

Sunday, March 1, 2009

Daily Program Summary

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

7:30 AM–8:30 AM	Postdoctoral Breakfast	2 5 3
7:30 AM–10:00 PM	Family Room	255
7:30 AM–5:00 PM	Registration/Exhibitor Registration/Information	N o r t h
8:00 AM–5:30 PM	Career Center	H a l l
8:00 AM–6:00 PM	Child Care	W e s t i n ,
8:00 AM–10:00 PM	Poster Viewing	H a l l
8:15 AM–10:15 AM	Symposium 1 East Protein Modularity and Flexibility in Signal Transduction <i>David Eliezer</i> , Weill Medical College of Cornell University, Co-Chair <i>Richard Kriwacki</i> , St. Jude Children's Research Hospital, Co-Chair Mechanisms of Biological Regulation by Highly Dynamic Protein Complexes. <i>Julie Forman-Kay</i> The Modular Logic of Cell Signaling Systems. <i>Wendell Lim</i> Allosteric Effects and Conformational Selection in Signaling: The Ubiquitin E3 Ligases. <i>Ruth Nussinov</i> Dynamic Origins of Interdomain Cooperativity in the Vav1 Proto-Oncoprotein. <i>Mike Rosen</i>	B a l l r o o m
8:15 AM–10:15 AM	Symposium 2 West Many Ways to Regulate a Molecular Motor <i>Samantha Harris</i> , University of California, Davis, Chair Force-dependent Regulation of Myosin-I. <i>Michael Ostap</i> Heads to Tails: How Some Myosins Regulate Their Activity. <i>James Sellers</i> The Ups and Downs of Smooth Muscle Myosin Regulation. <i>Kenneth Taylor</i>	B a l l r o o m
8:15 AM–10:15 AM	Platform A A/B	1 0 2
8:15 AM–10:15 AM	Platform B A/B	1 0 4
8:15 AM–10:15 AM	Platform C A/B	1 5 1
8:15 AM–10:15 AM	Platform D A/B	1 5 3
8:15 AM–10:15 AM	Platform E A/B	2 5 2
8:15 AM–10:15 AM	Platform F A/B	2 5 4
9:00 AM–10:30 AM	CPOW Committee Meeting	251
10:00 AM–5:00 PM	Exhibits	Hall A
10:15 AM–11:00 AM	Coffee Break	Exhibit Hall Lounge
10:30 AM–1:00 PM	Undergraduate Student Symposium	153 C
10:45 AM–12:45 PM	Symposium 3 The Biophysics of HIV <i>David Millar</i> , Scripps Research Institute, Chair Mechanisms of Nucleic Acid Chaperones Involved in Retroviral Replication. <i>Karin Musier-Forsyth</i> Assembly of Ribonucleoproteins Involved in Viral RNA Trafficking. <i>David Millar</i> Insights into the Mechanisms of Genome Selection and Membrane Targeting by the HIV-1 Gag Protein. <i>Michael Summers</i> The Biochemistry of HIV Budding. <i>Wesley Sundquist</i>	B a l l r o o m E a s t

SUNDAY

10:45 AM–12:45 PM	Symposium 4 Systems Biology <i>Ravi Iyengar</i> , Mount Sinai School of Medicine, Chair Designing Biological Systems. <i>Pamela Silver</i> Design Principles of Biological Circuits. <i>Uri Alon</i> Nature, Nurture, or Just Blind Chance: Stochastic Gene Expression and Its Consequences. <i>Alexander van Oudenaarden</i> , Functional Organization of Mammalian Cells. <i>Ravi Iyengar</i>	Ballroom West
10:45 AM–12:45 PM	Minisymposium 1 Virus Mechanics: Material Properties and Assembly <i>William Gelbart</i> , University of California, Los Angeles and <i>Christoph Schmidt</i> , Georg-August-Universität, Göttingen, Germany, Co-Chairs. Biophysical Studies of Virus Particles and their Maturation: Insights into Elegantly Programmed Nano-machines. <i>Jack Johnson</i> Modeling the Size and Structure of RNA: Viral vs. Non-viral Sequences. <i>Avinoam Ben-Shaul</i> Structural Mechanics of Viral Shells: Stretching the Limits of Continuum Models. <i>William Klug</i> The Influenza Virus Mechanical Properties Are Dominated By Its Lipid Envelope. <i>Frederic Eghiaian</i> Single-Molecule Studies of Viral DNA Packaging with Optical Tweezers: Molecular Motor Function and DNA Confinement. <i>Douglas Smith</i> Response of Viral Shells under Nano-Indentation. <i>Christoph Schmidt</i>	102 A/B
10:45 AM–12:45 PM	Platform G Imaging & Optical Microscopy	104 A/B
10:45 AM–12:45 PM	Platform H Membrane Physical Chemistry I	151 A/B
10:45 AM–12:45 PM	Platform I DNA, RNA Structure & Conformation	153 A/B
10:45 AM–12:45 PM	Platform J Calcium Fluxes, Sparks, & Waves	252 A/B
10:45 AM–12:45 PM	Platform K Ion Channels, Other	254 A/B
11:00 AM–12:00 PM	International Relations Committee Meeting	105
11:00 AM–12:30 PM	Exhibitor Presentation Veeco Instruments	103
12:00 PM–1:00 PM	International Travel Awardee Luncheon	105
12:00 PM–2:00 PM	Career Roundtable Luncheon	253 A/B
12:00 PM–2:00 PM	Public Affairs Committee Meeting	152
1:00 PM–2:30 PM	Early Careers Committee Panel Negotiating the Transition Differences between Academia and Industry	253 C
1:00 PM–3:00 PM	Graduate Institution Fair	Hall A
1:45 PM–3:00 PM	Snack Break	Exhibit Hall Lounge
1:45 PM–3:45 PM	Poster Presentations	Hall A
2:30 PM–4:30 PM	Public Affairs Committee Panel Science Policy in the Obama Administration	153 C
3:30 PM–4:30 PM	Early Careers Committee Meeting	152
4:00 PM–6:00 PM	Symposium 5 How Proteins Move on DNA <i>Smita Patel</i> , UMDNJ RWJ Medical School, Chair High-Resolution Optical Trap Measurements of a Ringed DNA Translocase. <i>Yann Chemla</i> High Throughput Assays for Visualizing Individual Protein-DNA Interactions. <i>Eric Greene</i> Two Motors Move on DNA in a Cooperative Manner to Catalyze DNA Replication. <i>Smita Patel</i> Translocation and Unwinding by DnaB. <i>Omar A. Saleh</i>	Ballroom East

(Continued from previous page.)

4:00 PM–6:00 PM	<p>Symposium 6 Store-operated Calcium Channels in the Molecular Age <i>Richard Lewis</i>, Stanford University School of Medicine, Chair STIMulating Calcium Entry at ER-Plasma Membrane Junctions. <i>Jen Liou</i> Store-operated Calcium Entry in Lymphocyte Activation and Disease. <i>Stefan Feske</i> Structural and Mechanistic Insights into STIM1-mediated Initiation of Store-operated Calcium Entry. <i>Mitsu Ikura</i> A Molecular Mechanism for CRAC Channel Activation. <i>Richard Lewis</i></p>	Ballroom West
4:00 PM–6:00 PM	<p>Platform L Membrane Protein Structure</p>	102 A/B
4:00 PM–6:00 PM	<p>Platform M Cell & Bacterial Mechanics Motility</p>	104 A/B
4:00 PM–6:00 PM	<p>Platform N Membrane Dynamics & Bilayer Probes</p>	151 A/B
4:00 PM–6:00 PM	<p>Platform O Phototransduction: Signaling Events Downstream of Photon Absorption</p>	153 A/B
4:00 PM–6:00 PM	<p>Platform P Muscle: Molecular Mechanics and Structure</p>	252 A/B
6:00 PM–7:00 PM	<p>Biophysical Society of Canada Mixer</p>	253 A/B
6:00 PM–8:00 PM	<p>SRAA Poster Competition</p>	Hall A
7:30 PM–9:30 PM	<p>Workshop 1 Advanced Single Molecule Fluorescence Techniques in Vitro and in Vivo <i>Jeff Gelles</i>, Brandeis University, Chair Single-Molecule Analysis of Transcription. <i>Richard Ebright</i> In Vitro and in Vivo; Kinesin and Myosin Moving One (or a Few) at A Time. <i>Paul Selvin</i> In Vivo Super-Resolution Microscopy by Structured Illumination. <i>Mats Gustafson</i> Advanced Fluorescence Microscopy of Single, Living Cells: Using Optical Proteomics to Study Native Biochemistry One Molecule at A Time. <i>Mark Leake</i> Elucidating Regulatory Mechanisms in Complex Systems by Single-Molecule Light Microscopy. <i>Jeff Gelles</i></p>	Ballroom East
7:30 PM–9:30 PM	<p>Workshop 2 Channelopathies of Nerve and Muscle <i>Stephen Cannon</i>, University of Texas Southwestern Medical Center at Dallas, Chair Mechanistic Insights on Channelopathies of Brain and Skeletal Muscle. <i>Stephen Cannon</i> Neuronal Calcium Channels and Migraine. <i>Daniela Pietrobon</i> Presenilins Function as ER Calcium Leak Channels: Implications for AD. <i>Ilya Bezprozvanny</i> Sodium Channel Gating Pore Current in Periodic Paralysis. <i>William Catterall</i> Gating Pore Currents in NaV1.4 Channels: Insights into Voltage-Sensor Structure and Pathological Implications for Human Periodic Paralysis. <i>Arie Struyk</i></p>	Ballroom West
7:30 PM–9:30 PM	<p>Workshop 3 Enzymes in Energy Metabolism <i>Michael Radermacher</i>, University of Vermont, Chair Enzymes in Energy Metabolism, Introduction. <i>Michael Radermacher</i> Organization and Structural Features of Phosphofructokinase and Other Glycolytic Enzymes to Meet Their Role in Energy Metabolism. <i>Juan J. Aragón</i> How Mitochondrial Structure Can Affect Energy Metabolism: Insights from Electron Tomography. <i>Carmen Mannella</i> Molecular Architecture of Pyruvate Dehydrogenase Complexes. <i>Jacqueline Milne</i> Electroneutral and Electrogenic Catalysis by Diheme-containing Succinate: Quinone Oxidoreductases. <i>C. Roy Lancaster</i></p>	153 A/B

SUNDAY

Sunday, March 1

7:30 AM–8:30 AM, ROOM 253 A/B
POSTDOCTORAL BREAKFAST

Supported by the Burroughs Wellcome Fund.

The Early Careers Committee hosts this annual breakfast. Discussion will focus on the career development activities of the Early Careers Committee, plans for future events, and other issues facing Early Career scientists. Space is limited to the first 100 attendees.

7:30 AM–10:00 PM, ROOM 255
FAMILY ROOM

7:30 AM–5:00 PM, NORTH LOBBY
REGISTRATION/INFORMATION

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 1

Protein Modularity and Flexibility in Signal Transduction

Co-Chairs: *David Eliezer*, Weill Medical College of Cornell University
Richard Kriwacki, St. Jude Children's Research Hospital

12-SYMP 8:15 AM
Mechanisms Of Biological Regulation By Highly Dynamic Protein Complexes. **Julie Forman-Kay**, Tanja Mittag, Jennifer M. Baker, Joseph A. Marsh.

13-SYMP 8:45 AM
The Modular Logic of Cell Signaling Systems. **Wendell Lim**.

14-SYMP 9:15 AM
Allosteric effects and regulation of signaling: the ubiquitin E3 ligases. **Ruth Nussinov**.

15-SYMP 9:45 AM
Dynamic Origins of Interdomain Cooperativity in the Vav1 Proto-Oncoprotein. **Michael K. Rosen**, Pilong Li, Ilidio R. S Martins, Gaya K. Amarasinghe, Bingke Yu, Junko Umetani.

8:15 AM–10:15 AM, BALLROOM WEST
SYMPOSIUM 2

Many Ways to Regulate a Molecular Motor

Chair: *Samantha Harris*, University of California, Davis

16-SYMP 8:15 AM
Force Dependent Regulation of Myosin-I. **Michael Ostap**.

17-SYMP 8:45 AM
Structural Basis for The Regulation of Drosophila Myosin 7a. **James R. Sellers**, Yi Yang, Thomas Baboolal, Veri Siththanandan, Matthew L. Walker, Peter J. Knight, Michelle Peckham.

18-SYMP 9:15 AM
The Ups and Downs of Smooth Muscle Myosin Regulation. **Kenneth A. Taylor**.

19-SYMP 9:45 AM
Switching Gears with Myosin Binding Protein-C. **Samantha P. Harris**, Justin F. Shaffer, Kristina L. Bezold, Robert W. Kensler.

8:15 AM–10:15 AM, ROOM 102 A/B
PLATFORM A

Protein Conformation

Co-Chairs: *Martina Huber*, Leiden University, Netherlands
Ali Rana Atilgan, Sabanci University, Turkey

20-PLAT 8:15 AM
Active Unfolding of Collagen is not Required for Collagenolysis to Occur in Solution. **Ramon Salsas-Escat**, Collin M. Stultz.

21-PLAT 8:30 AM
Lipid Bilayer Coated Gold Nanoparticles Provide Insight Into Proteins' Conformational Changes. **Stephan M. Woods**, Katrice E. King, Avishek Kumar, Roberta E. Redfern, Alonzo Ross, Arne Gericke.

22-PLAT 8:45 AM
Extended conformations in alanine peptides. Kang Chen, Zhigang Liu, Chunhui Zhou, W. Clay Bracken, **Neville R. Kallenbach**.

23-PLAT 9:00 AM
A Solution NMR and Crystallographic Study of the Role of the Quaternary Shift in the Allosteric Regulation of Phosphofructokinase from *B. stearothermophilus*. **Rockann Mosser**, Manchi Reddy, James C. Sacchettini, Tatyana Igumenova, Gregory D. Reinhart.

24-PLAT 9:15 AM
From Data or Dogma? The Myth of the Ideal Helix. **Daniel J. Kuster**, Sergio Urahata, Jay W. Ponder, Garland R. Marshall.

25-PLAT 9:30 AM
Conformation Coupling Between The I-like Domain Alpha7 Helix And The Hybrid Domain Of Beta3 Integrins. **Jizhong Lou**, Wei Chen, Mei-Yin Chou, Cheng Zhu.

26-PLAT 9:45 AM
Spin-label EPR of alpha-Synuclein on Vesicles Reveals Antiparallel Arrangement and Differences in the Membrane Binding Affinity of the two Helices. **Martina Huber**, Malte Drescher, Frans Godschalk, Sergey Milikisyants, Gertjan Veldhuis, Bart van Rooijen, Vinod Subramaniam.

27-PLAT 10:00 AM
A Coarsened Network Model Reveals Allosteric Machinery. **Ali Rana Atilgan**, Canan Atilgan.

8:15 AM–10:15 AM, ROOM 104 A/B
PLATFORM B

Biotechnology & Bioengineering

Co-Chairs: *Xiao Wang*, Boston University
Brandon McNaughton, University of Michigan

28-PLAT 8:15 AM
Sequencing Paired Reads using True Single Molecule Sequencing (tSMS)TM Technology. **Jeff G. Reifengerger**, Doron Lipson, Jennifer Colonell, Tal Raz, Bill Pierceall, John Thompson, Patrice Milos.

29-PLAT 8:30 AM
Self-assembly via Active Transport By Biomolecular Motors. **Parag Katira**, Isaac Luria, Shruti Seshadri, Henry Hess.

30-PLAT 8:45 AM
Single Cell Detection and Analysis with Asynchronous Rotation of Driven Magnetic Microspheres. **Brandon H. McNaughton**, Paivo Kinnunen, Rodney R. Agayan, Ron G. Smith, Alan J. Hunt, Raoul Kopelman, Roy Clarke.

31-PLAT 9:00 AM
Remote Steering of *C. Elegans* Using Nanoparticle Heating. **Heng Huang**, Savas Delikanli, Hao Zeng, Arnd Pralle.

32-PLAT 9:15 AM
Probing Conformational Changes In Rhodopsin With Site-specific Azido Labels. **Shixin Ye**, Thomas Huber, Reiner Vogel, Thomas P. Sakmar.

33-PLAT 9:30 AM
Towards Mapping Domain Boundaries of Proteins. **Shambaditya Saha**, Thomas D. Pollard.

34-PLAT 9:45 AM
A Protein Interaction Network generated from *Streptococcus Pneumoniae*. **Doron Gerber**, Sebastian J. maerkl, Stephen R. Quake.

35-PLAT 10:00 AM
Diversity-Based Design of Synthetic Gene Networks with Desired Functions. **Xiao Wang**, Tom Ellis, James J. Collins.

8:15 AM–10:15 AM, ROOM 151 A/B

PLATFORM C

Oxidative Phosphorylation & Mitochondrial Metabolism

Co-Chairs: *Pia Vogel*, Southern Methodist University
John Miller, University of Houston

36-PLAT 8:15 AM
Molecular Basis of Substrate Selectivity in the ADP/ATP Carrier. **Yi Wang**, Emad Tajkhorshid.

37-PLAT 8:30 AM
VDAC Regulation by Cytosolic Proteins. **Tatiana K. Rostovtseva**.

38-PLAT 8:45 AM
A Microcompartment Of Mitochondrial Nucleoside Diphosphate Kinase: Cardiolipin Interaction And Coupling Of Nucleotide Transfer With Respiration. **Uwe Schlattner**, Malgorzata Tokarska-Schlattner, Ivan Dinh, Mathieu Boissan, Marie-Lise Lacombe.

39-PLAT 9:00 AM
Using Two-photon Excited Fluorescence Intensity- and Lifetime-based NADH Imaging to Investigate Cochlea Metabolism. **LeAnn M. Tiede**, Jorge A. Vergen, Clifford Hecht, Richard Hallworth, Michael G. Nichols.

40-PLAT 9:15 AM
Mitochondrial Energy Metabolism and Ca²⁺ Handling in Pancreatic Beta-cells. A System Analysis Approach. **Leonid E. Fridlyand**, Louis H. Philipson.

41-PLAT 9:30 AM
Modeling Regulation of Mitochondrial Free Ca²⁺ by ATP/ADP-Dependent Ca²⁺ Buffering. **Ranjan K. Dash**, Matthew D. Thompson, Kalyan C. Vinnakota, Johan Haumann, Mohammed Aldakkak, Amadou K.S. Camara, David F. Stowe, Beard A. Daniel.

42-PLAT 9:45 AM
The External Stalk of the FoF1-ATPase: 3D-Structure of the b-Dimer. Oleg A. Volkov, Susan J. Pandey, John G. Wise, **Pia D. Vogel**.

43-PLAT 10:00 AM
Torque Generation Mechanism of ATP Synthase and Other Rotary Motors. **John H. Miller**, Vijayanand Vajrala, Hans L. Infante, James R. Claycomb.

8:15 AM–10:15 AM, ROOM 153 A/B

PLATFORM D

RNA Folding & Ribosome

Co-Chairs: *David Rueda*, Wayne State University
Kathleen Hall, Washington University School of Medicine

44-PLAT 8:15 AM
Laser Assisted Single-molecule Refolding. Rui Zhao, Elvin Alemán, **David Rueda**.

45-PLAT 8:30 AM
Single Molecule Analysis of Group I Ribozyme Folding Reveals Pronounced Ruggedness Throughout Its Folding Landscape. **Sergey Solomatin**, Max Greenfeld, Steven Chu, Dan Herschlag.

46-PLAT 8:45 AM
Identifying Energy Barriers in RNA Folding Through Kinetic Model Enumeration. **Joshua S. Martin**, Joerg Schlatterer, Michael Brenowitz, Alain Laederach.

47-PLAT 9:00 AM
Uncovering The Mechanism Used By *Drosophila* Snf Protein To Specifically Bind Two RNAs. **Kathleen B. Hall**, Gregory DeKoster, Sandra Williams.

48-PLAT 9:15 AM
Parallel Pathways in 30S Ribosome Assembly. **William K. Ridgeway**, Zahra Shajani, David P. Millar, James R. Williamson.

49-PLAT 9:30 AM
Visualizing tmRNA after its accommodation in the Ribosome. **Jie Fu**, Jianlin Lei, Iowna Wower, Jacek Wower, Joachim Frank.

50-PLAT 9:45 AM
Coupling Of Ribosome And tRNA Dynamics During Translation. **Ruben L. Gonzalez, Jr**, Jingyi Fei, Samuel H. Sternberg.

51-PLAT 10:00 AM
Regulation of the Protein-conducting Channel by a Bound Ribosome. **James C. Gumbart**, Leonardo G. Trabuco, Elizabeth Villa, Eduard Schreiner, Christopher B. Harrison, Klaus Schulten.

8:15 AM–10:15 AM, ROOM 252 A/B

PLATFORM E

Excitation-Contraction Coupling

Co-Chairs: *Ye Chen-Izu*, University of Kentucky
Bjorn Knollman, Vanderbilt University Medical Center

52-PLAT 8:15 AM
Impaired Sarcoplasmic Reticulum Calcium Release In Skeletal Muscle Fibers From Myotubularin-Deficient Mice. Norbert Weiss, Lama Al-Qusairi, Celine Berbey, Bruno Allard, Jean Louis Mandel, Jocelyn Laporte, Anna Buj-Bello, **Vincent Jacquemond**.

53-PLAT 8:30 AM
Changes of EC-coupling and RyR Calcium Sensitivity in Dystrophic mdx Mouse Cardiomyocytes. **Nina D. Ullrich**, Mohammed Fanchaouy, Konstantin Gusev, Eva Polakova, Natalia Shirokova, Ernst Niggli.

54-PLAT 8:45 AM
The Skeletal L-type Ca²⁺ Current is a Major Contributor to Excitation-Coupled Ca²⁺ Entry (ECCE) . **Roger A. Bannister**, Kurt G. Beam.

55-PLAT 9:00 AM
Post-Tetanic Calcium Transients In Adult Skeletal Muscle Fibers Are Frequency-Dependent And Fiber Type Specific. **Mariana Casas**, Reinaldo Figueroa, Isaac Garcia, Enrique Jaimovich.

56-PLAT 9:15 AM
Negative Relationship Between Fractional SR Ca²⁺ Release and Stimulation Rate. **Rosana A. Bassani**, Rafael A. Ricardo, José WM Bassani.

57-PLAT 9:30 AM
Flecainide Inhibits Cardiac Ryanodine Channels And Spontaneous Sarcoplasmic Reticulum Calcium Release In Casq2 Null Myocytes. Derek Laver, Nagesh Chopra, **Bjorn C. Knollmann**.

58-PLAT 9:45 AM
CaMKII Regulates L-type Ca²⁺ Current during Action Potential Plateau and Repolarization – a Direct Link to Arrhythmias. Tamas Banyasz, Leighton T. Izu, **Ye Chen-Izu**.

59-PLAT 10:00 AM
Simultaneous Recordings of Cell Shortening and cAMP or Calcium Transients Reveal Differential Regulation of Cardiac Contractility by Specific Phosphodiesterases. **Delphine Mika**, Jérôme Leroy, Patrick Lechêne, Grégoire Vandecasteele, Rodolphe Fischmeister.

8:15 AM–10:15 AM, ROOM 254 A/B

PLATFORM F

Voltage-gated Na Channels

Co-Chairs: *Robert Ruff*, Veterans Affairs Medical Center, Cleveland
Catherine Morris, Ottawa Hospital Res Institute

60-PLAT 8:15 AM
How Myasthenia Gravis Alters the Safety Factor for Neuromuscular Transmission. **Robert L. Ruff**, Vanda A. Lennon.

61-PLAT 8:30 AM
Na_v1.7 Gain-of-function Mutations As A Continuum: A1632E Displays Physiological Changes Associated With Erythromelalgia And Paroxysmal Extreme Pain Disorder Mutations And Produces Symptoms Of Both Disorders. **Mark Estacion**, Sulayman D. Dib-Hajj, Paul J. Benke, R H. M. te Morsche, Emmanuella M. Eastman, Lawrence J. Macala, Joost P.H. Drenth, Stephen G. Waxman.

62-PLAT 8:45 AM
Using Potassium Channels As Reporters To Deconstruct The Function And Pharmacology Of Sodium Channel Voltage Sensors. **Frank Bosmans**, Marie-France Martin-Eauclaire, Kenton J. Swartz.

63-PLAT 9:00 AM
Persistently “Leaky” Nav Channels In Traumatized Axons: Lowered Barriers To Nav1.6 Voltage Sensor Motions In Blebbed Plasma Membrane As A Possible Explanation. Wei Lin, Peter F. Juranka, **Catherine E. Morris**.

64-PLAT 9:15 AM
Expression, Purification and Biophysical Characterization of a Superfamily of Prokaryotic Voltage-gated Sodium Channels. **Emily C. McCusker**, B. A. Wallace.

65-PLAT 9:30 AM
Chimeric bacterial-human Nav1.7 sodium channels expressed in *E. coli*. **Andrew M. Powl**, B. A. Wallace.

66-PLAT 9:45 AM
Block of Tetrodotoxin-sensitive, Nav1.7, and Tetrodotoxin-resistant, Nav1.8, Na²¹ Channels by Ranolazine. **Sridharan Rajamani**, John Shryock, Luiz Belardinelli.

67-PLAT 10:00 AM
Insecticide Binding to Voltage-gated Sodium Channels. **Andrias O. O’Reilly**, TG Emyr Davies, Peter N.R. Usherwood, Ian R. Mellor, Martin S. Williamson, Linda M. Field, B. A. Wallace.

9:00 AM–10:30 AM, ROOM 251

CPOW COMMITTEE MEETING

10:00 AM–5:00 PM, HALL A

EXHIBITS

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

COFFEE BREAK

10:30 AM–1:00 PM, ROOM 153C

UNDERGRADUATE STUDENT SYMPOSIUM

10:45 AM–12:45 PM, BALLROOM EAST

SYMPOSIUM 3

The Biophysics of HIV

Chair: *David Millar*, Scripps Research Institute

68-SYMP 10:45 AM
Nucleic Acid Chaperone Activity of Retroviral Gag and Nucleocapsid Proteins. **Karin Musier-Forsyth**.

69-SYMP 11:15 AM
Assembly of Ribonucleoproteins Involved in Viral RNA Trafficking. **David Millar**, Stephanie J. Pond, William Ridgeway, Rae Robertson.

70-SYMP 11:45 AM
Insights Into The Mechanism Of Retroviral Genome Packaging And Assembly. **Michael Summers**.

71-SYMP 12:15 PM
Mechanistic Studies of HIV Budding. **Wesley I. Sundquist**.

10:45 AM–12:45 PM, BALLROOM WEST

SYMPOSIUM 4

Systems Biology

Chair: *Ravi Iyengar*, Mount Sinai School of Medicine

72-SYMP 10:45 AM
Designing Biological Systems. **Pamela Silver**.

73-SYMP 11:15 AM
Design principles of biological circuits. **Uri Alon**.

74-SYMP 11:45 AM
Nature, nurture, or just blind chance: Stochastic gene expression and its consequences. **Alexander van Oudenaarden**.

75-SYMP 12:15 PM
Information is critical for cellular life. **Ravi Iyengar**.

10:45 AM–12:45 PM, ROOM 102 A/B

MINISYMPOSIUM 1

Virus Mechanics: Material Properties and Assembly

Co-Chairs: *William Gelbart*, University of California, Los Angeles
Christoph Schmidt, Georg-August-Universität, Göttingen, Germany

76-MINISYMP 10:45 AM
Biophysical Studies of Virus Particles and their Maturation: Insights into Elegantly Programmed Nano-machines. **Jack Johnson**.

77-MINISYMP 11:05 AM
Modeling the Size and Structure of RNA: Viral vs. Non-viral Sequences. **Avinoam Ben-Shaul**, Aron M. Yoffe, Peter Prinsen, William M. Gelbart.

78-MINISYMP 11:25 AM
Structural Mechanics of Viral Shells: Stretching the Limits of Continuum Models. **William S. Klug**.

79-MINISYMP 11:45 AM
The Influenza Virus Mechanical Properties Are Dominated By Its Lipid Envelope. **Frederic Eghiaian**, Iwan Alexander Schaap, Amédée Des Georges, John James Skehel, Claudia Veigel.

80-MINISYMP 12:05 PM
Single-Molecule Studies of Viral DNA Packaging with Optical Tweezers: Molecular Motor Function and DNA Confinement. **Douglas E. Smith**, James M. Tsay.

81-MINISYMP 12:25 PM
Response of Viral Shells under Nano-Indentation. Irena L. Ivanovska, Pedro J. de Pablo, Roberto Miranda, Melissa M. Gibbons, Jean-Philippe Michel, Gijis J.L. Wuite, Fred C. MacKintosh, Jose L. Carrascosa, William S. Klug, Robijn F. Bruinsma, Charles M. Knobler, **Christoph F. Schmidt**.

10:45 AM–12:45 PM, ROOM 104 A/B

PLATFORM G**Imaging & Optical Microscopy**Chair: *Claire Brown*, McGill University
Shaohui Huang, University of Massachusetts Medical School

- 82-PLAT 10:45 AM**
Stereo Photoactivated Localization Microscopy for Super-Resolution 3D Bioimaging. **Jianyong Tang**, Alipasha Vaziri, Charles V. Shank.
- 83-PLAT 11:00 AM**
Fluorogen Activating Peptides for Single Molecule Localization based Superresolution. **Keith A. Lidke**, Qi Yan, Sierd C. Smith, Nikolai Joseph, Marcel Bruchez.
- 84-PLAT 11:15 AM**
Three-dimensional Super-resolution Fluorescence Microscopy and Its Application to Clathrin Mediated Endocytosis. **Bo Huang**, Min Wu, Wenqin Wang, Pietro De Camilli, Xiaowei Zhuang.
- 85-PLAT 11:30 AM**
STED Nanoscopy in Living Cells using Live Cell Compatible Markers. **Katrin I. Willig**, Birka Hein, U. Valentin Nägerl, Stefan W. Hell.
- 86-PLAT 11:45 AM**
Multilayer Three-dimensional Super-resolution Imaging of Thick Biological Samples. **Alipasha Vaziri**, Jianyong Tang, Hari Shroff, Charles Shank.
- 87-PLAT 12:00 PM**
Single Molecule Tracking With Light Sheet-Based Microscopy In Vivo. **Jörg Ritter**, Roman Veith, Jan Peter Siebrasse, Ulrich Kubitschek.
- 88-PLAT 12:15 PM**
Ultra-high resolved Multi-Beam-Two-Photon-Striped-Illumination-Microscopy (MBTPSIM): Studying the Molecular Nature of Cell-Cell Interactions. **Raluca Niesner**, Jan Leo Rinnenthal.
- 89-PLAT 12:30 PM**
A Programmable Light Engine For Quantitative TIRF And HILO Imaging. **Marcel van 't Hoff**, Vincent de Sars, Martin Oheim.

10:45 AM–12:45 PM, ROOM 151 A/B

PLATFORM H**Membrane Physical Chemistry I**Co-Chairs: *Beate Kloesgen*, University of Southern Denmark
Brigitte Papahadjopoulos-Sternberg, NanoAnalytical Lab

- 90-PLAT 10:45 AM**
Charges in phospholipid layers. Malgorzata Hermanowska, Goran Bijelic, Corina Ciobanasi, Ulrich Kubitschek, Per Claesson, **Beate M. Klösgen**.
- 91-PLAT 11:00 AM**
Domain/Raft Exploration in Lipid Mono- & Bilayer by Freeze-fracture Electron Microscopy on Nano-Resolution Scale.
Brigitte Papahadjopoulos-Sternberg.
- 92-PLAT 11:15 AM**
Sterol Uptake From Liposomes By MbCD Is Influenced By The Extent Of Sterol Superlattice In The Membrane. Berenice Venegas,
Parkson L.-G. Chong.
- 93-PLAT 11:30 AM**
Lipid Diffusion In Domain-forming Bilayers Studied By Pfg-nmr.
Goran Lindblom, Greger Orådd.
- 94-PLAT 11:45 AM**
Lipid Sorting In Membranes Nanotubes.
Benoit SORRE, Andrew Callan-Jones, Jean-Baptiste Manneville, Pierre Nassoy, Jean-Francois Joanny, Jacques Prost, Bruno Goud, Patricia Bassereau.
- 95-PLAT 12:00 PM**
Stoichiometries and Energetics of Cationic Nanoparticle-Membrane Complexes. **Christopher V. Kelly**, Meghan G. Liroff, L. Devon Triplett, Douglas G. Mullen, James R. Baker, Bradford G. Orr, Mark M. Banaszak Holl.

96-PLAT 12:15 PM

The Delivery of Lipidic Compounds to Model Membrane Interfaces by Non-lamellar Liquid Crystalline Nano-particles. Pauline Vandoolaeghe, Adrian R. Rennie, Richard A. Campbell, Robert K. Thomas, Fredrik Höök, Giovanna Fragneto, Justas Barauskas, Fredrik Tiberg, **Tommy Nylander**.

97-PLAT 12:30 PM

Construction Of A Tethered-bilayer Lipid Membrane By Physiosorption Of Glycolipid GM₁ To A Hydrophilically Modified Gold Surface.
Annia H. Kycia, Jacek Lipkowski, Rod Merrill.

10:45 AM–12:45 PM, ROOM 153 A/B

PLATFORM I**DNA, RNA Structure & Conformation**Co-Chairs: *Laura Finzi*, Emory University
Alexander Vologodski, New York University

- 98-PLAT 10:45 AM**
Computational and Experimental Determination of the tRNA-like Structure in the 39UTR of the Turnip Crinkle Virus (TCV). **Wojciech K. Kasprzak**, Yaroslava G. Yingling, Anne E. Simon, Bruce A. Shapiro.
- 99-PLAT 11:00 AM**
Pre-stressed Tensegrity Structures built from DNA. **Tim Liedl**, Donald E. Ingber, William M. Shih.
- 100-PLAT 11:15 AM**
The Role of Sequence-Dependent Mechanics in DNA Looping.
David P. Wilson, J.C. Meiners, Todd Lillian, Alexei Tkachenko, Noel C. Perkins.
- 101-PLAT 11:30 AM**
Chromatin Organization in E.coli. **Paul Wiggins**, Joshua Martin, Jane Kondev.
- 102-PLAT 11:45 AM**
Structure and Dynamics of the Bacterial Chromosome.
Nastaran Hadizadeh, John F. Marko.
- 103-PLAT 12:00 PM**
DNA Strand Exchange on Liposome Surfaces. Karolin Frykholm, Francesca Baldelli Bombelli, Bengt Nordén, **Fredrik Westerlund**.
- 104-PLAT 12:15 PM**
Load Dependence of the Degree of Cooperativity of the Unwinding of Dna Helix. **Pasquale Bianco**, Mario Dolfi, Vincenzo Lombardi.
- 105-PLAT 12:30 PM**
Unraveling the Structure of a Single DNA During Overstretching Using Multicolor Fluorescence Imaging. **Peter Gross**, Joost van Mameren, Geraldine Farge, Pleuni Hooijman, Maria Falkenberg, Mauro Modesti, Erwin J.G. Peterman, Gijs J.L. Wuite.

10:45 AM–12:45 PM, ROOM 252 A/B

PLATFORM J**Calcium Fluxes, Sparks, & Waves**Co-Chairs: *Laszelo Czernoch*, University of Debrecen, Hungary
Eric Sobie, Mt. Sinai School of Medicine

- 106-PLAT 10:45 AM**
Calcium Flickers Steer Cell Migration. **Chaoliang Wei**, Xianhua Wang, Min Chen, Kunfu Ouyang, Long-Sheng Song, Heping Cheng.
- 107-PLAT 11:00 AM**
Ca₂ Spark Restitution In Ventricular Myocytes With Modified Ryanodine Receptor Gating. **Hena R. Ramay**, Eric A. Sobie.
- 108-PLAT 11:15 AM**
Quarky Calcium Sparks in Heart. **Didier X.P. Brochet**, Dongmei Yang, Wenjun Xie, Heping Cheng, W. J. Lederer.
- 109-PLAT 11:30 AM**
Concerted Phosphodiesterase (PDE) Subtype Activity Modulates Ca²¹ Influx Through L-type Ca²¹ Channels To Regulate Spontaneous Firing of Rabbit Sinoatrial Node Cells (SANC). **Tatiana M. Vinogradova**, Alexey E. Lyashkov, Harold Spurgeon, Edward G. Lakatta.

110-PLAT 11:45 AM

Development of Calcium Handling Defects During Aging in Spontaneously Hypertensive Rats. **Sunil Kapur**, Gary L. Aistrup, Rohan Sharma, Jiabo Zheng, James E. Kelly, Alan H. Kadish, William Balke, J Andrew Wasserstrom.

111-PLAT 12:00 PM

Decreased Arrhythmia Probability After Exercise Training In Post Infarction Heart Failure. **Tomas O. Stølen**, Morten A. Høydal, Godfrey L. Smith, Ulrik Wisløff.

112-PLAT 12:15 PM

Ca²⁺ Spark Activity in Intact Dystrophin-Deficient mdx Muscle during Osmotic Challenge is Triggered by Mechanosensitive Pathways. Martin DH Teichmann, Frederic von Wegner, Rainer HA Fink, Jeffrey S. Chamberlain, Bradley S. Launikonis, Boris Martinac, **Oliver Friedrich**.

113-PLAT 12:30 PM

Fluvastatin Alters Both The Calcium Homeostasis And Cell Proliferation In Cultured Myotubes And The Calcium Release Events In Adult Muscle Fibers Of The Rat. Marta Fuzi, Zoltan Palitz, Laszlo Szabo, Janos Vincze, Peter Szentesi, Gyorgy Paragh, Pal Kertai, **Laszlo Csernoch**.

10:45 AM–12:45 PM, ROOM 254 A/B**PLATFORM K****Ion Channels, Other**

Chair: *Cristian Ionescu-Zanetti*, Fluxion Biosciences
Marco Colombini, University of Maryland

114-PLAT 10:45 AM

A Microfluidic Approach Enables Ligand Gated Ion Channel Recording from Cell Ensembles. **Cristian Ionescu-Zanetti**, Ian Spencer, Nianzhen Li, Jeff Jensen.

115-PLAT 11:00 AM

Discovery Of Photochromic Ligands That Block Voltage-gated K₁ Channels At The Internal TEA Binding Site. **Matthew R. Banghart**, Alexandre Mourot, Doris L. Fortin, Richard H. Kramer, Dirk Trauner.

116-PLAT 11:15 AM

Gaining control over membrane potential by light using Channelrhodopsin. **Anton Rösler**, Peter Hegemann, Matthias Prigge.

117-PLAT 11:30 AM

Determining The Coupling Between Subunits In Kcsa Using Single Channel Fluorescence Spectroscopy. **Hugo McGuire**, Francisco Bezanilla, Rikard Blunck.

118-PLAT 11:45 AM

Light-gated Ion Channels Based on Gramicidin A. **Mike X. Macrae**, Michael Mayer, Jerry Yang.

119-PLAT 12:00 PM

Lipid Channels: Positive and Negative Cooperativity and Regulation by Proteins. **Vidyaramanan Ganesan**, Meenu N. Perera, Leah Siskind, Zdzislaw Szulc, Alicja Bielawska, Marco Colombini.

120-PLAT 12:15 PM

Ryanodine Receptors Alter Store-Operated Ca²⁺ Influx In Resting And Activated Human T Cells By Regulating Ca²⁺ Retention Within The Store. Sephr Dadsetan, Liudmila Zakharova, **Alla Fomina**.

121-PLAT 12:30 PM

The Sodium Channel Accessory Subunit Navb1 Associates With Brain Kv4.2 And Modulates The Functional Expression Of Kv4.2-encoded Channels. **Celine Marionneau**, Aaron Norris, Reid R. Townsend, Andrew J. Link, Jeanne M. Nerbonne.

11:00 AM–12:00 PM, ROOM 105
INTERNATIONAL RELATIONS
COMMITTEE MEETING

11:00 AM–12:30 PM, ROOM 103
EXHIBITOR PRESENTATION
Veeco Instruments

12:00 PM–1:00 PM, ROOM 105
INTERNATIONAL TRAVEL
AWARDEE LUNCHEON

The International Affairs Committee will honor the International Travel Grant Awardees at this annual luncheon.

12:00 PM–2:00 PM, 253 A/B**CAREER ROUNDTABLE LUNCHEON**

This roundtable career luncheon, hosted by CPOW, is aimed at helping attendees, particularly those early in their careers, navigate the complex waters of a faculty-level research career. Popular topics include conflict resolution, how to establish a successful collaboration, where to look for alternative research funding, and how to select a good group of mentors for career development. Approximately one dozen established investigators with expertise in one or more of the discussion areas and a keen desire to mentor participate in this event. The luncheon begins with each table holding a roundtable discussion on a given topic. It ends with a representative from each table summarizing the responses to their particular topic, providing a forum for all participants to learn from each roundtable discussion. Pre-registration was required.

12:00 PM–2:00 PM, ROOM 152**PUBLIC AFFAIRS COMMITTEE MEETING****1:00 PM–2:30 PM, ROOM 253C**

NEGOTIATING THE TRANSITION:
DIFFERENCES BETWEEN ACADEMIA
AND INDUSTRY

The panelists, from academia and industry, will compare their experiences of the transition between postdoc and a more permanent position and provide advice on the steps involved in this transition. This panel is part of a popular series hosted by the Early Careers Committee.

Panelists:

Isabelle Marcotte, Université du Québec à Montréal, Canada
Jessica Dawson, EMD Serono, Inc.
Dustin Armstrong, 453 BioScience, Inc.
Aldrin Gomes, University of California, Davis

1:00 PM–3:00 PM, HALL A**GRADUATE INSTITUTION FAIR**

Sponsored by the Education Committee, this fair will introduce undergraduate students to colleges and universities with leading graduate training programs in biophysics.

1:45 PM–3:00 PM, EXHIBIT HALL LOUNGE**SNACK BREAK****1:45 PM–3:45 PM, HALL A****SUNDAY POSTER PRESENTATIONS**

(For a complete listing of Sunday Poster presentations, see page 19.)

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.

2:30 PM–4:30 PM, 153C

SCIENCE POLICY IN THE OBAMA ADMINISTRATION

With a new President in the Oval Office and new leadership at federal agencies government-wide, what is in store for science? Join renowned experts on politics and science policy for a discussion of the changes that occur when a new administration takes office, as well as the expected role of science policy in the Obama Administration. This session is sponsored by the Public Affairs Committee.

Speakers:

The Honorable John Porter, Chairman, Research! America
Jeremy Berg, Director, NIGMS, NIH
Additional speaker to be announced

3:30 PM–4:30 PM, ROOM 152

EARLY CAREERS COMMITTEE MEETING

4:00 PM–6:00 PM, BALLROOM EAST

SYMPOSIUM 5

How Proteins Move on DNA

Chair: *Smita Patel*, UMDNJ RWJ Medical School

992-SYMP 4:00 PM

High-resolution Optical Trap Measurements Of A Ringed DNA Translocase. **Yann R. Chemla**, Jeffrey R. Moffitt, K. Aathavan, Shelley Grimes, Paul J. Jardine, Dwight L. Anderson, Carlos Bustamante.

993-SYMP 4:30 PM

High throughput assays for visualizing individual protein-DNA interactions. **Eric Greene**.

994-SYMP 5:00 PM

Coupling of two motors: T7 helicase-primase and DNA polymerase. **Smita Patel**, Manjula Pandey, Salman Syed, Taekjip Ha, Daniel Johnson, Michelle Wang.

995-SYMP 5:30 PM

Translocation and Unwinding by DnaB. **Omar A. Saleh**.

4:00 PM–6:00 PM, BALLROOM WEST

SYMPOSIUM 6

Store-operated Calcium Channels in the Molecular Age

Chair: *Richard Lewis*, Stanford University School of Medicine

996-SYMP 4:00 PM

STIMulating Calcium Entry at ER-Plasma Membrane Junctions. **Jen Liou**, Onn Brandman, Tobias Meyer.

997-SYMP 4:30 PM

Calcium Signals In Lymphocyte Activation And Disease. **Stefan Feske**.

998-SYMP 5:00 PM

Structural And Mechanistic Insights Into Stim1-mediated Initiation Of Store Operated Calcium Entry. **Mitsu Ikura**.

999-SYMP 5:30 PM

A Molecular Mechanism for CRAC Channel Activation. **Richard S. Lewis**.

4:00 PM–6:00 PM, ROOM 102 A/B

PLATFORM L

Membrane Protein Structure

Co-Chairs: *Linda Columbus*, University of Virginia
Constance Jeffery, University of Illinois Chicago

1000-PLAT 4:00 PM

High Throughput Coarse-Grained Simulations of the Insertion of Transmembrane Helices. **Benjamin A. Hall**, Alan Chetwynd, Richard Franzese, Mark SP Sansom.

1001-PLAT 4:15 PM

Structural models of Alzheimer's Abeta channels. **H. R. Guy**, Stewart R. Durell, Yinon Shafrir.

1002-PLAT 4:30 PM

Pore Formation and Structure of the Twin Arginine Translocase Subunit TatA from *B. subtilis*. **Stephan L. Grage**, Torsten H. Walther, Claudia Muhle, Olga Nolandt, Marco J. Klein, Nadine Roth, Sonja D. Mueller, Philip Callow, Anna de Angelis, Fabian V. Philipp, Stanley J. Opella, Anne S. Ulrich.

1003-PLAT 4:45 PM

Lysophospholipid Micelles Sustain Diacylglycerol Kinase in Active and Stable Form for Biochemical and Structural Studies. **Endah S. Sulistijo**, Charles Ellis, Megan Wadington, Charles R. Sanders.

1004-PLAT 5:00 PM

Mixing and Matching Detergents for Membrane Protein NMR Structure Determination. **Linda Columbus**, Jan Lipfert, Kalyani Jambunathan, Daniel A. Fox, Adelene Y.L. Sim, Sebastian Doniach, Scott A. Lesley.

1005-PLAT 5:15 PM

Structure and Dynamics of TM Domains of Human Glycine Receptor in LPPG Micelles. **Dejian Ma**, Yuanyuan Jia, Pei Tang, Yan Xu.

1006-PLAT 5:30 PM STUDENT TRAVEL AWARDEE

Conformational Cycle Of A Bacterial Homolog Of Human Neurotransmitter Sodium Symporters. **Derek Claxton**, Matthias Quick, Lei Shi, Lynn Chung, Yongfang Zhao, Harel Weinstein, Jonathan A. Javitch, Hassane S. Mchaourab.

1007-PLAT 5:45 PM

X-ray Footprinting Studies on Photoactivation of Bovine Rhodopsin. **Sayan Gupta**, Thomas Angel, Beata Jastrzebska, Krzysztof Palczewski, Mark R. Chance.

4:00 PM–6:00 PM, ROOM 104 A/B

PLATFORM M

Cell & Bacterial Mechanics Motility

Co-Chairs: *Dennis Discher*, University of Pennsylvania
David Odde, University of Minnesota

1008-PLAT 4:00 PM

Physical Description of Mitotic Spindle Orientation During Cell Division. **Andrea Jiménez-Dalmaroni**, Manuel Théry, Victor Racine, Michel Bornens, Frank Jülicher.

1009-PLAT 4:15 PM

Taking Control of the Bacterial Flagellar Motor. **Simon Rainville**, Mathieu Gauthier, Dany Truchon, Alexandre Bastien.

1010-PLAT 4:30 PM

How Molecular Motors Shape The Flagellar Beat. **Andreas Hilfinger**, Ingmar Riedel-Kruse, Jonathon Howard, Frank Jülicher.

1011-PLAT 4:45 PM

Mechanics Of Neutrophil Motility On Compliant Gels Measured With Traction Force Microscopy. **Daniel A. Hammer**, Risat Jannat, Micah Dembo.

1012-PLAT 5:00 PM

Mechanics in neuronal development. **Kristian Franze**, Hanno Svoboda, Pouria Moshayedi, Andreas Christ, James Fawcett, Josef A. Kas, Christine E. Holt, Jochen Guck.

1013-PLAT 5:15 PM

Stem Cell Biophysics: Pre-differentiation Dynamics of Stress Fiber Polarization on Elastic Matrices. **Andre E.X. Brown**, Florian Rehfeldt, Allison L. Zajac, Dennis E. Discher.

1014-PLAT 5:30 PM

Contractile Force Generation Enhanced Tumor Cell Invasion, But Decreased Tumor Growth. **Claudia T. Mierke**, Benjamin Frey, Martina Fellner, Martin Herrmann.

1015-PLAT 5:45 PM

Pushing Off The Walls: A Mechanism Of Cell Motility In Confinement. **Rhoda J. Hawkins**, Matthieu Piel, Ana-Maria Lennon-Dumenil, Jean-François Joanny, Jacques Prost, Raphaël Voituriez.

4:00 PM–6:00 PM, ROOM 151 A/B

PLATFORM N

Membrane Dynamics & Bilayer Probes

Co-Chairs: *Christian Eggeling*, Max Planck Institute, Germany
Manuel Prieto, Institute Superior Technico

1016-PLAT 4:00 PM
High-Resolution Far-Field Fluorescence STED Microscopy Reveals Nanoscale Details of Molecular Membrane Dynamics. **Christian Eggeling**, Christian Ringemann, Rebecca Medda, Birka Hein, Stefan W. Hell.

1017-PLAT 4:15 PM
3D Tracking of Antibody-Receptor Dynamics on RBL Cells. **Nathan P. Wells**, Guillaume A. Lessard, Peter M. Goodwin, James H. Werner.

1018-PLAT 4:30 PM
Physiological Membrane Tension Causes An Increase In Lipid Diffusion: A Single Molecule Fluorescence Study. **Hari S. Muddana**, Ramachandra Rao Gullapalli, Tristan Tabouillot, Peter J. Butler.

1019-PLAT 4:45 PM
Hydrophobic Mismatch: A universal Tool for Clustering, Demixing, and Sorting of Transmembrane Proteins. **Ulrich Schmidt**, Gernot Guigas, Matthias Weiss.

1020-PLAT 5:00 PM
Backbone Conformation and Dynamics of the Lipid-Modified Membrane Anchor of Human N-Ras Investigated by Solid-State NMR and Molecular Dynamics Simulations. **Alexander Vogel**, Guido Reuther, Kui-Thong Tan, Herbert Waldmann, Michael F. Brown, Scott E. Feller, Daniel Huster.

1021-PLAT 5:15 PM
Subdiffusion And Diffusion Of Lipid Atoms And Molecules: Relating The Dynamics Of Lipids To Neutron Scattering Experiments. **Elijah Flenner**, Jhuma Das, Maikel Rheinstädter, Ioan Kosztin.

1022-PLAT 5:30 PM
Towards Subcellular Tissue Sampling by Near-Field Laser Ablation: A 'Protein Microscope' to Map Peptide Distributions in Cells. **Mark E. Reeves**, Jasper Nijdam, Benjamin Gamari, Deepa Raghu, Andrew Gomella, Joan A. Hoffmann.

1023-PLAT 5:45 PM
A Biomolecular Photodiode For Imaging Of Cell Membrane Potential. **Daniel R. Cooper**.

4:00 PM–6:00 PM, ROOM 153 A/B

PLATFORM O

Phototransduction: Signaling Events Downstream of Photon Absorption

Co-Chairs: *Robert Molday*, University British Columbia
Anita Zimmerman, Brown University

1024-PLAT 4:00 PM
Structure and Dynamics of Signal Transducing Membrane Complexes. **Theodore G. Wensel**, Feng He, Qiong Wang, Zhixian Zhang.

1025-PLAT 4:15 PM
Mouse Cone Opsins Require An Arrestin For Normal Inactivation. **Edward N. Pugh, Jr.**, Sergei Nikonov, Jason Davis, Cheryl Craft.

1026-PLAT 4:30 PM
Light-Dependent Translocation of Arrestin in Rod Photoreceptors is Signaled through a Phospholipase C Cascade and Requires ATP. **W. Clay Smith**, Wilda Orisme, J. Hugh McDowell, Jian Li, Tobias Goldmann, Uwe Wolfgram.

1027-PLAT 4:45 PM
NCKX Reaction Cycle: ATP, Voltage And Ion Regulation. Natascia Vedovato, **Giorgio Rispoli**.

1028-PLAT 5:00 PM
Regulation Of Photoreceptor Guanylyl Cyclase By Ca²⁺/Mg²⁺ Exchange In GCAPs. **Alexander M. Dizhoor**, Elena V. Olshevskaya, Igor V. Peshenko.

1029-PLAT 5:15 PM
Phototransduction Cascade Inactivation Kinetics Depend on Experimental Solutions. **Anthony W. Azevedo**, Fred Rieke.

1030-PLAT 5:30 PM

Mathematical aspects of Variability and Variability Suppression of the Single Photon Response in Vertebrate Phototransduction.

Emmanuele DiBenedetto, Paolo Bisegna, Giovanni Caruso, Lixin Shen, Daniele Andreucci, Vsevolod Gurevich, Heidi E. Hamm.

1031-PLAT 5:45 PM

Melanopsin Signalling: Low Pigment Density, Large Single-Photon Response, and High-Efficiency Transmission. **Michael Tri H. Do**, Shin H. Kang, Tian Xue, Haining Zhong, Hsi-Wen Liao, Dwight E. Bergles, King-Wai Yau.

4:00 PM–6:00 PM, ROOM 252 A/B

PLATFORM P

Muscle: Molecular Mechanics and Structure

Co-Chairs: *Yuri Nesmelov*, University of Minnesota
Jim Vigoreaux, University of Vermont

1032-PLAT 4:00 PM

Thermodynamics Of The Myosin Nucleotide-binding Pocket Measured By Epr Spectroscopy Using Spin Labeled Nucleotides. **Thomas J. Purcell**, Nariman Naber, Ed Pate, Roger Cooke.

1033-PLAT 4:15 PM

Transient Dynamics of the Force-Generating Domain in Myosin During the Recovery Stroke. **Yuri E. Nesmelov**, Roman V. Agafonov, Igor V. Negrashov, Sarah Blakely, Margaret A. Titus, David D. Thomas.

1034-PLAT 4:30 PM

Modeling The Mechanics and Enzymatic Activities of Doubly, Singly and Unphosphorylated Smooth Muscle Myosin. **Sam Walcott**, David M. Warshaw.

1035-PLAT 4:45 PM

Drug Effects and Mechanism Underlying the Force-velocity Relationship of Skeletal Muscle. Nuria Albet-Torres, Marieke J. Bloemink, Tom Barman, Robin Candau, Michael A. Geeves, Kerstin Golker, Christian Herrmann, Corinne Lionne, Claudia Piperio, Stefan Schmitz, Claudia Veigel, **Alf Mansson**.

1036-PLAT 5:00 PM

Role Of Myosin Binding Proteins On The Structural Stability And Flexural Rigidity Of Thick Filaments. **Jim O. Vigoreaux**, Lori Nyland, John Contompasis, Laurent Kreplak, David Maughan, Bradley Palmer.

1037-PLAT 5:15 PM

Thin Filament Regulation of Relaxation in 3D Multi-Sarcomere Geometry. **Srboljub M. Mijailovich**, Oliver Kayser-Herald, Richard L. Moss, Michael A. Geeves.

1038-PLAT 5:30 PM

Molecular Dynamics of Tropomyosin: Implications for the Assembly and Regulation of Thin Filaments. **Xiaochuan Li**, William Lehman, Kenneth C. Holmes, Stefan Fischer.

1039-PLAT 5:45 PM

Obscurin, A Large Modular Protein, Regulating Sarcomere Formation In Drosophila Muscle. **Anja Katzemich**, John Sparrow, Belinda Bullard.

6:00 PM–7:00 PM, ROOM 253 A/B

BIOPHYSICAL SOCIETY OF CANADA MIXER

6:00 PM–8:00 PM, HALL A

STUDENT RESEARCH ACHIEVEMENT AWARD (SRAA) POSTER COMPETITION

This session features students who are presenting posters at the meeting and have indicated they wish to participate in the competition at the time of abstract submission. During the competition, students give a five-to-ten minute verbal presentation of their posters to one or more judges. Awardees are honored at the Monday evening Awards Ceremony.

7:30 PM–9:30 PM, BALLROOM EAST

WORKSHOP 1

Advanced Single Molecule Fluorescence Techniques in Vitro and in Vivo

Chair: *Jeff Gelles*, Brandeis University

1040-WKSHP 7:30 PM

Single-Molecule Analysis of Transcription.

Richard Ebright, Shimon Weiss, Anirban Chakraborty, Dongye Wang, You Korlann, Achillefs Kapanidis, Emmanuel Margeat.

1041-WKSHP 7:55 PM

In vitro and in vivo; kinesin and myosin moving one (or a few) at a time.

Paul Selvin.

1042-WKSHP 8:20 PM

In-Vivo Super-Resolution Microscopy by Structured Illumination.

Mats G. L. Gustafsson.

1043-WKSHP 8:45 PM

Advanced Fluorescence Microscopy Of Single, Living Cells: Using Optical Proteomics To Study Native Biochemistry One Molecule At A Time.

Mark C. Leake.

1044-WKSHP 9:10 PM

Elucidating Mechanisms in Complex Systems by Multi-wavelength Single-molecule Fluorescence. **Jeff Gelles**.

7:30 PM–9:30 PM, BALLROOM WEST

WORKSHOP 2

Channelopathies of Nerve and Muscle

Chair: *Stephen Cannon*, University of Texas Southwestern Medical Center at Dallas

1045-WKSHP 7:30 PM

Mechanistic Diversity for Channelopathies of Brain and Skeletal Muscle.

Stephen C. Cannon.

1046-WKSHP 7:55 PM

Neuronal calcium channels and migraine. **Daniela Pietrobon**.

1047-WKSHP 8:20 PM

Presenilins Function as ER Calcium Leak Channels: Implications for Alzheimer's Disease. **Ilya Bezprozvanny**.

1048-WKSHP 8:45 PM

Mutations in skeletal muscle. **William A. Catterall**.

1049-WKSHP 9:10 PM

Gating Pore Currents from S4 Mutations of NaV1.4: A Common Pathomechanism in Hypokalemic Periodic Paralysis. **Arie Struyk**, Stephen C. Cannon.

7:30 PM–9:30 PM, ROOM 153 A/B

WORKSHOP 3

Enzymes in Energy Metabolism

Chair: *Michael Radermacher*, University of Vermont

1050-WKSHP 7:30 PM

Enzymes in Energy Metabolism, Introduction. **Michael Radermacher**.

1051-WKSHP 7:55 PM

Organization and Structural Features of Phosphofructokinase and other Glycolytic Enzymes to Meet their Role in Energy Metabolism.

Juan J. Aragón, Cristina Ferreras, Cristina Sánchez, Valentina Sánchez, Eloy D. Hernández, Carmen Hermida, Cristina Adan, Rafael Garesse, Oscar H. Martínez-Costa.

1052-WKSHP 8:20 PM

How Mitochondrial Structure Can Affect Energy Metabolism: Insights From Electron Microscopic Tomography. **Carmen Mannella**, Chyong-ere Hsieh, Karolyn Buttle, Christian Renken, Michael Marko.

1053-WKSHP 8:45 PM

Molecular Architecture of Pyruvate Dehydrogenase Complexes.

Jacqueline Milne.

1054-WKSHP 9:10 PM

Electroneutral And Electrogenic Catalysis By Diheme-Containing Succinate:Quinone Oxidoreductases. **C. Roy D. Lancaster**.

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1:00 PM–3:00 PM, HALL A

SUNDAY POSTER SESSIONS

Poster 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 Hall A.

Authors Present

ODD NUMBERED BOARDS

1:00 PM–2:00 PM

BOARD NUMBERS

Board #B1–Board #B29
Board #B30–Board #B59
Board #B60–Board #80
Board #B81–Board #B95
Board #B96–Board #B122
Board #B123–Board #B152
Board #B153–Board #B182
Board #B183–Board #B210
Board #B211–Board #B230
Board #B231–Board #B260
Board #B261–Board #B278
Board #B279–Board #B306
Board #B307–Board #B322
Board #B323–Board #B343
Board #B344–Board #B362
Board #B363–Board #B373
Board #B374–Board #B381
Board #B382–Board #B410
Board #B411–Board #B421
Board #B422–Board #B423
Board #B424–Board #B442
Board #B443–Board #B464
Board #B465–Board #B484
Board #B485–Board #B503
Board #B504–Board #B526
Board #B527–Board #B543
Board #B544–Board #B564
Board #B565–Board #B590
Board #B591–Board #B613
Board #B614–Board #B630
Board #B631–Board #B647
Board #B648–Board #B667
Board #B668–Board #B687
Board #B688–Board #B702
Board #B703–Board #B732
Board #B733–Board #B735
Board #B736–Board #B757
Board #B758–Board #B787
Board #B788–Board #B809
Board #B810–Board #B828
Board #B829–Board #B848
Board #B849–Board #B870

EVEN NUMBERED BOARDS

2:00 PM–3:00 PM

POSTER CATEGORIES

Emerging Single Molecule Techniques I
Imaging & Optical Microscopy I
Molecular Mechanics & Force Spectroscopy
Molecular Simulations of Membranes & Membrane Proteins
Fluorescence Spectroscopy I
Micro & Nanotechnology
Genome Packaging & Manipulation I
Protein-Nucleic Acid Interactions I
Protein Structure
Protein Dynamics I
Protein Assemblies
Protein Folding & Stability I
Molecular Recognition in Silico
Protein Aggregates I
Protein Aggregates II
Lipids and Signaling on Membrane Surface
IP3 Receptors
Exocytosis & Endocytosis
Endoplasmic Reticulum & Protein Trafficking
Nucleocytoplasmic Transport
Ryanodine Receptors Type I
Ryanodine Receptors Type II
Calcium Signaling Proteins
Calcium Signaling Pathways
Actin & Actin-binding Proteins
Actin-binding Proteins in Physiology & Disease
Cytoskeletal Protein Dynamics & Intracellular Cargo Transport
Microtubular Motors I
Unconventional Myosins
Ion Motive ATPases
Membrane Transport
Membrane Dynamics & Bilayer Probes I
Membrane Active Peptides I
Membrane Active Peptides II
Membrane Physical Chemistry I
Smooth & Skeletal Muscle Electrophysiology
Acetylcholine Receptors
Channel Regulation & Modulation
Voltage-gated K Channels—Permeation
Voltage-gated Ca Channels I
Voltage-gated Ca Channels II
Voltage-gated K Channels - Gating I

Emerging Single Molecule Techniques I (Boards #B1–#B29)

122-Pos BOARD #B1

Single Molecule Immuno Pull Down Assay (SiMPull) for Studying Protein-Protein Interactions. **Ankur Jain**, Biswa Ramani, Kaushik Raghunathan, Prakrit Jena, Yang Xiang, Taekjip Ha.

123-Pos BOARD #B2

A Single-Molecule System for Detection and Quantification of Proteins with Robust Capture Units and Potential for High Multiplexing. **Vyacheslav Papkov**, Ying Wu, Ted Foss, Alicia L. Dow, Eric J. White, Nancy L. Pellerin, Natalia Mamaeva, Rudolf Gilmanshin, Randall E. Burton*.

124-Pos BOARD #B3

Binding Specificity of Multi-Labeled PNA Probes Studied by Single Molecule Mapping. **Ekaterina Protozanova**, Ting Wang, Kyoko Uehara, Misha Safranovitch, Rhea Mahabir, Jess Shen, Niru Chennagiri, Douglas B. Cameron, Rudolf Gilmanshin.

125-Pos BOARD #B4

High Resolution Imaging Via SHREC And SHRImp For Ultra-High DNA/RNA Resolution. **Murat Baday**, Ming Xiao, Han Cao, Paul Selvin.

126-Pos BOARD #B5

Dynamic Single-molecule Colocalization Imaging - A New Method For Examining Membrane Protein Association In Living Cells. **James T. McColl**, Ricardo Alexandre, John R. James, Paul D. Dunne, Ji Won Yoon, Simon J. Davis, David Klenerman.

127-Pos BOARD #B6

STUDENT TRAVEL AWARDEE

Characterizing The Equilibrium Blinking Behavior Of Fluorogens With Fluorogen Activating Proteins (FAPs). **Qi Yan**, Suvrajit Maji, Marcel P. Bruchez.

128-Pos BOARD #B7

Single Molecule Anisotropy Imaging with Fluorescence Photoactivation Localization Microscopy. Travis J. Gould, **Mudalige S. Gunewardene**, Manasa V. Gudheti, Vladislav V. Verkhusa, Shu-Rong Yin, Julie A. Gosse, Samuel T. Hess.

129-Pos BOARD #B8

Fluorescence Correlation Spectroscopy In Live Bacillus Subtilis Cells: An In Vivo Study Of Transcriptional Regulation. **Matthew L. Ferguson**, Nathalie Declerck, Catherine A. Royer.

130-Pos BOARD #B9

Full Fluorescence Correlation Analysis - From Picoseconds To Seconds- For The Study Of Biomolecular Interactions And Dynamics. **Samantha Fore**, Felix Koberling, Michael Wahl, Thomas Huser, Sonny Ly, Ting Guo.

131-Pos BOARD #B10

Fluorescence Correlation Spectroscopy with Sub-Diffraction-Limited Resolution Using Near-field Optical Probes. **Linda J. Johnston**, Dusan Vobornik, Zhengfang Lu, Rod Taylor, Daniel Banks, Cecile Fradin.

132-Pos BOARD #B11

Single Molecule Lifetime Probability Distribution Analysis (ϵ PDA). **Matthew Antonik**.

133-Pos BOARD #B12

FCS and Sub-diffraction Resolution Fluorescence Imaging of Membrane Receptors in Living Organelles. **Stephanie Grabowski**, Stefan Marawske, Stanislav Kalinin, Ralf Kühnemuth, Stefanie Weidtkamp-Peters, Andrea Bleckmann, Yvonne Stahl, Rüdiger Simon, Claus Seidel.

134-Pos BOARD #B13

SRAA POSTER

Single molecule image deconvolution. I. Standard deviation analysis of immobile fluorescent molecules. **Michael C. DeSantis**, Shawn DeCenzo, Yan Mei Wang.

135-Pos BOARD #B14

Estimation Tool And FandPLimitool - User-friendly Software Packages For Single Molecule Localization/Resolution And Accuracy Calculations. **Anish V. Abraham**, Sripad Ram, Jerry Chao, E. S. Ward, Raimund J. Ober.

136-Pos BOARD #B15

Maximum-Likelihood Position Sensing of Single Molecules in a Confocal Microscope. **Lloyd M. Davis**, James A. Germann, William N. Robinson, Brian K. Canfield.

137-Pos BOARD #B16

STUDENT TRAVEL AWARDEE

Quantitative Study Of Single Molecule Localization Techniques. **Anish V. Abraham**, Sripad Ram, Jerry Chao, E. Sally Ward, Raimund J. Ober.

138-Pos BOARD #B17

Creation and Mixing of Monodisperse Sub-femtoliter Bioreactors. Jianyong Tang, Ana M. Jofre, Rani B. Kishore, Joseph E. Reiner, Mark E. Greene, Geoffrey M. Lowman, John S. Denker, Christina Willis, Kristian Helmersen, **Lori S. Goldner**.

139-Pos BOARD #B18

Simultaneous Measurement Of Ionic Current And Fluorescence From Single Protein Pores. **Andrew J. Heron**, James R. Thompson, Brid Cronin, Hagan Bayley, Mark I. Wallace.

140-Pos BOARD #B19

Laser Induced Popcorn-like Conformational Transition of Nano-diamond as a Nanoknife. **Chia-Ching Chang**, Hsueh-Liang Chu, Tzu-Cheng Lee, Ching-Chung Chou.

141-Pos BOARD #B20

High throughput Single-Molecule Spectroscopy Using Nanoporous Membranes. **Joshua Edelman**, Guillaume Chansin.

142-Pos BOARD #B21

Using Nanomaterials to Probe Rotation of Individual Cell Surface Receptors. Shaorui Xu, Peter W. Winter, Deborah A. Roess, **B. George Barisas**.

143-Pos BOARD #B22

Manipulating The Environment Of a Single Lipase Molecule. **Li Wei**, Nikos Hatzakis, Sune K. Jørgensen, Per Hedegård, Dimitrios Stamou.

144-Pos BOARD #B23

Single Molecule Studies of the Interactions between β -Amyloid 1–40 and Supported Planar Lipid Membrane. **Hao Ding**, Joseph A. Schauete, Duncan G. Steel, Ari Gafni.

145-Pos BOARD #B24

Single-Molecule Imaging of AMPA and Nicotinic Acetylcholine Receptors in Mammalian Cells. **Paul D. Simonson**, John Alexander, Okunola Jeyifous, William N. Green, Paul R. Selvin.

146-Pos BOARD #B25

Single-molecule Imaging of ATP-driven Stepping Rotation of F_0F_1 -ATP Synthase Reconstituted into Supported Membrane. **Ryota Iino**, Khék-Chian Tham, Kazuhito V. Tabata, Hiroshi Ueno, Hiroyuki Noji.

147-Pos BOARD #B26

How is the Temperature Sensitive (TS) Reaction of F_1 -ATPase Coupled with its Rotation? **Sawako Enoki**, Ryota Iino, Rikiya Watanabe, Hiroyuki Noji.

148-Pos BOARD #B27

Towards A New Generation Of Single Molecule High Resolution Sensors. **Francoise Argoul**, Nicolas Hugo, Thibault Roland, Pascale Milani, Audrey Fahys, Lotfi Berguiga, Juan Elezgaray, Zofia Haftek, Alain Arneodo.

149-Pos BOARD #B28

Cooperative Three-step Motions In Catalytic Subunits of F_1 -ATPase Drive 80° And 40° Substep Rotations. **Takayuki Nishizaka**, Tomoko Masaike.

150-Pos BOARD #B29

Investigating the Efficacy of Peptide-based Inhibitors Against the Earliest Oligomers of Amyloid- β Peptide. **Robin K. Lammi**, Lyndsey R. Powell, Kyle D. Dukes, Cyrus K. Bett, Marcus A. Etienne, Robert P. Hammer.

Imaging & Optical Microscopy I (Boards #B30–#B59)

151-Pos BOARD #B30

BioTIFF: A New BigTIFF File Structure For Organizing Large Image Datasets And Their Associated Metadata. **Peter S. Pennfather**, West Suhanic.

152-Pos BOARD #B31

Virtual FRAP - an Experiment-Oriented Simulation Tool. James C. Schaff, Ann E. Cowan, Leslie M. Loew, **Ion I. Moraru**.

153-Pos BOARD #B32

Live Cell Imaging: Tips and Tools. Melanie M. Frigault, Judith Lacoste, Jody L. Swift, **Claire M. Brown**.

154-Pos BOARD #B33

Chondrocytes Deformation In The Live Mouse Knee. **Ziad Abusara**, Ruth Seerattan, Robert Thompson, Walter Herzog.

155-Pos BOARD #B34

Protein Diffusion in the E. coli Cytoplasm and Perioplasm under Osmotic Stress. **James C. Weisshaar**, Michael C. Konopka, Kem A. Sochacki, Benjamin P. Bratton, Colin Ingram.

- 156-Pos BOARD #B35**
Measuring the Number of LuxR Proteins in a Single Cell of *V. harveyi*.
Shu-Wen Teng, Yufang Wang, Kim Tu, Tao Long, Ned Wingreen,
Bonnie L. Bassler, Phuan N. Ong.
- 157-Pos BOARD #B36**
Influence Of P-selectin Structure On Its Mobility In The Weibel-Palade Body
And Plasma Membranes. Gregory Mashanov, Nikolai Kiskin, **Nicola Helen**,
Victor Babich, Laura Knipe, Justin Molloy, Matthew Hannah, Tom Carter.
- 158-Pos BOARD #B37**
Quantitative Analysis of Spatial Protein-protein Proximity in Fluorescence
Confocal Microscopy. **Yong Wu**, Yi-Kuang Liu, Mansoureh Eghbali,
Enrico Stefani.
- 159-Pos BOARD #B38**
The White Confocal - Controlling Spectral Fluorescence. **Rolf T.
Borlinghaus**.
- 160-Pos BOARD #B39**
Identifying Components Of Astroglial Autofluorescence Using The Spectral
Separability Index, Xijk. Dan Zhu, Sébastien Nicoulaud, Christina Kleinert,
Nicholas Benech, Dongdong Li, Nicole Ropert, **Martin Oheim**.
- 161-Pos BOARD #B40 SRAA POSTER**
Combinatorial Labeling And Spectral Imaging, (CLASI): A Method To
Greatly Expand The Number of Distinguishable Fluorescent Labels in a Single
Image. **Alex M. Valm**, Jessica L. Mark Welch, Christopher W. Rieken,
Yuko Hasegawa, Rudolf Oldenbourg, Gary G. Borisy.
- 162-Pos BOARD #B41**
Blind Source Separation Techniques For The Decomposition Of Multiply
Labeled Fluorescence Images. **Richard A. Neher**, Mišo Mitkovski,
Frank Kirchhoff, Erwin Neher, Fabian J. Theis, André Zeug.
- 163-Pos BOARD #B42**
A Theory Facilitating the Investigation of Sub-resolution Membrane
Trafficking Using Total Internal Reflection Fluorescence Microscopy.
Shaohui Huang, Lawrence Lifshitz, Karl Bellve, Clive Standley, Kevin Fogarty,
Michael Czech.
- 164-Pos BOARD #B43 STUDENT TRAVEL AWARDEE**
Expanding The Applicability Of The Multi-photon Fluorescence Recovery
After Photobleaching Technique In Vivo Using A New Convective Flow
Model. **Kelley D. Sullivan**.
- 165-Pos BOARD #B44**
Diffusion and Exchange of Non-Integral Membrane Associated Fluorophores
During Fluorescence Recovery After Photobleaching with the Confocal Laser
Scanning Microscope: ROI Size Analysis of EGFP:Ras2 Plasma Membrane
Diffusion in *Saccharomyces cerevisiae*. **Kalyan C. Vinnakota**, David Mitchell,
Robert J. Deschenes, Tetsuro Wakatsuki, Daniel A. Beard.
- 166-Pos BOARD #B45**
Dynamic Spatial Distribution of RNA Polymerase in Live *E. coli*.
Benjamin P. Bratton, M T. Record, James C. Weisshaar.
- 167-Pos BOARD #B46**
Morphogen Gradient Formation Unraveled Using In Vivo Three-dimensional
Single Molecule Microscopy. **Laurent Holtzer**, Anna Kicheva,
Marcos Gonzalez-Gaitan, Thomas Schmidt.
- 168-Pos BOARD #B47**
 G_{α_q} Binds Two Effectors Independently in Cells: Evidence for Pre-determined
Pathways. **Urszula P. Golebiewska**, Suzanne Scarlata.
- 169-Pos BOARD #B48**
Trafficking Of Glutamatergic And Peptidergic Vesicles In Astrocytes.
Robert Zorec, Matjaž Stenovec, Maja Potokar, Marko Kreft,
Mateja Erdani Kreft.
- 170-Pos BOARD #B49**
Developing Statistical Diagnostic Tools For Discriminating Between Different
Diffusive Modes Of Fluorescently Tagged Protein Complexes In Living Cells
For Short Duration Trajectories. Alex Robson, Marcus Tyndall, Philip Maini,
Mark C. Leake.
- 171-Pos BOARD #B50**
Probing the Intracellular Reaction Dynamics of Low Density Lipoprotein
Using Single Particle Tracking Fluorescence Microscopy.
William H. Humphries IV, Christine K. Payne.
- 172-Pos BOARD #B51**
Activation Pathway Of paGFP In Living Cells. **Iliaria Testa**, Davide Mazza,
Mario Faretta, Alberto Diaspro.
- 173-Pos BOARD #B52**
Organelle Specific Associations of HIV-1 Nef with HLA-I A2 and CD4 using
Fluorescence Cross Correlation Spectroscopy. **Tilman Rosales**, Ling Yi,
Jay R. Knutson, Sundararajan Venkatesan.
- 174-Pos BOARD #B53**
Raster Image Correlation Spectroscopy (RICS) with One Photon Excitation
and Analog Detection: Some Practical Considerations for GUVs and Cell
Membranes. **M vandeVen**, E. Gielen, B. De Clercq, N. Smisdom,
M. Ameloot.
- 175-Pos BOARD #B54**
Effects of Oversampling and Scanning Artifacts on the Accuracy of Spatial
Fluorescence Intensity Fluctuation Analysis Methods. **Mikhail Sergeev**,
Antoine G. Godin, Jody L. Swift, Yves De Koninck, Paul W. Wiseman.
- 176-Pos BOARD #B55**
Biocompatible Quantum Dots for Intravital Kidney Imaging. Pu Wang,
Daniel E. Minner, Keith M. Stantz, Christoph Naumann, **Weiming Yu**.
- 177-Pos BOARD #B56**
Time-lapse Imaging of Individual BK_{Ca} Channels in Live Cells Using
Site-specific Labeling of Quantum Dots. Ji-Yeon Kim, **Haedeun Kim**,
Sungho Chang, Chul-Seung Park.
- 178-Pos BOARD #B57**
Non-Invasive Pyrenebutyrate-mediated Delivery of Quantum Dots to the
Cytosol of Living Cells. **Amy E. Jablonski**, Christine K. Payne.
- 179-Pos BOARD #B58**
Characterizing the Architecture of Nicotinic Receptors with Quantum Dot-
Based Fluorescence Microscopy. **Rigo Pantoja**, Erik A. Rodriguez, Shelly Tzlik,
Larry Wade, Dennis A. Dougherty, Henry A. Lester.
- 180-Pos BOARD #B59**
HIV-virions Appear To Be Trapped By Human Cervical Mucus.
Hacene Boukari, Beda Brichacek, Leonid Margolis, Ralph Nossal.

Molecular Mechanics & Force Spectroscopy (Boards #B60–#B80)

- 181-Pos BOARD #B60**
Nucleosome Stacking Defines The Structural And Mechanical Properties Of
Chromatin Fibers. **Fan-Tso Chien**, Maarten Kruithof, Andrew Routh,
Daniela Rhodes, John van Noort.
- 182-Pos BOARD #B61**
Mechanism Of DNA Translocation By SpoIIIE/Ftsk. **Marcelo Nollmann**,
Jerod Ptacin, Eric Becker, Kit Pogliano, Carlos Bustamante.
- 183-Pos BOARD #B62**
VirE2: A Unique ssDNA-Compacting Molecular Machine. **Martin Hegner**,
Wilfried Grange, Sudhir Husale, Myriam Duckely.
- 184-Pos BOARD #B63**
Experimental Evidence Of Polymer Hydrophobic Collapse Due To Water
Density Fluctuation. **Isaac T.S. Li**, Nikhil Gunari, Gilbert C. Walker.
- 185-Pos BOARD #B64**
Non-ideal Elasticity Of Single Stranded DNA At Low Forces.
Dustin McIntosh, Omar Saleh, Phil Pincus, Noah Ribbeck.
- 186-Pos BOARD #B65**
Single Molecule Force Spectroscopy of Guanine Quadruplex DNA.
Susanna Lynch, Heather Baker, Sarah Byker, Dejian Zhou, Kumar Sinniah.
- 187-Pos BOARD #B66**
Kalman Filter Estimates of the Contour Length of an Unfolding Protein in
Single-Molecule Force Spectroscopy Experiments. Vicente I. Fernandez,
Pallav Kosuri, Vicente Parot, Julio M. Fernandez.
- 188-Pos BOARD #B67**
Unfolding, refolding and proteolysis of the von Willebrand Factor A2 domain
under tensile force. **Xiaohui Zhang**, Kenneth Halvorsen, Wesley P. Wong,
Timothy A. Springer.
- 189-Pos BOARD #B68**
The Temperature Dependency of Disulfide Bond Reduction Events
Measured by Single-molecule Force Clamp Spectroscopy. **Jian Liang**,
Julio M. Fernandez.
- 190-Pos BOARD #B69**
Direct Identification of Two Distinct Transition State Structures in Reduction
of a Disulfide Bond Revealed by Single Bond Force-clamp Spectroscopy.
Sergi Garcia-Manyes, Jian Liang, Julio M. Fernandez.

191-Pos BOARD #B70
Nebulin Elasticity Pre-loads Thin Filaments of Skeletal Muscle: Unfolding of Transient α -helices. **Jeffrey G. Forbes**, Vamsi K. Yadavali, Wanxia L. Tsai, Kuan Wang.

192-Pos BOARD #B71
Effects of Cantilever Stiffness on Unfolding Force in AFM Protein Unfolding. **William T. King**, Guoliang Yang.

193-Pos BOARD #B72
E-selectin/sLea Form Catch-Slip Bonds Without Force-History Dependence. **Jeremy H. Snook**, William H. Guilford.

194-Pos BOARD #B73
How Protein Materials Balance Strength, Robustness And Adaptability. **Markus J. Buehler**, Sinan Keten, Theodor Ackbarow, Jérémie Bertaud.

195-Pos BOARD #B74 SRAA POSTER
Single-Molecule Mechanics of the Muscle Protein Myomesin. **Felix Berkemeier**, Matthias Rief.

196-Pos BOARD #B75 SRAA POSTER
Bending rigidity of type I collagen homotrimer fibrils. **Sejin Han**, Charlotte Phillips, Daniel McBride, Robert Visse, Hideaki Nagase, Wolfgang Losert, Sergey Leikin.

197-Pos BOARD #B76
AFM Manipulation Of Small Fibrin Networks. **Nathan E. Hudson**, Daniel C. Millard, John Houser, E. Timothy O'Brien, Susan T. Lord, Richard Superfine, Michael R. Falvo.

198-Pos BOARD #B77
Probing Structure and Mechanics of Yeast Prion Proteins with Optical Tweezers. **Carlos E. Castro**, Jijun Dong, Mary Boyce, Susan Lindquist, Matt Lang.

199-Pos BOARD #B78
Dwell Time And Maximum Likelihood Analysis Of Single Molecule Disulfide Bond Reduction Events While Under A Stretching Force. **Robert Szoszkiewicz**, Lorin Milescu, Julio M. Fernandez.

200-Pos BOARD #B79
Intrinsically Disordered Titin PEVK as a Molecular Velcro: Salt-Bridge Dynamics and Elasticity. **Jeffrey G. Forbes**, Wanxia L. Tsai, Richard J. Wittebort, Kuan Wang.

201-Pos BOARD #B80
AFM Mechanical Studies Of A Novel Form Of The Biopolymer Fibrin: Elastomeric Sheets. **Michael R. Falvo**, Nathan Hudson, Daniel C. Millard, E Timothy O'Brien III, Richard Superfine.

Molecular Simulations of Membranes & Membrane Proteins (Boards #B81–#B95)

202-Pos BOARD #B81 SRAA POSTER
Substrate translocation pathway in glutamate transporter: Insights from molecular simulations. **Yan Gu**, Indira H. Shrivastava, Susan G. Amara, Ivet Bahar.

203-Pos BOARD #B82
Interaction of Novel Ibogaine Analogs With The Human $\alpha 3\beta 4$ Nicotinic Receptor. **Benjamin P. Coleman**, Samira Sarrami, Hugo R. Arias.

204-Pos BOARD #B83
Noble Gas Anesthetics and Immobilizers Show Different Binding Distributions to KcsA Channel. Masayuki Ozaki, **Tomoyoshi Seto**.

205-Pos BOARD #B84
Ligand Induced Conformational Changes in GPCRs: Insight Into the Activation of Rhodopsin and β -adrenergic Receptors. **Supriyo Bhattacharya**, Nagarajan Vaidehi.

206-Pos BOARD #B85
Structural Determinants Of Antibiotic And β -lactamase Diffusion Through Bacterial Porins. **Amit Kumar**, Eric Hajjar, Paolo Ruggerone, Matteo Ceccarelli.

207-Pos BOARD #B86
Conformational Transitions and Proton Conduction in the Multidrug Efflux Pump AcrB. **Nadine Fischer**, Christian Kandt.

208-Pos BOARD #B87
Dynamics Of Water Molecules In Bacteriorhodopsin Mutants. **Mihnea Dulea**, Ana-Nicoleta Bondar.

209-Pos BOARD #B88
The Biophysics Of Antibiotics Translocation Through OmpF Revealed By Computer Simulations. **Eric Hajjar**, Amit Kumar, Enrico Spiga, Jean-Marie Pages, Kozhinjampara Mahendran, Tivadar Mach, Andrey Bessonov, Mathias Winterhalter, Paolo Ruggerone, Matteo Ceccarelli.

210-Pos BOARD #B89
Simulation Studies Of Trace Amines Passing Through Neuronal Membranes. **Bruno L. Tomberli**, Jarrod Nickel, Mark Berry.

211-Pos BOARD #B90
All-atom Molecular Dynamics Simulations of a Membrane Protein Stabilizing Polymer. **William J. Drasler**, Jonathan N. Sachs.

212-Pos BOARD #B91
Electroporation Sensitivity of Oxidized Phospholipid Bilayers. **Zachary A. Levine**, Yu-Hsuan Wu, Matthew J. Ziegler, D. Peter Tieleman, P. Thomas Vernier.

213-Pos BOARD #B92
CHARMM-GUI Membrane Builder for Mixed Bilayers and Its Application to Yeast Membranes. **Sunhwan Jo**, Jeffery B. Klauda, Wonpil Im.

214-Pos BOARD #B93
Conformational Analysis and Molecular Dynamics Study: 2-Arachidonoyl-sn-glycero-3-phosphoinositol (2-AGPI) in a DOPC Bilayer. **Evangelia Kotsikorou**, Diane Lynch, Patricia Reggio.

215-Pos BOARD #B94
A Novel Analysis Technique For Determining Area Per Lipid And Electron Density Profiles From Large Lipid Bilayer Molecular Dynamics Simulations. **Anthony R. Braun**.

216-Pos BOARD #B95
Undriven Bead Diffusion Through Extracellular Matrix. **Zachary Hackney**, Lamar Mair, Richard Superfine.

Fluorescence Spectroscopy I (Boards #B96–#B122)

217-Pos BOARD #B96
Image Correlation Spectroscopy Reveals Global Dynamics of Wound Healing. **Kandice Tanner**, Donald Ferris, Luca Lanzano, Berhan Mandefro, William W. Mantulin, David Gardiner, Elizabeth Rugg, Enrico Gratton.

218-Pos BOARD #B97
Studying Molecular Dynamics And Interactions In Living Zebrafish Embryos By Fluorescence Correlation Spectroscopy. **Xianke Shi**, Yong Hwee Foo, Shang Wei Chong, Vladimir Korzh, Thankiah Sudhaharan, Sohail Ahmed, Thorsten Wohland.

219-Pos BOARD #B98
Applicability Of An EM-CCD For Spatially Resolved TIR-FCS. **Daniel Boening**, Teja Wolfgang Groemer, Jurgen Klingauf.

220-Pos BOARD #B99
Imaging Total Internal reflection - Fluorescence Cross-correlation Spectroscopy (ITIR-FCCS). **Jagadish Sankaran**, Lin Guo, Thorsten Wohland.

221-Pos BOARD #B100
Analysis Of Diffusion And Binding In Cells Using The Rics Approach. **Enrico Gratton**, Michelle A. Digman.

222-Pos BOARD #B101
Effect of Multiple Scattering on the Illumination Profile in Fluorescence Correlation Microscopy. Jason Riley, Ralph Nossal, Amir Gandjbakhche, **Hacene Boukari**.

223-Pos BOARD #B102
Characterizing Protein Interactions In Different Cellular Compartments By Axial Scan Fluorescence Fluctuation Spectroscopy. **Yun Chen**, Yan Chen, Joachim Mueller.

224-Pos BOARD #B103
The Study of Interaction of Hypericin And Its Pharmaceutical Preparation by Fluorescence Techniques. **Jun Liu**, Constance Lay Lay Saw, Malini Olivo, Thankiah Sudhaharan, Sohail Ahmed, Paul Wan Sia Heng, Thorsten Wohland.

225-Pos BOARD #B104
Brightness Analysis of Nuclear Receptor Interactions in a Cell-Free Expression System. **Patrick J. Macdonald**, Jolene Johnson, Yan Chen, Bin Wu, Joachim Mueller.

226-Pos BOARD #B105
Resolvability of PCH in Two Dimensional Systems. **Yu Li**, Bill McConnaughey, Yanxin Liu, Guy Genin, Elliot Elson.

- 227-Pos BOARD #B106**
Insights Into The Microscopic Origin Of Anomalous Diffusion From Crowded Solutions. **Jedrzej Szymanski**, Matthias Weiss.
- 228-Pos BOARD #B107 SRAA POSTER**
Bacterial Sec Protein Transport is Rate-limited by Precursor Length: A Single Turnover Study. **Fucheng Liang**, Umesh Bageshwar, Siegfried Musser.
- 229-Pos BOARD #B108**
Single Molecule FRET Measurements of Dye-labeled DNA. **Nicolas Di Fiori**, Amit Meller.
- 230-Pos BOARD #B109**
Structural Dynamics of SERCA and Phospholamban by Fluorescence and Phosphorescence. **Ji Li**, David D. Thomas.
- 231-Pos BOARD #B110**
Single molecule measurements of ATP-myosin V and ADP-myosin V. **Shira Stav**, Ana Jofre.
- 232-Pos BOARD #B111**
Fluorescence Labeling And Purification Of Cellulases For Single Molecule Spectroscopy. **Jose M. Moran-Mirabal**, Stephane C. Corgie, Jacob C. Bolewski, Hanna M. Smith, Larry P. Walker.
- 233-Pos BOARD #B112**
Metal-Enhanced Fluorescence (MEF). **Yongxia Zhang**, Kadir Aslan, Chris D. Geddes.
- 234-Pos BOARD #B113 SRAA POSTER**
Action-Spectra of Electrochromic Voltage-Sensitive Dyes in an Intact Excitable Tissue. **Joseph Foley**, Martin Muschol.
- 235-Pos BOARD #B114**
Plasmonic Electricity: A Digital form of Metal-Enhanced Fluorescence. Anatoliy Dragan, **Chris D. Geddes**.
- 236-Pos BOARD #B115**
Ultrafast Decay of Trp in Biological Macromolecules. **Jianhua Xu**, Olga Tcherkasskaya, Angela M. Gronenborn, Patrik Callis, Dmitri Topygin, Florence K. Gleason, Ludwig Brand, Jay R. Knutson.
- 237-Pos BOARD #B116**
Rapid Detection of Troponin I from Serum using Microwave-Accelerated Metal-Enhanced Fluorescence. **Kadir Aslan**, Yongxia Zhang, Chris D. Geddes.
- 238-Pos BOARD #B117**
Structural and Mechanistic Characterization of the Mannitol Transporter from *E. coli* using 5-fluorotryptophan as a Spectroscopic Probe. **Milena Opacic**, Ben H. Hesp, Jaap Broos.
- 239-Pos BOARD #B118**
Investigation Of Excited-State Relaxation In Single-Tryptophan- And Other Proteins Via Multidimensional Static And Time-Resolved Fluorescence. **Stefanie Schwedler**, Katharina Kohse-Höinghaus, Regina Brockhinke, Andreas Brockhinke.
- 240-Pos BOARD #B119**
The α -Crystallin Fold May Have Evolved To Protect Conserved Tryptophan Residues From UV Radiation Damage Through Efficient Quenching. **Jiejun Chen**, Patrik R. Callis, Jonathan King.
- 241-Pos BOARD #B120**
Mapping Proximity Within Proteins Using Fluorescence Spectroscopy: New Advances In Distance-dependent Tryptophan-induced Fluorescence Quenching. Steven E. Mansoor, Mark A. DeWitt, **David L. Farrens**.
- 242-Pos BOARD #B121**
Mutations In Transhydrogenase Change The Fluorescence Emission State Of Trp72 From La To Lb. **Jaap Broos**, Karina Tveen Jensen, Giovanni B. Strambini, Margherita Gonelli, Baz Jackson.
- 243-Pos BOARD #B122**
MD Simulations of the Time-Dependent Red Shift in the Fluorescence of Trp in Protein GB1. **Dmitri Topygin**, Thomas B. Woolf, Ludwig Brand.
- 245-Pos BOARD #B124**
Development Of A Cell Sorting Device Based On The Integration Of Porous Poly(dimethylsiloxane) (pdms) Membranes Into Layered Microfluidic Devices. **Bor-han Chueh**.
- 246-Pos BOARD #B125**
3-D Microfluidic Technique for Patterning Cells. **Jennifer H. Hou**, Adam E. Cohen.
- 247-Pos BOARD #B126**
The Toxic Effects of Quantum Dots on Embryogenesis in *Caenorhabditis elegans*. **Shyemaa Shehata**, Cecile Fradin.
- 248-Pos BOARD #B127**
Collaboratory for Structural Nanobiology (CSN), Nanoparticles Database. Alvaro Gonzalez, **Fernando D. Gonzalez-Nilo**, Raul Cachau.
- 249-Pos BOARD #B128**
A Nano-assay To Measure Modification Of Cysteine Residues In GST-fusion Proteins. **Dixon J. Woodbury**, Chris A. Rees, Ammon M. Thompson, Paul Meiners, J. Scott Bluth.
- 250-Pos BOARD #B129**
A Microfluidic Platform for the Culture & Analysis of Single Cells. **Eric Hall**, Samuel Kim, Richard N. Zare.
- 251-Pos BOARD #B130**
A Pulse Width Modulated Microfluidic Diluter. **Alar Ainla**, Aldo Jesorka, Owe Orwar.
- 252-Pos BOARD #B131**
Controlled Near Infrared Laser-Activated Liposome Release. **Guohui Wu**, Claudia Gottstein, Alexander Mikhailovsky, Htet A. Khant, Joseph A. Zasadzinski.
- 253-Pos BOARD #B132**
The Collaboratory for Structural Nanobiology. **Alvaro M. Gonzalez-Ibanez**, Fernando Gonzalez-Nilo, Raul Cachau.
- 254-Pos BOARD #B133**
Tunable Delivery Of Chemical Gradients Over Large Cell Culture Substrates Using Microfluidic Stacked Flows. **Christopher G. Sip**, Albert Folch, Hoyin LAL.
- 255-Pos BOARD #B134**
Detection and Identification of Virus Particles on a Microfluidic Platform. **Louis Strong**, Clark Edson, Daniel B. Hall, Senerath Palamakumbura, Gyula Varadi.
- 256-Pos BOARD #B135**
Phenotypic and Genotypic Heterogeneity of Cyanobacterial Populations in Hot Spring Microbial Mats Revealed by Microfluidic Single-Cell Analysis. **Samuel Kim**, Eric Hall, Bor-han Chueh, Richard N. Zare.
- 257-Pos BOARD #B136**
Adsorption and Stability of Streptavidin on Cluster-Assembled Nanostructured TiO_x Films. **Pasquale Emanuele Scopelliti**, Luca Giorgetti, Gero Bongiorno, Alessandro Podestà, Giuseppe Berlanda, Roberta Carbone, Paolo Milani.
- 258-Pos BOARD #B137**
A "Microfluidic Nose": Detection of Olfactory Sensory Neuron Responses to Odorants Across the Whole Olfactory Receptor Space. **Albert Folch**, Xavier A. Figueroa, Gregory A. Cooksey, Scott V. Votaw, Lisa Horowitz.
- 259-Pos BOARD #B138**
SOI Nanofet Devices For Ultra-Sensitive Detection of Biomolecules. **Bobby Reddy, Jr.**, Oguz H. Elibol, Brian R. Dorvel, Pradeep R. Nair, Muhammad A. Alam, Rashid Bashir.
- 260-Pos BOARD #B139**
Molecular Scale Dielectric Sensors for Highly Sensitive Biomolecular Detection. **Manu Sebastian Mannoor**, Teena James, Dentcho V. Ivanov, William Braunlin, Les Beadling.
- 261-Pos BOARD #B140**
Miniaturized Ion Channel Reconstitution Platform Based On Silicon Microfabrication. **Michael Goryll**, Nipun Chaplot.
- 262-Pos BOARD #B141**
Rapid Incorporation of Heterologously Expressed GPCR CCR5 in Nanoscale Apolipoprotein Bound Bilayers (NABBs). **Sourabh Banerjee**, Amy Grunbeck, Thomas Huber, Pallavi Sachdev, Thomas P. Sakmar.
- 263-Pos BOARD #B142**
Nanotubes As Drug Delivery Systems For Prokaryotic And Eukaryotic Cells. **Sonia Antoranz Contera**, Sonia Trigueros, J.F. Ryan.

Micro & Nanotechnology (Boards #B123–#B152)

- 244-Pos BOARD #B123**
An Integrated Multifunctional Lab-on-a-Chip Platform for High Throughput Optical Mapping of DNA. **Lisa W. Kwok**, Yi Zhou, Bryan Crane, Linda Knaian, Kedar V. Vyavahare, Robert H. Meltzer, Joshua Griffis, Amanda Edmonson, Qun Zhong, Richard Allen, Wolf Mesadieu, Jonathan W. Larson, Jeffrey R. Krogmeier, Rudolf Gilmanshin.

- 264-Pos BOARD #B143**
Engineering the protein-nanoparticle interface. **Kimberly Hamad-Schifferli.**
- 265-Pos BOARD #B144**
Combining Microfluidics, Electrophysiology, and Fluorescence Detection to Study Drug Transport Across Biomembranes. **Kim Horger,** Marian Adamson, Divya Rao, Michael Mayer.
- 266-Pos BOARD #B145**
A Realistic Model For The Water-amorphous Silica Interface: Insights Into The Electrical Double Layer And Bioengineering Applications. **Ali Hassanali,** Hui Zhang, Yun Kyung Shin, Chris Knight, Sherwin J. Singer.
- 267-Pos BOARD #B146**
1-d Lipid Bilayers On Nanotube And Nanowire Templates: Properties And Device Applications. Nipun Misra, Julio Martinez, Shih-Chie Jay Huang, Pieter Stroeve, J. Woody Ju, Costas Grigoropoulos, **Aleksandr Noy.**
- 268-Pos BOARD #B147**
Examining the Role of Neuregulin-1 in Synaptogenesis Using Microfluidics. **Aileen J. Wu,** Samir Koirala, Gabriel Corfas, Albert Folch.
- 269-Pos BOARD #B148**
A Simulation Study of Carbon Nanotube Interactions with Designed Amphiphilic Peptides. **E. Jayne Wallace,** Robert S. G. D'Orzario, Beatrice Mendoza, Mark S. P. Sansom.
- 270-Pos BOARD #B149**
Interaction of Fullerol C60(OH)20 with Nucleic Acids. Sini Anttalainen, Tatsiana Ratnikova, Pu-Chun Ke, **Emppu Salonen.**
- 271-Pos BOARD #B150**
A Microdevice To Indicate Human Neural Stem Cell Differentiation Potential. **Fatima H. Labeed,** Jente Lu, Steve A. Marchenko, Kai F. Hoettges, Michael P. Hughes, Edwin S. Monuki, Abraham P. Lee, Lisa A. Flanagan.
- 272-Pos BOARD #B151**
A Spectroscopic Monitoring Module Based on a Ceramic Microfluidic Platform. Erwin Gaubitzer, Bruno Balluch, Ibrahim Atassi, Walter Semtana, **Gottfried Koehler.**
- 273-Pos BOARD #B152**
Dynamics of Calcitriol Uptake and Signaling using Conjugated Quantum Dots. **Jeremy Bonor,** Beth Bragdon, Betty Ingraham, Anja Nohe.

Genome Packaging & Manipulation I (Boards #B153-#B182)

- 274-Pos BOARD #B153**
The Role of Electrostatics in Sequence Dependent Nucleosome Stability Analysis. **Thomas C. Bishop,** Yuriy V. Sereda, Sergei Y. Ponomarev.
- 275-Pos BOARD #B154**
Laser Microbeam-induced Spatiotemporal Change in Refractive Index of Chromosomes in Living PTK2 Cells. **Suzanne L. Genc,** Samarendra Mohanty, Lingfeng Yu, Michael W. Berns.
- 276-Pos BOARD #B155**
Photonic and Magnetic Force Micro-piston: An integrated force/microfluidic device for investigating expansion and compression stress in chromatin/chromosomes and their roles in chromosome function. **Jay K. Fisher,** Romain Koszul, Mara Prentiss, Nancy Kleckner.
- 277-Pos BOARD #B156**
Counterion Induced Electrostatic Condensation Of Nucleosomes And Chromatin Arrays. **Lars Nordenskiöld,** Abdollah Allahverdi, Nikolay Berezhnoy, Nikolay Korolev, Ying Liu, Chenning Lu, Alexander P. Lyubartsev, Ye Yang.
- 278-Pos BOARD #B157**
A Course Grain Model of Histones and DNA in the Nucleosome. **Thomas C. Bishop,** Apostol Gramada, Sachin Goyal.
- 279-Pos BOARD #B158**
Quantitative Model and Analysis of Nucleosome Organization near the Transcription Start Site in Yeast. **Wolfram Mobius,** Ulrich Gerland.
- 280-Pos BOARD #B159**
Effect of Histone Acetylation on Nucleosome Dynamics Revealed by spFRET Microscopy. **Ruth Buning,** Wiepke J. A. Koopmans, Heinz Neumann, Jason W. Chin, Thomas Schmidt, John van Noort.
- 281-Pos BOARD #B160**
Computer simulations of chromatin fibers. **René Stehr,** Nick Kepper, Ramona Ertig, Karsten Rippe, Gero Wedemann.
- 282-Pos BOARD #B161**
Nanomanipulation Of Single Chromatin Fiber With Magnetic Tweezers. **Pierre RECOURVREUX,** Christophe Lavelle, Natalia Conde e Silva, Maria Barbi, Eric Le Cam, Ariel Prunell, Jean-Marc Victor, Jean-Louis Viovy.
- 283-Pos BOARD #B162**
Rapid-Quench Mixing and Use of Fast Footprinting to Characterize DNA Opening in the Late Steps of Open Complex Formation at PR by E. coli RNA Polymerase. **Theodore J. Gries,** Wayne S. Kontur, Michael W. Capp, Caroline A. Davis, Amanda C. Drennan, Ruth M. Saecker, M. Thomas Record, Jr.
- 284-Pos BOARD #B163**
Stress, Scrunching And Tethering: The Roles Of The Connecting Template Strand In Initiation By T7 RNA Polymerase. **Ankit Vahia,** Craig T. Martin.
- 285-Pos BOARD #B164**
Prevention Of Backtracking Alleviates Nucleosomal Barrier To Transcription. **Jing Jin,** Lu Bai, Daniel S. Johnson, Maria L. Kireeva, Mikhail Kashlev, Michelle D. Wang.
- 286-Pos BOARD #B165**
Monte Carlo simulation of transcriptional control in 6kbp DNA. **Naoko Tokuda,** Masaki Sasaki, George Chikenji.
- 287-Pos BOARD #B166**
Investigating The Structural Dynamics Of The Lict Transcriptional Antiterminal And Its RNA Target By Single Molecule FRET. **Matthew L. Ferguson,** Caroline Clerté, Emmanuel Margeat, Nathalie Declerck, Catherine A. Royer.
- 288-Pos BOARD #B167**
Characterization of The Open Complex of Yeast Mitochondrial RNA Polymerase. **Guo-Qing Tang,** Swaroopa Paratkar, Smita S. Patel.
- 289-Pos BOARD #B168**
Characterizing the Effects of Highly Bent DNA on Transcription. **Troy A. Lionberger,** Edgar Meyhofer.
- 290-Pos BOARD #B169**
Modulation Of Sequence-dependent Pausing Of Rna Polymerase By The Accessory Factor Nusa: A Single-molecule Study. **Jing Zhou,** Kook Sun Ha, Arthur La Porta, Robert Landick, Steven M. Block.
- 291-Pos BOARD #B170** STUDENT TRAVEL AWARDEE
SRAA POSTER
Human TBP Bending of DNA Measured at the Single Molecule Level. **Amanda E. Carpenter,** Aaron R. Hieb, Meredith D. Betterton, James A. Goodrich, Thomas T. Perkins.
- 292-Pos BOARD #B171** SRAA POSTER
Mechanics of Transcription Elongation Through The Nucleosome Using Single-Molecule and Biochemical Methods. **Pooja Gupta,** Miroslav Tomschik, Andrey Revyakin, Jordanka Zlatanova.
- 293-Pos BOARD #B172**
Regulation of Transcriptional Activity of Estrogen Receptor Alpha by Novel Splice Variants. **Pallob Kundu,** Rong Lu, Enrico Stefani, Ligia Toro.
- 294-Pos BOARD #B173**
Modeling Transcription Initiation By Bacterial RNA Polymerase. **Marko Djordjevic.**
- 295-Pos BOARD #B174**
Probing The Structure And Function Of Transcription Complex Of Rna Polymerase Ii With Tfiif At Single Molecular Level. **Wei-hau Chang.**
- 296-Pos BOARD #B175**
Agaerye. **Timothee Lionnet,** Jeffrey A. Chao, Yaron Shav-Tal, Xavier Darzacq, Robert H. Singer.
- 297-Pos BOARD #B176**
Metal Preference At The Second Metal Binding Site Of E. coli NikR. **Christine M. Phillips,** Paul S. Nerenberg, Catherine L. Drennan, Collin M. Stultz.
- 298-Pos BOARD #B177**
Force-Dependence of Lac-Repressor Mediated DNA Loop Formation. Yih-Fan Chen, Gerhard Blab, David P. Wilson, **Jens-Christian Meiners.**
- 299-Pos BOARD #B178**
Malleable machines in transcription regulation: the Mediator complex. Ágnes Tóth-Petróczy, István Simon, Christopher Oldfield, Yuichiro Takagi, Keith Dunker, Vladimir Uversky, **Monika Fuxreiter.**

300-Pos BOARD #B179

Structure/function Correlations in *P. aeruginosa* DNA Ligase LigD.
Aswin Natarajan, Hui Zhu, Pravin A. Nair, Stewart Shuman, Ranajeet Ghose.

301-Pos BOARD #B180

Zero-Mode Waveguides for Real-Time Observation of Single Nucleotide Incorporation. **Zhuangxiong Huang**, Serge Donkers, Jacob W.J. Kerssemakers, Nynke H. Dekker.

302-Pos BOARD #B181

Formation Of RecA Filament During The Mechanical Unzipping Of dsDNA To ssDNA: Competition With SSB Differentially Controls RecA Mediated SOS Response And Replication Repair. **Carlo Zambonelli**, Claudia Danilowicz, Nancy Kleckner, Mara Prentiss.

303-Pos BOARD #B182

Control of DNA Replication by Anomalous Reaction-Diffusion Kinetics.
Michel G. Gauthier, John Bechhoefer.

Protein-Nucleic Acid Interactions I (Boards #B183–#B210)

304-Pos BOARD #B183

Single-molecule Study of Site-specific DNA Recombination by γ D Resolvase.
Mingxuan Sun, Hua Bai, Nigel D. Grindley, John F. Marko.

305-Pos BOARD #B184

Thermodynamics of Interactions between Histone-like Proteins from *Escherichia coli* (HU and IHF) and Intact Duplex DNA. **Junseock Koh**, Ruth M. Saecker, M. Thomas Record Jr.

306-Pos BOARD #B185

Novel Techniques for Study of the Nucleosome Core Particle Ionic Atmosphere and Its Role in Electrostatically-Driven DNA Packing.
Kurt Andresen.

307-Pos BOARD #B186

Stress-Activated Sliding Motion: A Coupled-Potential Model.
Caroline J. Ritz-Gold.

308-Pos BOARD #B187

High Resolution Surface Plasmon Microscopy: From Nano-colloids To Single Nucleosome Imaging. **Thibault ROLAND**, Lotfi Berguiga, Audrey Fahys, Zofia Haftek, Pascale Milani, Nicolas Hugo, Philippe Bouvet, Juan Elezgaray, Françoise Argoul.

309-Pos BOARD #B188

Ion Exchange in the Nonspecific Bimolecular Association and the Unimolecular DNA Bending in Specific Binding of IHF to DNA.
Paula Vivas, Serguei V. Kuznetsov, Anjum Ansari.

310-Pos BOARD #B189

Analysis of RPA70N Involvement in RPA ssDNA Binding Activity.
Amalchi Castillo.

311-Pos BOARD #B190

The Role of DNA “Bendability” in the Indirect Read-Out Mechanism of Protein-DNA Interactions. Paula Vivas, **Velmurugu Yogambigai**, Serguei V. Kuznetsov, Anjum Ansari.

312-Pos BOARD #B191

Mechanisms of the Type I Restriction Enzyme EcoKI: Characterizing weak interactions using AFM. **Kelly J. Neaves**, David TF Dryden, J Michael Edwardson, Robert Henderson.

313-Pos BOARD #B192

Transcriptional Activation by the Human Progesterone Receptor: Towards a Predictive Understanding. **Keith D. Connaghan**, Aaron F. Heneghan, Michael T. Miura, David L. Bain.

314-Pos BOARD #B193

Unravelling The Role Of Alba In The Organization Of The Archaeal Nucleoid. Maarten C. Noom, Felix J.H. Hol, Niels Laurens, Malcolm F. White, **Remus T. Dame**, Gijs J.L. Wuite.

315-Pos BOARD #B194

Regulation of the nucleic acid chaperone activity of HTLV-1 Nucleocapsid Protein. **Ioulia Rouzina**, Kristen Stewart-Maynard, Fei Wang, Margareta Cruceanu, Dominic Qualley, Dominic Qualley, Mithun Mitra, Robert Gorelick, Mark Williams, Karin Musier-Forsyth.

316-Pos BOARD #B195

DNA Interaction Properties of Nucleic Acid Chaperone Proteins from Retrotransposons. **Kathy R. Chaurasiya**, Fei Wang, Gaël Cristofari, Jean-Luc Darlix, Sandra L. Martin, Mark C. Williams.

317-Pos BOARD #B196

The Codes of “Non-Coding” ncRNA in Epigenetics: Episcruption and Hermeneutics of the Genome in the Entangled Cancer-Angiogenesis-Tolerance Epigenome. **Josef H. Wissler**.

318-Pos BOARD #B197

Linking Yeast Transcription Factor Structural Class and Detailed Binding Preferences with in vivo Regulatory Functions. **Rachel Patton McCord**, Cong Zhu, Trevor W. Siggers, Martha L. Bulyk.

319-Pos BOARD #B198

Dissecting the High Rate Constant for the Binding of a Ribotoxin to the Ribosome. **Sanbo Qin**, Huan-Xiang Zhou.

320-Pos BOARD #B199

Insight into the Roles of the 140–149 Catalytic Loop and the Zinc-Binding Domain for HIV-1 Integrase Activity. Kevin Carayon, Li Na, Olivier Delelis, Françoise Simon, Jean-Francois Mouscadet, Jean-Francois Mouscadet, Jean-Claude Brochon, **Eric Deprez**.

321-Pos BOARD #B200

Single Molecule Measurements Of The Role Of Tetramer Opening In LacI-mediated DNA Looping. Danielis Rutkauskas, **Francesco Vanzi**, Hongli Zhan, Kathleen S. Matthews, Francesco S. Pavone.

322-Pos BOARD #B201

The Enfolding Arms of EcoRI Endonuclease as Probed by ESR Experiments. **Jacqueline E. Townsend**, Katherine Stone, Zhongyu Yang, Jessica Sarver, Sunil Saxena, Linda Jen-Jacobson.

323-Pos BOARD #B202

Nuclear RISC Originates from Cytoplasmic Loaded RISC in Human Cells. **Joerg Muetze**, Thomas Ohrt, Wolfgang Staroske, Karin Crell, Petra Schwillie.

324-Pos BOARD #B203

A Dna Mimic Caught In The Act: 3d Electron Microscopy Shows Ecoki Methyltransferase In Complex With The T7 Antirestriction Protein Ocr. **Christopher Kennaway**, Agnieszka Obarska-Kosinska, John H. White, Irina Tuszyńska, Laurie P. Cooper, Janusz M. Bujnicki, John Trinick, David T F Dryden.

325-Pos BOARD #B204

Investigation of Dnmt1-DNA Interaction using Fluorescence Fluctuation Spectroscopy. **Matthias Hoeller**, Karin Fellingner, Carina Frauer, Heinrich Leonhardt, Don C. Lamb.

326-Pos BOARD #B205

Thermodynamic Characteristics of pre-mRNA Splice Site Recognition.
Krystle J. Williams, Jermaine L. Jenkins, Clara L. Kielkopf.

327-Pos BOARD #B206

The DNA Bridging Protein H-NS and the SsrB Transcription Factor Counteract One Another to Silence and Activate Pathogenicity Island Genes in Salmonella. Yinjie Liu, Don Walthers, **Linda J. Kenney**, Jie Yan.

328-Pos BOARD #B207

TBP Carries Out Specific DNA Binding Involving Information From Both Grooves. **Cesar Millan-Pacheco**, Victor M. Capistran-Licea, Nina Pastor.

329-Pos BOARD #B208

Recognition and Signaling in DNA Mismatch Repair: MD Studies of MutS Complexes with DNA and ATP. **Susan N. Pieniazek**, Manju Hingorani, David L. Beveridge.

330-Pos BOARD #B209

In Silico Study Of Nonspecific DNA-protein Encounter Complexes.
Mu Gao, Jeffrey Skolnick.

331-Pos BOARD #B210

Understanding DNA- and RNA-binding Proteins Using Sequence and Structural Features. **Matthew B. Carson**, Robert Langlois, Hui Lu.

Protein Structure (Boards #B211–#B230)

332-Pos BOARD #B211

Protein Structure Initiative-Materials Repository (PSI-MR): An open shared public resource for structural genomic plasmids. Catherine Cormier, Joshua LaBaer, **Jean Chin**.

333-Pos BOARD #B212

From The Polymer Nature Of Proteins To The Evolution Of Protein Function. **Igor Berezovsky**, Alexandr Goncarencu.

334-Pos BOARD #B213 STUDENT TRAVEL AWARDEE

Predictions of Protein Circular Dichroism Calculated by the Dipole Interaction Model and Compared to Synchrotron Radiation Circular Dichroism Experiments. Kathryn A. Thomasson, **Neville Y. Forlemu**.

335-Pos BOARD #B214

New Spin Label Designed for Double Electron-Electron Resonance Distance Measurements in the Liquid Nitrogen Temperature Range. **Sandra S. Eaton**, Gareth R. Eaton, Velavan Kathirvelu, Andrzej Rajca, Sandip K. Roy, Suchada Rajca, Shuzhang Xiao, Maren Pink.

336-Pos BOARD #B215

Ensemble Dynamics with Orientational NMR Restraints in Solution and Membrane Environments. **Sunhwan Jo**, Jinhyuk Lee, Thenmalarchelvi Rathinavelan, Wonpil Im.

337-Pos BOARD #B216

Molecular Dynamics Simulations Of Escherichia coli Acyl Carrier Protein Containing Fatty Acyl Derivatives. **David I. Chan**, D. Peter Tieleman, Hans J. Vogel.

338-Pos BOARD #B217

The Dependence Of Coiled-coil Chirality On Elastic Energy. **Sara Sadeghi**, Eldon Emberly.

339-Pos BOARD #B218

Computational Modeling of the Structural Mechanism Linking Ligand and Corepressor Binding to Thyroid Hormone Receptors. **Yi Chen**.

340-Pos BOARD #B219**SRAA POSTER**

Effects Of Reactive Oxygen Species On Cyan Fluorescent Protein. **Luis Alvarez**, Fabienne Merola, Chantal Houée-Levin, Filippo Rusconi, Marie Erard.

341-Pos BOARD #B220

Thermodynamic Intermediates of the Alkaline III[~] IV Transition in Ferricytochrome c Probed by 695 nm Charge Transfer Band. **Daniel Verbaro**, Andrew Hagarman, Carmichael Wallace, Reinhard Schweitzer-Stenner.

342-Pos BOARD #B221

X-ray Footprinting at Beamline X28C: A National Resource for Studying Macromolecular Structure and Dynamics. **Rhijuta D'Mello**, Sayan Gupta, Jen Bohon, Donald Abel, John Toomey, Michael Sullivan, Mark R. Chance.

343-Pos BOARD #B222

Expression and Purification of the Myxoma Virus Leukemia Associated Protein Zinc Finger Domain. **Bryan G. Hahn**, Dominic Esposito, Dana C. Lawrence.

344-Pos BOARD #B223

Expression and Purification of Zinc Finger Antiviral Protein. **Christina M. Zimmerman**, Dominic Esposito, Dana C. Lawrence.

345-Pos BOARD #B224

Troponin T Deletion 96 Related to Restrictive Cardiomyopathy Ablates the Effects of Cardiac Troponin I PKA Pseudo-Phosphorylation on Ca²⁺ Sensitivity of Force Development. **Michelle S. Parvatiyar**, Jose R. Pinto, Jingsheng Liang, Michelle A. Jones, James D. Potter.

346-Pos BOARD #B225

Structural Comparison Of A Diabetes Drug Target, Mitoneet, A 2Fe-2S Cluster Protein To Its More Stable Mutant, H87C. **Andrea R. Conlan**, Herbert L. Axelrod, Aina E. Cohen, Edward C. Abresch, Rachel Nechushtai, Mark L. Paddock, Patricia A. Jennings.

347-Pos BOARD #B226

Crystallographic Structure And Structural Stability Of Vertebrate Digestive Lysozyme. **Yasuhiro Nonaka**, Daisuke Akieda, Nobuhisa Watanabe, Masakatsu Kamiya, Tomoyasu Aizawa, Makoto Demura, Keiichi Kawano.

348-Pos BOARD #B227

Structural Determination of the Carboxyl Terminal Domain from the Gap Junction Protein Connexin45. **Jennifer L. Kopanic**, Fabien Kieken, Paul L. Sorgen.

349-Pos BOARD #B228

Structural and Functional Basis for (S)-allantoin Formation in the Ureide Pathway. Kwangsoo Kim, Jinseo Park, **Sangkee Rhee**.

350-Pos BOARD #B229

A Folding Switch Regulates the Phd/doc Operon by Conditional Cooperativity. **Abel Garcia Pino**, Lode Wyns, Remy Loris.

351-Pos BOARD #B230

Double Hexamer Structure Of The Archaeal Helicase MCM From Methanobacterium thermoautotrophicum. **Yacob Gomez-Llorente**, Ryan J. Fletcher, Xiaojiang S. Chen, José María Carazo, Carmen San Martín.

Protein Dynamics I (Boards #B231–#B260)**352-Pos BOARD #B231**

Dynamics and Statistical Properties of Disordered Proteins. **Vijay Singh**, Yujie Chen, Bill Wedemeyer, Lisa Lapidus.

353-Pos BOARD #B232

Probing the cytoplasmic substrate permeation pathway of the Serotonin transporter with Steered Molecular Dynamics simulation. **Anshu Bhatia**, Lei Shi, Harel Weinstein.

354-Pos BOARD #B233

Solvent Effects On Protein Mechanical Stability: A Steered Molecular Dynamics Study. **Georgi Z. Genchev**, Hui Lu.

355-Pos BOARD #B234

Fluorescence Resonance Energy Transfer Reveals Key Binding Domains of Neurotrophin Receptor-Interacting Melanoma-Associated Antigen Homolog in Bone Morphogenetic Protein-Mediated Apoptosis. **Jennifer A. Rochira**, Rebecca A. Cowling, Joshua S. Himmelfarb, Samuel T. Hess, Joseph M. Verdi.

356-Pos BOARD #B235

Conformational Dynamics of Antithrombin III With its Allosteric Activator Heparin. **Lauren Boucher**, Richard de la Cruz, Susan Bock, Patrick L. Wintode.

357-Pos BOARD #B236**INTERNATIONAL TRAVEL AWARDEE**

Structural Evaluation of the Effects of Disulfide Bond Eliminations on Scorpion Toxin κ -Hefutoxin1 from *Heterometrus fulvipes*. **Mehriar Amininasab**, Maryam Ghobeh.

358-Pos BOARD #B237

Characterization of HIV-1 Protease-Inhibitor Interaction by Interflap Distance Measurement, NMR Spectroscopy, and Solution Kinetics. **Angelo M. Veloro**, Mandy E. Blackburn, Luis Galiano, Gail E. Fanucci.

359-Pos BOARD #B238

Picosecond Dynamics Of Surface Water As A Function Of Hydrophobicity. **Wei Liang**, Yunfen He, Deepu George, Andrea G. Markelz.

360-Pos BOARD #B239

The Scaffolding Subunit of PP2A is a Coherent Linear Elastic Object That Can Transmit Mechanical Information Along Its Length. **Alison E. Grinthal**, Ivana Adamovic, Martin Karplus, Nancy Kleckner.

361-Pos BOARD #B240

The Closure Mechanism Of M. Tuberculosis Guanylate Kinase Relates Structural Fluctuations To Enzymatic Function. Olivier Delalande, Sophie Sacquin-Mora, **Marc Baaden**.

362-Pos BOARD #B241

The Closed γ . Open Transition of Adenylate Kinase From Crystal Structures and Computer Simulations. **Oliver Beckstein**, Elizabeth J. Denning, Thomas B. Woolf.

363-Pos BOARD #B242

Conserved Protein Flexibility And Pathways Of Energy Flow In Enzyme Catalysis. **Arvind Ramanathan**, Jose Borreguero, Christopher J. Langmead, Pratul K. Agarwal.

364-Pos BOARD #B243

Accelerated Target Selection By Repair Enzymes Through Charge Transport. **Pak-Wing Fok**, Tom Chou.

365-Pos BOARD #B244

Reference-Free Identification of Dynamic Structural Domains in Proteins: Comparison of Numeric Predictions with NMR Measurements. **Maria Stepanova**.

366-Pos BOARD #B245

Spontaneous Substrate Binding and Formation of the Bound State in Glycerol-3-Phosphate Transporter (GlpT). **Giray Enkavi**, Emad Tajkhorsid.

367-Pos BOARD #B246**SRAA POSTER**

Single Molecule FRET Reveals Novel Dynamic Structure And Stoichiometry Of L27 Domain-mediated Polarity Complexes Formed By Drosophila Sdt/DPatj/DLin-7. **Andreas Renner**, Suren Felekyan, Heike Hornen, Paul J. Rothwell, Stanislav Kalinin, André Bachmann, Elisabeth Knust, Claus AM Seidel.

368-Pos BOARD #B247
Conformational Flexibility of the GM2 Activator Protein Loop Regions Investigated By Site Directed Spin Labeling EPR Spectroscopy.
Jordan D. Mathias.

369-Pos BOARD #B248
Single-Molecule Protein Conformational Dynamics and Molecular Interaction Dynamics under Enzymatic Reactions. Yufan He, Saptarshi Mukherjee,
H. Peter Lu.

370-Pos BOARD #B249
Slippage Between Noncovalently Bound Filaments Of Self-assembling Peptide.
Nathan A. Hammond, Roger D. Kamm.

371-Pos BOARD #B250
Multiple Channels of Structural Relaxations in Functional Proteins.
Canan Atilgan, Osman B. Okan, Ali Rana Atilgan.

372-Pos BOARD #B251
Solvent Bridging Determines The Molecular Architecture Of The Unfolding Transition State Of A Protein. **Lorna Dougan,** Georgi Genchev, Jorge Alegre-Cebollada, Hui Lu, Julio M. Fernandez.

373-Pos BOARD #B252
Site-Specific Folding Dynamics of Isotopically Labeled Peptides Studied by Time-Resolved Infrared-Spectroscopy. Carsten Krejtschi, Ling Wu, Rong Huang, Karin Hauser, **Timothy A. Keiderling.**

374-Pos BOARD #B253
Linear Response of Biomolecules To External Perturbations: Revisit Induce-fit.
Lee Wei Yang, Akio Kitao, Nobuhiro Go.

375-Pos BOARD #B254
Dynamic Allostery In Proteins. **Hedvika Toncova,** Thomas CB McLeish.

376-Pos BOARD #B255
Impact of Hofmeister Salts on Structural Dynamics of Photoactive Yellow Protein. **Sandip Kaledhonkar,** Lorand Kelemen, Anupama Thubagere, Yunxing Li, Aihua Xie.

377-Pos BOARD #B256
Linking Enzyme Conformational Dynamics To Catalytic Function With Single-molecule FRET. **Yan-Wen Tan,** Jeffrey A. Hanson, Jason Brokaw, Jih-Wei Chu, Haw Yang.

378-Pos BOARD #B257
Two-colors Photo-Switching of E222Q-GFPMut2 Mutant by Fluorescence Correlation Spectroscopy. Valentina Quercioli, Chiara Bosisio, Maddalena Collini, Laura D'Alfonso, **Giuseppe Chirico.**

379-Pos BOARD #B258
Conformational Transitions Of Disordered Proteins Associated With Different Redox States Of Di-thiol Pairs. Samuel W. Fan, Richard A. George, Naomi L. Haworth, Lina L. Feng, Jason Y. Liu, **Merridee A. Wouters.**

380-Pos BOARD #B259
"Arrhenius Approach to Study Kinetics of Fresh Egg Protein". **Dipti Sharma.**

381-Pos BOARD #B260 SRAA POSTER
NMR Dynamics Of PSE-4 β -lactamase: An Interplay Of ps-ns Order And m s-ms Motions In The Active Site. **Sébastien Morin,** Stéphane M. Gagné.

Protein Assemblies (Boards #B261–#B278)

382-Pos BOARD #B261
SEDPHAT - An Analysis Platform for the Biophysical Analysis of Reversibly Assembled Multi-protein Complexes in Solution. **Patrick H. Brown.**

383-Pos BOARD #B262
Probing the Heterogeneity in the Distribution of Binding Properties of Immobilized Surface Sites through Bayesian Analysis. **Huaying Zhao,** Inna I. Gorshkova, Juraj Svitel, Faezeh Razjouyan, Peter Schuck.

384-Pos BOARD #B263
Proteomic Analysis of KvLQT1 and HERG-associated Proteins.
Hitesh K. Jindal, Gideon Koren.

385-Pos BOARD #B264
Computer Simulation of Protein-Protein Association Processes.
Volkhard Helms, Mazen Ahmad, Alexander Spaar, Wei Gu.

386-Pos BOARD #B265
At clinically relevant concentration Isoflurane and Desflurane induce Abeta oligomerization. Molecular details from NMR spectroscopy.
Pravat K. Mandal, Vincenzo Fodale.

387-Pos BOARD #B266
Molecular Dynamics Simulations of a Single 11-Residue Beta-Sheet Adhesive and its Assembly. **Ahlam N. Al-Rawi,** Brigita Urbanc, Debabani Ganguly, Talat S. Rahman, Jianhan Chen, John Tomich.

388-Pos BOARD #B267
Peptide Nanocapsules As Novel Immunogens: Design And Biophysical Analysis Of A Prototype SARS Vaccine. **Tais Pimentel,** Zhe Yan, Scott A. Jeffers, Kathryn V. Holmes, Robert S. Hodges, Peter Burkhard.

389-Pos BOARD #B268
Peptide Nanocapsules and Their Conjugation with Inorganic Nanoparticles.
Yongkun Yang, Peter Burkhard.

390-Pos BOARD #B269
Properties of Glycan-Rich Pericellular Coats - A Study on a Well-Defined Model System. **Ralf P. Richter,** Natalia Baranova, Patricia Wolny.

391-Pos BOARD #B270
Conformational Change of ClpP from *Bacillus subtilis* Characterized by Electron Microscopic study. Byung-Gil Lee, Hyun Kyu Song,
Hyesung Jeon.

392-Pos BOARD #B271
The Role of the Proline Rich Domain in the Structural Organization of Dynamin. **Pampa Ray,** Shunming Fang, Jason A. Mears, Jenny E. Hinshaw.

393-Pos BOARD #B272
Structural Basis For HIV-1 DNA Integration in the Human Genome. Fabrice Michel, Corinne Crucifix, Florence Granger, Sylvia Eiler, Jean François Mouscadet, Marina Gottikh, Alexis Nazabal, Stéphane Emiliani, Richard Benarous, Dino Moras, Patrick Schultz,
Marc Ruff.

394-Pos BOARD #B273
Structural studies of a phycobilisome. **Marta C. Bunster,** Carola E. Bruna, Jose A. Martinez-Oyanedel, Maximiliano Figueroa, Carolina Meza, Jose R. Sepulveda, Adelio Matamala.

395-Pos BOARD #B274
Quantification of the Exchange of Subunits from Membrane Protein Complexes Using Foerster Transfer Recovery (FTR). Zhanjia Hou, Kenneth S. Campbell, **Seth L. Robia.**

396-Pos BOARD #B275
Ligand Binding and Sickle Hemoglobin Polymerization Kinetics: Implication for Therapies. **Donna Yosmanovich,** Maria Rotter, Alexey Aprelev, Frank A. Ferrone.

397-Pos BOARD #B276
Fiber Depolymerization: Fracture, Fragments, Vanishing Times and Stochastics in Sickle Hemoglobin. Jiang Cheng Wang, Suzanna Kwong, Frank A. Ferrone, Matthew S. Turner, **Robin W. Briehl.**

398-Pos BOARD #B277
A Repulsive Electrostatic Mechanism For Protein Translocation Through Type III Secretion System: Insights From Pulling Simulations Of MxiH Across The Needle Apparatus Of *Shigella flexneri*. **Thenmalarchelvi Rathinavelan,** Wendy Picking, Roberto De N. Guzman, Wonpil Im.

399-Pos BOARD #B278
Solid-State NMR Studies of Gas Vesicle Structure. **Astrid C. Sivertsen,** Marvin J. Bayro, Marina Belenky, Robert G. Griffin, Judith Herzfeld.

Protein Folding & Stability I (Boards #B279–#B305)

400-Pos BOARD #B279
Sequence-dependent Stability Of The Beta-helical Fold. **Natha Robert Hayre,** Daniel Lee Cox, Rajiv R.P. Singh.

401-Pos BOARD #B280
Investigating the Origins of Fractional c -values in Protein Folding Transition States. **Michael C. Baxa,** Karl F. Freed, Tobin R. Sosnick.

402-Pos BOARD #B281
Electrostatic Interaction In The Unfolded States Of Proteins. **Jana Khandogin.**

403-Pos BOARD #B282
Non-Native Structure in the Unfolded Ensemble of a Prototypical β -Hairpin. **Massimiliano Bonomi,** Davide Branduardi, Francesco L. Gervasio, Michele Parrinello.

404-Pos BOARD #B283
Beta-barrel Proteins that Reside in the E. coli Outer Membrane In Vivo Demonstrate Varied Folding Behavior In Vitro. **Nancy K. Burgess,** Karen G. Fleming.

- 405-Pos BOARD #B284**
Bistable Entropy Landscape of Sequences and Folds of Proteins.
Baoqiang Cao, Ron Elber.
- 406-Pos BOARD #B285**
Amyloid β Proteins, Modified by a Lipid Oxidation Product, Are Nucleation Sites for Fibril Formation on Lipid Membranes. **Hiroaki Komatsu**, Liu Liu, Paul H. Axelsen.
- 407-Pos BOARD #B286**
Rescuing Functional Protein from Amyloid-Like Structure. Gergely Agócs, Katalin Solymosi, Andrea Varga, Péter Závodszky, Judit Fidy, **Szabolcs Osváth**.
- 408-Pos BOARD #B287**
Dissecting the N-terminal Helical Domain of Apolipoprotein B.
Laura E. Packer, Zhenghui Gordon Jiang, C. James McKnight.
- 409-Pos BOARD #B288 SRAA POSTER**
Peptide Structure Stabilization: A Study Of Aromatic-aromatic Interaction And pH Effect On A β -hairpin Stability. **Ling Wu**, Takahiro Takekiyo, Dan McElheny, Timothy A. Keiderling.
- 410-Pos BOARD #B289**
Molecular Partition Functions For Amino Acids And Beyond. **Hui Wang**, Michael Farchild, Dennis R. Livesay, Donald J. Jacobs.
- 411-Pos BOARD #B290**
Lin-12/Notch Repeat B: The Effects Of Disulfide Bonding And Hydrophobic Residues On Its Autonomous Folding. **Jessica Lin**, Didem Vardar-Ulu.
- 412-Pos BOARD #B291**
Lattice Model Studies of Designability and Alpha-helix to Beta-sheet Transitions of Short Peptide Chains. **Travis A. Hoppe**, Jian-Min Yuan.
- 413-Pos BOARD #B292**
Atomistic Modeling of Macromolecular Crowding Predicts Modest Increases in Protein Folding and Binding Stability. **Sanbo Qin**, Huan-Xiang Zhou.
- 414-Pos BOARD #B293**
Forced Unfolding of CTPR proteins. Gregg Lois, Jerzy Blawdziewicz, **Corey OHern**.
- 415-Pos BOARD #B294**
Dodging The Crisis Of Folding Proteins With Knots. **Joanna I. Sulkowska**, Piotr Sulkowski, Jose Onuchic.
- 416-Pos BOARD #B295 INTERNATIONAL TRAVEL AWARDEE**
Continuous Dissolution Of Structure During The Unfolding Of A Small Protein. **Santosh Kumar Jha**, Deepak Dhar, G. Krishnamoorthy, Jayant B. Udgaonkar.
- 417-Pos BOARD #B296 MINORITY BIOPHYSICISTS TRAVEL GRANT AWARDEE**
Experimental Studies on Protein Folding in the Presence of the Hsp70 Chaperone System. **Margarita Santiago**, Ashok Sekhar, Silvia Cavagnero.
- 418-Pos BOARD #B297**
Folding Mechanism Of The Z Mutant Of Human Antitrypsin Studied By H/D Exchange. **Tanusree Sengupta**, Patrick L. Wintrode.
- 419-Pos BOARD #B298**
Urea H-bonds to the peptide group, but Gdm does not. Woon K. Lim, **Jörg Rösger**, Walter Englander.
- 420-Pos BOARD #B299**
The Effect of High Concentration Salt on the Structure, Stability, and Aggregation of RecA. **William R. Cannon**, Gina MacDonald.
- 421-Pos BOARD #B300**
Folding/Unfolding of Glycolipid Transfer Protein: Molten Globule-Like Intermediates?. Ravi Kanth Kamlekar, Roopa Kenoth, Helen M. Pike, Franklyn G. Prendergast, Sergei Yu. Venyaminov, **Rhoderick E. Brown**.
- 422-Pos BOARD #B301**
Elucidating The Specificity Determinants Responsible For ClpX-Adaptor Interaction. **Tahmeena Chowdhury**, Peter Chien, Robert T. Sauer, Tania A. Baker.
- 423-Pos BOARD #B302**
The Effect of Salts and Co-Solvents on the Cytochrome c Folding Pathway within a Sol-gel Glass. **Eric S. Peterson**, Michael A. Erbele, Brock B. Jas.
- 424-Pos BOARD #B303**
Prosegment Catalyzes Pepsin Folding to a Kinetically Trapped Native State. **Derek R. Dee**, Rickey Y. Yada.

- 425-Pos BOARD #B304**
Osmolytes Control Peptide Folding and Aggregation. **Regina Politi**, Shahar Sukenik, Daniel Harries.
- 426-Pos BOARD #B305 SRAA POSTER**
The Effects of Reduction Potential and Number of Disulfide Bonds on the Correct Folding of Lin-12/Notch Repeats (LNRs) Using Human Notch 1 LNRA as a Model System. **Lauren Choi**, Didem Vardar Ulu.
- 427-Pos BOARD #B306**
Helical Flexibility Governed by the Placement of Alanine Residues in a Series of Aib-Rich Model Peptides. Matthew Cocchiola, Valentine Sackmann, **Adrienne P. Loh**.

Molecular Recognition in Silico (Boards #B307–#B322)

- 428-Pos BOARD #B307**
Free Energy Calculations of Sparsomycin Analogs Binding to the Ribosome with Molecular Dynamics Simulations. **Xiaoxia Ge**, Benoit Roux.
- 429-Pos BOARD #B308**
Computational Discovery Of The Electronegative Channel In RNA Loop-loop Interactions. Andrey Semichayevsky, Abhishek Singh, **Yaroslava G. Yingling**.
- 430-Pos BOARD #B309**
Docking of a Linker Histone to The Nucleosome With Flexible Linker DNAs. **Georgi V. Pachov**, Rebecca C. Wade.
- 431-Pos BOARD #B310**
Exploring The Spatiotemporal Dynamics of DNA Binding and Cleavage by Restriction Endonucleases. **Wei-Ting Wang**, Jing-Shin Tsai, Chien-Ting Hsu, Tzu-Sen Yang*.
- 432-Pos BOARD #B311**
Molecular Recognition Routes Of DNA By Anticancer Ligands: Mechanisms and Free Energies Explored Via Molecular Dynamics Simulations. **Attilio Vittorio Vargiu**, Alessandra Magistrato, Paolo Carloni, Paolo Ruggerone.
- 433-Pos BOARD #B312**
Computational Studies of Substrate Binding and Conformational Change in the Glycine Betaine Symporter BetP. **Kamil Khafizov**, Christine Ziegler, Lucy Forrest.
- 434-Pos BOARD #B313**
Substrate Binding Directs the Functional Hinge Bending Motion of Human 3-Phosphoglycerate Kinase. **Erika Balog**, Zoltan Palmai, Laurent Chaloin, Corinne Lionne, Judit Fidy, David Perahia.
- 435-Pos BOARD #B314**
Molecular Dynamics Simulation Study of T Cell Receptor Molecular Recognition of Peptide-Major Histocompatibility Complexes. **Ghalib A. Bello**, Michael E. Paulaitis.
- 436-Pos BOARD #B315**
Free Energy Calculation And Decomposition Of Hiv-1 Protease-Darunavir Binding By MM-PB/GBSA And Thermodynamic Integration Method. **Yufeng Cai**.
- 437-Pos BOARD #B316**
Analyzing drug-resistance in terms of substrate recognition by Hepatitis C Virus NS3 protease. **Keith Romano**.
- 438-Pos BOARD #B317**
Modeling Orientation-Constrained Reactions: A Study Of Crowding Effects With Brownian Dynamics Simulation. **Jian Sun**, Harel Weinstein.
- 439-Pos BOARD #B318 SRAA POSTER**
Parameter Effects Of Crowding On Binding Chemistry Using Stochastic Off-lattice Simulations. **Byoungkoo Lee**, Philip R. LeDuc, Russell Schwartz.
- 440-Pos BOARD #B319**
Interface Volume As A Possible Diagnostic Of The Quality Of Protein-protein Docking. **Mihaly Mezei**.
- 441-Pos BOARD #B320**
The First Total Synthesis Of Morusin And Himanimide D As Arachidonate 5-lipoxygenase Inhibitor In Automated Docking. **Yean-Jang Lee**, Chia-Fu Chang, Cheng-Wei Lin, Yu-Chao Huang, Chao-Chin Hu, Yen-Min Tsheng, Tsui-Hwa Tseng.
- 442-Pos BOARD #B321**
Simultaneously Targeting Multiple Drug-Resistant Variants with Optimally Small Drug Cocktails: Application and Analysis of Novel Methods. **Andrea P. Johnston**, Mala L. Radhakrishnan.

443-POS BOARD #B322
High Throughput In-silico Screening Against Flexible Protein Receptors.
Horacio E. Sánchez.

Protein Aggregates I (Boards #B323–#B343)

444-POS BOARD #B323
Structural Investigation of an SH3 Amyloid Protein Fibril. **Marvin J. Bayro,** Thorsten Maly, Neil R. Birkett, Christopher M. Dobson, Robert G. Griffin.

445-POS BOARD #B324
Solid-State NMR Studies of the Fibril Forming Protein PABPN1.
Daniel Huster, Holger A. Scheidt, Grit Lodderstedt, Elisabeth Schwarz.

446-POS BOARD #B325
Solid-state NMR Investigation of b2-Microglobulin Fibril Structure and Dynamics. **Galia T. Debelouchina,** Marvin J. Bayro, Geoffrey W. Platt, Sheena E. Radford, Robert G. Griffin.

447-POS BOARD #B326
Native Conformation at Specific Residues in Inclusion Body Protein in Whole Cells Detected with Solid-State Nuclear Magnetic Resonance.
Jaime Curtis-Fisk, Ryan M. Spencer, **David P. Weliky.**

448-POS BOARD #B327
Different Individual Amyloid Fibrils Exhibit Different Beta Sheet Secondary Structures via Near-field Infrared Spectroscopy. **Melissa Paulite,** Zahra Fakhraai, Nikhil Gunari, Adrienne Tanur, Gilbert C. Walker.

449-POS BOARD #B328
Evolution Of Protein Misfolding And Cell Apoptosis In Huntington's Disease Studied By Synchrotron Infra-Red Microspectroscopy. Markus Bonda, Heike Runne, Bertrand Vileno, Valérie Perrin, Ariane Kretlow, Lisa M. Miller, László Forró, Ruth Lüthi-Carter, **Sylvia Jeney.**

450-POS BOARD #B329
An Infrared 2D-COS Study of Fibril Formation. **Jose Luis R. Arrondo,** Igor De la Arada.

451-POS BOARD #B330
Investigating Amyloid Aggregates At Different Size Scales. **Suman Nag,** Bankanidhi Sahoo, Jiji Chen, C. Muralidharan, Riddhi Shah, Joseph Irudayaraj, Sudipta Maiti.

452-POS BOARD #B331
Amyloid Peptide Conformations In Soluble Oligomers.
Jyothi L. Digambaranath, Ben P. Block, Tyler Campbell, Loan Dang, Monika Dembinska, Kim K. Williams, **John M. Finke.**

453-POS BOARD #B332
Real-Time Monitoring of Heat Induced Unfolding and Aggregation of b-lactoglobulin in the Presence of Chaperones Using High Resolution Ultrasonic Spectroscopy. **Agnieszka Ochendusko,** Vitaly Buckin.

454-POS BOARD #B333
Detecting Protein Aggregation on Cells Surface: Concanavalin A Oligomers Formation. **Valeria Vetri,** Giulia Ossato, Valeria Militello, Michelle A. Digman, Maurizio Leone, Enrico Gratton.

455-POS BOARD #B334
Protein aggregation in live cells: N&B analysis of Huntingtin. **Giulia Ossato,** Michelle Digman, Charity Aiken, Lawrence Marsh, Enrico Gratton.

456-POS BOARD #B335
Sickle Hemoglobin Fiber Growth Rates Deduced Using Optical Channels.
Alexey Aprelev, Mikhail Zakharov, Zenghui Liu, Matthew S. Turner, Frank A. Ferrone.

457-POS BOARD #B336
A Unified Theory of Liquid-Liquid Demixing and Polymer Formation Kinetics. **Frank A. Ferrone,** Yihua Wang, Zenghui Liu, A. Emanuele, M. B. Vittorelli-Palma, M. U. Palma.

458-POS BOARD #B337
Amyloid-like Aggregation Of A Human Apolipoprotein A-I Variant.
Nahuel Ramella, M. Alejandra Triccerri, Susana A. Sanchez, Sergio T. Ferreira, Omar J. Rimoldi.

459-POS BOARD #B338
Endogenous Formaldehyde Is Related To Sporadic Alzheimer's Disease.
Rongqiao He, Zhi Qian Tong, Jin Ling Zhang, Wen Hong Luo, Hui Li, Hong Jun Luo, Wen San Wang, Ying Liu.

460-POS BOARD #B339
Intramolecular Diffusion of the Amyloidogenic Protein HypF. **Yujie Chen,** Lisa Lapidus.

461-POS BOARD #B340
Amyloid Formation By Peptides From Yeast Adhesins. **Caleen B. Ramsook,** Gregory Soybelman, Ryan Henry, Raymond G. Fung, Peter N. Lipke.

462-POS BOARD #B341
Conformational Instability, Aggregation, and Hydrogel formation of a 16-Residue Alanine-Based Peptide in Aqueous Media. **Thomas J. Measey,** Melinda Bendon, Reinhard Schweitzer-Stenner, Guoliang Yang, Konstantin Kornev.

463-POS BOARD #B342
Study of Misfolding and Aggregation for Short Peptide from the Yeast Prion Sup35 Using AFM Imaging and Force Spectroscopy.
Alexey V. Krasnoslobodtsev, Alexander M. Portillo, Luda S. Shlyakhtenko, Yuri L. Lyubchenko.

464-POS BOARD #B343
On The Mechanisms Regulating Alpha-crystallin Activity. **Marco De Spirito,** Giuseppe Maulucci, Massimiliano Papi, Mauro Missori, Giuseppe Arcovito.

Protein Aggregates II (Boards #B344–#B362)

465-POS BOARD #B344
Effect Of Beta-sheet-breaker Peptides On The Assembly, Morphology And Mechanical Stability Of Oriented ab25–35 Amyloid Fibrils. **Ünige Murvai,** Arpad Karsai, Miklos S.Z. Kellermayer.

466-POS BOARD #B345
Thermal Stability Of Oriented Ab25–35 Amyloid Fibril Nanoarray. Matyas Kolsosfzki, Arpad Karsai, **Miklos S. Kellermayer.**

467-POS BOARD #B346
Fibril formation of Ab (10–35) studied by UV resonance Raman Spectroscopy.
Anwasha Bhattacharya, Maiko Kondo, Ishita Mukerji.

468-POS BOARD #B347
Amyloid Beta Oligomer Formation Analysis by Photon Counting Histogram.
Naofumi Terada, Tamotsu Zako, Masafumi Sakono, Mizuo Maeda.

469-POS BOARD #B348
The Aggregation of Ab 16–22 Probed by Circular Dichroism and Infrared Spectroscopies. **Andrea Grund,** Elisa Frankel, Sean M. Decatur.

470-POS BOARD #B349
Conformational Change Induced In A Random Coil Peptide By Prion Peptide Aggregates. Dana M. Alessi, **Sean M. Decatur.**

471-POS BOARD #B350
Successful de novo conversion from [psi-] to [PSI1] Saccharomyces cerevisiae.
Edward C. Koellhoffer, Hideyo Inouye, Daniel A. Kirschner.

472-POS BOARD #B351
Conversion Of Antiparallel b-sheet To Parallel b-sheet In A Prion Peptide Aggregate. **Dana M. Alessi.**

473-POS BOARD #B352
Probing the effect of Heat Shock Protein 70 on the aggregation of a-Synuclein.
Evan T. Spiegel, Phill Jones, Pamela McLean, Brad Hyman, Warren R. Zipfel.

474-POS BOARD #B353
The Effect of Cations on a-Synuclein Misfolding: Single Molecule AFM Force Spectroscopy Study. **Junping Yu,** Yuri L. Lyubchenko.

475-POS BOARD #B354
A Single Mutation in the Non-Amyloidogenic Region of IAPP Greatly Reduces Toxicity. Kevin Hartman, **Jeffrey R. Brender,** Kendra R. Reid, Pieter E.S. Smith, Ravi P.R. Nanga, Marchello A. Cavitt, Edgar L. Lee, Duncan G. Steel, Ari Gafni, Robert T. Kennedy, Ayyalusamy Ramamoorthy.

476-POS BOARD #B355
Curcumin Inhibits The Formation Of Fibrils From Islet Amyloid Polypeptide.
Gai Liu.

477-POS BOARD #B356
High-resolution Structures of Membrane-Bound IAPP Reveal Functional Implications of the Toxicity of Prefibrillar States of Amyloidogenic Proteins.
Ravi P. R. Nanga, Jeffrey R. Brender, Kevin Hartman, Ayyalusamy Ramamoorthy.

478-POS BOARD #B357
Amyloidogenic Propensity of ProIAPP and IAPP in the Presence of Negatively Charged Lipid Bilayers. **Suman Jha.**

479-POS BOARD #B358
Structural Studies Of Islet Amyloid Polypeptide In The Presence Of Insulin And Lipid Membranes. **Shuqiu Han.**

480-Pos BOARD #B359
Amyloid-like Misfolding Of Peptides By Membrane Mimicking Environments. **Alex Perálvarez-Marín**, Anna Wahlström, Jesper Lind, Loïc Hugonin, Jüri Jarvet, Lena Måler, Andreas Barth, Astrid Gråslund.

481-Pos BOARD #B360
Modeling amyloid toxic ion channels. **Hyunbum Jang**, Ratnesh Lal, Ruth Nussinov.

482-Pos BOARD #B361
Probing Tau-Vesicle Interactions. **Shana Elbaum**, Jocelyn Traina, David Eliezer, Elizabeth Rhoades.

483-Pos BOARD #B362
An α -Helical Conformation of the SEVI Peptide, a Dramatic Enhancer of HIV Infectivity, Promotes Lipid Aggregation and Fusion. **Jeffrey Brender**, Kevin Hartman, Ravi PR Nanga, Stephanie V. Le Clair, Lindsey M. Gottler, Ayyalusamy Ramamoorthy.

Lipids and Signaling on Membrane Surface (Boards #B363–#B373)

484-Pos BOARD #B363
The Preferential Reconstitution Of Ampa Receptor Proteins Into Model Lipid Domains With Cholesterol Studied By Atomic Force Microscopy - an Imaging And Force Spectroscopy Study. **Chandra Ramanujan**, Nahoko Kasai, Matthew Suggit, Jelena Baranovic, Keiichi Torimitsu, John F. Ryan.

485-Pos BOARD #B364
Piezoelectricity of phospholipids: Are cell membranes also piezoelectric? **Antal Jakli**.

486-Pos BOARD #B365 INTERNATIONAL TRAVEL AWARDEE SRAA POSTER

Gastrin-Releasing Peptide Adopts An Orientation Parallel To The Membrane Plane As A Preferred Orientation In DMPC Bilayers: Multiple Molecular Dynamics Simulations. **Priyanka Prakash Srivastava**.

487-Pos BOARD #B366
Lipid Composition Modulates the Stability of DNA Acting as Model Membrane-bound Receptors. **Paul A. Beales**, T. Kyle Vanderlick.

488-Pos BOARD #B367
Phosphatidylinositol-(4,5)-bisphosphate Acting As A Ligand Of PKC α Modulates The Membrane Localization Of This Enzyme In Living Cells. **Juan C. Gómez-Fernández**, Consuelo Marin-Vicente, Francisco E. Nicolas, Senena Corbalán-García.

489-Pos BOARD #B368
Probing Phosphoinositide Kinetics With A Voltage-sensitive Phosphatase. **Bjoern H. Falkenburger**, Jill B. Jensen, Byung-Chang Suh, Bertil Hille.

490-Pos BOARD #B369
Interaction Of PTEN₁₋₂₁ Peptide With Phosphatidylinositol-4,5-Bisphosphate: A P NMR Relaxation Study. **Edgar E. Kooijman**, Avigdor Leftin, Michael F. Brown, Arne Gericke.

491-Pos BOARD #B370
Plasma Membrane Order In T Cell Signalling. **Jelena Dinic**, Jeremy Adler, Ingela Parmryd.

492-Pos BOARD #B371
Adsorption Of Bar-domain Proteins To Charged Lipid Membranes Causes Deformations And Lipid Demixing. **George Khelashvili**, Daniel Harries, Harel Weinstein.

493-Pos BOARD #B372
Inducing and Reversing Anesthesia with Temperature Variation - Experiments on an Excised Frog Sciatic Nerve. **Bineyam Kassahun**, Martin Bier, Alexander Murashov.

494-Pos BOARD #B373
Ci-VSP Is A Depolarization-Activated PI(4,5)P₂ And PI(3,4,5)P₃ 59 Phosphatase. **Christian R. Halaszovich**, Dominik Oliver.

IP3 Receptors (Boards #B374–#B381)

495-Pos BOARD #B374
Toward A Computational Model Of IP₃R1-associated Ataxia. **Sherry-Ann Brown**, Leslie M. Loew.

496-Pos BOARD #B375
Electron Cryomicroscopy of IP₃R1 Calcium Release Channel. Que T. Ngo, Joshua T. Maxwell, Gregory A. Mignery, Wah Chiu, Steven J. Ludtke, Irina I. Serysheva.

497-Pos BOARD #B376
The Amplification Of InsP₃R Activity By NCS-1 Is Attenuated By Medications Used In The Treatment Of Bipolar Disorder. **Christin Schulze**, Jessica Olofsson, Barbara E. Ehrlich.

498-Pos BOARD #B377
The Role of the Pore-forming Region in the Regulation of IP₃ Receptor by Luminal Ca²⁺. **Shitian Cai**, Wenqian Chen, Lin Zhang, Wayne S.R. Chen.

499-Pos BOARD #B378
A C-terminal Fragment of Chromogranin B Amplifies Inositol (1,4,5)-Trisphosphate Receptor Mediated Signaling. **Stefan Schmidt**, Felix M. Heidrich, Michelle Mo, Barbara E. Ehrlich.

500-Pos BOARD #B379
Comparison of IP₃R and RyR Expression and Ca²⁺ Release Characteristics in Isolated Cardiac Nuclei. **Susan Currie**, Richard D. Rainbow, Marie-ann Ewart, John G. McCarron.

501-Pos BOARD #B380
Type 2 Inositol 1,4,5-trisphosphate Receptor Phosphorylation and Modulation by Ca²⁺/Calmodulin-dependent Protein Kinase II. **Joshua T. Maxwell**, Ademuyiwa S. Aromolaran, Gregory A. Mignery.

502-Pos BOARD #B381
Regulation Of Inositol 1,4,5-Trisphosphate Receptor Isoforms By O-Linked Glycosylation. **Patricia Bimboese**, Craig J. Gibson, Stefan Schmidt, Jere Paavola, Barbara E. Ehrlich.

Exocytosis & Endocytosis (Boards #B382–#B410)

503-Pos BOARD #B382
Bioanalytical Analysis of Bis(monoacylglycero)phosphate (BMP) Model Lipid Membranes. **Janetrick N. Chebukati**, Gail E. Fanucci.

504-Pos BOARD #B383 SRAA POSTER
Pacap Acts As A Transmitter At The Sympatho-adrenal Synapse Under The Acute Stress Response. **Barbara A. Kuri**, Shyue-An Chan, Corey Smith.

505-Pos BOARD #B384
Jamming Dynamics Of Stretch-induced Surfactant Secretion By Alveolar Epithelial Cells. **Arnab Majumdar**, Stephen P. Arold, Erzsebet Bartolak-Suki, Harikrishnan Parameswaran, Bela Suki.

506-Pos BOARD #B385
Action Potential Code And Cocaine Modulates Dopamine Release In Mice Striatum *in vivo*. PL Zuo, XJ Kang, J Fan, Q Lei, SR Wang, W Yao, T Luo, YF Xiong, HQ Dou, XY Liu, CH Wang, S Guo, CX Zhang, HH Gu, **Zhuan Zhou**.

507-Pos BOARD #B386
Monitoring Exocytosis And Endocytosis At Neuronal Cells Using A Quartz Crystal Microbalance Technique With Simultaneous Amperometric Detection. **Ann-Sofie Cans**.

508-Pos BOARD #B387
Probing Exocytosis In Blood Platelets. **Shencheng Ge**, Nathan J. Wittenberg, Emily Woo, Christy L. Haynes.

509-Pos BOARD #B388
Ca²⁺ Syntillas Inhibit Spontaneous Exocytosis In Mouse Adrenal Chromaffin Cells. **Jason J. Lefkowitz**, Kevin E. Fogarty, John V. Walsh, Jr., Valerie De Crescenzo.

510-Pos BOARD #B389 SRAA POSTER
F-actin Re-organization Through MARCKS and Myosin II Activity Regulates Quantal Exocytosis. **Bryan Doreian**, Robert Mecklemburg, Corey Smith.

511-Pos BOARD #B390 INTERNATIONAL TRAVEL AWARDEE
Fusion Pore Regulation of Peptidergic Vesicles. **Jernej Jorgačevski**, Matjž Stenovec, Marko Kreft, Aleksandar Bajic, Boštjan Rituper, Nina Vardjan, Stanko Stojilkovic, Robert Zorec.

512-Pos BOARD #B391
Synchronous Versus Asynchronous Contributions to Frequency-induced Synaptic Depletion in Zebrafish. **Hua Wen**, Paul Brehm.

513-Pos BOARD #B392
Norepinephrine Inhibits Endocytosis In Insulin-secreting Cells. **Ying Zhao**, Qinghua Fang, Susanne G. Straub, Lindau Manfred, Geoffrey W.G. Sharp.

514-Pos BOARD #B393
Secretory Phospholipase A₂ Type III Enhances α -secretase-dependent Amyloid Precursor Protein Processing by its Effect on Membrane Fluidity and Endocytosis. **Xiaoguang Yang**, Wenwen Sheng, Mark Haidekker, Grace Sun, James Lee.

515-Pos BOARD #B394 SRAA POSTER
Quantification of Noise Sources for Amperometric Measurement of Quantal Exocytosis Using Ultramicroelectrodes. **Jia Yao**, Kevin Gillis.

516-Pos BOARD #B395
Calcium/synaptotagmin-mediated Compound Fusion Increases Quantal Size And Causes Post-tetanic Potentiation At Synapses. **Liming He**, Lei Xue, Jianhua Xu, Benjamin D. McNeil, Ernestina Melicoff, Roberto Adachi, Ling-Gang Wu.

517-Pos BOARD #B396 SRAA POSTER
Evidence Of A Role For SNAP-25 As A v-SNARE In Vitro. **Brandon E. Forbes**, Nathan C. La Monica, Gary R. Edwards, Dixon J. Woodbury.

518-Pos BOARD #B397
Massive Endocytosis (MEND) Activated By Ca and Polyamines in Fibroblasts and Cardiac Myocytes: Optical Studies of Membrane and Na/Ca Exchanger (NCX1) Internalization, The Possible Role of Ca-activated Transglutaminase in MEND, and The Possible Function of. Simona Magi. **Alp Yaradanakul**, Marc Llaguno, Mei-Jung Li, Chengcheng Shen, Michael Fine, Debora Nicoll, Donald W. Hilgemann.

519-Pos BOARD #B398
A New Method for Studying Apical Membrane Trafficking. **Roland Thuenauer**, Thomas Fruehwirth, Peter Pohl, Alois Sonnleitner.

520-Pos BOARD #B399
Constitutive and Ca²⁺-stimulated Turnover of the Plasma Membrane Vacuolar H⁺-ATPase (V-ATPase) in Murine Osteoclasts. Hiromu Sakai, Takuya Notomi, Yoshie Moriura, Junko Kawawaki, **Miyuki Kuno**.

521-Pos BOARD #B400
Characterizing the Conformation of the Yeast Endocytic Scaffold Protein Pan1. **B Daniel Pierce**, Beverly Wendland.

522-Pos BOARD #B401
Single Fluorophore Detection And Tracking Of Fluorescent Weibel-Palade Body Membrane Proteins During Exocytosis. Gregory Mashanov, Nikolai Kiskin, Laura Knipe, Justin Molloy, Matthew Hannah, **Tom Carter**.

523-Pos BOARD #B402
A Role For Protein Phosphorylation In Fusion Pore Opening And Transmitter Release. **Qinghua Fang**, Ying Zhao, Khajak Berberian, Joan S. Lenz, Manfred Lindau.

524-Pos BOARD #B403
Effects of Calcium and PIP₂ on the Membrane Binding of Synaptotagmin I. **Weiwei Kuo**, Dawn Z. Herrick, David S. Cafiso.

525-Pos BOARD #B404 SRAA POSTER
A Novel Approach For Wireless Communication Of *In Vivo* Data From Freely Moving Research Animals. **Khajak Berberian**, Alycia Gailey, Michael G. Kaplitt, Manfred Lindau.

526-Pos BOARD #B405 SRAA POSTER
Intracellular Ca²⁺ In Physiological Range Affects The Forward Rate Of Priming Of Large Dense Core Vesicles, But Not The Backward Rate. **Mathias Pasche**, Detlef Hof, Ulf Matti, Jens Rettig, Ute Becherer.

527-Pos BOARD #B406
Role Of SPIN90 (SH3 Protein Interacting With Nck, 90kda) In The Formation Of Endocytic Vesicle And Its Movement In Receptor-mediated Endocytosis. **Hye Jin Oh**.

528-Pos BOARD #B407
TIRF-FRET As An Approach To Quantitative Analysis Of Dynamic Molecular Interactions On Secretory Granules In Live Cells. **Alice D. Lam**, Edward L. Stuenkel.

529-Pos BOARD #B408
Patterning Single Cell-Electrode Pairs for Electrochemical Measurement of Quantal Exocytosis on Microchips. **Xin Liu**, Syed Barizuddin, Cherian J. Mathai, Shubhra Gangopadhyay, Kevin D. Gillis.

530-Pos BOARD #B409
Endophilin N-BAR Domains-induced Membrane Remodeling Revealed By Molecular Dynamics Simulations. **Haosheng Cui**, Gary S. Ayton, Gregory A. Voth.

531-Pos BOARD #B410 SRAA POSTER
Chronic Palmitate Exposure Inhibits Insulin Secretion By Dissociation Of Ca²⁺-Channels From Secretory Vesicles. **Michael B. Hoppa**, Stephan Collins, Reshma Ramracheya, Paul Johnson, Frances M. Ashcroft, Patrik Rorsman.

Endoplasmic Reticulum & Protein Trafficking (Boards #B411–#B421)

532-Pos BOARD #B411
Conformational transition of the Sec translocon induced by channel partner: A molecular dynamics study. **Takaharu Mori**, Ryuichiro Ishitani, Tomoya Tsukazaki, Osamu Nureki, Yuji Sugita.

533-Pos BOARD #B412
Simulations Of Multi-protein Complexes: Structure, Binding Affinity, And Dynamics Of Vps27/hse1 Bound To Membrane-tethered Ubiquitin. **Youngchan Kim**, James H. Hurley, Gerhard Hummer.

534-Pos BOARD #B413
Modulation of Membrane Mechanical Properties by Sar1, a Vesicle Trafficking Protein. **Raghuvveer Parthasarathy**.

535-Pos BOARD #B414
Blocking helix formation without blocking organellar localization in Plasmodium falciparum. **John R. Gallagher**, Sean T. Prigge.

536-Pos BOARD #B415
Mapping Of The Signal Peptide-binding Domain Of Escherichia coli SecA Using Förster Resonance Energy Transfer. **Sarah M. Auclair**, Julia P. Moses, Monika Musial-Siwiek, Debra A. Kendall, Ishita Mukerji, Donald B. Oliver.

537-Pos BOARD #B416 STUDENT TRAVEL AWARDEE
Evaluating Protein Interactions & Organelle Dynamics in Saccharomyces cerevisiae: Spatial Distribution of Molecular Chaperone/Co-Chaperones Evident at a Sub-organelle Level in the Endoplasmic Reticulum. **Carissa L. Young**, David Raden, Anne S. Robinson.

538-Pos BOARD #B417
Microtubule Network is Necessary to Direct and Maintain The Apical Localization of Slo1 Channels in Epithelial Cells. **Enrique Alejandro Sanchez-Pastor**, Jimmy W. Ou, Abderrahmane Alioua, Pallob Kundu, Enrico Stefani, Ligia Toro.

539-Pos BOARD #B418
N-Terminal LQT2 Nonsense Mutations Cause a Dominant-Negative Destabilization of WT hERG Subunits. **Elon C. Roti Roti**, Gail A. Robertson.

540-Pos BOARD #B419
hERG Trafficking is Dependent on a Cytosolic Chaperone Network. **Valerie Walker**, Jason Young, Alvin Shrier.

541-Pos BOARD #B420
Characterizing Nicotine-Induced α4* nAChR Upregulation with Fluorescence Microscopy. Rigo Pantoja, Rahul Srinivasan, Fraser J. Moss, Sindhuja Kadambi, Princess I. Imoukhuede, **Henry A. Lester**.

542-Pos BOARD #B421
Protein Kinase C Regulation Of K_{ATP} Channel Recycling. **Paul T. Manna**, Andrew J. Smith, Tarvinder K. Taneja, Sarah Fletcher, Jonathan D. Lippiat, Asipu Sivaprasadarao.

Nucleocytoplasmic Transport (Boards #B422–#B423)

543-Pos BOARD #B422
Probing Nucleocytoplasmic Transport with Fluorescence Fluctuation Spectroscopy and Two-photon Activation of Photoactivable GFP. **Yan Chen**, Bin Wu, Joachim Mueller.

544-Pos BOARD #B423
Discontinuous Movement Of mRNPs In Nucleoplasmic Regions Devoid Of Chromatin. Jan Peter Siebrasse, Roman Veith, Akos Dobay, Heinrich Leonhardt, Bertil Daneholt, **Ulrich Kubitscheck**.

Ryanodine Receptors Type I (Boards #B424–#B442)

545-Pos BOARD #B424
Structural Characterization of FKBP Interactions with RyR Channels Using Site-Directed Fluorescent Labeling and FRET. Razvan L. Cornea, Florentin Nitu, Katherine Kohler, David D. Thomas, **Bradley R. Fruen**.

546-Pos BOARD #B425
Mapping the Ryanodine Receptors Pore Region Using the Substituted Cysteine Accessibility Method. **Albano C. Meli**, Ran Zalk, Anetta Wronska, Arthur Karlin, Andrew R. Marks.

547-Pos BOARD #B426
A FRET-based Assay To Measure Molecular Distances Within The Ryanodine Receptor Type 1 (RyR1). **James D. Fessenden**.

- 548-POS BOARD #B427 SRAA POSTER**
Ryanodine Receptor Pore Structure and Function. **Srinivas Ramachandran**, Adrian W. R. Serohijos, Le Xu, Gerhard Meissner, Nikolay V. Dokholyan.
- 549-POS BOARD #B428**
Characterization of Conformation-Specific Monoclonal Antibodies Against Skeletal Ryanodine Receptor. Tishan Williams, **Ran Zalk**, Susan Morton, Filippo Mancina, Andrew R. Marks.
- 550-POS BOARD #B429**
Homer-RyR1 Associations Are Physiological Regulators Of Intracellular [Ca²⁺]. **Jose Miguel Eltit**, Wei Feng, Paul Worley, P. D. Allen, Jose Rafael Lopez, Isaac N. Pessah.
- 551-POS BOARD #B430**
Mitsugumin 29 as a TRPC3-interacting Protein. **Ji-Hye Hwang**, Jin Seok Woo, Chung-Hyun Cho, Eun Hui Lee.
- 552-POS BOARD #B431**
Cross-Reactivity of Ryanodine Receptors with Putative Modulators of Ion Channels in the Plasma Membrane. **Jake T. Neumann**, Julio A. Copello.
- 553-POS BOARD #B432**
The Na⁺/Ca²⁺ Exchanger Inhibitor Kb-r7943 Is Also A Potent Inhibitor Of Ec Coupling And Ryanodine Receptors. **Genaro Barrientos**.
- 554-POS BOARD #B433**
Dust From Pig Confinement Facilities Bind To And Activate Skeletal Muscle Ryanodine Receptor Calcium-Release Channel (RyR1). **Chengju Tian**, Danielle S. Fenster, Mark M. Mixan, Myron Toews, Deborah J. Romberger, Keshore R. Bidasee.
- 555-POS BOARD #B434**
Ryanodine Receptor Phosphorylation By Protein Kinase A Alters The Affinity For FKBP12. **Julia Griffiths**, Jonathan-Lee Jones, F. Anthony Lai, Lynda Blainey.
- 556-POS BOARD #B435**
Muscle From Mice Heterozygous For A Mutation That Abolishes FKBP12 Binding To RyR1 Fatigue More Slowly Than Wildtype Muscle. **Jianjun Xu**, Ruirui Ji, Cheng Long, William Durham, Qing Cheng, Keke Dong, Guojun Yang, Susan L. Hamilton.
- 557-POS BOARD #B436**
S165F Mutation In Junctophilin-2 Affects Phosphorylation And Ca²⁺ Signaling In Skeletal Muscle. **Jin Seok Woo**, Ji-Hye Hwang, Jae-Kyun Ko, Noah Weisleder, Do Han Kim, Jianjie Ma, Eun Hui Lee.
- 558-POS BOARD #B437**
Independent Actions Of Junctin And Triadin On Skeletal Muscle RyR1 Channels. Lan Wei, Esther M. Gallant, Nicole A. Beard, **Angela F. Dulhunty**.
- 559-POS BOARD #B438**
Does Altered Retrograde Coupling Between and RyR1 and the DHPR Contribute to Malignant Hyperthermia? **Roger A. Bannister**, Jose R. Lopez, Paul D. Allen, Kurt G. Beam.
- 560-POS BOARD #B439**
Understanding The Molecular Defects Of Human MH And CCD. **Andrea Koop**, Wenqian Chen, Ruiwu Wang, Jeff Bolstad, Lin Zhang, S.R. Wayne Chen.
- 561-POS BOARD #B440**
S-nitrosylated Cysteins In The Y522S Ca²⁺ Release Channel RyR1. **Dimitra K. Georgiou**, Aditya D. Joshi, Paula Aracena-Parks, Guojun Yang, Susan L. Hamilton.
- 562-POS BOARD #B441**
Clues to the Formation of Cores in a Mouse Model of Malignant Hyperthermia. **Simona Boncompagni**, Ann E. Rossi, Susan L. Hamilton, Robert T. Dirksen, Clara Franzini-Armstrong, Feliciano Protasi.
- 563-POS BOARD #B442**
Carbohydrate Metabolism and Sudden Death In Mice Heterozygous for the Y524S Mutation in RyR1. **Qing Cheng**, Cheng Long, William J. Durham, Susan L. Hamilton.

Ryanodine Receptors Type II (Boards #B443–#B464)

- 564-POS BOARD #B443**
Relocation of Calmodulin in Hypertrophic Neonatal Cardiomyocytes. **Jaya Gangopadhyay**, Tomoyo Hamada, Noriaki Ikemoto.

- 565-POS BOARD #B444**
Endurance Training Abolish Arrhythmogenic Ca²⁺ Leak In Cardiomyocytes From Mice Over-expressing CaMKII. **Tomas O. Stølen**, Morten A. Høydal, Joan H. Brown, Lars S. Maier, Godfrey L. Smith, Ulrik Wisløff.
- 566-POS BOARD #B445**
Ca²⁺-calmodulin Increases RyR2 Open Probability Yet Reduces Ryanoid Association With RyR2. Charalambos Sigalas, Belen Bayo-Martin, David Jane, **Rebecca Sitsapesan**.
- 567-POS BOARD #B446**
Phosphorylation Activates RyR2 By Uncoupling The Channel From The Influence Of Cytosolic Ca²⁺ But Also Inhibits RyR2 By A Distinct Mechanism. **Simon Carter**, Rebecca Sitsapesan.
- 568-POS BOARD #B447**
FKBP12.6 Overexpression Blunts Cardiomyocyte Remodeling After Left-ventricular Pressure-overload. **Liesbeth Biesmans**, Virginie Bito, Laurent Vinet, Patricia Rouet-Benzineb, Jean-Jacques Mercadier, Karin Sipido.
- 569-POS BOARD #B448**
FKBP12.6 Binding Characteristics of Ryanodine Receptor Mutations Associated with Arrhythmogenic Cardiac Disease. **Spyros Zissimopoulos**, N. Lowri Thomas, F. Anthony Lai.
- 570-POS BOARD #B449**
Impact of RyR2 Mutation Responsible for Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT) on the Short Term Interval-Force Relationship of Atrial and Ventricular Myocardium. **Cecilia Ferrantini**, Raffaele Coppini, Beatrice Scellini, Alexandra Belus, Chiara Tesi, Barbara Colombi, Elisabetta Cerbai, Carlo Napolitano, Silvia Priori, Corrado Poggesi.
- 571-POS BOARD #B450**
An L433P Arrhythmia-linked Mutation In RyR2 Uncouples Agonist-evoked Ca²⁺ Release From Homeostatic Ca²⁺ Cycling. **Aaron I. Clack**, Debra L. Fry, N. Lowri Thomas, F. Anthony Lai, Christopher H. George.
- 572-POS BOARD #B451**
A G1885E RyR2 Polymorphism Modulates The Caffeine Sensitivity Of An Arrhythmia-linked Mutation. **Aaron I. Clack**, N. Lowri Thomas, Christopher H. George, F. Anthony Lai.
- 573-POS BOARD #B452**
Decoding The Molecular Basis Of Anti-Apoptotic Cardiac Ca²⁺ Signalling Via Human RyR2 Splice Variants. **Wai Yin Yeung**, Matthew Davies, F. Anthony Lai, Alan J. Williams, Christopher H. George.
- 574-POS BOARD #B453**
Use Of *Shaker* B K⁺ Channel NH₂-inactivation Peptides To Probe The Ryanodine Receptor Ca²⁺ Release Channel Pore. **Cedric Viero**, Jo Carney, Sammy Mason, Mark Bannister, S R. Chen, Alan J. Williams.
- 575-POS BOARD #B454**
Imperatoxin A, A Calcin Toxin From *Pandinus Imperator* Scorpions, Ablates Calcium Sparks In Permeabilized Cells. **Erin M. Capes**, Hector H. Valdivia.
- 576-POS BOARD #B455**
Block Of Mouse Cardiac Ryanodine Receptor (mRyR2) By hERG Blocking Agents. **Sammy A. Mason**, Wayne S.R. Chen, Alan J. Williams.
- 577-POS BOARD #B456**
Cardiac Ca²⁺ Release Channel/RyR2 -Molecular Mechanism Of Green Tea Extract epigallocatechin-3-gallate. George G. Rodney, Elaine Cabrales, Isaac N. Pessah, **Wei Feng**.
- 578-POS BOARD #B457**
Voltage-Dependent Modulation of Cardiac Ryanodine Receptors (RyR2) by Protamine. **Paula L. Diaz-Sylvester**, Julio A. Copello.
- 579-POS BOARD #B458**
SAM Regulation of RyR2. **Angela J. Kampfer**, Edward M. Balog.
- 580-POS BOARD #B459**
Targeted Stabilisation Of The RyR2 I-Domain Restores Ca²⁺ Handling And Intercellular Synchrony In Ouabain-disrupted Cardiac Cell Monolayers. Hala Jundi, F. Anthony Lai, **Christopher H. George**.
- 581-POS BOARD #B460**
The Effect of Volatile Anaesthetics on the Cardiac Ryanodine Receptor. **Derek R. Laver**, Tony Quail, Holly Sitsapesan, Dirk F. VanHelden.
- 582-POS BOARD #B461**
Iron (II) Modulation of the Cardiac Ryanodine Receptor (RyR2). **Daniel T. Baptista-Hon**, Austin C. Elliott, Mary E. Diaz.

583-Pos BOARD #B462

Increased Expression of Ryanodine Receptors and the Iron Transporter DMT1 in Hippocampal Neurons by Brain Derived Neurotrophic Factor (BDNF), NMDA or Spatial Memory Training. Paola Haeger, Tatiana Adasme, Pablo Munoz, Alexis Humeres, M. Angelica Carrasco, Marco T. Nunez, **Cecilia Hidalgo**.

584-Pos BOARD #B463

Increased Levels Of Type 2 Ryanodine Receptor (RyR2) In Rat Heart Mitochondria During Diabetes. **Ming Li**, Aydin Tay, Gisela Beutner, Wenjun Ding, Shey-Shing Sheu, Keshore Bidasec.

585-Pos BOARD #B464

Intracellular Calcium Release Channels Mediate Their Own Counter-current: The Ryanodine Receptor Case Study. Dirk Gillespie, **Michael Fill**.

Calcium Signaling Proteins (Boards #B465–#B484)**586-Pos BOARD #B465**

Essential Roles for Coiled-coil Domains in STIM1 Oligomerization and CRAC Channel Activation. **Elizabeth D. Covington**, Richard S. Lewis.

587-Pos BOARD #B466

Atomic Force Microscopy of Copine I and Annexin A1 on Supported Phospholipid Bilayers: Structure and Synergism. **Carl E. Creutz**, J. Michael Edwardson.

588-Pos BOARD #B467

Depletion Of Intracellular Cholesterol Disrupts Carbachol But Not PTH-mediated Ca^{2+} Signals In HEK293 Cells. **Stephen C. Tovey**, Colin W. Taylor.

589-Pos BOARD #B468

Increased Store-Operated Ca^{2+} Entry in Skeletal Muscle with Knockdown of Calsequestrin. **Choon Kee Min**, Xiaoli Zhao, Jae-kyun Ko, Zui Pan, Jerome Parness, Do Han Kim, Noah Weisleder, Jianjie Ma.

590-Pos BOARD #B469

Role of the Ryanodine Receptor/Calcium Release Channel in Beta-adrenergic Receptor Blocker Treatment of Heart Failure. **Jian Shan**, Steve Reiken, Miroslav Dura, Albano Meli, Marco Mongillo, Andrew R. Marks.

591-Pos BOARD #B470

Structural Basis for Calcium Sensing by GCaMP2. **Qi Wang**.

592-Pos BOARD #B471

Interference In Coiled-coil Mediated Coupling Between Stim1 And Orai Channels. **Judith Bergsmann**, Irene Frischauf, Martin Muik, Isabella Derler, Marc Fahrner, Klaus Groschner, Christoph Romanin.

593-Pos BOARD #B472

An Orai1 Activating Minimal Fragment Of Stim1. **Martin Muik**, Marc Fahrner, Isabella Derler, Rainer Schindl, Irene Frischauf, Judith Bergsmann, Reinhard Fritsch, Josef Madl, Klaus Groschner, Christoph Romanin.

594-Pos BOARD #B473

Increased Hydrophobicity At The N-terminus/membrane Interface Impairs Gating Of The Scid-related Orai1 Mutant. Isabella Derler, **Marc Fahrner**, Oliviero Carugo, Martin Muik, Judith Bergsmann, Rainer Schindl, Irene Frischauf, Said Eshaghi, Christoph Romanin.

595-Pos BOARD #B474

Structural dynamics of CaMKII activation. **Laurel Hoffman**, Hassane S. Mchaourab.

596-Pos BOARD #B475

Calcium binding and conformational properties of calmodulin complexed With PEP-19. **Xu Wang**, Quinn Kleerekoper, John Putkey.

597-Pos BOARD #B476

Characterization of Calmodulin with Mutated Ca₂-Binding Sites. **Liangwen Xiong**, Quinn Kleerekoper, John Putkey.

598-Pos BOARD #B477

Interactions of the Anti-Psychotic Drug Trifluoperazine with Calmodulin. **Michael D. Feldkamp**, Madeline A. Shea.

599-Pos BOARD #B478

Integration of Extracellular and Intracellular Calcium Signals via Calcium-Sensing Receptor (CaSR). **Yun Huang**, Yubin Zhou, Adriana Castiblanco, Hing-Cheung Wong, Yangyi Chen, Wei Yang, Edward M. Brown, Jenny J. Yang.

600-Pos BOARD #B479

Altered Calcium Handling Between Healthy And Atherosclerotic Vascular Smooth Muscle. **Marie-Ann Ewart**, Susan Currie, John G. McCarron, Simon Kennedy.

601-Pos BOARD #B480

PEP-19 is an Intrinsically Disordered, Acidic/IQ Motif Regulator of Calmodulin Signaling. Quinn K. Kleerekoper, Liangwen Xiong, Xu Wang, **John A. Putkey**.

602-Pos BOARD #B481

Preferential Binding and Orientation of Recoverin to Phospholipid Monolayers. **Philippe Calvez**, Julie Boucher, Philippe Desmeules, Christian Salesse.

603-Pos BOARD #B482

Characterization Of Ca^{2+} Photo-release From DM-nitrophen Using Photothermal Beam Deflection. Gangadhar Dhulipala, **Jaroslava Milksovska**.

604-Pos BOARD #B483

Altered Structure Of The Cerebellar Granule Cell Layer Of Mice Lacking Calretinin. Patrick Bishop, Céline Roussel, Serge Schiffmann, **David Gall**.

605-Pos BOARD #B484

Characterization Of Zebrafish (Danio Rerio) NCX4: A Novel Na/Ca Exchanger With Distinct Electrophysiological Properties. **Glen F. Tibbitts**.

Calcium Signaling Pathways (Boards #B485–#B503)**606-Pos BOARD #B485**

Modeling [Na₁] in PM-SR Nanodomains of Vascular Smooth Muscle Cells. **Nicola Fameli**, Cornelis van Breemen.

607-Pos BOARD #B486

A 3d Pseudo-stochastic Model Of Intercellular Calcium Signaling In Smooth Muscle. **Dumitru A. Iacobas**, Sylvia O. Suadicani, David C. Spray.

608-Pos BOARD #B487

Increased Sensitivity to Ischemia in an Early Diabetic Cardiomyopathy: The Role of Calcium Handling. **Natale P L Rolim**, Charlotte B. Ingul, Harald E M Hansen, Tomas Stølen, Morten Høydal, Anne Berit Johnsen, Ulrik Wisløff.

609-Pos BOARD #B488

Calcium Induced Conformational Changes In The Cytoplasmic Tail Of Polycystin-2. **Edward T. Petri**, Andjelka S. Celic, Titus J. Boggan, Barbara E. Ehrlich.

610-Pos BOARD #B489

L163,255, a Synthetic Growth Hormone Secretagogue, Raises [Ca²⁺]_i by Promoting Intracellular Calcium Stores Depletion in Intact Fast-Twitch Fibers of Rat Skeletal Muscle. **Antonella Liantonio**, Viviana Giannuzzi, Gianluca Gramegna, Diana Conte Camerino.

611-Pos BOARD #B490

Multiple Sources of Light-Evoked Intracellular Calcium Increases in *Hermisenda* Type B Photoreceptors. **Joseph Farley**, Joel Cavallo, Brent Hallahan, Jeff Johnson.

612-Pos BOARD #B491

Chromophore Formation of Fluorescence Proteins and Its Application of Developing Ca²⁺ Sensors. **Jin Zou**, Malcom Delgado, Yun Huang, Shen Tang, Yusheng Jiang, Blein McIntyre, Anne Wang, Jenny J. Yang.

613-Pos BOARD #B492

Orai1 Channel And Ca²⁺-independent Phospholipase A₂ Are The New Determinants Of Proliferation And Migration Of Vascular Smooth Muscle Cells. **Bo Yang**, Victoria M. Bolotina.

614-Pos BOARD #B493

Complexity Of Relationship Between STIM1, iPLA₂β And Orai1 Expression, Puncta Formation And SOCE Activation In Native And Heterologous Systems. **Tomasz Gwozdz**, Joanna Dutko-Gwozdz, Vladislav Zarayskiy, Victoria M. Bolotina.

615-Pos BOARD #B494

Membrane Depolarization of Skeletal Muscle Cells Induces IL6 and SOCS3 mRNA Expression Through Calcium Dependent Stat3 Phosphorylation. **Mario A. Bustamante**, Jose M. Eltit, Manuel Estrada, Enrique Jaimovich.

616-Pos BOARD #B495

Isoproterenol-Enhanced Diastolic Sarcoplasmic Reticulum Ca Leak in Ventricular Myocytes Requires Activation of Nitric Oxide Synthase. **Jerry Curran**, Usama Ahmed, Donald M. Bers, Mark Ziolo, Thomas R. Shannon.

617-Pos BOARD #B496
Discrete Proteolysis Of Neuronal Calcium Sensor 1 By μ -calpain Disrupts Calcium Binding. Courtney R. Blachford, **Andjelka S. Celic**, Edward T. Petri Jr, Barbara E. Ehrlich.

618-Pos BOARD #B497
Effect Of (-)-epigallocatechin Gallate (EGCG), A Green Tea Extract, On Excitation-contraction Coupling Of Murine Cardiomyocytes. **Hyun Seok Hwang**, Wei Feng, Tao Yang, Isaac N. Pessah, Bjorn C. Knollmann.

619-Pos BOARD #B498
Properties and Functions of Store-Operated Calcium Entry in the Developing Nervous System. **Agila Somasundaram**, Murali Prakriya.

620-Pos BOARD #B499
Investigating the Architecture of the CRAC Channel Pore using SCAM. **Beth McNally**, Murali Prakriya.

621-Pos BOARD #B500
Both Membrane Depolarization And IL-6 Induce Calcium-Dependent Hsp70 Expression In Skeletal Muscle Cells. **Gonzalo Jorquera**, Nevenka Juretic, Alejandra Espinosa, Enrique Jaimovich, Nora Riveros.

622-Pos BOARD #B501
Ryanodine receptor 1 signaling in dendritic cells. Mirko Vukcevic, Giulio C. Spagnoli, Giandomenica Iezzi, Francesco Zorzato, **Susan Treves**.

623-Pos BOARD #B502
Understanding Interval-Force Relations in the Rat Ventricular Myocytes with a Computational Model. Ryosuke Kadoi, Sameer Bajjkar, **Mohsin S. Jafri**.

624-Pos BOARD #B503
Ca_v1.1T LAB - A Computational Model for Intracellular Calcium Signaling In T Lymphocytes. **Rayhan Lal**, Jose L. Puglisi, Heike Wulff, Donald M. Bers.

Actin & Actin-binding Proteins (Boards #B504–#B526)

625-Pos BOARD #B504
Actin Branching Is Affected by Local Bending of the Mother Filament. **Viviana Risca**, Ovijit Chaudhuri, JiaJun Chia, Daniel A. Fletcher.

626-Pos BOARD #B505
Mechanics of Biophysical Networks with Flexible Cross-links. **Goran Zagar**, Patrick R. Onck, Erik Van der Giessen.

627-Pos BOARD #B506
Intracellular Particles Involved in Stress Fiber Formation through Remodeling of Actin Filament Networks. **Kazushi Tamura**, Takeomi Mizutani, Hisashi Haga, Kazushige Kawabata.

628-Pos BOARD #B507
Purification Of Cytosolic Actin By Affinity Chromatography Using C-terminal Half Of Gelsolin. **Takashi Ohki**, Koutarou Ohyama, Shin'ichi Ishiwata.

629-Pos BOARD #B508
Actin Polymerization In Differentiated Vascular Smooth Muscle Cells Requires Vasodilator-Stimulated Phosphoprotein (VASP). **HakRim Kim**, Francois Ferron, Malgorzata Boczkowska, Philip Graceffa, Cynthia Gallant, Paul Leavis, Roberto Dominguez, Kathleen G. Morgan.

630-Pos BOARD #B509
Actin - Myosin Interaction. **Cynthia N. Prudence**, Jim Segala, Vladislav Markin, Yana Reshetnyak, Oleg Andreev.

631-Pos BOARD #B510
A Thermodynamic Model Describing the Mechanosensitivity of Actin-cofilin Binding. **Yasuhiro Inoue**, Taiji Adachi, Masaki Hojo.

632-Pos BOARD #B511
Slow skeletal muscle actin. **Robert C. C. Mercer**, Wasana A.K.A. Mudalige, David H. Heeley.

633-Pos BOARD #B512
Binding Studies Between Cofilin And Actin Using Fluorescence Resonance Energy Transfer And Molecular Modeling. Joo-Mee Hwang, Deepak Chhabra, Murat Kekic, Piotr G. Fajer, **Brett D. Hamblly**.

634-Pos BOARD #B513
Starting Actin Filaments Anew - Adenomatous Polyposis Coli Is an Actin Nucleator. Kyoko Okada, **Alexandra M. Deaconescu**, James B. Moseley, Zvonimir Dogic, Nikolaus Grigorieff, Bruce L. Goode.

635-Pos BOARD #B514 SRAA POSTER
Measuring Molecular Interaction between Actin Filament and Actin Binding Protein Governing Mechanical Properties of Cross-Linked F-Actin Network. **Hyungsuk Lee**, Benjamin Pelz, Jorge M. Ferrer, Fumihiko Nakamura, Roger D. Kamm, Matthew J. Lang.

636-Pos BOARD #B515
Interaction of CapZ with Actin: Molecular Mechanism and Regulation. **Taekyung Kim**, John A. Cooper.

637-Pos BOARD #B516
Structural Binding Model of Cofilin and F-actin. **Diana Y. Wong**, David Sept.

638-Pos BOARD #B517
Energy Coupling In Profilin-Dependent Actin Polymerization. **Elena G. Yarmola**, Dmitri A. Dranishnikov, Michael R. Bubb.

639-Pos BOARD #B518
Computational Study Of Viscoelasticity Of Crosslinked Actin-like Networks. **Taeyoon Kim**, Wonmuk Hwang, Hyungsuk Lee, Roger D. Kamm.

640-Pos BOARD #B519
Weak to Strong Transition at the Actin-Myosin Interface Detected by Sensitized Emission Luminescence Resonance Energy Transfer (SELRET). **Piyali Guhathakurta**, Ewa Prochniewicz, David D. Thomas.

641-Pos BOARD #B520
Crystal Structures of Monomeric Actin Bound to Cytochalasin D. **Usha B. Nair**, Peteranne B. Joel, Qun Wan, Susan Lowey, Mark A. Rould, Kathleen M. Trybus.

642-Pos BOARD #B521
Structure of an Actin Trimer Stabilized by a Tandem W Domain Hybrid Construct. Grzegorz Rebowksi, Malgorzata Boczkowska, David B. Hayes, Liang Guo, Thomas C. Irving, **Roberto Dominguez**.

643-Pos BOARD #B522
Finite Element and Statistical Methods Applied to Actin Bundles and Networks under Load. **Chia-Cheng Liu**, Efsandiar A. Khatiblou, Tess J. Moon.

644-Pos BOARD #B523
Different Types Of Polymorphisms Within The F-actin And ParM Filaments. **Vitold E. Galkin**, Albina Orlova, Ethan C. Garner, R Dye Mullins, Edward H. Egelman.

645-Pos BOARD #B524
The Effect of Actin-Binding Proteins on the Dynamics of Monomeric Actin. **Gabor Hild**, Roland Kardos, Miklós Nyitrai, Elisa Nevalainen, Pekka Lappalainen.

646-Pos BOARD #B525
Computational Analysis of the Interaction Between Paired CH-Domains - Implications for their F-actin Bound Conformations. **Kevin C. Facemyer**, Roberto Dominguez, Christine R. Cremo, William J. Lehman.

647-Pos BOARD #B526
Molecular Dynamics Simulation Reveals The Role Of Cross-linkers In Semi-flexible Filament Assembly. **Lam T. Nguyen**, Wei Yang, Linda S. Hirst.

Actin-binding Proteins in Physiology & Disease (Boards #B527–#B543)

648-Pos BOARD #B527
Structure Function Analysis of Disease-Causing Missense Mutations in Dystrophin. **Davin M. Henderson**, James M. Ervasti.

649-Pos BOARD #B528
Computational modeling of the binding interaction of Jasplakinolide and Phalloidin with mammalian and parasite F-actin. **Karthikeyan Diraviyam**, David Sept.

650-Pos BOARD #B529
Vinculin Expression Regulates Tumor Cell Invasion In 3-D Matrices. **Claudia T. Mierke**, Wolfgang H. Goldmann.

651-Pos BOARD #B530
Role of Nebulin on Actomyosin Interaction Studied *in situ* in Demembrated Skeletal Muscle Fibers from Newborn Mice. M.L. Bang, M. Caremani, E. Brunello, R. Littlefield, R. Lieber, J. Chen, V. Lombardi, **M. Linari**.

652-Pos BOARD #B531
Tropomyosin Specifically Regulates Type II Myosin In Yeast. **Arthur T. Coulton**, Daniel P. Mulvihill.

653-Pos BOARD #B532

Neurospora Crassa possesses a novel ultra short tropomyosin. Seham Ebrahim, **Robin Maytum**.

654-Pos BOARD #B533

Multiple Isoforms of Fesselin (Avian Synaptopodin 2) are expressed in Smooth, Skeletal and Heart Muscle. **Mechthild M. Schroeter**, Daniel Hurley, Joseph M. Chalovich.

655-Pos BOARD #B534

A Mechano-kinetic Model For The Myosin-V Walking Mechanism. Erin M. Craig, **Heiner Linke**.

656-Pos BOARD #B535

Regional Variations in Flexibilities Limit Continuum Rod Description of Long Coiled Coils. **Sirish K. Lakkaraju**, Wonmuk Hwang.

657-Pos BOARD #B536

The Striated Organelle: A Molecular Motor In Vestibular Type I Hair Cells. **Anna Lysakowski**, Florin Vranceanu.

658-Pos BOARD #B537

Dystrophin and Utrophin have Distinct Effects on the Microsecond Dynamics of Actin. **Ewa Prochniewicz**, Davin Henderson, Ava Yun Lin, James Ervasti, David D. Thomas.

659-Pos BOARD #B538

Myosin-induced Movement Of Tropomyosin Isoforms On Actin Filament. **Joanna Moraczewska**, Malgorzata Seliwinéska, Magdalena Zukowska, Danuta Borys.

660-Pos BOARD #B539

Interactions of the Pleckstrin Homology Domains of M-RIP (p116Rip) with F-actin. Ana M. Garcia, **Terence C. Tao**.

661-Pos BOARD #B540

bCaMKII Regulates Actin Assembly and Structure. **Hugo Sanabria**, Kolodziej J. Steven, Matthew T. Swilius, Jun Liu, M. Neal Waxham.

662-Pos BOARD #B541

Coactosin, A Cofilin Like Protein, Does Not Change The Twist of F-actin. **Albina Orlova**, Vitold E. Galkin, Pekka Lappalainen, Edward H. Egelman.

663-Pos BOARD #B542

Conformational Changes Of Arp2/3 Complex During Activation. **Paul Dalhaimer**, Thomas D. Pollard.

664-Pos BOARD #B543

Acidic Calponin controls ERK1/2 translocation and l-Caldesmon phosphorylation in fibroblasts. **Sarah Appel**, J.-P. Jin, Kathleen G. Morgan.

Cytoskeletal Protein Dynamics & Intracellular Cargo Transport (Boards #B544–#B564)

665-Pos BOARD #B544

The Pro-apoptotic Protein Par-4 Regulates Myosin Light Chain Phosphorylation By Activating Myosin Phosphatase Activity. **Susanne Vetterkind**, Eunhee Lee, Eric J. Sundberg, Terence C. Tao, Ute Preuss, Kathleen G. Morgan.

666-Pos BOARD #B545

Microinjection of Smooth Muscle Myosin in Cultured Cells. **Katherine McDonald**, Renaud Leguillet.

667-Pos BOARD #B546

Essential Features of a Non-processive Class V Myosin from Budding Yeast for *ASH1* mRNA Transport. **Carol S. Bookwalter**, Matthew Lord, Kathleen M. Trybus.

668-Pos BOARD #B547

Towards Custom-topology Tracks For Probing Myosin Motor Dynamics. **Hendrik Dietz**, Nathan D. Derr, Alex Dunn, James A. Spudich, William M. Shih.

669-Pos BOARD #B548

An Open Model of Actin Dendritic Nucleation. **Leslie M. Loew**, Igor L. Novak, Jonathon A. Ditlev, Nathaniel M. Vacanti.

670-Pos BOARD #B549**INTERNATIONAL TRAVEL AWARDEE**

Real-time Observation Of Actin Polymerization Regulated By The Gelsolin-family Of Proteins. **Balakrishnan Kannan**, Robert C. Robinson.

671-Pos BOARD #B550

Computational Modeling of Antigen Processing and Presentation by Dendritic Cells. **Kenny K. Tran**, Hong Shen.

672-Pos BOARD #B551

Regulation and single-molecule mechanics of microtubule-based motors in living Chlamydomonas. **Jeneva A. Laib**, Robert A. Bloodgood, William H. Guilford.

673-Pos BOARD #B552

Multiple-Motor-Based Transport. **Ambarish Kunwar**, Alex Mogilner.

674-Pos BOARD #B553

Transport Of Micrometer-Sized Vesicles By Kinesin In Vitro. **Christoph Herold**, Cécile Leduc, Eugene P. Petrov, Stefan Diez, Petra Schwillie.

675-Pos BOARD #B554

Intermittent Search Strategies for Delivering mRNA to Synaptic Targets. **Jay Newby**.

676-Pos BOARD #B555

Microtubule elasticity: Connecting all-atom simulations with continuum mechanics. **David Sept**, Fred MacKintosh.

677-Pos BOARD #B556

Extending the Range of In Vivo Multimotor Force-Velocity Curves by Sizing Vesicles Below the Diffraction Limit. **Jed C. Macosko**, Yuri Shtridelman, Clayton T. Bauer, David DeWitt.

678-Pos BOARD #B557

Characterizing Intracellular Structure and Dynamics Through Trajectory Analysis and Single-particle Tracking of QDs in Live PC12 Cells. **Brian R. Long**, Tania Q. Vu.

679-Pos BOARD #B558

High Resolution Live-Cell Imaging Reveals Novel Pathways for Lysosomal Delivery. Zhuo Gan, **Sripad Ram**, Carlos Vaccaro, Raimund J. Ober, E. Sally Ward.

680-Pos BOARD #B559

Microfluidic Investigation Reveals Distinct Roles for Actin Cytoskeleton and Myosin II Activity in Capillary Leukocyte Trafficking. **Sylvain Gabriele**, Anne-Marie Benoliel, Pierre Bongrand, Olivier Theodoly.

681-Pos BOARD #B560

CD2AP Structure And Progression Of Renal Disease. **Brian D. Adair**, Mehmet Altintas, Clemens C. Müller, Jan Flesche, Changli Wei, Christian Faul, Kirk Campbell, Changkyu Gu, Sanja Sever, Andrey Shaw, Peter Mundel, Jochen Reiser.

682-Pos BOARD #B561

Prestress-dependent Rheology of Semiflexible Polymers of the Cytoskeleton. Arnab Majumdar, Noah Rosenblatt, Adriano M. Alencar, Bela Suki, **Dimitrije Stamenovic**.

683-Pos BOARD #B562

Straining the Laws of Attraction: Mechanotransduction Studied Through Changes in Intracellular Binding Energy. **Nur Aida Abdul Rahim**, Mohammad R K Mofrad, Peter T C So, Roger D. Kamm.

684-Pos BOARD #B563

Salt Dependence of Neurofilament Gel Phase Behavior - A Synchrotron X-ray Scattering Study. **Joanna Deek**, Jayna Jones, Roy Beck, Cyrus R. Safinya.

685-Pos BOARD #B564

Multi-Parameter Analysis of Spindle and Cell Cycle Dynamics in Asymmetric Cell Division. **Kemp W. Plumb**, Vincent Pelletier, Susi Kaitna, Jackie Vogel, Maria L. Kilfoil.

Microtubular Motors I (Boards #B565–#B590)

686-Pos BOARD #B565

Synthesis Of Novel Fluorescent Atp Analogue And Interaction With Nucleotide Dependent Motor Proteins. **Taro Kimura**, Masafumi Yamada, Masato Ito, Shinsaku Maruta.

687-Pos BOARD #B566

Photo-activation Of AtPase Activity Of Caged-kinesin. **Yuki Takano**, Kazuya Aritomi, Masafumi D. Yamada, Shinsaku Maruta.

688-Pos BOARD #B567

Interaction of Processive Motor Proteins with ATP analogue Having *Syn* Conformation with respect to the Adenine-ribose bond. **Kazuhiro Kawanoue**, Shigeru Chaen, Shinsaku Maruta.

689-Pos BOARD #B568

Photo-regulation of Kinesin ATPase Activity using Photochromic Molecule. **Takeshi Itaba**, Masahumi D. Yamada, Shinsaku Maruta.

690-Pos BOARD #B569

Photo-control Of AtPase Activity Of The Kinesin Motor Domain Intermolecularly Cross-linked By Bifunctional Photochromic Compound. **Eiichi Kobayashi**, Masafumi Yamada, Masato Ito, Shinsaku Maruta.

691-Pos BOARD #B570

Processive Motility of Heterodimeric Kinesin That Has Defect in the Neck Linker Docking. **Tepei Mori**, Michiko Nakajima, Michio Tomishige.

692-Pos BOARD #B571

Configuration Of The Kinesin1 Motor Domains In The ATP-waiting State As Revealed By Fluorescence Polarization Microscopy. **Ana Asenjo**, Hernando J. Sosa.

693-Pos BOARD #B572

Cooperative Movement Of Wild-type Kinesin And Velocity-deficient Mutants. Adam G. Larson, Eric C. Landahl, **Sarah E. Rice**.

694-Pos BOARD #B573

Kinesin Chimera Protein Fused with Calmodulin as a Molecular Shuttle. **Kiyoshi L. Nakazato**, Hideki Shishido, Kazuhiro Kawanoue, Shinsaku Maruta.

695-Pos BOARD #B574

Evidence For Kinesin-1 Passing Obstacles On The Microtubule. **Ivo A. Telley**, Peter Bieling, Thomas Surrey.

696-Pos BOARD #B575

Unique Conformation of Kinesin-1's Neck Linker in the Nucleotide-free State. **Tsukasa Makino**, Michio Tomishige, Masahide Kikkawa.

697-Pos BOARD #B576

SRAA POSTER

Examination Of The Kinesin-1 Tail Interaction With Microtubules. **Mark Seeger**, Paul Brewer, Cristine Cremona, Sarah Rice.

698-Pos BOARD #B577

Location of Tethered Head of Kinesin-1 When Bound to a Microtubule. **David D. Hackney**.

699-Pos BOARD #B578

How Occasional Backstepping Can Speed Up A Processive Motor Protein. **Martin Bier**.

700-Pos BOARD #B579

How Does Kinesin Walk And Coordinate Its Heads?. **Imre Derenyi**, Andras Czovsek, Gergely J. Szollosi.

701-Pos BOARD #B580

Molecular Simulation Study of Kinesin: Coupling between ATPase Domain Conformational Change and Mechanical Stepping. **Ryo Kanada**, Kei-ichi Okazaki, Shoji Takada.

702-Pos BOARD #B581STUDENT TRAVEL AWARDEE
SRAA POSTER

The Kinesin-1 Tail Conformationally Restricts the Nucleotide Pocket. **Yao Liang Wong**, Kristen A. Dietrich, Nariman Naber, Roger Cooke, Sarah E. Rice.

703-Pos BOARD #B582

Kinesin Velocity Increases with the Number of Motors in Gliding Assays against a simple Viscoelastic Load. **George Holzwarth**, Jason Gagliano, Matthew Walb, Jed C. Macosko.

704-Pos BOARD #B583

Quantum-dot Assisted Characterization Of Helical Motor Paths On Microtubules. **Bert Nitzsche**, Felix Ruhnnow, Stefan Diez.

705-Pos BOARD #B584

Diffusive Movement Of A Processive Kinesin On Microtubules. **Hailong Lu**, Yusuf M. Ali, Carol S. Bookwalter, David M. Warshaw, Kathleen M. Trybus.

706-Pos BOARD #B585

Alternating Site Mechanism Of Kinesin-1 Characterized By Single-molecule FRET Of Fluorescent ATP Analogues. **Guenther Woehlke**, Sander Verbrugge, Bettina Ebbing, Erwin Peterman.

707-Pos BOARD #B586

Expression and Characterization of Novel Rice Kinesin E15. **Masako Tsuchida**, Masafumi D. Yamada, Kazunori Kondo, Shinsaku Maruta.

708-Pos BOARD #B587

Kinetic characterization of the Rice Kinesins using Fluorescent-ATP Analogue. **Nozomi Umez**, Yuko Kubo, Kazunori Kondo, Toshiaki Mitsui, Shinsaku Maruta.

709-Pos BOARD #B588

Analysis of Crystal Structure and Solution Structure of the Motor Domain of Rice Kinesin K16. **Shinsaku Maruta**, Keiko Tanaka, Yuko Kubo, Toshiaki Mitsui, Zui Fujimoto.

710-Pos BOARD #B589

Analysis of Conformational Change of Novel Rice Kinesin K16 Using Small Angle X-ray Solution Scattering and EPR. **Yuko Kubo**, Satoshi Yasuda, Yasunobu Sugimoto, Masafumi D. Yamada, Toshiaki Arata, Katsuzo Wakabayashi, Shinsaku Maruta.

711-Pos BOARD #B590

The Effect Of Loads on the Collective Behavior of Neurospora Kinesin. **Adam G. Hendricks**, Bogdan I. Epureanu, Edgar Meyhofer.

Unconventional Myosins (Boards #B591–#B613)**712-Pos BOARD #B591**

SRAA POSTER

Photo-Control of Myosin Va using Photoresponsive Calmodulin. **Hideki Shishido**, Nobuhisa Umeki, Osamu Sato, Mitsuo Ikebe, Shinsaku Maruta.

713-Pos BOARD #B592

Modification Of Loop 1 Affects The Nucleotide-Binding Properties Of Myo1c, The Adaptation Motor In The Inner Ear. **Nancy Adamek**, Alena Lieto-Trivedi, Sheffali Dash, Michael A. Geeves, Lynne M. Coluccio.

714-Pos BOARD #B593

Mechanics of myosin V near stall. **Claudia Veigel**, James R. Sellers.

715-Pos BOARD #B594

SRAA POSTER

Force Dependence of a Myo1b Truncation Mutant. **Joseph M. Laakso**, Henry Shuman, E. Michael Ostap.

716-Pos BOARD #B595

Single-molecule Measurements Of Myo1c-PIP2 Detachment Forces Using Optical Tweezers. **Serapion Pyrpaspoulos**, Henry Shuman, E. Michael Ostap.

717-Pos BOARD #B596

High Speed Imaging For Myosin VI. **Ikuo Arimoto**, So Nishikawa, Mitsuhiro Sugawa, Atsuko H. Iwane, Toshio Yanagida.

718-Pos BOARD #B597

Temperature Dependent Energy Transfer Measurements Reveal Flexibility in the Upper 50 kDa Domain of Myosin V. Darshan Trivedi, Charles David, Michael Rose, Donald J. Jacobs, **Christopher Yengo**.

719-Pos BOARD #B598

SRAA POSTER

Kinetics Of Myo1c Association To And Dissociation From Phosphoinositide-containing Vesicles. **Jennine M. Dawicki McKenna**, E. Michael Ostap.

720-Pos BOARD #B599

Single Molecule Investigation of the Acto-Myosin-10 Complex Using Optical Tweezers. **Yasuharu Takagi**, Rachel E. Farrow, Gregory I. Mashanov, Christopher Batters, Yi Yang, Michelle Peckham, James R. Sellers, Justin E. Molloy.

721-Pos BOARD #B600

SRAA POSTER

Bayesian Estimation for Hidden Information of a Single Molecular Motor. **Makito Miyazaki**, Takahiro Harada.

722-Pos BOARD #B601

ADP Affinity of Myosin VI is Regulated by Off-Axis Load. **Sergey Mikhailenko**, Yusuke Oguchi, Adrian O. Olivares, Enrique De La Cruz, Shin'ichi Ishiwata.

723-Pos BOARD #B602

The Tail Binds To The Head-Neck Domain To Form A Folded-Back Conformation That Inhibits The Actin-Activated ATPase Activity Of Drosophila Myosin VIIA. **Nobuhisa Umeki**, Hyun Suk Jung, Shinya Watanabe, Tsuyoshi Sakai, Xiang dong Li, Reiko Ikebe, Roger Craig, Mitsuo Ikebe.

724-Pos BOARD #B603

The Medial-tail Domain of Myosin-VI as a Dimerization Region. **Hyeongjun Kim**, Monalisa Mukherjee, H. Lee Sweeney, Paul R. Selvin.

725-Pos BOARD #B604

Processivity of Myosin V and X on two-dimensional (2D) paracrystalline actin array. **Daniel Huck**, Abhishek Roka, Jim Sellers, Takeshi Sakamoto.

726-Pos BOARD #B605

Cargo-mediated dimerization of Myosin VI. **Denis Phichith**, Mirko Travaglia, Zhaohui Yang, Allan B. Zong, Daniel Safer, Clara Franzini-Armstrong, Hugh Lee Sweeney.

727-Pos BOARD #B606
Characterization of drosophila myosin 7a mechanics. **Verl B. Siththanandan**, Yasuharu Takagi, Yi Yang, Davin K.T. Hong, James R. Sellers.

728-Pos BOARD #B607
Prefoldin 4 (PFD4): A putative new partner of myosin Va (MyoVa) in melanosome transport. **Renato F. De Paulo**, Alistair N. Hume, Verónica S. Pinto, Martha M. Sorenson, Miguel M. Seabra.

729-Pos BOARD #B608
The Mechanism of Filament Rotation in Gliding Assays with Non-Processive Myosin Motors. **Andrej Vilfan**.

730-Pos BOARD #B609 STUDENT TRAVEL AWARDEE
SRAA POSTER

Non-muscle Myosin IIb Is A Processive Actin-based Motor.
Melanie Norstrom, Ronald S. Rock.

731-Pos BOARD #B610
Lever Arm Length Determines The Azimuthal But Not The Axial Orientation Of Myosin V During Processive Motility. **John H. Lewis**, John F. Beausang, H. L. Sweeney, Yale E. Goldman.

732-Pos BOARD #B611
Structural and Mechanistic Determinants of Myosin VI Processivity and Anchoring. **Peiyang Chuan**, Alexander R. Dunn, Zev Bryant, James A. Spudich.

733-Pos BOARD #B612
Myosin VI Dimerizes And Walks Processively Along Actin.
Monalisa Mukherjea, Daniel Safer, Julie Ménétrey, Paola Llinas, Anne Houdusse, H. Lee Sweeney.

734-Pos BOARD #B613
Cryo-Electron Microscopy of Myosin 5 on Actin. Kavitha Thirumurugan, Stan A. Burgess, Fang Zhang, James R. Sellers, **Peter J. Knight**.

Ion Motive ATPases (Boards #B614–#B630)

735-Pos BOARD #B614
Kinetic Analysis Of ATP Synthesis Catalyzed By E. coli FoF1 ATP Synthase Reconstituted Into Egg Yolk Liposomes: Evidence For Bi-site Activation.
Mikhail Galkin, Robert K. Nakamoto.

736-Pos BOARD #B615
Ca²⁺ Binding to Site I of the Cardiac Ca²⁺ Pump (SERCA2a) is Sufficient to Dissociate Phospholamban (PLB). **Zhenhui Chen**, Brandy L. Akin, Larry R. Jones.

737-Pos BOARD #B616
Concerted but Noncooperative Activation of Nucleotide and Actuator Domains of the Ca-ATPase Upon Calcium Binding. Baowei Chen, James E. Mahaney, M. Uljana Mayer, Diana J. Bigelow, **Thomas C. Squier**.

738-Pos BOARD #B617
FRET from SERCA to Phospholamban is Decreased by Thapsigargin and Anti-PLB Antibody, but not by Calcium. **Philip Bidwell**, Daniel J. Blackwell, Zhanjia Hou, Seth L. Robia.

739-Pos BOARD #B618
Collapse of TA-Calmodulin (TACaM) upon Binding to Ca²⁺ Pump Peptide C28 Exposes the TA Moiety to Water and Quenches Its Fluorescence.
John T. Penniston, Ariel J. Caride, Nenad O. Juranic, Franklyn G. Prendergast, Elena Atanasova, Adelaida G. Filoteo, Emanuel E. Strehler.

740-Pos BOARD #B619
Distinct Regulation of pH in the Cytosol and in Acidic Organelles by a Subunit Isoforms of V-ATPase in Human Cancer Cells. **Souad R. Sennoune**, Ayana Hinton, Sarah Bond, Michael Forgac, Raul Martinez-Zaguilan.

741-Pos BOARD #B620
Direct Observation Of Rotation Of F1-ATPase From Saccharomyces cerevisiae With mgi Mutations. **Bradley C. Steel**, Yamin Wang, Vijay Pagadala, Richard M. Berry, David M. Mueller.

742-Pos BOARD #B621
Structure Analysis of F₁-ATPase via Molecular Dynamics.
Yuko Ito, Mitsunori Ikeguchi.

743-Pos BOARD #B622
Interplay of Ligand Binding, Domain Interaction and Chaperone Mediated Cu²⁺ Delivery to Cu²⁺ Transport ATPases. **Deli Hong**, Manuel Gonzalez-Guerrero, Jose M. Arguello.

744-Pos BOARD #B623
Structural Dynamics Of The Phospholamban-SERCA Complex By Site-Directed EPR Spectroscopy. **Zachary M. James**, Kurt D. Torgersen, Christine Karim, David D. Thomas.

745-Pos BOARD #B624
Structural Dynamics Of Sarcoplasmic Reticulum Ca²⁺-ATPase (SERCA) Studied By Molecular Simulations Of Site-specific Labeled Protein.
Bengt Svensson, L. Michel Espinoza-Fonseca, David D. Thomas.

746-Pos BOARD #B625
Molecular Dynamics Simulations Reveal Intrinsic Features of SERCA Dynamics. **L. Michel Espinoza-Fonseca**, Bengt Svensson, David D. Thomas.

747-Pos BOARD #B626
Investigation Of Electrogenic Partial Reactions In Detergent-solubilized Na,K-ATPase. Michael Habeck, **Hans-Juergen Apell**.

748-Pos BOARD #B627
Influence of Phosphate Analogs on Palytoxin-opened Na,K-ATPase Pump-channel. **Ayako Takeuchi**, David C. Gadsby.

749-Pos BOARD #B628
Truncation Of The Na/K Pump's C-terminus Attenuates Voltage-dependent Binding Of External Na⁺ By Destabilizing Na⁺ Occlusion.
Natascia Vedovato, David C. Gadsby.

750-Pos BOARD #B629
Temporal and Steric Analysis Of Ionic Permeation and Binding in Na₁,K₁-ATPase via Molecular Dynamic Simulations. **James E. Fonseca**, Savas Kaya.

751-Pos BOARD #B630
Relative Movement Of The α -Subunit's First And Last External Loops Throughout Na/K-Pump Cycle. **Pablo Artigas**.

Membrane Transport (Boards #B631–#B647)

752-Pos BOARD #B631
Modeling Osmotic Lysis of Cells by Antimicrobial Peptides: Transient Diffusion of Ions and Osmotically-driven Flow. **Dan S. Bolintineanu**, Yiannis N. Kaznessis, H Ted Davis.

753-Pos BOARD #B632
Quantitative Modeling of Passive Permeation through the Blood Brain Barrier. Hugo Filipe, Armindo Salvador, Winchil Vaz, **Maria Joao Moreno**. Universidade de Coimbra, Coimbra, Portugal.

754-Pos BOARD #B633
Time-Resolved Studies of Adsorption and Transport of a Hydrophobic Ion at Escherichia coli Bacterial Membranes by Second Harmonic Generation.
Jia Zeng, Heather Eckenrode, Hai-Lung Dai.

755-Pos BOARD #B634
15N Chemical Shift Anisotropy of the Schiff Base in Bacteriorhodopsin Intermediates. **Melody L. Mak-Jurkauskas**, Alexander B. Barnes, Yoh Matsuki, Marina Belenky, Robert G. Griffin, Judith Herzfeld.

756-Pos BOARD #B635
Insight on the Diverse Cellular Pathways of Two Novel Chelators from Liposome Partition Studies. **Maria Rangel**, Paula Gameiro, Andreia Leite, Ana Nunes, Tao Zhou, Yongming Ma, Robert Hider.

757-Pos BOARD #B636
Teaching Undergraduate Biophysics using Excel. **Peter H. Nelson**.

758-Pos BOARD #B637
A Novel Approach to Measure Flip-flop of Very Long Chain Saturated Fatty Acids (VLCFA) in Model Membranes. **Biju K. Pillai**, Ravi Jasuja, James A. Hamilton.

759-Pos BOARD #B638
Cyclodextrins Deliver FA to Membranes Rapidly while Maintaining a Low Concentration of Unbound FA in Water. **Kellen Brunaldi**, James A. Hamilton.

760-Pos BOARD #B639
Permeability of Model Stratum Corneum Lipid Membrane Measured Using Quartz Crystal Microbalance. Daeyeon Lee, **Eugene Pashkovski**, David Weitz.

761-Pos BOARD #B640
Roles Of The Membrane Protein CD36 In Fatty Acid Transport And Metabolism. **Su Xu**, James A. Hamilton.

762-Pos BOARD #B641
Analytical Description Of The Diffusion Coefficient And Current Of A Single Particle On A Two-dimensional Corral Model. **Hernan L. Martinez**.

763-Pos BOARD #B642
Phase Transitions in Single Nano-Vesicles. **Poul M. Bendix**, Peter P. Wibroe, Dimitrios Stamou.

764-Pos BOARD #B643
Intracellular Water Lifetime Depends on Cellular Energetic State. **Yajie Zhang**, Marie Poirer-Quinot, Charles Springer, James Balschi.

765-Pos BOARD #B644
Interaction Of Enrofloxacin With Model Membrane Systems. Implications In The Permeation Pathways, Revealed By Fluorescence And Conductance Studies. **Paula Gameiro**, Isabel Sousa, Tivadar Match, Mathias Winterhalter.

766-Pos BOARD #B645 SRAA POSTER
The Porin passport control - Conductance measurements and biological relevance. **Mahendran R. Kozhinjampara**, Tivadar Mach, Andrey N. Bessonov, Helge Weingart, Chloe E. James, Jean-Marie Pages, Eric Hajjar, Amit Kumar, Matteo Ceccarelli, Mathias Winterhalter.

767-Pos BOARD #B646
Detecting Conformational Changes In The Bacterial Glutamate Transporter Homolog GltPh Using EPR Spectroscopy. **Paul Focke**, Pierre Moenne-Loccoz, Peter Larsson.

768-Pos BOARD #B647
Uncovering an Analytical Description of the Transmembrane Voltage Bistability at Low Extracellular Potassium Concentrations. **Jill Gallaher**, Martin Bier, Jan Siegenbeek van Heukelom.

Membrane Dynamics & Bilayer Probes I (Boards #B648–#B667)

769-Pos BOARD #B648
Solid-State 2H NMR Spectroscopy Reveals Micromechanics of Raft-Like Ternary Lipid Membranes Containing Sphingomyelin and Cholesterol. **Tim Bartels**, Ravi S. Lankalapalli, Robert Bittmann, Michael F. Brown, Klaus Beyer.

770-Pos BOARD #B649
Implementation of Two Photon Excitation Fluorescence Microscopy Techniques in Langmuir Films. **Jonathan Brewer**, Jorge Bernardino de la Serna Bernardino de la Serna, Luis Bagatolli.

771-Pos BOARD #B650
Three-dimensional Dynamic Structure Of Phospholipid Bilayers Saturated With Cholesterol. **Marija Raguz**, Justyna Widomska, Witold K. Subczynski.

772-Pos BOARD #B651
Comparative Characterization of Lateral Organization and Packing Properties of Lipids in Pulmonary Surfactant Membranes and Interfacial Films. M. Victoria Picardi, **Antonio Cruz**, Guillermo Orellana, Jesús Pérez-Gil.

773-Pos BOARD #B652
Nystatin Action On POPC/sterol Membranes Along Its Phase Diagram. **Javier González-Damián**, Iván Ortega-Blake.

774-Pos BOARD #B653
Changes in Membrane Fluidity of Blood Platelets in Myeloid Neoplasm. **Eugenia Kovacs**, Emanuela Cicarma, Tiberiu Corhan, Ana Maria Vladareanu, Horia Bumbea, Tudor Savopol.

775-Pos BOARD #B654
NSAIDs Alter Lipid Bilayer Mechanical Properties. **Subhi J. Al'Aref**, Olaf S. Andersen, Roger E. Koeppe II.

776-Pos BOARD #B655
Plasma Membrane Area Increases With Spread Area By Exocytosis Of GPI Anchored Protein Compartment. **Nils C. Gauthier**.

777-Pos BOARD #B656
Diffusion-Matched and Spectrally-Discrete Lipophilic Probes for Neuronal Tracing*. Maria Hansen, **Jeff Tonniges**, Jeremy Duncan, Matthew Bassett, Bernd Fritsch, Brian Gray, Michael Nichols.

778-Pos BOARD #B657
Liposome Steady-state Anisotropy Of E.coli Total Lipid Extracts: A Tool To Better Understand Antibiotic Translocation In A Bacterial Environment. **Jean-Philippe Borges**, Carla Queiroz, Marcos Lovelle, Paula Gameiro.

779-Pos BOARD #B658
Laurdan GP Fluctuations In Membranes Of Intact Erythrocytes. **Susana A. Sanchez**, Enrico Gratton.

780-Pos BOARD #B659
Mechanical Pull On A Guest Molecule By A Photoresponsive Lipid Bilayer. **Jens A. Lundbaek**, Peter Tidemand-Lichtenberg, Claus H. Nielsen, Johanna M. Kuiper, Jan B. Engberts, Bert Poolman, Salim Abdali.

781-Pos BOARD #B660
Study Of The Drug/lipid Interactions Between Cephalosporin Antibiotics And Liposomes By Complementary Techniques. **Marcos Lovelle**, Jean Philippe Borges, Paula Gameiro.

782-Pos BOARD #B661
Inversion of Lipid Bilayer Surface Charge by Trivalent Cations: Probing with Single-channel Conductance and Kinetics. **Philip A. Gurnev**, Brian A. Todd, Sergey M. Bezrukov.

783-Pos BOARD #B662
Breakdown of Charged Lipid Asymmetry as a Result of Lipidic Pore Formation. **Gulcin Pekurnaz**, Konstantine Pavlov, Vadim Frolov, Paul S. Blank, Joshua Zimmerberg.

784-Pos BOARD #B663
Percolation Thresholds for Diffusing Particles of Nonzero Radius: Circular Obstacles in the Two-dimensional Continuum. **Michael J. Saxton**.

785-Pos BOARD #B664
Effects Of Hydration On The Dynamics Of Water In Lipid Bilayer Systems: A Molecular Dynamics Study. **Eric Pinnick**, Feng Wang, Shyamsunder Erramilli.

786-Pos BOARD #B665 SRAA POSTER
Photophysical Properties of Novel Ruthenium Metal-Ligand Complexes incorporated in Lipid Membrane Bilayers. **Ayesha Sharmin**, Reuben C. Darlington, Edward Rosenberg, J.B. Alexander Ross.

787-Pos BOARD #B666
Evaluating Gramicidin A Channel Backbone Dynamics by Molecular Dynamics and Nuclear Magnetic Resonance. **Helgi I. Ingolfsson**, Vitaly V. Vostrikov, Hong Gu, Roger E. Koeppe, II, James F. Hinton, Benoit Roux, Toby W. Allen, Olaf S. Andersen.

788-Pos BOARD #B667
Assessment of Merocyanine Subpopulations in DPPC Vesicles using Anisotropy and Lifetime Measurements. **Hannabeth A. Franchino**, Brett C. Johnson, Steven K. Neeley, Rajeev B. Tajhya, John D. Bell.

Membrane Active Peptides I (Boards #B668–#B687)

789-Pos BOARD #B668
High Throughput Methods for Discovering Membrane Active Peptides. Ramesh Rathinakumar, Jessica R. Marks, Aram Krauson, **William C. Wimley**.

790-Pos BOARD #B669
Non-membranolytic, Translocating Peptides Selected From A Peptide Library. **Jessica R. Marks**, William C. Wimley.

791-Pos BOARD #B670 SRAA POSTER
PG-1 Orientation in Lipid Bilayers: Insights from Molecular Dynamics Simulations and Calculations of Potentials of Mean Force as a Function of Its Tilt Angle. **Huan Rui**, Jinhyuk Lee, Wonpil Im.

792-Pos BOARD #B671
Structure And Dynamics Of Phospholamban In The Context Of SERCA. **Maryam Sayadi**, Michael Feig.

793-Pos BOARD #B672
Antimicrobial Lipopeptides In Anionic And Zwitterionic Membranes Investigated By Molecules Dynamics Simulations. **Alan Grossfield**, Julie Hwang, Michael C. Pitman.

794-Pos BOARD #B673
Learning From A Bacillus How To Kill Fungi. Hiren Patel, **Heiko Heerklotz**.

795-Pos BOARD #B674
Short Membrane Active (Lipo)-peptides - Interplay Of Domain Formation, Membrane Curvature Stress And Cellular Leakage. **Dagmar Zwegytsch**, Guenter Deutsch, Sabine Tumer, Mateja Zorko, Roman Jerala, Sylvie Blondelle, Daniel Monreal, Guillermo Martinez de Tejada, Karl Lohner.

796-Pos BOARD #B675
Free Energies of Molecular Bound States in Lipid Bilayers: Lethal Concentrations of Antimicrobial Peptides. **Huey W. Huang**, Ming-Tao Lee.

797-Pos BOARD #B676
Biophysical Parameters Involved in Bacteria Resistance to Antimicrobial Peptides. Adi Peleg, Yosef Rosenfeld, **Yeichiel Shai**.

798-Pos BOARD #B677
Antimicrobial Peptide C18G binds to Lipid Bilayers in a Lipid Composition Dependent Manner. Emmanuel Yawson, Jeffrey Foster, **Gregory A. Caputo**.

799-Pos BOARD #B678
Determination Of The Mechanism Of Action Of Peptides With Antimicrobial Potential By P And H Solid-state NMR. **Mathieu Noël**, Aurélien Lorin, Marie-Ève Provencher, Michèle Auger, Normand Voyer.

800-Pos BOARD #B679
Biophysical Characterization And Membrane Interactions Of Peptides With Antimicrobial Potential. **Aurélien Lorin**, Mathieu Noël, Marie-Ève Provencher, Mariza Gattuso, François Malouin, Normand Voyer, Michèle Auger.

801-Pos BOARD #B680
Can Peptide-Lipid Interactions Predict Bactericidal and Hemolytic Activity in Antimicrobial Peptides? Jing He, Michelle Pate, Janet Hammer, **Jack Blazyk**.

802-Pos BOARD #B681
Molecular Mechanism of pEM-2 Activity. **Amy Won**, Anatoli Ianouf.

803-Pos BOARD #B682 SRAA POSTER
Deamidation Weakens Membrane Binding Properties of Antimicrobial Peptide Anoplin. **Amy Won**, Anatoli Ianouf.

804-Pos BOARD #B683
The Activity of the Amphipathic Peptide delta-Lysin Correlates with Phospholipid Acyl Chain Structure and Bilayer Elastic Properties. **Antje Pokorny**, Erin M. Killee, Diana Wu, Paulo Almeida.

805-Pos BOARD #B684
Magainin 2 Revisited: a Test of the Quantitative Model for All-or-None Permeabilization of Phospholipid Vesicles. **Paulo F. Almeida**, Sonia M. Gregory, Antje Pokorny.

806-Pos BOARD #B685
Influence Of The Bilayer Composition On The Membrane-Disruption Effect Of Polybia-MP1, A Mastoparan Peptide With Antimicrobial And Leukemic Cell Selectivity. **Marcia Perez dos Santos Cabrera**, Manoel Arcisio-Miranda, Renata Gorjão, Natalia Bueno Leite, Bibiana Monson de Souza, Mario Sergio Palma, Rui Cury, João Ruggiero Neto, Joaquim Procopio.

807-Pos BOARD #B686
Effect of Antimicrobial Peptides from Australian Tree Frogs on Anionic Phospholipid Membranes. **Frances Separovic**, John D. Gehman, Tzong-Hsien Lee, John H. Bowie, Marie-Isabel Aguilar.

808-Pos BOARD #B687
The Alignment of Membrane-Active Peptides Depends on the Lipid Phase State as Viewed by solid state 19F-NMR. **Sergii Afonin**, Stephan L. Grage, Marco Jeronimo, Daniel Maisch, Parvesh Wadhvani, Pavel K. Mykhailiuk, Jesus Salgado, Igor V. Komarov, Anne S. Ulrich.

Membrane Active Peptides II (Boards #B688–#B702)

809-Pos BOARD #B688
Molecular Determinants of effective Pore Formation. Antje Brack, Markus Schwiering, Christian Beck, Max Koistinen, Heinz Decker, **Nadja Hellmann**.

810-Pos BOARD #B689
Polycation Peptides Derived from the Primary Structure of *Bacillus thuringiensis* Cry11Bb Protoxin Permeabilize *Aedes aegypti* Midgut Mitochondria. **Victor V. Lemeshko**, Gabriela Jaramillo, Sergio Orduz.

811-Pos BOARD #B690
Phosphatidylserine Selective Peptides As Novel Anti-cancer Agents. **Yasemin Manavbasi**, Dagmar Zweyck, Regine Willumeit, Karl Lohner.

812-Pos BOARD #B691 SRAA POSTER
Human Erythrocytes And Mononuclear Leukocytes Are Capable Of Concentrating HIV-1 Fusion Inhibitor Peptides In Their Membranes. **Pedro M. Matos**, Miguel A. R. B. Castanho, Nuno C. Santos.

813-Pos BOARD #B692
Membrane Interaction of N-Terminal Peptides of Annexin A1. Heiko Weigelt, **Olaf Zschörnig**.

814-Pos BOARD #B693
Interaction Of Human Islet Amyloid Poly Peptide With Phospholipid Membrane Vesicles. Claudia Dannehl, Martin Stöckl, Andreas Herrmann, **Olaf Zschörnig**.

815-Pos BOARD #B694
Single Particle Analysis of Liposome Leakage Induced by Islet Amyloid Polypeptide. **Nicholas B. Last**, Elizabeth Rhoades, Andrew D. Miranker.

816-Pos BOARD #B695
Amyloid Oligomers Alter The Conductance Of The Gramicidin Channel. **Yuri V. Sokolov**, Saskia C. Milton, Charles G. Glabe, James E. Hall.

817-Pos BOARD #B696
The Insulin-sensitizers Troglitazone And Rosiglitazone Alter Lipid Bilayer Properties. **Radda Rusinova**, Roger E. Koeppe II, Olaf S. Andersen.

818-Pos BOARD #B697
The Antimicrobial Peptide Gramicidin S Permeabilizes Phospholipid Bilayer Membranes Without Forming Discrete Ion Channels. **Md. Ashrafuzzaman**, Olaf S. Andersen, Ronald N. McElhaney.

819-Pos BOARD #B698
The Superstructure of an Antimicrobial Peptide, Alamethicin, in Lipid Membranes. **Jianjun Pan**, Stephanie Tristram-Nagle, John F. Nagle.

820-Pos BOARD #B699
Characterization of the Dynamic Structural Changes of Melittin - Lipid Bilayer Interactions. Usha Devi, **Mark Gostock**, Jonathan F. Popplewell, Marcus J. Swann.

821-Pos BOARD #B700
Experiments Meet Hydrophobic Mismatch: A Re-evaluation Of The Orientation Of Model Transmembrane Peptides From Solid-State NMR. **Santi Esteban-Martin**, Erik Strandberg, Gustavo Fuertes, Anne S Ulrich, Jesus Salgado.

822-Pos BOARD #B701
The Structural Plasticity Of Lung Surfactant Peptide KL4 In Lipid Membranes. **Joanna R. Long**, Anil K. Mehta, Yilin Meng, Adrian Roitberg, Vijay Antharam, Omjoy Ganesh, Suzanne Farver.

823-Pos BOARD #B702
Structure Of Complexes Of Helix-5 From Bax With Lipid Membranes. **Gustavo Fuertes**, Joshua Manor, Santi Esteban-Martín, Isaiah T. Arkin, Jesús Salgado.

Membrane Physical Chemistry I (Boards #B703–#B732)

824-Pos BOARD #B703
Lateral Stress Profiles In Lipid Monolayers. **Svetlana Baoukina**, Siewert J. Marrink, D. Peter Tieleman.

825-Pos BOARD #B704
Entropy Driven Like Charched Condensation. **Uri Raviv**.

826-Pos BOARD #B705
Free Energy and Conformation of Hydrocarbons in Lipid Bilayers. **Eoin P. Coll**, D. Peter Tieleman.

827-Pos BOARD #B706
Monte Carlo Simulations of Sterol Superlattice Mosaics in Bilayers Yield Simultaneous Agreement with Concentration and Chemical Potential Data. **Carl S. Helrich**, Rebecca K. Friesen, Kathy A. Steiner, Erwin Sucipto.

828-Pos BOARD #B707
The Temperature Dependence And Quantized Nature Of The Lipid Membrane Permeability. **Andreas Blicher**, Katarzyna Wodzinska, Thomas Heimburg.

829-Pos BOARD #B708
Headgroup and Interfacial Hydration in Some Headgroup-Modified Analogues of Dimyristoylphosphatidylethanolamine: A DSC and FTIR Spectroscopic Study. Ruthven N. Lewis, **Maria Frias**, John R. Silvious, Ronald N. McElhaney.

830-Pos BOARD #B709
Giant vesicles under oxidative stress. **Karin A. Riske**, Tatiane Sudbrack, Nathaly L. Archilha, Adjaci U. Fernandes, André P. Schroder, Carlos M. Marques, Maurício S. Baptista, Rosângela Itri.

831-Pos BOARD #B710
Miscibility Phase Behavior Of GUV Membranes Containing Ternary Mixtures Of PS Lipids, PC Lipids, And Cholesterol. **Jake Ashcraft**, Sarah Keller.

832-Pos BOARD #B711
Direct Measurement Of Nonideal Mixing In Lipid Membranes. **Thomas G. Anderson**, Bradley Towey.

833-Pos BOARD #B712
Lipid Domains In Giant Vesicles Composed Of Ternary Lipid Mixtures Containing Cholesterol And Their Relationship With Thermodynamic Phases. Laura Rodriguez Arriaga, John Ipsen, Alejandra Garcia, Steffen Härtel, Francisco Monroy, **Luis A. Bagatoli**.

- 834-POS BOARD #B713**
Bursting Instability of Charged Multicomponent Vesicles Subjected to Electric Pulses. Karin A. Riske, Roland L. Knorr, **Rumiana Dimova**.
- 835-POS BOARD #B714**
Effects Of Sodium Halide Solutions Of High Concentrations On Bending Elasticity Of POPC GUVs. **Hélène Bouvrais**, Philippe Méléard, Tanja Pott, John Hjort Ipsen.
- 836-POS BOARD #B715 STUDENT TRAVEL AWARDEE**
Cholesterol Perturbs Lipid Bilayers Non-Universally. **Jianjun Pan**, Thalia T. Mills, Stephanie Tristram-Nagle, John F. Nagle.
- 837-POS BOARD #B716**
The Influence of Sterol Composition on Transbilayer Diffusion Rates. Christine M. Staloch, Benjamin R. Hoffmann, **Benjamin L. Stottrup**.
- 838-POS BOARD #B717**
Cholesterol Flip-flop And Chemical Potential In A Systematic Set Of Lipid Bilayers. **W.F. Drew Bennett**, Justin L. MacCallum, Marlon J. Hinner, Siewert J. Marrink, D. Peter Tieleman.
- 839-POS BOARD #B718**
The Behavior of Two Oxidized Derivatives of Cholesterol in Model Membranes. **Evan Mintzer**, Grace Charles.
- 840-POS BOARD #B719**
A Calorimetric and Spectroscopic Comparison of the Effects on Ergosterol and Cholesterol on the Thermotropic Phase Behavior and Organization of Dipalmitoylphosphatidylcholine Bilayer Membranes. David A. Mannock, Ruthven N.A.H. Lewis, **Ronald N. McElhaney**.
- 841-POS BOARD #B720**
Schiff Base Formation Between The Cholesterol Oxidation Product 3 β -hydroxy-5-oxo-5,6-secocholestan-6-al And Amino Phospholipids. **Ellen J. Wachtel**, Diana Bach, Israel R. Miller.
- 842-POS BOARD #B721**
A Comparison Of Ceramide And Ceramide-1-phosphate Miscibility In Phosphatidylcholine Bilayers. **Michael R. Morrow**, Anne Helle, Joshua Perry, Ilpo Vattulainen, Susanne K. Wiedmer, Juha M. Holopainen.
- 843-POS BOARD #B722**
Sterol Solubility in Vesicles (GUV's) Containing the Ternary Lipid Mixture DPPC:DOPC:Sterol by Quantitative NMR. **Mark M. Stevens**, Aurelia R. Honerkamp-Smith, Sarah L. Keller.
- 844-POS BOARD #B723**
Modeling The Temperature Dependence of Membrane Solubilization by Detergents. **Nardin Samuel**, Alekos Tsamaloukas, Heiko Heerklotz.
- 845-POS BOARD #B724**
An Approximate Cooperativity Analysis By Dsc And Uv-vis Phase Of Pseudobinary DXPC-DC8,9PC-Cholesterol Dispersions. Evelina S B Maranzana, Carlos F. Temprana, **Silvia del V. Alonso-Romanowski**.
- 846-POS BOARD #B725**
Energetics of Cholesterol Transfer between Lipid Bilayers. **Zhancheng Zhang**, Lanyuan Lu, Max L. Berkowitz.
- 847-POS BOARD #B726**
Impact Of Ceramide3 On POPC Host Membranes: A Study On Structure And Thermodynamics. **Raghu Sankar M.**, S. S. Funari, C. L.P. Oliveira, J. S. Pedersen, Beate Klösgen.
- 848-POS BOARD #B727**
The Effect Of Glycerol On Membrane Solubilization By Nonionic Surfactants. **Hiren Patel**, Alekos Tsamaloukas, Heiko Heerklotz.
- 849-POS BOARD #B728**
Synthetic and Mycobacterial Trehalose Glycolipids Confer Dehydration Resistance to Supported Phospholipid Monolayers. **Christopher Harland**, Zsófia Botyanszki, David Rabuka, Carolyn Bertozzi, Raghuveer Parthasarathy.
- 850-POS BOARD #B729**
How Small Polar Molecules Protect Membrane Systems Against Osmotic Stress. **Emma Sparr**, Fatima Costa-Balogh, Stéphane Douzan, Agnieszka Nowacka, Daniel Topgaard, Håkan Wennerström, Lars Wadsö.
- 851-POS BOARD #B730**
How Bilayer Curvatures Modulate Molecular Reaction Efficiencies In A Membrane Junction. **Andreas H. Kunding**, Dimitrios Stamou.

- 852-POS BOARD #B731**
Effect of Poloxamer 188 on the Osmotic Response of Cell Membranes. **Jia-Yu Wang**, Jaemin Chin, Jeremy Marks, Ka Yee C. Lee.
- 853-POS BOARD #B732**
Self-assembly Formation of Multiple Tethered Lipid Bilayers. **Seyed Tabaci**.

Smooth & Skeletal Muscle Electrophysiology (Boards #B733–#B735)

- 854-POS BOARD #B733**
ATP Regulates Mammalian Neuromuscular Transmission by Dramatically Decreasing the Resting Muscle Chloride Conductance via P2Y1. **Andrew Voss**, Julio Vergara.
- 855-POS BOARD #B734**
Cyclooxygenase-2 Inhibitor Celecoxib Is A Potent Activator Of Vascular KCNQ K¹ Channels And An Inhibitor Of L-type Ca²¹ Channels. **Lyubov I. Brueggemann**, Kenneth L. Byron.
- 856-POS BOARD #B735**
Basal Ca²¹ Entry Controls NFAT Transcriptional Activity, Proliferation And Migration Of Human Vascular Smooth Muscle Cells. **Alain Coulombe**, Yassine Sassi, Fabrice Atassi, Lahouaria Hadri, Stephane N. Hatem, Roger Hajjar, Anne-Marie Lompre, Larissa Lipskaia.

Acetylcholine Receptors (Boards #B736–#B757)

- 857-POS BOARD #B736**
Cellular Basis Of Nicotine-induced nAChR Upregulation. **Rahul Srinivasan**, Rigo Pantoja, Sindhuja Kadambi, Henry A. Lester.
- 858-POS BOARD #B737**
 α -7 Nicotinic Receptor Positive Allosteric Modulators have Varying Kinetic Effects on Desensitization and Current Amplitude. **Sarita Yeola**, Flora Jow, Yan Tony Lee, Angela Kramer, Tim Lock, John Dunlop, Ravi Peri, Mark R. Bowlby.
- 859-POS BOARD #B738**
Channel Blocking Properties Of Tetramethylammonium At The Human Muscle Acetylcholine Receptor. **Remigijus Lape**, David Colquhoun, Lucia Sivilotti.
- 860-POS BOARD #B739**
Temperature Dependence And Activation Energy of nAChR Gating. **Shaweta Gupta**, Anthony Auerbach.
- 861-POS BOARD #B740**
Interaction Between Two Domains in the AChR Gating Reaction. **David J. Cadugan**, Lin Chen, Anthony Auerbach.
- 862-POS BOARD #B741**
 α M2 of The Neuromuscular AChR : Gating, Desensitization and Orientation. **Snehal V. Jadey**, Prasad Purohit, Anthony Auerbach.
- 863-POS BOARD #B742**
The Unliganded Gating Mechanism Of Nicotinic Acetylcholine Receptors. **Prasad G. Purohit**, Anthony Auerbach.
- 864-POS BOARD #B743**
Detection and Trapping of Elusive Priming Intermediates Towards Open Nicotinic Receptor Channel. **Nuriya F. Mukhtasimooova**, Won Yong Lee, Hai-Long Wang, Steven M. Sine.
- 865-POS BOARD #B744**
Single Channel Current Through Nicotinic Receptor Produced By Closure Of The Binding Site C-loop. **Hai-Long Wang**, Steven M. Sine.
- 866-POS BOARD #B745**
Electrical Fingerprinting Reveals Agonist Binding Sites Required for Activation of Homo-pentameric Cys-loop Receptors. **Cecilia B. Bouzat**, Diego Rayes, Maria Jose De Rosa, Steven M. Sine.
- 867-POS BOARD #B746**
Photoaffinity Labeling the Agonist Binding Sites of nAChRs with [H]Epibatidine. **Shouryadeep Srivastava**, Aymen K. Hamouda, Mitesh Sanghvi, Akash Pandhare, Phaneendra K. Duddempudi, Sarah Hiyari, David C. Chiara, Jonathan B. Cohen, Michael P. Blanton.
- 868-POS BOARD #B747**
Hyperfine Splitting Trends in the EPR Spectra of M2d in Aligned Phospholipid Bilayers. **Nidhi Subbaraman**, Stuart M. Grosser, Justin P. Newstadt, Johnson J. Inbaraj, Daniel J. Mayo, Gary A. Lorigan.

869-Pos BOARD #B748
Examining the Structure of the Neuronal $\alpha 4\beta 2$ nAChR Transmembrane Domain by Photoaffinity Labeling. **Ayman K. Hamouda**, S. Shaikat Husain, Michael P. Blanton, Jonathan B. Cohen.

870-Pos BOARD #B749
Regulation Of The Acetylcholine Receptor Function By Thyroid Hormones. **Yomarie Rivera**, Gisselle Lopez, Lydia Miranda, Martita Marcano, Yanira Marcano, Solalba Bueno, Jenise Segarra, Amelia Rivera, Legier V. Rojas.

871-Pos BOARD #B750
Role of Membrane Cholesterol Levels in the Lateral Diffusion and Function of the Novel Slow Channel Congenital Myasthenia Syndrome $\alpha C418W$ AChR Mutant. **Jessica Oyola-Cintrón**, Daniel Caballero-Rivera, Leomar Ballester, Karla Vélez-Arroyo, Jomarie García-Matos, Leonardo Martínez, Carlos J. Noguera, Orestes Quesada, José García, Walter I. Silva, José A. Lasalde-Dominicci.

872-Pos BOARD #B751 INTERNATIONAL TRAVEL AWARDEE
Modulation Of Nicotinic Acetylcholine Receptor Conformational States By Free Fatty Acids And Steroids. **Silvia S. Antollini**, Gaspar Fernandez Nieves, Francisco J. Barrantes.

873-Pos BOARD #B752
Embedded Cholesterol in the Nicotinic Acetylcholine Receptor. **Grace Brannigan**, Jerome Henin, Richard Law, Roderic Eckenhoff, Michael L. Klein.

874-Pos BOARD #B753
Identification Of Channel-lining Residues In The Prokaryotic Proton-gated Cys-loop Receptor Ion Channel From *Gloeobacter violaceus*. **Rishi Parikh**, Moez Bali, Myles H. Akabas.

875-Pos BOARD #B754 STUDENT TRAVEL AWARDEE
Oligomeric Size of the M2 Muscarinic Receptor in the Plasma Membrane of Live Cells as Determined by Quantitative FRET. **Luca F. Pisterzi**, David B. Jansma, John Georgiou, Michael J. Woodside, Judy Tai-Chieh Chou, Stéphanie Angers, Valerică Raicu, James W. Wells.

876-Pos BOARD #B755
Oligomeric Size of the M2 Muscarinic Receptor in Live Cells as Determined from FRET Efficiencies at the Level of Single Pixels. **Luca F. Pisterzi**, Michael R. Stoneman, James W. Wells, Valerică Raicu.

877-Pos BOARD #B756
Gating Current Measurements Reveal Ligand-Selective Conformational Changes in the M2 Muscarinic Receptor. **Ricardo Navarro-Polanco**, Eloy Moreno-Galindo, Tania Ferrer-Villada, Marcelo Arias, J. Ryan Rigby, Jose S••nchez-Chapula, Martin Tristani-Firouzi.

878-Pos BOARD #B757
Site-specific Fluorescence Reveals GABA-induced Structural Movements Near the Extracellular End of the Pore-lining M2 α -helices of the GABA-A Receptor. **Cassandra M. Theusch**, Meyer B. Jackson, Cynthia Czajkowski.

Channel Regulation & Modulation (Boards #B758–#B787)

879-Pos BOARD #B758
Chronic and Acute n-3 Polyunsaturated Fatty Acid (n-3 PUFA) Treatments Have Divergent Effects on Cardiac Ion Channel Function. **Xulin Xu**, Min Jiang, Mark A. Wood, Clive M. Baumgartner, Gea-Ny Tseng.

880-Pos BOARD #B759 INTERNATIONAL TRAVEL AWARDEE
Acute Toxic Effects Of Fatty Acids. **Evgenia I. Fedotova**, Alexey V. Berezhnov, Valery P. Zinchenko, Vladimir V. Dymnik.

881-Pos BOARD #B760
Oxidative Inactivation of the Lipid Phosphatase PTEN as a Novel Mechanism of Acquired Long QT Syndrome. Adrienne Dennis, Xiaoping Wan, Lu Wang, **Eckhard Ficker**.

882-Pos BOARD #B761
Can Pharmacological Openers Of M-type Potassium Channels Overcome Receptor-mediated Channel Inhibition? **John E. Linley**, Nikita Gamper.

883-Pos BOARD #B762
Identification of Phosphorylation Sites that Activate Voltage Gated Proton Channels in Leukocytes. Boris Musset, Melania Capasso, Vladimir V. Cherny, Deri Morgan, Martin J.S. Dyer, **Thomas E. DeCoursey**.

884-Pos BOARD #B763
Differential Regulation Of The L-type Ca Channels And SERCA Pump By Type 3 Phosphodiesterase. **Andriy Belevych**, Dmitry Terentyev, Radmila Terentyeva, Sandor Gyorke.

885-Pos BOARD #B764
 IK_S Is Activated By Both Ca^{2+} Dependent And Independent Isoforms Of PKC. **Jin O-Uchi**, Alessandra Matavel, Coeli M.B. Lopes.

886-Pos BOARD #B765
Phosphorylation Of KAT1 C-terminus Modulates K1 Uptake Activity. **Aiko Sato**, Mitsutaka Taniguchi, Hiroshi Miyake, Taishi Umezawa, Kazuo Shinozaki, Derek B. Goto, Nobuyuki Uozumi.

887-Pos BOARD #B766
Modulation of the Cardiac Transient Outward Potassium Current by $\alpha 1$ -Adrenoceptors Requires Caveolae Integrity. Aintzane Alday, Janire Urrutia, Monica Gallego, **Oscar Casis**.

888-Pos BOARD #B767 SRAA POSTER
Human Ether α -go-go Gene Potassium Channels Are Regulated by EGFR Tyrosine Kinase. **W Wu**, C P. Lau, H F. Tse, G R. Li.

889-Pos BOARD #B768
Modeling Of The Adrenergic Response Of The Human IK_C Current (hKCNQ1/hKCNE1) Stably Expressed In HEK-293 Cells. **John P. Imredy**, Jacob R. Penniman, Spencer J. Dech, Winston D. Irving, Joseph J. Salata.

890-Pos BOARD #B769
Loss Of Transient Outward Potassium Current (Ito) Gradient Across The Ventricular Wall With Exposure To Elevated Levels Of Glucose. **Keith W. Dilly**, Fernando Santana.

891-Pos BOARD #B770
Effects Of Estrogen On The IK_r Channel And Cardiac Repolarization. **Junko Kurokawa**, Masaji Tamagawa, Nobuhiro Harada, Shin-ichiro Honda, Haruaki Nakaya, Tetsushi Furukawa.

892-Pos BOARD #B771
Four-and-a-half LIM Protein 2 And Erk1/2 Are Involved In The Regulation Of The IK_s Current In The Heart. Nathalie Hélix Nielsen, Guiscard Seeböhm, Kirstine Calloe, Nathalie Strutz-Seeböhm, Søren-Peter Olesen, **Nicole Schmitt**.

893-Pos BOARD #B772
L-arginine Decreases L-type Ca^{2+} Current Through Receptor Activation Of NO-cGMP Cascade. Enigma Of "Arginine Paradox". **Miroslav N. Nenov**, Kirill S. Grushin, Oleg Yu Pimenov, Vladimir V. Dymnik, Yurii M. Kokoz.

894-Pos BOARD #B773
Activation of Na^+ -Dependent Potassium Currents by Persistent Sodium Currents. **Gonzalo Budelli**, Travis Hage, Aguan Wei, Patricio Rojas, Yuh-Jiun Ivy Jong, Karen O'Malley, Lawrence Salkoff.

895-Pos BOARD #B774
Uptake Of S100A1 And Augmentation Of Cav1 Channel Current And Action Potential Duration In Sympathetic Ganglion Neurons. **Erick O. Hernández-Ochoa**, Benjamin L. Prosser, Nathan T. Wright, Minerva Contreras, David J. Weber, Martin F. Schneider.

896-Pos BOARD #B775
Direct Interaction Of A Small Molecule Modulator With G551D-CFTR, A Cystic Fibrosis Causing Mutation Associated With Severe Disease. **Stan Pasyk**, Canhui Li, Mohabir Ramjeesingh, Christine E. Bear.

897-Pos BOARD #B776
Oscillation of the Membrane Potential of T-cells Forming Immunological Synapse. Ferenc Papp, Ágnes Tóth, Orsolya Szilágyi, Sándor Damjanovich, **Gyorgy Panyi**.

898-Pos BOARD #B777
Negative charges in the loop between the A and B box of the T1 domain are involved in Kv2.1 and Kv2.1/Kv6.3 channel tetramerization. **Elke Bocksteins**, Alain J. Labro, Evy Mayeur, Dirk J. Snyders.

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Structural Insights into KCHIP4a Modulation of Kv4.3 Inactivation. Ping Liang, Huayi Wang, Hao Chen, Yuanyuan Cui, Jijie Chai, **KeWei Wang**.

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Divergent PIP_2 Sensitivity Confers Differential Muscarinic Agonist Efficacy For Suppression Of Kv7 K^+ Channels. **Ciria C. Hernandez**, Mark S. Shapiro.

901-Pos BOARD #B780 STUDENT TRAVEL AWARDEE
Two Distinct Molecular Mechanisms Underlie pH Sensitivity of the Human Potassium Leak Channel $K_{2p2.1}$. **Asi Cohen**, Yuval Ben-Abu, Noam Zilberberg.

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How Do Mutations in the L0-linker of ABCC8 Produce Neonatal Diabetes?
Andrey P. Babenko.

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Comparison between the Functions of TRPP and Other Structurally-related Channels and their Links to Membrane Trafficking.

Peter M. Vassilev, Philipp V. Fuchs, Marie Kanazirska, Liping Chen.

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SRAA POSTER

Binding of Syntaxin 1A to the C-terminus of hERG Channels Affects Channel Trafficking and Inactivation. **Anton Mihic**, Xiaodong Gao, Alvin Shrier, Herbert Gaisano, Robert Tsushima.

905-Pos BOARD #B784

Rapidly Inducible Protein Modification Using Rapamycin-mediated Complementation Of Tobacco Etch Virus (TEV) Protease.

Stephen R. Ikeda, Damian J. Williams, Henry L. Puhl.

906-Pos BOARD #B785

Resolving the Structural-Functional Interaction Between HIV-1 Vpu and TASK Channels by FLIM/FRET. **Kate Hsu**, Derek Lin, Tsung-Lin Kuo, Huei-Ning Wan, Nai-Wen Chi, Fu-Jen Kao.

907-Pos BOARD #B786

The Positive Effect Of STREX On BK Channels. **Owen Jeffries.**

908-Pos BOARD #B787

Regulation Of Kcnq2/3 Channels By The Transcriptional Repressor REST In Nociception. **Lezanne Ooi**, Kirstin E. Rose, John E. Linley, Mariusz Mucha, Ian C. Wood, Nikita Gamper.

Voltage-gated K Channels—Permeation (Boards #B788–#B809)

909-Pos BOARD #B788

Permeation And Conformational Changes Of The Pore Domain Of The Kv1.2 Potassium Channel. **Morten Ø. Jensen**, David W. Borhani, Ron O. Dror, Michael P. Eastwood, Kresten Lindorff-Larsen, Paul Maragakis, David E. Shaw.

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Mapping the Binding Site of the Alkoxypsoralen PAP-1 in the Voltage-Gated K1 Channel Kv1.3. **Pavel I. Zimin**, Bojan Garic, Heike Wulff, Boris S. Zhorov.

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Modeling of Binding of the Anti-Arrhythmic Compound Vernakalant to Kv1.5. Jodene Eldstrom, **David Fedida**, Hongjian Xu.

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Partnership interactions target Kv1.5 to distinct membrane surface microdomains. Núria Villalonga, Ramón Martínez-Mármol, Laura Solé, Rubén Vicente, Concepció Soler, Michael M. Tamkun, **Antonio Felipe.**

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A Novel Screening Tool for Voltage-Gated Ion Channels: Light Induced Voltage Clamp. **Sonja Kleinlogel**, Ulrich Pehl, Maarten Ruitenber, Juergen Rettinger, Bela Kelety, Ernst Bamberg.

914-Pos BOARD #B793

Kv1.7 - Interactions with Protons and a blocking Conotoxin. **Rocio K. Finol-Urdaneta**, Stefan Becker, Heinrich Terlau, Robert J. French.

915-Pos BOARD #B794

Pore Block of KCNQ1 Channels by Zn²⁺ is Modulated by Ancillary Subunits. **Michael Duffey**, Gennadiy Bakis, Khalid Saahah, Rupa Krishnaswamy, John Crane.

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Discovery of a Novel Activator of KCNQ1-KCNE1 K1 Channel Complexes. **Karen Mruk**, William R. Kobertz.

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Using Inducible Expression Vector Technology To Create Stable Cell Lines Expressing KCNQ2/3, KCNQ4, And KCNQ3/5 Currents Suitable For Automated Electrophysiology Platforms. **Andrew P. Southan**, Scott Maidment, Simon Dowler, Matthew Gardener, Anthony Lawrence, Omar Aziz, Tristana von Will, Gary Clark.

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The Dipeptidyl-peptidase-like-protein DPP6 Determines the Unitary Conductance of Neuronal Kv4.2 Channels. **Yuri A. Kaulin**, Jose A. De Santiago-Castillo, Carmen A. Rocha, Marcela Nadal, Bernardo Rudy, Manuel Covarrubias.

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Cardiac Kv4.3 and KCNE2 Are Differentially Regulated by E2 and Have Different Sensitivities to Local Heart E2 Concentrations.

Andrea Ciobotaru, Ligia Toro, Enrico Stefani, Mansoureh Eghbali.

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Vernakalant Blocks Kv4.3 Channels in The Open State Without Significant Modulation by KChIP2 Subunits. **Shunping Lin**, Marc Pourrier, John K. Gibson, Donald A. McAfee.

921-Pos BOARD #B800

Characterization of the External Sodium Inhibition of hERG Potassium Channels. Jun Guo, **Shetuan Zhang.**

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Papaverine, A Vasodilator, Blocks The Pore Of The Herg Channel At Submicromolar Concentration. **Su-Hyun Jo**, Hee Kyung Hong, Young Jin Kim, Hui Sun Lee, Han Choe.

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Block Of The HERG Mutant D540K By Terfenadine Shows The Opposite Dependency On Extracellular Potassium Compared To Block Of WT HERG By Terfenadine. Kristofer Richter, Brad Barrows, Stephen Hioe, John Yun, Mike Farrell, John Schulze, **Alan Miller.**

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Isoform-specific Dominant Negative Effects of LQT2 Mutations in hERGA and hERGus Variants. **Matthew R. Stump**, Qiuming Gong, Zhengfeng Zhou.

925-Pos BOARD #B804

Probing the KcsA Permeation Pathway using Barium Block. **Kene N. Piasta**, Christopher Miller.

926-Pos BOARD #B805

Asymmetrical Ligands in the Potassium Channel Cavity. **Michael J. Lenaeus**, Adrian Gross.

927-Pos BOARD #B806

The Water-ion Coupling Ratio for Ion Permeation through the KcsA Potassium Channel: Dependencies on Concentration and Species of Permeating Ions. **Masayuki Iwamoto**, Hirofumi Shimizu, Shigetoshi Oiki.

928-Pos BOARD #B807

Light At The End Of The Channel: Photochromic Blockers For Optical Control Of Ion Channels In Individual Cells. **Alexandre Mourot**, Matthew R. Banghart, Doris L. Fortin, Dirk Trauner, Richard H. Kramer.

929-Pos BOARD #B808

Exploring Whether a Large Entrance To The Inner Vestibule Of BK Channels Is Required For Their Large Conductance. **Yanyan Geng**, Xiaowei Niu, Karl Magleby.

930-Pos BOARD #B809

Ca²⁺- and Thromboxane-Dependent Distribution of Functional MaxiK Channels in Cultured Astrocytes. **Jimmy W. Ou**, Yogesh Kumar, Abderrahmane Alioua, Enrico Stefani, Ligia Toro.

Voltage-gated Ca Channels I (Boards #B810–#B828)

931-Pos BOARD #B810

Membrane Voltage More Efficient In Closing Than Opening Cav1.2?. **Stanislav Beyl**, Philipp Kuegler, Michaela Kudrnac, Annette Hoffhaus, Steffen Hering, Eugen Timin.

932-Pos BOARD #B811

Position Specificity of the Glycine Residues in IS6 of the L-type Cav1.2 Channel. **Florian LeCoz**, Alexandra Raybaud, Sebastien Wall-Lacelle, Yolaine Dodier, Lucie Parent.

933-Pos BOARD #B812

Distinctive Inactivation Profiles of Cav1.2 Channels Encoding Different Timothy Syndrome Mutations in Various Alternative Splicing Backgrounds. **Ivy E. Dick**, Sarah A. Park, David T. Yue.

934-Pos BOARD #B813

Silencing of Cav1.2 gene in Rat Neonatal Cardiomyocytes by Lentiviral delivered shRNA. **Eddy Karnabi**, Yongxia Qu, Natalia Grinkina, Raj Wadgaonkar, Yunkun Yue, Salvatore Mancarella, Mohamed Boutjdir.

935-Pos BOARD #B814

Construction Of Functional N-type Ca21 Channels (Cav2.2) With Accessible External Epitope Tags Suitable For Live Cell Labeling. **Henry L. Puhl**, Van B. Lu, Yu-Jin Won, Damian J. Williams, Stephen R. Ikeda.

936-Pos BOARD #B815
Role Of Gamma Subunit In The Targeting Of Functional Cardiac L-Type Ca²⁺ Channels. **Anna Angelova**, Stefania Samojlik, Roman Shirokov.

937-Pos BOARD #B816
Calreticulin Negatively Regulates the Surface Expression of α_1D L-Type Calcium Channel. Eddy Karnabi, Yongxia Qu, Natalia Grinkina, **Omar Ramadan**, Yunkun Yue, Mohamed Boutjdir.

938-Pos BOARD #B817
Inhibition Of Recycling Endosomes By Brefeldin-A Prevents KLHL1-mediated Upregulation Of α_1H T-type Currents. Kelly A.A. Aromolaran, Kellie A. Benzow, Leanne L. Cribbs, Michael D. Koob, **Erika S. Piedras-Renteria**.

939-Pos BOARD #B818
Cardiac L-type Ca Channel as an Oxygen Sensor; Possible Involvement of Ca/Calmodulin Binding Domain. **Shahzad Movafagh**, Martin Morad.

940-Pos BOARD #B819
Calcium channels regulate myocardial compaction. **George A. Porter, Jr.**

941-Pos BOARD #B820
Enhancement of the Cav3.1 Channel Activity by PKA in Ventricular Myocytes of α_1G Transgenic Mice. **Yingxin Li**, Xiaoying Zhang, Mingxin Tang, Hongyu Zhang, Jeffery D. Molkenkin, Steven R. Houser, Xiongwen Chen.

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Cardiovascular profile of newly developed Diltiazem analogs. Maria Paola Ugenti, **Ilona Bodi**, Sheryl Elizabeth Koch, Roberta Budriesi, Pierfranco Ioan, Roger Hullin, Alberto Chiarini, Arnold Schwartz.

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Charge-dependent And Isoform-specific Interactions Between ProTxii And T-type Calcium Channels. **Gabrielle B. Edgerton**, Emily Hall, Kenneth M. Blumenthal, Dorothy A. Hanck.

944-Pos BOARD #B823
Modeling L-type Calcium Channel with Dihydropyridines. **Denis B. Tikhonov**, Boris S. Zhorov.

945-Pos BOARD #B824 SRAA POSTER
Reinterpretation of SCAM Data in View of Kv1.2-based Models of MTSET-Substituted Cav2.1 Channels. **Iva Bruhova**, Boris S. Zhorov.

946-Pos BOARD #B825 SRAA POSTER
Modeling L-type Calcium Channel with Phenylalkylamines. **Ricky C.K. Cheng**, Denis B. Tikhonov, Boris S. Zhorov.

947-Pos BOARD #B826
Effect Of Cav β Subunits On Structural Organization Of Cav1.2 Calcium Channels As Revealed By Three-color Fret Microscopy. **Evgeny Kobrinsky**, Parviz Abrahami, Sam Thomas, JoBeth Harry, Chirag Patel, QiZong Lao, Nikolai Soldatov.

948-Pos BOARD #B827
Quantification Of L-type Ca Current Inactivation Mechanisms In Trout Ventricular Myocytes. Laurent Salle, Caroline Cros, Daniel E. Warren, Holly A. Shiels, **Fabien Brette**.

949-Pos BOARD #B828
Egg Coat Proteins Activate Ca²⁺ Entry into Mouse Sperm via CATSPER Channels. **Jingsheng Xia**, Dejian Ren.

Voltage-gated Ca Channels II (Boards #B829–#B848)

950-Pos BOARD #B829
A Simple Link Between Gating And Pore Occupancy Can Describe Complex Ion-Dependent Kinetics Of Ca²⁺ Channels. **Roman Shirokov**, Anna Angelova, Alexandra Uliyanova.

951-Pos BOARD #B830
Kinetic Modeling of Cav3.1. **Katie C. Bittner**, Lorin Milesco, Dorothy A. Hanck.

952-Pos BOARD #B831
Voltage-sensor Pharmacology Of Voltage-activated Calcium Channels (cav). **Mirela Milesco**, Kenton J. Swartz.

953-Pos BOARD #B832
Independent Contributions Of Segments IS6 And IIS6 To Activation Gating Of Cav1.2. Michaela Kudrncak, Stanislav Beyl, Annette Hohaus, Anna Stary, Thomas Peterbauer, Eugen Timin, **Steffen Hering**.

954-Pos BOARD #B833
Role of S4 segments in Ca_v1 and Ca_v3 channels: gating and current density. **Juan F. Higueldo-Garcia**, Jonatan Barrera-Chimal, Juan C. Gomora.

955-Pos BOARD #B834
Depolarization-induced Potentiation Of Cav1.1 Does Not Require The Distal C-terminus. **Joshua D. Ohrtmann**, Kurt G. Beam.

956-Pos BOARD #B835
Chimera of Cav1.2 and Cav3.1 α_1 Subunits Suggests Role of the C-terminal Tail in Cytosolic Mg²⁺ Actions on Cav1.2 Gating. Min Wang, Yoganand Yadari, **Joshua R. Berlin**.

957-Pos BOARD #B836
Cav1.4 C-tail Segment (ICDI) Inhibits Cav Channel Inactivation by Competing with Calmodulin–Resolution by Holochannels and Calmodulin FRET Sensors. **Xiaodong Liu**, Philemon S. Yang, Vincent Wu, Wanjun Yang, David T. Yue.

958-Pos BOARD #B837 SRAA POSTER
Structure-function Relationship of N-terminal Deletion Mutants of Cardiac L-type Calcium Channel β_1 -subunits. **Wanchana Jangsangthong**, Elza Kuzmenkina, Ismail F. Y. Khan, Roger Hullin, Stefan Herzig.

959-Pos BOARD #B838
Modulation Of Calcium Currents By Acidic Domains Of Calcium Channel Subunits: A Novel Feedback Mechanism? **Vicenta Salvador-Recatala**, Robert M. Greenberg.

960-Pos BOARD #B839
Role Of Calmodulin On The Binding Of Alpha Actinin And C-terminus Of Cav1.2 Ca²⁺ Channel. **Zulfiqar A. Malik**, Duane D. Hall, Madeline Shea, Johannes W. Hell.

961-Pos BOARD #B840
Functional Properties Of The Cav1.2 Calcium Channel Activated By Calmodulin In The Absence Of $\alpha_2\delta$ Subunits. **QiZong Lao**, Arippa Ravindran, Evgeny Kobrinsky, Nikolai Soldatov.

962-Pos BOARD #B841
Inhibition of L-type Ca²⁺ Channel Window Current By Steroid Hormones in Coronary Artery Smooth Muscle Cells. **Rikuo Ochi**, Sachin A. Gupta.

963-Pos BOARD #B842
Corticotropin-releasing Factor Regulates Somatodendritic Dopamine Release By Inhibiting Voltage-dependent Ca²⁺ Channels. Yonjung Kim, Myoung Kyu Park, **Sungkwon Chung**.

964-Pos BOARD #B843
Rab11b GTPase Is Expressed In Ventricular Myocardium And Regulates Trafficking Of L-type Ca²⁺ Channels. **Jabe M. Best**, Jason D. Foell, Jing Wang, Ravi C. Balijepalli, Timothy J. Kamp.

965-Pos BOARD #B844
Methyl-beta-cyclodextrin Attenuates Cav2.3 Channels Modulation By NK1 Receptors. **Ulises Meza**, Yamhilette Licón, Sergio Sánchez-Armass.

966-Pos BOARD #B845
The Monomeric G Proteins AGS1 And Rhes Selectively Influence Gai-dependent Signaling To Modulate N-type (Cav2.2) Calcium Channels. Ashish Thapliyal, **Roger A. Bannister**, Christopher Hanks, Brett A. Adams.

967-Pos BOARD #B846
Identifying molecular mechanisms underlying PKC regulation of Cav1.2. **Lin Yang**, Darshan Doshi, John Morrow, Alexander Katchman, Sergey Zakharov, Steven O. Marx.

968-Pos BOARD #B847 STUDENT TRAVEL AWARDEE SRAA POSTER
Multiple Mechanisms and Determinants Underlie Rem Inhibition of Voltage-dependent Calcium (Cav) Channels. **Tingting Yang**, Henry M. Colecraft.

969-Pos BOARD #B848
Differential Modulation Of Cardiac L-type Calcium Currents By Ga₁₂ And Ga₁₃. **Sara Dizayee**, Sonja Kaestner, Olga Felda, Roland Piekorz, Janos Meszaros, Jan Matthes, Bernd Nürnberg, Stefan Herzig.

Voltage-gated K Channels - Gating I (Boards #B849–#B870)

970-Pos BOARD #B849
Improved Early Detection of HERG Channel Liability in Lead Optimization Programs with Automated Patch-Clamp Technology. **Arturo Picones**, Kendra Kim, Jason Munderloh.

971-Pos BOARD #B850
Mechanism Of Action For The hERG Potassium Channel Activator, PD-118057. **Matthew D. Perry**, Michael C. Sanguinetti.

- 972-Pos BOARD #B851**
Direct Binding Of Divalent Cations To The S4 Region In Eag Family K⁺ Channels Reveals A Closed Conformation Shared With Kv1 Channels. **Xiaofei Zhang**, Badry Bursulaya, Christian C. Lee, Bihan Chen, Timothy Jegla.
- 973-Pos BOARD #B852**
Voltage-dependent Fluorescence Associated with Native-Cysteine Residues in hERG channels. **Robert R. Fougere**, Hongjian Xu, Saman Rezagadeh, Moni Vaid, David Fedida.
- 974-Pos BOARD #B853**
On the Nature of hERG Inactivation using KcsA, Shaker and Kv1.2 as Structural and Functional Models. **Julio F. Cordero-Morales**, Vishwanath Jogini, Anthony Lewis, Valeria Vasquez, Martin Tristani-Firouzi, Eduardo Perozo.
- 975-Pos BOARD #B854**
Mapping the hERG Channel Activation Gate Using SCAM. **Sarah Wynia-Smith**, Gail Robertson.
- 976-Pos BOARD #B855**
LQT2 Linked Mutations E444d And P451I In The S1-S2 Linker Lead To Biophysical Abnormalities Of Herg Channels. **Eric Lin**, Brooke Moungey, Brian P. Delisle, Craig T. January.
- 977-Pos BOARD #B856**
Transfer Of rolf S3-S4 Linker To hERG Eliminates Activation Gating But Spares Inactivation. Aziza El Harchi, **Frank S. Choveau**, Nicolas Rodriguez, Bénédicte Louérat-Oriou, Isabelle Baró, Sophie Demolombe, Flavien Charpentier, Gildas Loussouarn.
- 978-Pos BOARD #B857**
KvLQT1's S3 involvement in LQTS. **Matthew E. Loewen**, Jodene Eldstrom, Amanda M. Degenhardt, Hongjian Xu, David Fedida.
- 979-Pos BOARD #B858**
Dynamic Partnership between KCNQ1 and KCNE Subunits. **Min Jiang**, Xulin Xu, Gea-Ny Tseng.
- 980-Pos BOARD #B859**
Using Disulfide Trapping to Probe KCNQ1/KCNE1 Interactions During the I_{Ks} Channel Gating. Min Jiang, Xulin Xu, **Tseng Gea-Ny**.
- 981-Pos BOARD #B860**
Physical Interactions Between The Cytoplasmic Domains Of KCNQ1 And KCNE1 Channel Subunits. Renjian Zheng, Keith Thompson, Dana Alessi, Edmond Obeng-Gyimah, **Thomas V. McDonald**.
- 982-Pos BOARD #B861**
Mechanism Of I_{Kr} Loss In Mutant T421M-hERG Expressing Rat Ventricular Myocytes. **Sadguna Y. Balijepalli**, David J. Tester, Jing Wang, Kassandra E. Holzem, Chen Li Chew, Blake D. Anson, Timothy J. Kamp, Michael J. Ackerman, Craig T. January.
- 983-Pos BOARD #B862**
Trafficking-deficient LQT2 Mutations Disrupt Different Steps of hERG Channel Transport. **Jennifer L. Smith**, Daniel C. Bartos, Craig T. January, Brian P. Delisle.
- 984-Pos BOARD #B863 SRAA POSTER**
Restoration of Deactivation in N-truncated and LQTS HERG K⁺ Channel Mutants by a Recombinant N-terminal Region Fragment. **Ahleah S. Gustina**, Elena C. Gianulis, Matthew C. Trudeau.
- 985-Pos BOARD #B864**
Functional Consequences of RNA Editing of the *eag* Potassium Channel. Mary Y. Ryan, Rachel Maloney, Robert A. Reenan, **Richard Horn**.
- 986-Pos BOARD #B865**
Developing In Silico Descriptions Of Herg Channel Gating. **Adam P. Hill**, Anthony Varghese, Socrates Dokos, Stefan Mann, Jamie I. Vandenberg.
- 987-Pos BOARD #B866**
Simulation of Ion Channel Gating: from Energy Landscapes to Macroscopic Currents. **Ali Nekouzadeh**, Yoram Rudy.
- 988-Pos BOARD #B867**
Molecular Dynamics Simulation of the Kv1.2 Potassium Channel. **Fatemeh Khalili-Araghi**, Vishwanath Jogini, Vladimir Yarov-Yarovoy, Emad Tajkhorshid, Benoit Roux, Klaus Schulten.
- 989-Pos BOARD #B868**
Quantum Calculations on Potassium Channel Selectivity and Gating. Alisher M. Kariev, **Michael E. Green**.
- 990-Pos BOARD #B869**
Using Molecular Simulation and Quantum Mechanics tools to answer unsolved questions about gating of plant voltage gated potassium channels. **Wendy Gonzalez**, Samuel Morales, Jaime Henriquez, Fernando Danilo González-Nilo, Ingo Dréyer.
- 991-Pos BOARD #B870**
Understanding gating transitions within K1 channels using Dynamic Importance Sampling. **Elizabeth Denning**, Thomas Woolf.