD #B439

Quantitative Investigation of FGF-2-Modified Nanofibrillar Prosthetic for Neural Cell System Re-establishment. **Virginia M. Ayres**, Sally A. Meiners, Suzan L. Harris, Roberto Rivera Rivera-Delgado, Jjaz Ahmed, Dexter A. Flowers.

2470-POS BOARD #B440

Multi-detection Device For Studying Neuronal Cell Networks. **Maja Puchades**, Johan Hurtig, Daniel T. Chiu, Andrew G. Ewing.

2471-POS BOARD #B441

Observations of Sensory Neuron Behaviors on Substrates with Various Stiffnesses through Living Cell Imaging. **Chao-Min Cheng**, Yi-Wen Lin, Philip LeDuc, Chih-Cheng Chen.

2472-POS BOARD #B442

Natural-born Pacemakers. **David Schwab**, Alex Levine, Robijn Bruinsma.

2473-POS BOARD #B443

Morphological Amplification of Action Potentials in Axonal Varicosities. **C Brad Bennett**, Martin Muschol. **SRAA POSTER**

2474-POS BOARD #B444

Morphology of Neurofilament Protrusions: Sequence-Based Modeling of Neurofilament Brush. **Rakwoo Chang**, Yongkyu Kwak, Yeshitila Gebremichael.

2475-POS BOARD #B445

Efficient Coding in the Olfactory Receptor Neuron Signaling Pathway. **Andrew Laitman**.

2476-POS BOARD #B446

Reptitive Firing In Neurons - Analysing The Interaction Between Channel Density And Kinetics In Membrane Models. **Hugo Zeberg**, Clas Blomberg, Peter Århem.

2477-POS BOARD #B447

How Can BK Channels Increase Excitability of Central Neurons and Decrease Excitability of Nodose Neurons? **Vladislav Snitsarev**, Elena Petroff.

2478-POS BOARD #B448

New Metrics of Intrinsic Axonal Excitability from a Computational Model of Demyelination. **Jay S. Coggan**, Thomas M. Bartol, Terrence J. Sejnowski.

2479-POS BOARD #B449

Light-dark Cycle Memory In The Mammalian Circadian Clock. **Ben Coffey**.

Voltage-gated K Channels - Gating II (Boards #B450–#B472)

2480-POS BOARD #B450

Gate Opening Remotely Controls the Interaction between the Voltage Sensor and the Cytosolic Domain in BK Channels. **Huanghe Yang**, Jingyi Shi, Jianmin Cui.

2481-POS BOARD #B451

Cooperativity Between Voltage-sensing Domains in the Human BK Channel Revealed by Voltage-clamp Fluorometry. **Antonios Pantazis**, Vadym Gudzenko, Nicoletta Savalli, Azadeh Kohanteb, Daniel Sigg, Riccardo Olcese.

2482-POS BOARD #B452

Structural and Functional Analysis of the Purified Cytosolic C-Terminus of the Human BK Channel. **Anoosh Javaherian**, Taleh Yusifov, Debora Nicoll, Chris Gandhi, Riccardo Olcese.

2483-POS BOARD #B453

Calcium Sensing Properties of the RCK1 Domain of the Human BK Channel: Effects of the D362/367A Mutation. **Taleh Yusifov**, Anoosh Javaherian, Debora Nicoll, Chris Gandhi, Riccardo Olcese.

2484-POS BOARD #B454

Cholesterol-ethanol Interactions On Vascular Myocyte BK Channels: Contribution To Alcohol-induced Cerebrovascular Constriction. **Thirumalini Vaithianathan**, Anna Bukiya, Jianxi Liu, Alejandro M. Dopico.

2485-POS BOARD #B455

Regulation Of The Slo.2 Channel By Na⁺ Ions And Phosphatidylinositol ₅ Bisphosphate. **Zhe Zhang**, Avia Rosenhouse-Dantsker, Scott K. Adney, Diomedes E. Logothetis.

2486-POS BOARD #B456

Role of Charged Residues in the S1-S4 Domains of Slo.1 K⁺ Channels. **Li Dai**, Michael Sanguinetti.

2487-POS BOARD #B457

Amino-terminal Isoforms Of Slack K(Na) Channel Differentially Influence The Rate Of Neuronal Adaptation. **Maile R. Brown**, Jack Kronengold, Arin Bhattacharjee, Leonard K. Kaczmarek.

2488-POS BOARD #B458

Single channel studies of heteromer formation between Slick and Slack K(Na) subunits. **Jack Kronengold**, Maile R. Brown, Haijun Chen, Lawrence B. Salkoff, Leonard K. Kaczmarek.

2489-POS BOARD #B459

Soluble β -amyloid oligomers alter biophysical properties of Kv.3 channels. **Maria I. Liudyno**, Yuri Sokolov, J. Ashot Kozak, Michael D. Cahalan, James E. Hall.

2490-POS BOARD #B460

Structural Mechanism Of Redox Modulation In The Kv1-Kv₂ Complex. **Yaping Pan**, Jun Weng, Venkataraman Kabaleeswaran, Allen Orville, Ming Zhou.

2491-POS BOARD #B461

Neuronal N-glycosylation Processing Modulates Voltage-gated Potassium Channel Activity. **Tara A. Cartwright**, Ruth A. Schwalbe. **SRAA POSTER**

2492-POS BOARD #B462

Interactions of the S4 Helix of a Kv Channel with a Lipid Bilayer: Free Energy Calculations via Coarse-Grained Molecular Dynamics Simulations. **Chze Ling Wee**, Mark S. P. Sansom.

2493-POS BOARD #B463

Probing Voltage Sensors In Nonphospholipid Bilayers. **Hui Zheng**, Weiran Liu, Qiu-Xing Jiang.

2494-POS BOARD #B464

Voltage Sensors: Diverse sequences but common bilayer interactions. **Younes Mokrab**, Mark S. P. Sansom.

2495-POS BOARD #B465

Water-filled Cavities in the Voltage-Sensing Domain of a Potassium Channel Embedded in Lipid Bilayers. **Dmitriy Krepliy**, Ella Mihailescu, Klaus Gawrisch, Stephen H. White, Kenton J. Swartz.

2496-POS BOARD #B466

Voltage and proton gradient sensing in Hv1 proton channels. **Ingrid Carvacho**, I. Scott Ramsey, David E. Clapham.

2497-POS BOARD #B467

Voltage-Dependent Conformational Changes of the Voltage Sensor of KVAP Measured with LRET. **Jerome J. Lacroix**, Walter Sandtner, Clark Hyde, Francisco Bezanilla, Ana M. Correa.

2498-POS BOARD #B468

Down-State Model of the KvAP Voltage-Sensing Domain. **Eric V. Schow**, Karun Gogna, J. Alfredo Freitas, Douglas J. Tobias, Stephen H. White.

2499-POS BOARD #B469

Structural Models of NaChBac: Does the Secondary Structure of S4 Change During Gating? **Yinon Shafir**, Stewart R. Durell, H. Robert Guy.

2500-POS BOARD #B470

Modulation of HCN Channel Deactivation Kinetics by CAMP and Depolarization Can Be Amplified by Mode Shift. **Nadine L. Wicks**, Kerry S. C. Chan, Edgar C. Young.

2501-POS BOARD #B471

Electrophysiologic Characterization of a Complex hERG Channel Activator. **ZHI SU**, James Limberis, Andrew Souers, Philip Kym, Ann Mikhail, Kathryn Houseman, Gilbert Diaz, Ruth L. Martin, Bryan F. Cox, Gary A. Gintant.

2502-POS BOARD #B472

Membrane Localization of S4 Transmembrane Segment of Voltage-Gated Ion Channels. **Venkataswarup Tiriveedhi**, Melissa Miller, Peter Butko, Min Li.

Ligand-gated Channels (Boards #B473–#B490)

2503-POS BOARD #B473

Accessibility of Ag⁺ in the Pore of P2X Receptor Channels. **Mufeng Li**, Shai D. Silberberg, Kenton J. Swartz.

2504-POS BOARD #B474

Mutation Analyses Of The Critical Regions For The Voltage And [ATP] Dependent “Gating” Of P2X2 Receptor Channel. **Batu Keceli**, Yuichiro Fujiwara, Yoshihiro Kubo.

2505-POS BOARD #B475

A Single Amino Acid Mutation Turns a P2X3 Antagonist into an Agonist. **Jixin Wang**, Eric Moore, Stefanie Kane, Christopher Salvatore, Sean Cook.

2506-POS BOARD #B476

Molecular Weight and Volume at Position 6 in Transmembrane Domain 1 (TM1) are Important Determinants for Ethanol Sensitivity in P2X4 Receptors. **Maya Popova**, Kaixun Li, Liana Asatryan, Ronald L. Alkana, Daryl L. Davies.

2507-POS BOARD #B477

Lack of Ethidium Bromide Uptake during Hypotonic Stress in HEK 93 Cells that Express P2X7 Receptors. **Patricia Perez-Cornejo**, Juan P. Reyes, Carmen Y. Hernandez-Carballo, Gabriela Perez-Flores, Jorge Arreola.

2508-POS BOARD #B478

A Symmetric Structural Model for Acid Sensing Ion Channel-1: Transmembrane Domain Dynamics and Implications to Gating. **Saher A. Shaikh**, Emad Tajkhorshid.

2509-POS BOARD #B479

Analysis of IP3 Receptor Activation Using Novel Partial Agonists. **Ana M. Rossi**, Andrew Riley, Stephen C. Tovey, Olivier Dellis, Barry VL Potter, Colin W. Taylor.

2510-POS BOARD #B480

INTERNATIONAL TRAVEL AWARDEE

Single-Channel Kinetic Analysis for Activation and Desensitization of Homomeric 5-HT_{3A} Receptors. **Jeremias Corradi**, Fernanda Gumilar, Cecilia B. Bouzat.

2511-POS BOARD #B481

Targeted Delivery of Glycine Receptors to Peripheral Neurons as Treatment for Pain. **Michael Cascio**, James R. Goss, Shaohua Huang, David M. Krisky, Richard J. Clarke, Jon W. Johnson, Joseph C. Glorioso.

2512-POS BOARD #B482

Simultaneous Recording Of Ligand-binding And Channel-gating On Individual Nicotinic-acetylcholine Receptors In Living Cells. **Ralf Schmauder**, Davor Kosanic, Ruud Hovius, Horst Vogel.

2513-POS BOARD #B483

Functional Characteristics of alpha³beta³gamma² and alpha¹beta²gamma² GABA-A receptors. **Angelo Keramidis**, Neil Harrison.

2514-POS BOARD #B484

DPNI-caged Gaba As A Tool For Investigating The Kinetic Properties And Distribution Of Gaba Receptors And For Silencing Neurons In Situ. **David Oden**.

2515-POS BOARD #B485

A Single Steroid-binding Site is Sufficient for Potentiation of GABA-A Receptors. **Joe Henry Steinbach**, John R. Bracamontes.

2516-POS BOARD #B486

MTS-Etomidate Selectively Reacts Within the GABAA Receptor Etomidate Binding Site. **Deirdre S. Stewart**, Shaikat S. Husain, Keith W. Miller, Stuart A. Forman.

2517-POS BOARD #B487

Investigations of Ligand-gated Ion Channels Using Caged Neurotransmitters Reveal Mechanism-based Approaches to Modulating Receptor Function. **George P. Hess**.

2518-POS BOARD #B488

Toward CFTR Structural Dynamics During Ion Channel Gating. **Andrei A. Aleksandrov**, Luing Cui, John R. Riordan.

2519-POS BOARD #B489

Use Of Isolated Vesicles From Xenopus Oocytes For Planar Patch Clamp Recordings. **Annette Nicke**, Andrea Brüggemann.

2520-POS BOARD #B490

Ultrafast Applications For Determining the Kinetics Of Ligand-gated Channels. **Jerónimo Auzmendi**, Lucía López, Carla Pallavecini, Estefanía Piegari, Leandro Radusky, Luciano Moffatt.

Ligand-gated Channels: Glutamate Receptors (Boards #B491–#B506)

2521-POS BOARD #B491

A Mutant $\alpha 2$ Ionotropic Glutamate Receptor Exhibits Dual Regulation by Phosphoinositides. **Vasileios I. Petrou**, Diomedes E. Logothetis.

2522-POS BOARD #B492

Engineering Light-gated Glutamate Receptors. **Stephanie Szobota**, Rika Numano, Claire Wyard, Pau Gorostiza, Matthew Volgraf, Doris L. Fortin, Filippo Del Bene, Ethan K. Scott, Richard H. Kramer, Dirk Trauner, Ehud Y. Isacoff.

2523-POS BOARD #B493

Design Of A Potassium Selective, Light-gated Glutamate Receptor. **Harald Janovjak**, Ehud Isacoff.

2524-POS BOARD #B494

NMDA Receptor Subunit Arrangement Probed By LRET. **Anu Rambhadran**, Vasanthi Jayaraman.

2525-POS BOARD #B495

Activation Mechanism of Native NMDA Receptors in Cultured Rat Neurons in Culture. **Jason Myers**, William Borschel, Eileen Kasparek, Gabriela Popescu.

2526-POS BOARD #B496

Kinetic Effects of Perturbations in the Ligand Binding Domain of NMDA Receptors. **Cassandra Kussius**, Jason Myers, Kevin Barnum, Gabriela Popescu.

2527-POS BOARD #B497

Diversity of NR1/NR2B Receptor Gating Kinetics. **Stacy Amico**, Navjot Kaur, Gabriela Popescu.

2528-POS BOARD #B498

Effect of Protons on the NR1/NR2A NMDA Receptor Kinetics. **Swetha Murthy**, Gabriela Popescu.

2529-POS BOARD #B499

A LRET Based Method To Studying Intersubunit Conformational Changes In The Ligand Binding Domain Of A Functional AMPA Receptor. **Jennifer Gonzalez**, Vasanthi Jayaraman.

2530-POS BOARD #B500

Partial Agonism And Lobe Orientation In The Glutamate Receptor, Glur. **Alexander S. Maltsev**, Robert E. Oswald.

2531-POS BOARD #B501

Microsecond-to-second Timescale Motions In The Ligand Binding Domain Of Glutamate Receptor. **Michael K. Fenwick**, Robert E. Oswald.

2532-POS BOARD #B502

Functional Characteristics of iGluR3 AMPA Receptor-Channels in Cell Attached Recordings. **Kinning Poon**, Linda M. Nowak, Robert E. Oswald.

2533-POS BOARD #B503

Energetics of the Cleft Closing Transition and the Role of Electrostatic Interactions in Conformational Rearrangements of the Glutamate Receptor Ligand Binding Domain. **Michael J. Yonkunas**, Tatyana Mamonova, Maria Kurnikova.

2534-POS BOARD #B504

Hinge and Twist Rigid Body Domain Motions in Ionotropic Glutamate Receptor GluR6 and the Hydrogen Bond Interactions that Switch Them On and Off. **Rodney E. Versace**, Marco Ceruso.

2535-POS BOARD #B505

Purification and crystallization of iGluR Amino Terminal Domains. **Janesh Kumar**, Mark Mayer.

2536-POS BOARD #B506

Structure And Stability Of Ligand Binding Core Dimer Assembly Controls Desensitization In A Kainate Receptor. **Charu Chaudhry**, Matthew C. Weston, Peter Schuck, Christian Rosenmund, Mark L. Mayer.

Muscle: Fiber & Molecular Mechanics & Structure I (Boards #B507–#B534)

2537-POS BOARD #B507

Computational Energetic Analysis of Intrafacial Binding Energies in Interpolated Myosin States. **Kevin C. Facemyer**, Michael Carter, Marcel Levy, Karen Schlauch, Christopher M. Herald, Josh E. Baker, Christine R. Cremo.

2538-POS BOARD #B508

Molecular Dynamics Simulations Of The Hydrolysis Transition State Intermediate In Myosin. **David Hyatt**, Roger Cooke, Edward Pate.

2539-POS BOARD #B509

Analysis Of The Interaction Of The Nucleotide Base With The Myosin Catalytic Pocket And The Effect On Substrate Efficacy. **David Hyatt**, Roger Cooke, Edward Pate.

2540-POS BOARD #B510

Myosin II Trapped In A Weak Actin-binding State Through A Chemical Crosslink Across The Actin-Binding Cleft. **Jennifer C. Klein**, Ava Yun Lin, Margaret A. Titus, David D. Thomas.

2541-POS BOARD #B511

Analysis of Conformation of Skeletal Muscle Myosin Cross-linked by pPDM Using FRET. **Masafumi D. Yamada**, Eisaku Katayama, Yoshitaka Kimori, Shinsaku Maruta.

2542-POS BOARD #B512

Structural Dynamics Of The Actin Binding Cleft Of Dictyostelium Myosin II Analyzed By Stopped Flow Time-Resolved FRET. **Joseph Muretta**, Jennifer C. Klein, David Kast, Bengt Svensson, David D. Thomas.

2543-POS BOARD #B513

STUDENT TRAVEL AWARDEE
SRAA POSTER

Structural Dynamics of the Myosin Relay Helix Resolved by DEER and Time-Resolved FRET. **Roman Agafonov**, Yuri E. Nesselov, Sarah Blakely, Margaret A. Titus, David D. Thomas.

2544-POS BOARD #B514

A Glimpse at Loop Movement in Smooth Muscle Using Intrinsic Tryptophan Fluorescence. **Justin Decarreau**, Lynn Chrin, Chris Berger.

2545-POS BOARD #B515

Importance In The Powerstroke Of Interaction Between The Relay Helix And Helix HQ Of Myosin. **Conor Doss**, Lisa Goddard, Annica Stull-Lane, Kathryn Chenault, Katherine Erickson, Don Moerman, Taylor Allen.

2546-POS BOARD #B516

New Mechanism of Actin Activation of Myosin. **Boglarka Varkuti**, Balint Kintszes, Laszlo Vegner, Anna Rauscher, Malnasi-Csizmadia Andras.

2547-POS BOARD #B517

Light Chain Domain Orientation Determined by Time-resolved FRET. **David Kast**, Sarah E. Blakely, Bengt Svensson, David D. Thomas.

2548-POS BOARD #B518

STUDENT TRAVEL AWARDEE

Measuring Myosin Light Chain Domain Orientation in the Pre-Power Stroke AIF4 States with a Bifunctional Spin Label in Skinned Muscle Fibers. **Andrew R. Thompson**, Ryan Mello, Christina Yi, David D. Thomas.

2549-POS BOARD #B519

Probing The Divalent Cation-binding Region Of The Myosin Regulatory Light Chain During Muscle Contraction Using EPR. **Osha Roopnarine**, James Hegg.

2550-POS BOARD #B520

Orthovanadate Slows Kinetics Of The Acto-Myosin Interaction In Skinned Muscle Fibers By Competition Between Myosin-ADP-Pi and Myosin-ADP-Vi Cross-Bridges For Actin Sites. **Marco Caremani**, Steve Lehman, Vincenzo Lombardi, Marco Linari.

2551-POS BOARD #B521

Single Molecule Kinetic Measurements Of Non-muscle Myosin IIB Using Optical Tweezers. **Attila Nagy**, Yasuharu Takagi, Earl Homsher, Davin K. T. Hong, Mihaly Kovacs, James R. Sellers.

2552-POS BOARD #B522

Protein-surface Interactions and Functional Geometry of Surface-adsorbed Myosin Motor Fragments. **Martina Balaz**, Malin Persson, N ria Albet-Torres, Mark Sundberg, Anders Gunnarsson, Fredrik H ok, Alf M nsson.

2553-POS BOARD #B523

Simultaneous Measurement Of Actin Sliding Velocities And Actin-myosin Dissociation Kinetics. **Michael S. Carter**, Josh E. Baker.

2554-POS BOARD #B524

Actin-Myosin Binding Kinetics in Relation to Actin Sliding Velocities. **Del R. Jackson, Jr.**, Karolina Siwinska, Josh Baker.

2555-POS BOARD #B525

Electron Microscopy on The Comprehensive Structural Change during Actomyosin Sliding. **Eisaku Katayama**, Yoshitaka Kimori, Norio Baba, Taro Q.P. Uyeda.

2556-POS BOARD #B526

A Viscous Drag Model of Frictional Loading Assays for Myosin Motors. **Michael Greenberg**, Jeffrey Moore.

2557-POS BOARD #B527

Actin Sliding Velocities Are Influenced By The Chemical Driving Force Of Actin-myosin Binding. **Josh E. Baker**, Ryan D. Smith, Steven F. Shannon, Travis J. Stewart, Olivia N. John.

2558-POS BOARD #B528

Flexibility of Actin Filaments During Myosin Induced Sliding. **Petr G. Vikhorev**, Natalia N. Vikhoreva, Alf M nsson.

2559-POS BOARD #B529

SRAA POSTER

The Molecular Effects of Skeletal Muscle Fatigue on Myosin Mechanics and Kinetics. **Michael J. Greenberg**, Tanya R. Mealy, Michelle Jones, Danuta Szczesna-Cordary, Jeffrey R. Moore.

2560-POS BOARD #B530

Different Molecular Mechanisms of Force Enhancement by Myosin Head Domain Mutations R723G and R453C. **Ejan List**, Benjamin Seebohm, Faramarz Matinmehr, William J. McKenna, Antonio Francino, Francisco Navarro-Lopez, Bernhard Brenner, Theresia Kraft.

2561-POS BOARD #B531

Kinetics Of Two Single Point Mutants Of Drosophila Myosin S. **Marieke J. Bloemink**, Corey M. Dambacher, Girish Melkani, Michael A. Geeves, Sanford I. Bernstein.

2562-POS BOARD #B532

Comparison Of Mechanical Properties Of Single Intact Fibres From Wild-type And Mlc/migf-1 Mouse Muscle. **Barbara Colombini**, Giulia Benelli, Marta Nocella, Antonio Musar , Giovanni Cecchi, Maria Angela Bagni.

2563-POS BOARD #B533

Reactive Oxygen Species Alter Activation Of Cardiac Myofilaments And Modify Sarcomeric Proteins. **Benjamin S. Avner**, R. John Solaro.

2564-POS BOARD #B534

Effects Of Blebbistatin And BDM (2,3-Butanedione Monoxime) On The Short-range Mechanical Properties Of Murine Diaphragm Muscle Fibers. **Mihail I. Mitov**, Kenneth S. Campbell.

Cardiac Muscle I (Boards #B535–#B565)

2565-POS BOARD #B535

Stretching Cardiac Trabeculae Increases the Force by Decreasing the Cross-bridge Weakening Rate in a Velocity Dependent Manner. **Moran Yadid**, Amir Landesberg.

- 2566-POS BOARD #B536**
Microfabricated Post Array Detectors to assess cardiomyocyte forces induced on their environment via focal adhesions. **Anthony G. Rodriguez**, Sangyoon Han, Michael Regnier, Nathan Sniadecki.
- 2567-POS BOARD #B537**
Integrin Response To Altered Actin-Myosin Mechanochemistry In Cardiac Myocytes. **Timothy J. O'Donnell**, Michael S. Carter, Mariam A. Ba, Maria L. Valencik, Josh E. Baker.
- 2568-POS BOARD #B538**
A Direct Method to Measure the Restoring Force and Slack Sarcomere Length of Intact Cardiomyocytes. **Nicholas M.P King**, Michiel Helmes, Henk Granzier.
- 2569-POS BOARD #B539**
Titin Isoform Transitions and Passive Stiffness During Skeletal Muscle Development. **Coen Ottenheijm**, Anna Knottnerus, Danielle Buck, Tiffany Pecor, Xiuju Luo, Henk Granzier.
- 2570-POS BOARD #B540**
Vinculin Contributes to the Passive Stiffness of Myocardium. **Joyce Chuang**, Robert Ross, Andrew McCulloch, Jeffrey Omens.
- 2571-POS BOARD #B541**
Quantitative Assay of Skeletal Muscle alpha-actin Expression In Normal and Pathological Human and Mouse Hearts. **O'Neal Copeland**, Gianna Ravenscroft, Kristen Nowak, Nigel Laing, Steven Marston.
- 2572-POS BOARD #B542**
Structural and Functional Characterization of Cardiac Troponin T Mutations in the TNT1 Domain That Cause Familial Hypertrophic Cardiomyopathy. **Pia J. Guinto**, Edward P. Manning, Rachel K. Moore, Steven D. Schwartz, Jil C. Tardiff.
- 2573-POS BOARD #B543**
Structural and Functional Characterization of cTnT in Familial Hypertrophic Cardiomyopathy. **Rachel K. Moore**, John Wilson, Pia Guinto, Michael Riegelhaupt, Gary Gerfen, Jil Tardiff.
- 2574-POS BOARD #B544**
FHC-linked Mutations in the Myosin Regulatory Light Chain Interfere with RLC Phosphorylation in Transgenic Mice. **Katarzyna Kazmierczak**, Alexander Raytman, Michelle Jones, Danuta Szczesna-Cordary.
- 2575-POS BOARD #B545**
Mouse HCM Model Expressing E99K ACTC Mutation Reproduces Phenotypes As Found In Human Patients. **Weihua Song**, Daniel J. Stuckey, Emma Dyer, Dominic Wells, Sian E. Harding, Carolyn A. Carr, Kieran Clarke Clarke, Steven B. Marston.
- 2576-POS BOARD #B546**
Protein Kinase A Catalyzed Phosphorylation of Cardiac Myosin Binding Protein C Decreases Calcium Sensitivity of Force and Increases Cross-Bridge Cycling Kinetics in Murine Myocardium. **Peter P. Chen**, Jitandrakumar R. Patel, Inna N. Rybakova, Jeffery W. Walker, Richard L. Moss.
- 2577-POS BOARD #B547**
PKA Phosphorylates Serine 307 of Murine Cardiac Myosin Binding Protein-C In Vitro. **Justin F. Shaffer**, Weitao Jia, Julie A. Leary, Samantha P. Harris.
- 2578-POS BOARD #B548**
Functional Effects of cMyBP-C Phospho-Mimics in Permeabilized Trabeculae. **Kristina L. Bezold**, Justin F. Shaffer, Samantha P. Harris.
- 2579-POS BOARD #B549** **SRAA POSTER**
Altered Myofilament Targeting with Differential PKC δ Activation. **Tanganyika Wilder**, Aaron C. Hinken, R John Solaro.
- 2580-POS BOARD #B550**
Protein Kinase A-based Modulation Of Ca²⁺ Sensitivity In Skinned Skeletal Muscle Fibers Reconstituted With Cardiac Troponin. **Norio Fukuda**, Douchi Matsuba, Takako Terui, Jin O-Uchi, Hiroyuki Tanaka, Takao Ojima, Iwao Ohtsuki, Shin'ichi Ishiwata, Satoshi Kurihara.
- 2581-POS BOARD #B551**
Cardiac Troponin I Threonine 4 phosphorylation: impact on myofilament function. **Gerrie P. Farman**, Kittipong Tachampa, Pieter P. de Tombe.
- 2582-POS BOARD #B552**
Effects of Cardiac Troponin C Mutants on TnC-TnI interaction and its modulation by PKA phosphorylation. **Dan Wang**, F. Steven Korte, Charles Luo, An-yue Tu, Michael Regnier.
- 2583-POS BOARD #B553**
Analysis of Cardiac Myofibrillar Troponin I Phosphorylation in Normal and Failing Human Hearts Using Phos-Tags. **Andrew E. Messer**, Clare E. Gallon, Steven B. Marston.
- 2584-POS BOARD #B554**
Effect of Troponin I Ser23/24 Bis-Phosphorylation on Ca²⁺-Sensitivity is Dependent on PKA Phosphorylation of Other Contractile Proteins. **Viola Kooij**, Jolanda van der Velden, Ger J.M. Stienen.
- 2585-POS BOARD #B555**
EM and 3D-Reconstruction of Thin Filaments Reconstituted with Truncated Troponin I Associated with Myocardial Stunning. **Agnieszka Galinska-Rakoczy**, Victoria Hatch, Roger Craig, Anne M. Murphy, Jennifer E. Van Eyk, C.-L. Albert Wang, William Lehman, D. Brian Foster.
- 2586-POS BOARD #B556**
Impact Of N-terminal Truncation Of Cardiac Troponin I On Myofilament Chemo-mechanical Transduction: Implications For The Enhanced Cardiac Function In Hemodynamic Adaptation. **Kittipong Tachampa**, Brandon Biesiadecki, Tomoyoshi Kobayashi, Jian-Ping Jin, Pieter P. de Tombe.
- 2587-POS BOARD #B557**
Structural and Proteomic Analysis of the Drosophila Cardiac Tube. **Nakissa N. Alayari**, Anthony Cammarato, Mary C. Reedy, Brian O'Rourke, Jennifer Van Eyk, Jasma Rucker, Rolf Bodmer, Sanford I. Bernstein, D. Brian Foster.
- 2588-POS BOARD #B558**
In-Solution Proteomic Workflow for Purification of Endogenous Sarcomeric Proteins and Identification of Distinct Charged Variants of Regulatory Light Chain. **Sarah B. Scruggs**, Rick Reisdorph, Peter M. Buttrick, Nichole Reisdorph, R. John Solaro.
- 2589-POS BOARD #B559**
High Resolution Top-Down MS/MS Reveals Single Amino Acid Sequence Polymorphisms in Rat Cardiac Troponin. **Raquel Sanchos Solis**, Ying Ge, Jeffery W. Walker.
- 2590-POS BOARD #B560**
Cytotoxicity of non-myofilament-incorporated troponin T fragments. **Euy-Myoung Jeong**, M. Moazzem Hossain, J.-P. Jin.
- 2591-POS BOARD #B561**
Proximity mapping of troponin T and troponin I in cardiac troponin using molecular dynamics simulations. **Jayant J. Jayasundar**, Jun Xing, John M. Robinson, Herbert C. Cheung, Wen-Ji Dong.
- 2592-POS BOARD #B562**
The Rate Of Calcium Dissociation From The Cardiac Thin Filament Is Affected By Multiple Modulatory Factors. **Bin Liu**, Sean C. Little, Ryan S. Lee, Kristopher P. Kline, Darl R. Swartz, Svetlana B. Tikunova, Jonathan P. Davis.
- 2593-POS BOARD #B563**
Kinetics of Ca²⁺ Dissociation-Induced Structural Transitions of Cardiac Thin Filament. **Jun Xing**, Jayant j. Jayasundar, Yexin Ouyang, Wenji Dong.
- 2594-POS BOARD #B564**
An Internal Domain of Beta Tropomyosin Increases Myofilament Calcium Sensitivity. **Ganapathy Jagatheesan**, Emily M. Schulz, Rafeeq PH Ahmed, Natalia Petrashevskaya, Arnold Schwartz, Gregory P. Boivin, Grace M. Arteaga, Stephen B. Liggett, R John Solaro, David F. Wicczorek.
- 2595-POS BOARD #B565**
The Assessment of Uncertainty in Measurement of Cholesterol: A Model of Calculation. **Aurelian Udristoiu**.

Microtubules & Microtubule-associated Proteins (Boards #B566–#B575)

- 2596-Pos BOARD #B566**
Tau Directly Inhibits The On-rate Of Kinesin, For Microtubules, During Transport. **Derrick P. McVicker**, Christopher Berger.
- 2597-Pos BOARD #B567**
Synchrotron X-ray Scattering Study of the Effects of Microtubule-associated-protein (MAP) Tau on Interprotofilament and Intermicrotubule Interactions. **Myung Chul Choi**, Uri Raviv, Herbert Miller, Michelle Gaylord, Erkan Kiris, Donovan Ventimiglia, Daniel J. Needleman, Mahn Won Kim, Leslie Wilson, Stuart Feinstein, Cyrus R. Safinya.
- 2598-Pos BOARD #B568**
Comparison of Microtubule Dynamics for A- and B-Lattice Geometries. **Maria J. Schilstra**, Stephen R. Martin, John J. Correia.
- 2599-Pos BOARD #B569**
Response of the Mitotic Spindle to Mechanical Force. **Sophie Dumont**, Timothy J. Mitchison.
- 2600-Pos BOARD #B570**
Challenges In Modeling Chromosome-driven Mitotic Spindle Formation. **uart Schaffner**, **Jorge V. Jose**.
- 2601-Pos BOARD #B571**
Antimitotic agent alters MIP levels In breast cancer cells. **Sharon Lobert**, Holland Alday, Katherine Andersen, John J. Correia.
- 2602-Pos BOARD #B572**
Theoretical Description of Microtubule Dynamics in Fission Yeast During Interphase. **Yung-Chin Oei**, Andrea Jiménez-Dalmaroni, Andrej Vilfan, Thomas Duke.
- 2603-Pos BOARD #B573**
Mechanical Properties of a Complete Microtubule from all-Atom Molecular Dynamics Simulation. **David B. Wells**, Aleksei Aksimentiev.
- 2604-Pos BOARD #B574**
Dr. Shinji Kamimura, Hiroyuki Iwamoto.
- 2605-Pos BOARD #B575**
The Microscopic Origins of Rheology of Microtubule Solutions and Actin-Microtubule Composites. **Vincent Pelletier**, Paul Fournier, Naama Gal, Maria Kilfoil.

Microtubular Motors II (Boards #B576–#B601)

- 2606-Pos BOARD #B576**
Elucidation Of Structural States Of Dimeric Motor Domain Of Dynein Using Cys-light Construct. **Yuya Hasegawa**, Tomohiro Shima, Takahide Kon, Keiko Sutoh, Kazuo Sutoh.
- 2607-Pos BOARD #B577**
How Does The Dimeric Cytoplasmic Dynein Processively Walk on a Microtubule? **Tomohiro Shima**, Naoki Numata, Reiko Okura, Takahide Kon, Motoshi Kaya, Hideo Higuchi, Kazuo Sutoh.
- 2608-Pos BOARD #B578**
In Vitro Reconstitution of Dynamic, ER-like, Nanotubular Networks, and of Small, Tubulo-Vesicular Transport Entities by Interactions of Cytoplasmic Dynein and Spectrin with Liposomes. **Virgil Muresan**, Zoia Muresan.
- 2609-Pos BOARD #B579**
Dynein Stepping Flexibility as a Mechanism for Optimal Trafficking in the Cell. **Denis Tsygankov**, Timothy C. Elston.
- 2610-Pos BOARD #B580**
Drag-brake Mechanism Of A Spindle Motor Kinesin-5. **Kuniyoshi Kaseda**, Keiko Hirose, Robert Cross.
- 2611-Pos BOARD #B581**
Millisecond Time-lapsed Monitoring of ATP Hydrolysis by Human Eg5 Kinesin: Real-time Dynamics of Conformation and Chemistry in vitro. **Bokkyoo Jun**, Sunyoung Kim.
- 2612-Pos BOARD #B582**
Crystal Structure of HsEg5 in Complex with S-trityl-L-cysteine. **Courtney L. Parke**, Rebecca Buckley, Sunyoung Kim, David K. Worthylake.

- 2613-Pos BOARD #B583**
The Homotetrameric Kinesin-, KLP61F, Preferentially Crosslinks Antiparallel Microtubules. **Siet M.J.L. van den Wildenberg**, Li Tao, Lukas C. Kapitein, Christoph F. Schmidt, Jonathan M. Scholey, Erwin J.G. Peterman.
- 2614-Pos BOARD #B584**
Three-dimensional Nanometer Resolution Optical Tracking Reveals A Torque Component Present In Single-headed Kinesin. **Junichiro Yajima**, Takayuki Nishizaka.
- 2615-Pos BOARD #B585**
Structure of the Kinesin13-Microtubule Ring Complex. **Dongyan Tan**, William J. Rice, Ana Asenjo, Vania Depaoli, Hernando Sosa.
- 2616-Pos BOARD #B586**
Studies of the Interaction of a Kinesin-13 Protein with Microtubules. **Vania M. De Paoli**, Ana B. Asenjo, Hernando Sosa.
- 2617-Pos BOARD #B587**
Measurement Of The Protein Friction Between The Yeast Kinesin-8 Kip3p And Microtubules. **Volker Bormuth**, Vladimir Varga, Jonathon Howard, Erik Schäffer.
- 2618-Pos BOARD #B588**
Role of Cortical Rigidity in Spindle Positioning in *C. elegans*. **Jacques Pecreaux**, Stefanie Redemann, Anthony A. Hyman, Jonathon Howard.
- 2619-Pos BOARD #B589**
Microtubule Binding and Rotation of the Kinesin-14 Stalk. **Sharyn A. Endow**, Zhang-Yi Liang, Mark A. Hallen.
- 2620-Pos BOARD #B590**
A Common Microtubule Activation Mechanism for Plus- and Minus-End Directed Kinesin Motor Proteins. **Charles V. Sindelar**, Kenneth H. Downing.
- 2621-Pos BOARD #B591**
Mechanistic Analysis of Kar3Cik1 for Mitotic Function. **Chun Ju Chen**, Susan P. Gilbert.
- 2622-Pos BOARD #B592**
Multi-functional Dynamic Control of Bipolarity, Chromosome segregation and Spindle Elongation by a Novel Essential Chromatin Binding Klp in Fission Yeast. **Erika Sadeghi**, Jason Patreggani, Adrianna S. Rodriguez, Janet L. Paluh.
- 2623-Pos BOARD #B593**
Binding Dimeric Kinesin-like proteins to Tubulin: Analysis of Microtubule and Pole Determinants. **Jessica Allen**, Erika Sadeghi, Janet L. Paluh.
- 2624-Pos BOARD #B594**
Structure-activity Relationships In Synthetic Systems Of Coupled Motor Proteins. **Jonathan W. Driver**, Kenneth D. Jamison, Pamela E. Constantinou, Arthur R. Rogers, Michael R. Diehl.
- 2625-Pos BOARD #B595**
Visualizing Collective Dynamics of Nonprocessive Motors in Membrane Tube Formation. **Paige M. Shaklee**, Line Bourel-Bonnet, Marileen Dogterom, Thomas Schmidt.
- 2626-Pos BOARD #B596**
Experimental Realization of a Feedback Controlled Flashing Ratchet. **Benjamin J. Lopez**, Nathan Kuwada, Heiner Linke.
- 2627-Pos BOARD #B597**
Investigation Of Multiparticle Motor Protein Dynamics Using Coupled Exclusion Processes. **Konstantinos Tsekouras**, Anatoly B. Kolomeisky.
- 2628-Pos BOARD #B598**
EPR Spectroscopy Shows That There Are Multiple Closed Nucleotide Pocket States When Kinesin-family Motors Bind To Microtubules With A Triphosphate At The Motor Nucleotide Site. **Nariman Naber**, Edward Pate, Roger Cooke.
- 2629-Pos BOARD #B599**
UMF: Uniform Magnetic Force; a technique used to Slow Multiple Kinesin Motors in vitro. **Todd Fallesen**, Jed Macosko, George Holzwarth.
- 2630-Pos BOARD #B600**
How Does The Tethered Kinesin Head Diffuse To The Next Microtubule Binding Site? **Matthew L. Kutys**, Venkatesh Hariharan, John Fricks, William O. Hancock.

2631-POS BOARD #B601

Neck-linker And Neck-coil both contribute to Kinesin Processivity.
Shankar Shastry, William O. Hancock.

Excitation-Contraction Coupling: Cardiac (Boards #B602–#B632)

2632-POS BOARD #B602

SEA0400 Fails To Alter The Magnitude Of Intracellular Ca^{2+} Transients And Contractions In Guinea Pig Heart. **Janos Magyar**, Norbert Szentandrassy, Péter Birinyi, Attila Farkas, András Tóth, László Csernoch, András Varró, Péter P. Nánási.

2633-POS BOARD #B603

Protein Kinase D Regulates L-type Ca^{2+} Current In Cardiac Ventricular Myocytes. **Leyla Y. Teos**.

2634-POS BOARD #B604

STUDENT TRAVEL AWARDEE

NAADP Dependent Calcium Signalling in Guinea-pig Atrial Myocytes.
Thomas P. Collins, Stevan Rakovic, Derek A. Terrar.

2635-POS BOARD #B605

Early Exercise Training After Myocardial Infarction Prevents Contractile, But Not Electrical Remodeling Or Hypertrophy. **Virginie Bito**, Semir Ozdemir, Ilse Laenarts, Liesbeth Biesmans, Monique C. de Waard, Dirk J. Duncker, Karin R. Sipido.

2636-POS BOARD #B606

Does Deregulation Of Calcium Handling Precede Or Follow Alterations Of Cardiac Function During Progression To Heart Failure?

Andriy E. Belevych, Dmitry Terentyev, Radmila Terentyeva, Arun Sridhar, Yoshinori Nishijima, Cynthia Carnes, Sandor Gyorke.

2637-POS BOARD #B607

Ca^{2+} Sensitizing Troponin T Mutations Linked To Hypertrophic Cardiomyopathy Increase Apparent Cytosolic Ca^{2+} Binding.

Oleksiy Gryshchenko, Sabine Huke, Franz Baudenbacher, James D. Potter, Bjorn C. Knollmann.

2638-POS BOARD #B608

Sarcomere Shortening Destabilizes the Ca^{2+} Control System in Ventricular Myocytes: Implications for Understanding Arrhythmias in Familial Hypertrophic Cardiomyopathy. **Leighton T. Izu**, Tamas Banyasz, Ye Chen-Izu.

2639-POS BOARD #B609

Cellular Mechanism of Ca^{2+} -Dependent Arrhythmogenesis in Failing Myocytes of Aortic Banding Rats. **Sheng Wei**, Biyi Chen, William Kutschke, Robert Weiss, W. Jonathan Lederer, Mark Anderson, Heping Cheng, Long-Sheng Song.

2640-POS BOARD #B610

Differential Hypertrophic Remodeling Of Cardiomyocytes Determines Distinct Types Of Arrhythmias In The Ischemic Failing Heart: Key Role Of The Ryanodine Receptor. **Jérémy Fauconnier**, Jean-Luc Pasquié, Patrice Bideaux, Alain LaCampagne, Sylvain Richard.

2641-POS BOARD #B611

Tnf. Alters Mitochondrial Function And Ca^{2+} Homeostasis In Ventricular Cardiomyocytes: A Key Role For Caspase-8 Activation.

Jérémy Fauconnier, David Chauvier, Jean-Michel Rauzier, Olivier Cazorla, Etienne Jacotot, Alain LaCampagne.

2642-POS BOARD #B612

Blocking Mitochondrial Ca^{2+} Uptake Increases Matrix Reactive Oxygen Species During Excitation-contraction Coupling In Cardiac Myocytes.

Andreas Knopp, Michael Kohlhaas, Christoph Maack.

2643-POS BOARD #B613

Effects Of Oxysterols On The Sr Ca^{2+} Cycling In Ventricular Myocytes.

Valeriy Lukyanenko, W. Jon Lederer.

2644-POS BOARD #B614

Modulation Of Cardiac Contractility By Antagonism Of Pleckstrin-homology Domain And Akt-1 Silencing. **Antonio Zaza**, Riccardo Chisci, Marcella Rocchetti, Gaspare Mostacciolo, Grazia Saturno, Raffaella Castoldi, Miro Venturi, Cristina Redaelli, Laura Cipolla, Antonio Zaza.

2645-POS BOARD #B615

Peroxynitrite Increases Protein Phosphatase Activity and Promotes the Interaction of Phospholamban with Protein Phosphatase a in the Myocardium. **Mark J. Kohr**, Jonathan P. Davis, Mark T. Ziolo.

2646-POS BOARD #B616

Epac Effect on the Cardiac RyR: Involvement of PLC, PKC and IP3R. **Laetitia Pereira**, Maria Fernandez-Velasco, Gema Ruiz-Hurtado, Sandra Lauton-Santos, Eric Morel, Frank Lezoualc'h, Ana M. Gomez.

2647-POS BOARD #B617

A Quantitative Assessment Of Selective Pharmacological Inhibition Of Serca In Isolated Rabbit Working Hearts. **Elspeth B.A. Elliott**, Allen Kelly, Aileen Rankin, Godfrey L. Smith, Christopher M. Loughrey.

2648-POS BOARD #B618

Contribution of Cycle Length History to Myocardial Contractility in Isolated Rabbit Myocardium under Physiological Conditions.

Kenneth D. Varian, Ying Xu, Carlos A. Torres, Paul M. Janssen.

2649-POS BOARD #B619

Nitroxyl (HNO) Modifies Cysteine Residues in Phospholamban to Increase Myocyte Ca^{2+} -Cycling and Contractility. **Carlo G. Tocchetti**,

Jeffrey P. Froehlich, James E. Mahaney, Gerald M. Wilson, Jeff D. Ballin, Mark J. Kohr, Nina Kaludercic, Cecilia Vecoli, Evangelia G. Kranias, Mark T. Ziolo, David A. Kass, Nazareno Paolucci.

2650-POS BOARD #B620

Junctate Interacts with SERCA2a in Mouse Cardiomyocytes.

Soon-Jae Kwon, Do Han Kim.

2651-POS BOARD #B621

Stimulation of P2X Purinergic Receptors Increases Calcium Spark Frequency, but Does Not Normalize Calcium Transient Synchronization, in Mouse Cardiomyocytes from the Calsequestrin Model of Cardiomyopathy (CSQ). **Robin H. Shutt**, Jian-Bing Shen, Achilles J. Pappano, Bruce T. Liang.

2652-POS BOARD #B622

Effect Of Extracellular Ca^{2+} On Intracellular Ca^{2+} Dynamics In Intact Hearts Of Wildtype And Calsequestrin Ko Mice. **Dmytro Korniyevyev**, Azade Petrosky, Björn Knollmann, Ariel L. Escobar.

2653-POS BOARD #B623

Newly Synthesized Calsequestrin and Triadin-1 Traffic In Two Sarcoplasmic Reticulum Compartments In Heart Cells. **Steven E. Cala**, Timothy D. McFarland, Michelle L. Milstein.

2654-POS BOARD #B624

Polymerization of Calsequestrin Inside the Secretory Pathway is Isoform-Specific and Occurs on Either Side of ER Exit Sites. **Michelle L. Milstein**, Steven E. Cala.

2655-POS BOARD #B625

Calumenin Knock-down (kd) Enhances Ca^{2+} Cycling Ability In HL-1 Cells. **Sanjaya K. Sahoo**, Do Han Kim.

2656-POS BOARD #B626

Interaction between Cardiac Ryanodine Receptor and FK506-Binding Protein Revealed by Cryo-EM and FRET. **Zheng Liu**, Ruiwu Wang, Xing Meng, Richard Cole, S. R. Wayne Chen, Terence Wagenknecht.

2657-POS BOARD #B627

Effect of Stem Cell Transplantation on the Calcium Signaling in Adult Ventricular Myocytes. **Iurii Semenov**, David Geenen, Beata Wolska, Kathrin Banach.

2658-POS BOARD #B628

Skeletal Myotubes from Adult Mice in a Cardiac Environment.

Lourdes C. Figueroa, Victor Salazar, Pura Bolaños, Carlo Caputo.

2659-POS BOARD #B629

Relationship of Ryanodine Receptors to the Sarcolemma in Rabbit Ventricular Myocytes. **Eleonora Savio-Galimberti**, Frank B. Sachse, Joshua I. Goldhaber, Christian Soeller, John H B Bridge.

2660-POS BOARD #B630

Stochastic Dynamics of Release Unit in a Cardiac Cell in Electron-Conformational Model. **Alexander S. Moskvina**, Alexander M. Ryvkin, Olga E. Solovyova, Vladimir S. Markhasin.

2661-POS BOARD #B631

A Local Control Model for Cardiac Excitation-Contraction Coupling in Rat Ventricular Myocytes: Insights into Dynamic Phenomena Involving Calcium Release. **George S. B. Williams**, Marco A. Huertas, Eric A. Sobie, Greg D. Smith, M Saleet Jaffri.

2662-POS BOARD #B632

Modeling Nitric Oxide Regulation Of Ec Coupling In Cardiac Myocytes. **Lulu Chu**, Sa Ra Park, Mayank Tandon, William Guilford, Jeffrey J. Saucerman.

Cell & Bacterial Mechanics, Motility, & Signal Transduction (Boards #B633–#B662)

2663-POS BOARD #B633

Assembly of the Adenoviral IVa2 and L4-22K Proteins on the Viral DNA Packaging Sequence. **Teng-Chieh Yang**.

SRAA POSTER**2664-POS BOARD #B634**

Suppressor Analysis of the MotB(D33E) Mutation, a Putative Proton-Binding Residue of the Flagellar Motor in Salmonella. **Yong-Suk Che**, Shuichi Nakamura, Yusuke Morimoto, Nobunori Kami-ike, Keiichi Namba, Tohru Minamino.

2665-POS BOARD #B635

Probing the Bacterial Flagellar Motor using Temperature Control. **Matthew A. Baker**.

2666-POS BOARD #B636

Dynamic Viscoelasticity Of Individual Bacterial Cells. **Virginia Vadillo-Rodriguez**, John R. Dutcher.

2667-POS BOARD #B637

Bundle-forming pili from enteropathogenic Escherichia Coli generate moderate forces. **Nils C. Gauthier**.

2668-POS BOARD #B638

Improved Specimen Preparations for Electron Microscopy of FtsZ Protofilaments. **David E. Anderson**, Harold P. Erickson.

2669-POS BOARD #B639

Morphology of C. Crescentus and Crescentin. **Jin Seob Kim**, Sean X. Sun.

2670-POS BOARD #B640

MreB, A Prokaryotic Actin Homologue, Contributes To Cell Stiffness In E. Coli. **Siyuan Wang**, Joshua W. Shaevitz.

2671-POS BOARD #B641

Direct Measurement of the Relative Contributions of Turgor Pressure, the Peptidoglycan Cell Wall and Cytoskeletal Filaments to Gram-negative Prokaryotic Cell Mechanics using AFM. **Mingzhai Sun**, Yi Deng, Hugo Arellano Santoyo, Siyuan Wang, Joshua W. Shaevitz.

2672-POS BOARD #B642

Mechanism of MSP-based Cell Body Retraction in the Amoeboid Sperm of Nematodes. **Katsuya Shimabukuro**, Murray Stewart, Thomas M. Roberts.

2673-POS BOARD #B643

FRAP Analysis Combined With A Single-cell Electroporation Technique In Sea-urchin Spermatozoa. **Daisuke Takao**, Shinji Kamimura.

SRAA POSTER**2674-POS BOARD #B644**

System Analysis of the Ciliary Response to Red Light in Chlamydomonas reinhardtii. **Suphatra Adulrattananuwat**, Keith Josef, Jureepan Saranak, Kenneth Foster.

2675-POS BOARD #B645

Abnormal Movement And The Trend Of Flagellar Force Production During Regeneration In Chlamydomonas Reinhardtii. **Catherine G. Clodfelter**, John Yukich, Karen Bernd.

2676-POS BOARD #B646

How Does Stall Force Affect Contractions of a Biological Spring, Vorticella convallaria? **Sangjin Ryu**, Paul T. Matsudaira.

2677-POS BOARD #B647

Tuning Cellular Mechano-Response Using Biomembrane-Mimicking Substrates of Adjustable Fluidity. **Daniel E. Minner**, Philipp Rauch, Amanda P. Siegel, Johannes Stelzer, Joseph Käs, Guilherme Sprawl, Kevin Harvey, Rafat Siddiqui, Simon Atkinson, Christoph A. Naumann.

2678-POS BOARD #B648

Cell Contact, Substrate Mechanics And Boundary Conditions In The Movement Of Epithelial Sheets. **Michael P. Murrell**, Paul Matsudaira, Roger Kamm.

2679-POS BOARD #B649

T,RIII Restores Normal Cytoskeleton Mechanics In Ovarian Cancer Cells. **Vinay Swaminathan**, Mythreye Karthikeyan, E. Timothy O'Brien, Gerard Globe, R Superfine.

2680-POS BOARD #B650

Three Dimensional Superresolution Fluorescence Microscopy Reveals Protein Stratification in Focal Adhesions. **Pakorn Kanchanawong**, Gleb Shtengel, Michael W. Davidson, Harald F. Hess, Clare M. Waterman.

2681-POS BOARD #B651

Role of Mechanotransduction in Cellular Processes. **Narayanan Srividya**, Gayathri Balandaram, Chandima Bandaranayake, Subra Muralidharan.

2682-POS BOARD #B652

Strain Stiffening And Soft Glassy Rheology In A Generalized Sliding Filament Model. **Philip Kollmannsberger**, Ben Fabry.

2683-POS BOARD #B653

Mechanical perturbation of T cell actin retrograde flow. **Boryana N. Manz**, Cheng-han Yu, Jay T. Groves.

2684-POS BOARD #B654

Non-linear Rheology Of Collagen Type I Gels Probed On The Length Scale Of A Migrating Cell. **Stefan Muenster**, Philip Kollmannsberger, Thorsten M. Koch, Louise M. Jawerth, David A. Vader, Ben Fabry.

2685-POS BOARD #B655

The Role of Quaternary Structure in the Signaling Mechanisms of PAS Sensor Domains. **Rebecca A. Ayers**, Keith Moffat.

2686-POS BOARD #B656

A 3D Cell Traction Force Measurement Technique Based on Collagen Fiber Tracking. **David A. Vader**, Thomas S. Deisboeck, David A. Weitz.

2687-POS BOARD #B657

Microrheology of the pericellular matrix. **Nadja Nijenhuis**, Daisuke Mizuno, Jos A. E. Spaan, Christoph F. Schmidt.

2688-POS BOARD #B658

Bacterial Cell Wall Peptidoglycan at Single Molecule Resolution. **Ahmed Touhami**, Manfred Jericho, Valerio Matias, Anthony Clarke, Terry Beveridge, John Dutcher.

2689-POS BOARD #B659

Modeling of Stability of Adhesion Clusters and Cell Reorientation under Lateral Dynamics Load. **Baohua Ji**, Dong Kong, Lanhong Dai.

2690-POS BOARD #B660

Fiber Dynamics during Strain Stiffening in Stiff Biopolymer Networks. **Louise Jawerth**, Stefan Münster, David Vader, David Weitz.

2691-POS BOARD #B661

Does Substrate Stiffness Guide Neutrophils During An Inflammation Response? **Patrick W. Oakes**, Nicole A. Morin, Daniel P. Zitterbart, Dipan Patel, Jonathan S. Reichner, Jay X. Tang.

2692-POS BOARD #B662

Elastic Matrices that mimic normal heart are best for beating Cardiomyocytes - Beating stops on mechanical mimics of Scars. **Christine Carag**, Adam Engler, Dennis E. Discher.

Photosynthesis & Photoreceptors (Boards #B663–#B689)

2693-POS BOARD #B663

Picosecond Fluorescence Of Intact And Dissolved PSI-LHCI Crystals. **Herbert van Amerongen**, Bart van Oort, Arie van Hoek, Jan Willem Borst, Alexey Amunts, Nathan Nelson, Roberta Croce.

2694-POS BOARD #B664

11-cis Retinol as a Substrate for Cone Dark Adaptation. **Masahiro Kono**, Rosalie K. Crouch, P. Ala-Laurila, M. C. Cornwall.

2695-POS BOARD #B665

Sampling the unfolding pathways towards the signaling state of Photoactive Yellow Protein. **Jocelyne Vreede**, Jarek Juraszek, Klaas J. Hellingwerf, Peter G. Bolhuis.

2696-POS BOARD #B666

Retinal-Salinixanthin Interactions In Xanthorhodopsin: A Study Using Artificial Pigments. **Elena Smolensky**, Noga Friedman, Mordechai Sheves.

2697-POS BOARD #B667

Dimer formation in the blue light sensing protein Vivid. **Jessica S. Lamb**, Brian D. Zoltowski, Suzette A. Palin, Li Li, Brian R. Crane, Lois Pollack.

2698-POS BOARD #B668

Design and Signaling Mechanism of Light-Regulated Histidine Kinases. **Andreas Möglich**, Rebecca A. Ayers, Keith Moffat.

2699-POS BOARD #B669

Interactions of Arrestin with Phosphorylated Opsin and the Role of All-trans Retinal. **Martha E. Sommer**, David L. Farrens, Klaus Peter Hofmann, Martin Heck.

2700-POS BOARD #B670

Revamped Outer Segment Structure and Photoresponse in Retinal Rods Over-expressing Rhodopsin. **Xiao-Hong Wen**, Lixin Shen, Richard S. Brush, Norman Michaud, Muayyad R. Al-Ubaidi, Vsevolod V. Gurevich, Heidi E. Hamm, Janis Lem, Emmanuele DiBenedetto, Robert E. Anderson, Clint L. Makino.

2701-POS BOARD #B671

Structural Changes of Cephalopod Rhodopsin and b Measured by FTIR Difference Spectroscopy and Isotope Editing. **Joel M. Kralj**, Erica Raber, Jose Sarmiento, David Shumate, Christie Stanzel, Carrie Maxwell, Javier Navarro, Kenneth J. Rothschild.

2702-POS BOARD #B672

Estimating The Rate Constant Of Cyclic GMP Hydrolysis By Activated Phosphodiesterase In Photoreceptors. **Juergen Reingruber**, David Holcman.

2703-POS BOARD #B673

Revealing The Linear Aggregates Of Light Harvesting Antenna Proteins In Photosynthetic Membranes. **Yufan He**, Xiaohua Zeng, Saptarshi Mukherjee, Suneth Rajapaksha, Samuel Kaplan, H. Peter Lu.

2704-POS BOARD #B674

Prolonged Illumination Up-regulates Arrestin And Two GCAPs: A Novel Mechanism For Light Adaptation. **Paolo Codega**, Luca Della Santina, Claudia Gargini, Diana E. Bedolla, Tatiana Subkhankulova, Frederick J. Livesey, Luigi Cervetto, Vincent Torre.

2705-POS BOARD #B675

His75 in Proteorhodopsin, a Novel Component in Light-Driven Proton Translocation by Primary Pumps. **Vladislav B. Bergo**, Joel M. Kralj, John L. Spudich, Kenneth J. Rothschild.

2706-POS BOARD #B676

Slow quinone diffusion limits the photosynthetic rate in *Phaeospirillum molischianum*. **Camille Mascle-Allemand**, Jérôme Lavergne, James N. Sturgis.

2707-POS BOARD #B677

Characteristics of the Dark-Stable Multiline EPR Signal of Ca²⁺-Depleted Photosystem II. **Alice Haddy**, Brandon M. Ore, Thomas S. Kuntzleman.

2708-POS BOARD #B678

Photosystem II Supercomplexes Of Higher Plants: Isolation And Determination Of The Structural And Functional Organization. **Stefano Caffarri**, Koen L. Broess, Sami Kereiche, Gediminas Trinkunas, Egbert J. Boekema, Herbert van Amerongen, Roberta Croce.

2709-POS BOARD #B679

Type I reaction center from the green sulfur bacterium *Chlorobium tepidum*: is Chl a a primary electron acceptor? **Adrien Chauvet**, Bharat Jagannathan, John H. Golbeck, Sergei Savikhin.

2710-POS BOARD #B680

Biochemical and structural characterization of Photosystems from *Galdieria sulphuraria*. **Balakumar Thangaraj**.

2711-POS BOARD #B681

Direct Photoelectrochemical Energy Transfer from Chlorosomes at Biohybrid Interfaces. **Arati Sridharan**, Jit Muthuswamy, Vincent B. Pizziconi.

2712-POS BOARD #B682

Living Optical Elements in the Vertebrate Retina. **Moritz Kreysing**, Kristian Franze, Leo Peichl, Boris Joffe, Thomas Cremer, Andreas Reichenbach, Jochen Guck.

2713-POS BOARD #B683

Recording of Electrooculography in photo phobia patients. **M.S. Mirdehghan**, S.M. Shushtarian, Sh. Malekzadeh, N. Laa.

2714-POS BOARD #B684

The Influence Of Rhodopsin Chromophore Binding On Protein Biosynthesis Examined In Vivo. **Orson L. Moritz**, Ali Qazalbash, Beatrice M. Tam.

2715-POS BOARD #B685

Photoreceptor ABC Transporter ABCA4: Its Role in the Visual Cycle and Retinal Degenerative Diseases. **Robert S. Molday**, Ming Zhong.

2716-POS BOARD #B686

Formation Of All-Trans Retinol In Mouse Rod Photoreceptors. **Lorie R. Blakeley**, Chunhe Chen, Yiannis Koutalos.

2717-POS BOARD #B687

Control Of Sensitivity Following Pigment Bleaching By NADPH In Salamander Rods. **K Joshua Miyagishima**, M Carter Cornwall, Alapakkam P. Sampath.

2718-POS BOARD #B688

An Additional Retinoid Binding Site in Rhodopsin. **Tomoki Isayama**, Tetsuji Okada, James D. Looney, Rosalie K. Crouch, Anita L. Zimmerman, Clint L. Makino.

2719-POS BOARD #B689

Normal Function of the Cone Visual System Requires the Interphotoreceptor Retinoid Binding Protein (IRBP). **Ryan O. Parker**, Rosalie K. Crouch.

Mitochondria in Cell Life & Death (Boards #B690-#B717)

2720-POS BOARD #B690

Apoptosis in FL5.12 cells is suppressed by inhibitors of the Mitochondrial Apoptosis-induced Channel MAC. **Pablo V. Peixoto**, Shin-Young Ryu, Bruno Antonsson, Kathleen W. Kinnally.

2721-POS BOARD #B691

Voltage-gated Potassium Channel In Brain Mitochondria. **Krzysztof Dolowy**, Piotr Bednarczyk, Joanna Kowalczyk, Adam Szweczyk, Barbara Zablocka.

2722-POS BOARD #B692

Large-conductance Calcium-activated Potassium Channel In Neuronal Mitochondria. **Adam Szweczyk**, Marta Piwonska, Piotr Bednarczyk, Krzysztof Dolowy.

2723-POS BOARD #B693

Biophysical Mechanism of Converting Apoptosis Regulator Bcl-2 from a Protector to a Killer in Cancer Cells By A Short Nur77-derived Peptide. **Xuefei Tian**, Siva Kumar Kolluri, Xiuwen Zhu, Bingzhen Lin, Ya Chen, Dayong Zhai, Feng He, Zhi Zhang, John C. Reed, Arnold C. Satterthwait, Xiao-kun Zhang, Jialing Lin.

2724-POS BOARD #B694

Respiratory Complex I Dysfunction Due to Mitochondrial DNA Mutations Shifts the Voltage Threshold for Opening of the Permeability Transition Pore toward Resting Levels. **Anna Maria Porcelli**, Alessia Angelin, Anna Ghelli, Elisa Mariani, Andrea Martinuzzi, Valerio Carelli, Valeria Petronilli, Michela Rugolo, Paolo Bernardi.

2725-POS BOARD #B695

Bax Enhances the Permeabilization of the Mitochondrial Outer Membrane Induced by Ceramide Channels: Implications on the Regulation of the Initiation of Apoptosis. **Meenu N. Perera**, Vidyaramanan Ganesan, Marco Colombini.

2726-POS BOARD #B696

Bcl-2 Does Not Inhibit Bax Insertion During Intrinsic Apoptosis. **Oscar Teijido Hermida**, Kathleen W. Kinnally, Laurent M. Dejean.

2727-POS BOARD #B697

Estrogen-induced Protection of Heart Ischemia-reperfusion Injury by the Inhibition of the Mitochondrial Permeability Transition Pore (mPTP) in Isolated Heart Mouse. **Jean C. Bopassa**, Andrea Ciobotaru, Mansoureh Eghbali, Ligia Toro, Enrico Stefani.

2728-POS BOARD #B698

In vivo Imaging of Superoxide Flashes in Skeletal Muscle. **Huaqiang Fang**, Wanrui Zhang, Xianhua Wang, Wang Wang, Kaitao Li, Yanru Wang, Xiuqin Zhang, Shujiang Shang, Xiaoli Tian, Jingsong Zhou, Noah Weisleder, Jianjie Ma, Ming Zheng, Min Chen, Heping Cheng.

2729-POS BOARD #B699

Visualization Of Mitochondria-targeted Photodynamic Effects Of Hpph-in Coupled With Visible Laser 637 Nm In Osteosarcoma 3b Cells. **Mei-Jie Jou**.

2730-POS BOARD #B700

Direct Effect of Isoflurane on Mitochondrial pH. **Danijel Pravdic**, Yasushi Mio, Zeljko Bosnjak, Martin Bienengraeber.

2731-POS BOARD #B701

Heart Ischemia: The Transition from Reversible to Irreversible Myocardial Ischemia is Governed by the Mitochondrial Permeability Transition Pore (mPTP). **Jean C. Bopassa**, Michel Ovize, Enrico Stefani, Rene Ferrera.

2732-POS BOARD #B702

Bax C-Terminal Peptide - Insights Into Membrane Interactions. **Kathleen N. Nemeč**, Abhay H. Pande, Shan Qin, Suren A. Tatulian, Annette R. Khaled.

2733-POS BOARD #B703

PKA Inhibited The Opening Of Mitochondrial Permeability Transition Pore Induced By Cytosolic GSK3 β . **Hideki Katoh**, Takamitsu Tanaka, Masao Saotome, Tuiyoshi Urushida, Hiroshi Satoh, Hideharu Hayashi.

2734-POS BOARD #B704

Flash Sniper: Automated Detection and Analysis of Mitochondrial Superoxide Flash. **Kaitao Li**, Wanrui Zhang, Jie Liu, Wang Wang, Wenjun Xie, Huaqiang Fang, Yanru Wang, Min Zheng, Wenchang Tan, Heping Cheng.

2735-POS BOARD #B705

Design Of An ELISA Protocol For A Rapid Quantification Of Activated/oligomerized Bax During Apoptosis. **Adauri Soprani**, Oscar Tejjido Hermida, Bruno Antonsson, Laurent M. Dejean.

2736-POS BOARD #B706

Cytoprotective Effects Of Mitochondrial Potassium Channel Opener BMS-191095. **Dominika Malinska**, Adam Szweczyk.

2737-POS BOARD #B707

Measuring Intra-Cellular and Intra-Mitochondrial Zinc Concentrations Following Hypoxia/Hypoglycemia with an Expressible Ratiometric Fluorescence Biosensor. **Bryan McCranor**, Linda Bambrick, Rebecca Bozym, Richard Thompson.

2738-POS BOARD #B708

Ion Channels From Inner Mitochondrial Membrane From Rat Heart - Single Channel Properties. **Katarzyna Choma**, Adam Szweczyk, Krzysztof Dolowy.

2739-POS BOARD #B709

Bidirectional Ca²⁺-dependent Control Of Mitochondrial Dynamics By The Mitochondrial Rhogtpase, Miro. **Masao Saotome**, Sudipto Das, Hideharu Hayashi, Gyorgy Hajnoczky.

2740-POS BOARD #B710

Regulation of Mitochondrial Motility by Milton-like Proteins, OIP106 and GRIF. **Sudipto Das**, Gyorgy Hajnoczky.

2741-POS BOARD #B711

Mitochondrial localization and function relationship. **Gyorgy Csordas**, Sudipto Das, Peter Varnai, Tamas Balla, Gyorgy Hajnoczky.

2742-POS BOARD #B712

Bak/bax-dependent Apoptotic Signaling In Vdac2^{-/-} Cells. **Soumya Sinha Roy**, William J. Craigen, Gyorgy Hajnoczky.

2743-POS BOARD #B713

Mitochondrial fusion-fission dynamics during hypoxia/reoxygenation. **Xingguo Liu**, Gyorgy Hajnoczky.

2744-POS BOARD #B714

Governing Respiration: Tubulin's C-Terminus Interaction with VDAC. **Kely L. Sheldon**, Dan L. Sackett, Claire Monge, Valdur Saks, Sergey M. Bezrukov, Tatiana K. Rostovtseva. **SRAA POSTER**

2745-POS BOARD #B715

Spontaneous Oscillations in Mitochondrial Membrane Potential of Cultured Neurons Did Not Correlate With Cytosolic Calcium Concentration. **Philip E. Hockberger**, William Marszalec, Philip Chan, Juliette Logan, David Wokosin, D. James Surmeier.

2746-POS BOARD #B716

Flavonoid And Low Level Long Wavelength Laser Irradiation Effects Seen In Human T Cells. **Andrei Bobocca**, Magdalena Mocanu, Mihaela Pislea, Teofila Seremet, Gyöngyvér Katona, I. O. Doaga, Eugen Radu, Judit Horvath, Ervin Tanos, Eva Katona.

2747-POS BOARD #B717

L-arginine and Tetrahydrobiopterin Inhibit Mitochondrial Permeability Transition Pore by Preventing ROS Formation by Mitochondrial Nitric Oxide Synthase. **Elena N. Dedkova**, Lothar A. Blatter.

Peptide & Toxin Ion Channels (Boards #B718-#B724)

2748-POS BOARD #B718

Reconstitution Of Tonb-dependent Transporters In Planar Lipid Bilayers. **Eshwar Udho**, Karen Jakes, Susan Buchanan, Karron J. James, James W. Coulton, Alan Finkelstein.

2749-POS BOARD #B719

Ion Channel Activity of Amyloid-beta Peptides in Artificial Bilayer Membranes : a Comparison of Different Preparation Techniques. **Panchika Prangkio**, Ricardo Capone, Mahealani Bautista, Jerry Yang, Michael Mayer.

2750-POS BOARD #B720

Pore Forming Properties Of Antimicrobial Peptides In Different Natural Lipid Environment. **Giorgio Rispoli**, Alberto Milani, Martina Infanti, Mascia Benedusi, Marco Aquila, Natascia Vedovato.

2751-POS BOARD #B721

Rapid Topology Determination of Membrane Proteins: Pore-Forming Mechanism of Bt toxin Cry1Aa. **Nicolas Groulx**, Marc Juteau, Jean-Louis Schwartz, Raynald Laprade, Rikard Blunck.

2752-POS BOARD #B722

INTERNATIONAL TRAVEL AWARDEE
Protonophoric Activity Of Gramicidin A Modified By Charged Amino-acids At Its N-terminus. **Alexandra Sorochkina**, Sergei Kovalchuk, Irina Perevoshchikova, Elena Dutseva, Alexander Sobko, Elena Kotova, Dmitry Zorov, Yuri Antonenko.

2753-POS BOARD #B723

Aggregation of polyene antibiotics in aqueous solution. An MD study. **Rogelio Antonio Hernández-López**, Humberto Saint-Martin Posada, Ivan Ortega-Blake.

2754-POS BOARD #B724

An Approach to Characterizing Single-Subunit Mutations in the Anthrax Protective Antigen Prepore and Pore. **Blythe E. Janowiak**, Alan Finkelstein, R. John Collier.

Epithelial Channels & Physiology (Boards #B725-#B729)

2755-POS BOARD #B725

Small G protein-induced trafficking of the Epithelial Na⁺ channel. **Alexey Karpushev**, Oleh Pochynyuk, Vladislav Levchenko, Tengis Pavlov, Tetsuro Wakatsuki, Alexander Staruschenko.

2756-POS BOARD #B726

Quantitative Analysis Of DEG/ENaC Subunits Interaction. **Diana Wesch**, Diego Alvarez de la Rosa, Teresa Giraldez.

2757-POS BOARD #B727

Apical Methyl- β -cyclodextrin (m,Cd) Treatment In A6 Renal Cells Does Not Affect Basolateral PGE2-induced Cl⁻ Secretion , But Stimulates An Early Cl⁻ Peak Current, Activated By Hypotonic Shock. **Paul S. Steels**, Willy Van Driessche, Corina Balut.

2758-POS BOARD #B728

Bile Acids Selectively Activate Iberiotoxin-sensitive Potassium Channels In Native Pancreatic Duct Cells. **Viktoria Venglovecz**, Peter Hegyi, Zoltan Rakonczay, Barry Argent, Michael A. Gray.

2759-POS BOARD #B729

MDCK Monolayers on Silicon Chips - The Epithelial Barrier Function on a Cellular Level. **Martin Wiemhöfer**, Ralf Zeitler, Peter Fromherz.

**Intracellular Channels
(Boards #B730–#B734)**

2760-POS BOARD #B730

Electrophysiological Characterization of Mitochondrial Uncoupling Protein. **Andriy Fedorenko**, Polina Lishko, Yuriy Kirichok.

2761-POS BOARD #B731

TRIC-B Channels Is Critical For Physiological Functions Of Alveolar Epithelial Cells. **Daiju Yamazaki**, Shinji Komazaki, Aya Mishima, Miyuki Nishi, Hiroshi Takeshima.

2762-POS BOARD #B732

Electrophysiological Comparison of TRIC-A and TRIC-B, Two Trimeric Intracellular Cation Channels Associated with Intracellular Ca²⁺-Stores. **Samantha Jane Pitt**, Ki Ho Park, Nancy Younis, Miyuki Nishi, Hiroshi Takeshima, Rebecca Sitsapesan, Jianjie Ma.

2763-POS BOARD #B733

Bcl-xl Regulates ATP Synthase Activity at the Inner Mitochondrial Membrane. **Elizabeth Jonas**, Leon Collis, Hongmei Li, Lu Zeng, Laura Bonanni, Marc Pypaert, Ewan McNay, Gary Cline, Peter Smith, J. Marie Hardwick.

2764-POS BOARD #B734

Large Conductance Potassium Channel In Mitochondria of Endothelial Cell. **Piotr Bednarczyk**, Agnieszka ,ukasiak, Antoni Wrzosek, Krzysztof Dolowy, Adam Szewczyk.

**Auditory Systems
(Boards #B735–#B739)**

2765-POS BOARD #B735

Coupled Hair Cells in the Bullfrog Sacculus. **Clark E. Strimbu**, Damien Ramunno-Johnson, Dolores Bozovic.

2766-POS BOARD #B736

Distribution of Frequencies of Spontaneous Oscillations in Hair Cells of the Bullfrog Sacculus. **Damien Ramunno-Johnson**, C. Elliott Strimbu, Lea Fredrickson, Katsushi Arisaka, Dolores Bozovic.

2767-POS BOARD #B737

Voltage Dependent Interactions of the Outer Hair Cell Motor Protein Prestin. **Ramsey Kamar**, Ryan McGuire, Robert M. Raphael.

2768-POS BOARD #B738

The Frequency Range of the Ear Supported by Hair Bundle Motility. **Bora Sul**, Kuni H. Iwasa.

2769-POS BOARD #B739

Frequency Analysis of Complex Waveforms in Sound Stimuli Discriminated by Human Auditory Cortex. **Kimia Ghanbeigi**, Arthur Leuthold, John H. Broadhurst.

**Local Calcium Signaling
(Boards #B740–#B754)**

2770-POS BOARD #B740

Fluorescence Imaging Of Ryanodine Receptor And Caveolin Distribution In Cardiac Myocytes At 0 nm Resolution. **David Baddeley**, Isuru Jayasinghe, Christoph Cremer, Mark B. Cannell, Christian Soeller.

2771-POS BOARD #B741

Simultaneous Determination of Free Zn(II) and Ca(II) with a Single Fluorescent Indicator. **Patrick Robison**, Bryan McCranor, Richard B. Thompson.

2772-POS BOARD #B742

Applications of Genetically Targeted and Optimized Calcium Sensors. **Amy E. Palmer**, Janet E. McCombs, Schuyler B. VanEngelenburg.

2773-POS BOARD #B743

STUDENT TRAVEL AWARDEE

Rational Design of Ca²⁺ Biosensor. **Shen Tang**, Hing Wong, Yun Huang, Jin Zou, Hsiau-wei Lee, Jenny J. Yang.

2774-POS BOARD #B744

SRAA POSTER

CaMKII-Induced Shift in Modal Gating Explains L-type Ca²⁺ Current Facilitation: A Modeling Study. **Yasmin L. Hashambhoy**, Raimond L. Winslow, Joseph L. Greenstein.

2775-POS BOARD #B745

A Mechanistic, Minimal Model of Ca²⁺/Calmodulin Dependent Kinase II Signaling in the Cardiac Myocyte. **Yasmin L. Hashambhoy**, Raimond L. Winslow, Joseph L. Greenstein.

2776-POS BOARD #B746

IP3 Receptor-mediated Ca Release Facilitates RyR-Ca Release to Cause Inotropy and Arrhythmogenicity in Mouse Ventricular Myocytes. **Jaime DeSantiago**, Aleksey V. Zima, Timothy L. Domeier, Kenneth Ginsburg, Jeffery D. Molkentin, Lothar A. Blatter, Donald M. Bers.

2777-POS BOARD #B747

IP3-induced Ca²⁺ Signals at the Cytoplasm and Nucleus in HL-1 Atrial Cells: Possible Roles of IP3 Receptor Subtypes. **Joon-Chul Kim**, Min-Jeong Son, Krishna P. Subedi, Sun-Hee Woo.

2778-POS BOARD #B748

Dynamic Measurements of Luminal Ca²⁺ in the SR of Mammalian Skeletal Muscle. **Andrew P. Ziman**, Christopher Ward, George Rodney, April Hartford, W J. Lederer, Robert J. Bloch.

2779-POS BOARD #B749

Indo-1 Hybrid Biosensors For Calcium Monitoring In Cellular Organelles. **Monika Sztretye**, Sandrine Pouvreau, Michael Bannwarth, Ivan R. Corrêa Jr, Cindy Fellay, Annina Aebischer, Leandro Royer, Jianxun Yi, Jingsong Zhou, Kai Johnsson, Eduardo Róos.

2780-POS BOARD #B750

Voltage-Dependent Ca²⁺ Channels Are Clustered But Not Constitutively-Active In Smooth Muscle. **John G. McCarron**, Marnie L. Olson, Susan Currie, Amanda J. Wright, Kurt I. Anderson, John M. Girkin.

2781-POS BOARD #B751

Mitochondria Act Within InsP3R Clusters To Maintain Ca²⁺ Release In Smooth Muscle. **Marnie L. Olson**, John G. McCarron.

2782-POS BOARD #B752

Imaging The Individual And Concerted Activity Of IP3R Ca²⁺ Release Channels In Intact Mammalian Cells. **Ian Smith**, Ian Parker.

2783-POS BOARD #B753

Analysis of Localized Calcium Alteration During Neural Cell Death. **Man-Soo B. Hong**.

2784-POS BOARD #B754

External Sodium Affects SOCE Activation In Mouse FDB Muscle Fibers. **Pura Bolaños**, Alis Guillen, Reinaldo DiPolo, Carlo Caputo.