

Wednesday, February 24, 2010

Daily Program Summary

All rooms in the Moscone Center unless noted otherwise.

8:00 AM–12:00 PM	Career Center	Room 130-131
8:00 AM–3:00 PM	Poster Viewing	Hall D
8:00 AM–3:00 PM	Child Care	Marriott, Pacific A-C
8:00 AM–3:00 PM	Registration/Information	Moscone North
8:00 AM–3:30 PM	Family Room	Room 114
8:15 AM–10:15 AM	<p>Symposium 18 Calcium Flickers and Motility at the Leading Edge Membrane <i>Joseph Falke, University of Colorado at Boulder, Chair</i></p> <p>IMAGING NEUTROPHIL MIGRATION IN VIVO USING ZEBRAFISH. <i>Anna Huttenlocher</i> SECOND MESSENGERS AT THE LEADING EDGE: CALCIUM JOINS PIP3 AS AN ESSENTIAL SIGNAL. <i>Joseph J. Falke</i> CALCIUM FLICKERS IN CELL MIGRATION. <i>Heping Cheng</i> SIGNALING CONTROL OF COLLECTIVE CELL MIGRATION. <i>Tobias Meyer</i></p>	Room 134
8:15 AM–10:15 AM	<p>Symposium 19 The 'Un' in Unconventional Molecular Motors <i>Samara Reck-Peterson, Harvard University, Chair</i></p> <p>OPENING UP, COMING TOGETHER AND REACHING OUT: MORE SURPRISES FROM MYOSIN VI. <i>Lee Sweeney</i> NOVEL FUNCTIONS FOR MYOSIN-I IN MICROVILLAR MEMBRANE MOTILITY AND MECHANICS. <i>Matthew J. Tyska</i> MECHANISM AND REGULATION OF CYTOPLASMIC DYNEIN. <i>Samara Reck-Peterson</i> UNCONVENTIONAL MODEL FOR DYNEIN-DRIVEN MOVEMENT. <i>Keiko Hirose</i></p>	Room 135
8:15 AM–10:15 AM	<p>Platform AZ Voltage-gated K Channels-Gating</p>	Room 303
8:15 AM–10:15 AM	<p>Platform BA Emerging Single Molecule Techniques II</p>	Room 304
8:15 AM–10:15 AM	<p>Platform BB Membrane Protein Structure II</p>	Room 305
8:15 AM–10:15 AM	<p>Platform BC Membrane Physical Chemistry II</p>	Room 306
8:15 AM–10:15 AM	<p>Platform BD Membrane Transporters & Exchangers</p>	Room 307
8:15 AM–10:15 AM	<p>Platform BE Protein Conformation</p>	Room 308
10:30 AM–11:15 AM	Coffee Break	Hall D
10:30 AM–12:30 PM	Poster Presentations and Late Posters	Hall D
1:00 PM–3:00 PM	<p>Symposium 20 Single Molecules Meet Systems Biology <i>Sunney Xie, Harvard University, Chair</i></p> <p>SINGLE MOLECULES IN SINGLE CELLS: A SYSTEM-WIDE QUANTIFICATION OF GENE EXPRESSION. <i>Sunney Xie</i> PROBING INTRACELLULAR KINETICS AT THE LEVEL OF SINGLE MOLECULES. <i>Johan Elf</i> ERROR MINIZATION IN LATERAL INHIBITION CIRCUITS. <i>Naama Barkai</i> BIOLOGICAL IMPORTANCE OF GENE CIRCUIT INTERACTION PATTERNS. <i>Gürol M. Süel</i></p>	Room 134
1:00 PM–3:00 PM	<p>Symposium 21 Mechanism of Electromechanical Coupling in Voltage-gated Ion Channels <i>William Catterall, University of Washington, Chair</i></p> <p>THE STRUCTURAL BASIS OF VOLTAGE SENSING. <i>Roderick MacKinnon</i> THE STRUCTURAL BASIS OF GATING CURRENTS: INSIGHTS FROM FLUORESCENCE SPECTROSCOPY. <i>Francisco Bezanilla</i> DYNAMICS OF VOLTAGE-SENSOR MOVEMENT IN SODIUM CHANNELS. <i>Todd Scheuer</i> MOLECULAR MOVEMENTS WITHIN THE VOLTAGE-SENSOR DOMAIN OF A POTASSIUM CHANNEL. <i>Fredrik Elinder</i></p>	Room 135
1:00 PM–3:00 PM	<p>Minisymposium 4 New Chemical Modulators by Rational Design</p>	Room 303

(Continued from previous page.)

1:00 PM–3:00 PM	Platform BF Cardiac Muscle II	Room 304
1:00 PM–3:00 PM	Platform BG Nano-Materials	Room 305
1:00 PM–3:00 PM	Platform BH Protein Structure	Room 306
1:00 PM–3:00 PM	Platform BI Imaging & Optical Microscopy II	Room 307
1:00 PM–3:00 PM	Platform BJ Member-organized Session: Kinetics, Mechanisms & Regulation of Ion-Transporting ATPases	Room 308

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Wednesday, February 24

8:00 AM–12:00 PM, Room 130-131

CAREER CENTER

8:00 AM–3:00 PM, Hall D

POSTER VIEWING

8:00 AM–3:00 PM, Marriott, Pacific A-C

CHILD CARE

8:00 AM–3:00 PM Moscone North

REGISTRATION/INFORMATION

8:00 AM–3:30 PM, Room 114

FAMILY ROOM

8:15 AM–10:15 AM, Room 134

SYMPOSIUM 18

Calcium Flickers and Motility at the Leading Edge Membrane

Chair

Joseph Falke, University of Colorado at Boulder

3221-SYMP 8:15 AM
IMAGING NEUTROPHIL MIGRATION IN VIVO USING ZEBRAFISH. **Anna Huttenlocher.**

3222-SYMP 8:45 AM
SECOND MESSENGERS AT THE LEADING EDGE: CALCIUM JOINS PIP3 AS AN ESSENTIAL SIGNAL. **Joseph J. Falke.**

3223-SYMP 9:15 AM
CALCIUM FLICKERS IN CELL MIGRATION. **Heping Cheng.**

3224-SYMP 9:45 AM
SIGNALING CONTROL OF COLLECTIVE CELL MIGRATION. **Tobias Meyer.**

8:15 AM–10:15 AM, Room 135

SYMPOSIUM 19

The 'Un' in Unconventional Molecular Motors

Chair

Samara Reck-Peterson, Harvard University

3225-SYMP 8:45 AM
OPENING UP, COMING TOGETHER AND REACHING OUT: MORE SURPRISES FROM MYOSIN VI. **Lee Sweeney.**

3226-SYMP 9:45 AM
NOVEL FUNCTIONS FOR MYOSIN-I IN MICROVILLAR MEMBRANE MOTILITY AND MECHANICS. **Matthew J. Tyska.**

3227-SYMP 8:15 AM
MECHANISM AND REGULATION OF CYTOPLASMIC DYNEIN. Julie Huang, Julia Kardon, Carol Cho, Ronald Vale, **Samara Reck-Peterson.**

3228-SYMP 9:15 AM
UNCONVENTIONAL MODEL FOR DYNEIN-DRIVEN MOVEMENT. **Keiko Hirose,** Hironori Ueno, Takuo Yasunaga, Chikako Shingyoji.

8:15 AM–10:15 AM, Room 303

PLATFORM AZ

Voltage-gated K Channels-Gating

Co-Chairs

*Jianmin Cui, Washington University
Albert Pan, University of Chicago*

3229-PLAT 8:15 AM
THERMODYNAMIC PROPERTIES OF IONIC CURRENTS IN SHAKER K⁺ CHANNEL HETEROTETRAMERS WITH DIFFERENT STOICHIOMETRIES OF ILT MUTATIONS AND/OR QUADRUPLE GATING CHARGE NEUTRALIZATION. **Dominique G. Gagnon,** Francisco Bezanilla.

3230-PLAT 8:30 AM
A NEW APPROACH TO THE STRUCTURAL INVESTIGATION OF THE VOLTAGE-SENSITIVE DOMAIN OF VOLTAGE-GATED CATION CHANNELS AS A FUNCTION OF THE TRANSMEMBRANE VOLTAGE. **Jing Liu Venkata Krishnan,** Joseph Strzalka, Andrey Tronin, J. Kent Blasie.

3231-PLAT 8:45 AM
THE IMPORTANCE OF ION BINDING FOR POTASSIUM CHANNEL INACTIVATION AND RECOVERY. **Albert C. Pan,** Sudha Chakrapani, Vishwanath Jogini, Luis G. Cuello, Doris M. Cortes, Eduardo Perozo, Benoit Roux.

3232-PLAT 9:00 AM
CHARGE REVERSION TO CHARGE CARRYING POSITIONS OF S4 IN VOLTAGE GATED SHAKER K-CHANNELS. **Vivian González-Pérez,** Katherine Stack, David Naranjo.

3233-PLAT 9:15 AM
SEQUENTIAL ELECTROSTATIC INTERACTIONS BETWEEN E160 IN S2 AND ARGININES IN S4 DURING VOLTAGE DEPENDENT ACTIVATION OF KV7.1 CHANNELS. **Dick Wu,** Kelli Delaloye, Mark Zaydman, Jianmin Cui.

3234-PLAT 9:30 AM
A SINGLE S4 ARGinine IS SUFFICIENT FOR VOLTAGE SENSITIVITY IN THE HV1 PROTON CHANNEL. **Ingrid Carvacho,** I. Scott Ramsey, David E Clapham.

3235-PLAT 9:45 AM
PROBING ENERGETIC CONTRIBUTIONS OF AROMATIC RESIDUES AT THE INTRACELLULAR GATE OF SHAKER POTASSIUM CHANNELS. **Stephan A. Pless,** Ana Niciforovic, Christopher A. Ahern.

3236-PLAT 10:00 AM
STRICT STRUCTURAL REQUIREMENTS FOR CHOLESTEROL TO INHIBIT BK CHANNELS POINT TO SPECIFIC STEROID-PROTEIN INTERACTIONS. **Anna N. Bukiya,** Aditya K. Singh, Jitendra D. Belani, Scott Rychnovsky, Alejandro M. Dopico.

8:15 AM–10:15 AM, Room 304

PLATFORM BA

Emerging Single Molecule Techniques II

Co-Chairs

*Astrid van der Horst, Simon Fraser University
Thorsten Wohland, National University of Singapore*

3237-PLAT 8:15 AM
HIGH-RESOLUTION SMFRET IN A MICROFLUIDIC GAS EXCHANGE PLATFORM. **Yann Gambin,** Edward A. Lemke, Virginia Vandellinder, Alexander Groisman, Ashok A. Deniz.

3238-PLAT 8:30 AM
SINGLE PLANE ILLUMINATION MICROSCOPY ALLOWS FLUORESCENCE CORRELATION SPECTROSCOPY (SPIM-FCS) TO BE USED FOR CONCENTRATION AND DIFFUSION COEFFICIENT IMAGING IN 3D. **Thorsten Wohland**, Xianke Shi, Jagadish Sankaran, Ernst HK Stelzer.

3239-PLAT 8:45 AM
HIGH THROUGHPUT SINGLE-MOLECULE SPECTROSCOPY WITH HIGHLY PARALLEL EXCITATION AND DETECTION. **Ryan A. Colyer**, Giuseppe Scalia, Fabrizio Guerrieri, Adrian Cheng, Moran Levi, Daniel Aharoni, Katsushi Arisaka, Jacques Millaud, Yoshihiko Kawai, Motohiro Suyama, Massimio Ghioni, Ivan Rech, Simone Tisa, Franco Zappa, Sergio Cova, Shimon Weiss, Xavier Michalet.

3240-PLAT 9:00 AM
MEASURING MULTIPLE DISTANCES WITHIN A SINGLE MOLECULE USING SWITCHABLE FRET. **Stephan Uphoff**, Seamus Holden, Ludovic Le Reste, Sebastian van de Linde, Mike Heilemann, Achillefs N. Kapanidis.

3241-PLAT 9:15 AM
COLLOIDAL LENSES ENABLE HIGH TEMPERATURE SINGLE MOLECULE IMAGING AND IMPROVE FLUOROPHORE PHOTOSTABILITY. **Stavros Stavrakis**, Jerrod J. Schwartz, Stephen Quake.

3242-PLAT 9:30 AM
SYNTHESIS OF EXTENDED SINGLE-MOLECULE OPTICAL ENCODERS. **Charles E. Wickersham**, Daniel H. Kerr, Kevin J. Cash, Shawn H. Pfeil, Irina Bruck, Daniel L. Kaplan, Kevin W. Plaxco, Everett A. Lipman.

3243-PLAT 9:45 AM
A BIOLOGICAL FRIENDLY HIGH-RESOLUTION OPTICAL TWEEZERS FOR SINGLE MOLECULE STUDIES. **Wei Cheng**, Ximiao Hou.

3244-PLAT 10:00 AM
STRETCHING SINGLE DNA MOLECULES AND USING HIGH-SPEED CAMERA POWER SPECTRAL ANALYSIS TO DEMONSTRATE HIGH FORCE CAPABILITIES OF HOLOGRAPHIC OPTICAL TWEEZERS. **Astrid van der Horst**, Arnau Farré, Nancy R. Forde.

8:15 AM–10:15 AM, Room 305

PLATFORM BB

Membrane Protein Structure II

Co-Chairs

Alexey Ladokhin, University of Kansas Medical Center
Francesca Marassi, The Burnham Institute

3245-PLAT 8:15 AM
THERMODYNAMICS OF INTERFACIAL MEMBRANE BINDING AND TRANSMEMBRANE INSERTION OF DIPHTHERIA TOXIN T-DOMAIN: FLUORESCENCE CORRELATION SPECTROSCOPY STUDY. **Yevgen O. Posokhov**, Mykola Rodnin, Alexander Kyrychenko, Christine Contino, Bernard Pucci, Alexey S. Ladokhin.

3246-PLAT 8:30 AM **STUDENT TRAVEL AWARDEE**
THE SPONTANEOUS REFOLDING OF OPACITY-ASSOCIATED PROTEINS INTO LIPID MEMBRANES. **Alison H. Dewald**, Jacqueline C. Hodges, Linda Columbus.

3247-PLAT 8:45 AM
STRUCTURE OF THE MYCOBACTERIUM TUBERCULOSIS VIRULENCE FACTOR RV0899 (OMPATB). **Peter Teriete**, Yong Yao, Adrian Kolodzik, Leigh A. Plesniak, Michael Niederweis, Francesca M. Marassi.

3248-PLAT 9:00 AM
STRUCTURAL INVESTIGATIONS OF AN AMPHIPATHIC REGION OF THE TWIN-ARGININE TRANSLOCASE TATA SUBUNIT. **Catherine S. Chan**, Evan F. Haney, D. Peter Tieleman, Hans J. Vogel, Raymond J. Turner.

3249-PLAT 9:15 AM
INVESTIGATING THE STRUCTURAL AND DYNAMIC PROPERTIES OF MEMBRANE PROTEINS WITH SOLID-STATE NMR, CW-EPR, ESEEM, AND DEER SPECTROSCOPIC TECHNIQUES. **Gary A. Lorigan**.

3250-PLAT 9:30 AM
SECONDARY-STRUCTURE ANALYSIS OF HUMAN PERIPHERAL CANNABINOID RECEPTOR CB2 BASED ON SOLID-STATE ¹³C-, ¹⁵N-MAS NMR AND MOLECULAR DYNAMICS SIMULATIONS. **Tomohiro Kimura**, Krishna Vukoti, Diane L. Lynch, Dow P. Hurst, Alan Grossfield, Michael C. Pitman, Patricia H. Reggio, Alexei A. Yeliseev, Klaus Gawrisch.

3251-PLAT 9:45 AM
SPECTROSCOPIC INVESTIGATION OF PHOSPHORYLATED PENTAMERIC PHOSPHOLAMBAN BOUND TO THE SARCOPLASMIC CALCIUM ATPASE. **Raffaello Verardi**, Nathaniel J. Traaseth, Lei Shi, Gianluigi Veglia.

3252-PLAT 10:00 AM
PROTEIN FOLDING AT THE MEMBRANE INTERFACE: THE STRUCTURE OF NOGO-66. **Melanie J. Cocco**, Sheeja Vasudevan, Rosemarie Vithayathil, Jessica Schulz, Chunyi Zhou, Sudipta Majumdar, Gregory Weiss.

8:15 AM–10:15 AM, Room 306

PLATFORM BC

Membrane Physical Chemistry II

Co-Chairs

Shelli Frey, Gettysburg College
Tommy Nylander, Lund University, Sweden

3253-PLAT 8:15 AM
INTERACTION OF DNA-PAMAM DENDRIMERS WITH A MODEL BIOLOGICAL MEMBRANE. **Marie-Louise Ainalem**, Syma Khalid, Richard Gillams, George S. Attard, Adrian R. Rennie, Richard Campbell, Tommy Nylander.

3254-PLAT 8:30 AM
SOLID STATE NMR STUDIES ON ACYLATED TRANSMEMBRANE PEPTIDES DRIVING MEMBRANE FUSION. **Matthias Mueller**, Anja Penk, Holger A. Scheidt, Dieter Langosch, Daniel Huster.

3255-PLAT 8:45 AM
EFFECT OF PEG-BASED BIOCOMPATIBLE POLYMERS ON THE RESPONSE OF LIPID VESICLES UNDER EXTERNAL STIMULI. **Jia-Yu Wang**, Ravinath Ravinath Kausik, Chi-Yuan Cheng, Jaemin Chin, Song-I Han, Jeremy Marks, Ka Yee C. Lee.

3256-PLAT 9:00 AM
DETERGENT EFFECTS ON MEMBRANES AT SUB-SOLUBILIZING CONCENTRATIONS: TRANSMEMBRANE LIPID MOTION, BILAYER PERMEABILIZATION AND VESICLE LYSIS/REASSEMBLY ARE INDEPENDENT PHENOMENA. **Hasna Ahyayauch**, Mohammed Bennouna, Alicia Alonso, Felix M Goni.

3257-PLAT 9:15 AM
EFFECT OF CATIONS ON THE NANOMECHANICAL RESPONSE OF PHOSPHOLIPID MODEL MEMBRANES. A FORCE SPECTROSCOPY STUDY. **Lorena Redondo**, Gerard Oncins, Fausto Sanz.

3258-PLAT 9:30 AM
ACTION OF AN ANTIPARASITIC PEPTIDE ACTIVE AGAINST AFRICAN SLEEPING SICKNESS IN BIOMEMBRANE MODELS. **Luciano Caseli**, Cauê Piantaúdi Pascholati, Esteban P. Lopera, Felipe J. Pavinatto, Thatyane M. Nobre, Maria Elisabete D. Zaniquelli, Claudius D'Silva, Tapani Viitala, Osvaldo N. Oliveira Jr.

3259-PLAT 9:45 AM
QUANTIFYING INTERACTIONS BETWEEN NANOPARTICLES AND MODEL CELL MEMBRANES. **Stephanie J. Maiocco**, Nicole A. Meredyth, Danica A. Day, Shelli L. Frey.

3260-PLAT 10:00 AM
A WATER GRADIENT CAN BE USED TO REGULATE DRUG TRANSPORT ACROSS SKIN - A RESPONDING MEMBRANE. **Emma Sparr**, Sebastian Björklund, Johan Engblom, Krister Thuresson.

8:15 AM–10:15 AM, Room 307
PLATFORM BD

Membrane Transporters & Exchangers

Co-Chairs

David Gadsby, Rockefeller University
Peter Larsson, University of Miami

3261-PLAT 8:15 AM
COEVOLVING AMINO ACID POSITIONS IN EXPORTER-TYPE ABC PROTEINS. **Attila Gulyás-Kovács**, David C. Gadsby.

3263-PLAT 8:30 AM
FUNCTIONAL ROTATION OF THE TRANSPORTER ACRB: INSIGHTS INTO DRUG EXTRUSION FROM SIMULATIONS. **Attilio Vittorio Vargiu**, Robert Schulz, Francesca Collu, Ulrich Kleinekathoer, Paolo Ruggerone.

3264-PLAT 8:45 AM
PROTEIN DYNAMICS IN THE TRANSPORT CYCLE: NMR STUDY OF THE MULTIDRUG RESISTANCE TRANSPORTER, EMRE. **Katherine Henzler-Wildman**, Emma Morrison, Greg Dekoster, Sonal Bansal.

3265-PLAT 9:00 AM
MOLECULAR BASIS OF THE "ALTERNATE ACCESS MODEL" IN THE CATION-SUBSTRATE SYMPORTER MHP1 FROM COMPUTER SIMULATIONS AND X-RAY CRYSTALLOGRAPHY. **Oliver Beckstein**, Tatsuro Shimamura, Simone Weyand, Nicholas G. Rutherford, Jonathan M. Hadden, David Sharples, So Iwata, Peter J. F. Henderson, Alexander D. Cameron, Mark S. P. Sansom.

3266-PLAT 9:15 AM
SYMMETRY IN THE STRUCTURE OF THE GLUTAMATE TRANSPORTER GLTPH SUGGESTS CONFORMATION OF AN ALTERNATE STATE. **Thomas J. Crisman**, Shaogang Qu, Baruch Kanner, Lucy Forrest.

3267-PLAT 9:30 AM
OPPOSITE MOVEMENTS OF THE EXTERNAL GATE IN GLUTAMATE TRANSPORTERS UPON BINDING DIFFERENT COTRANSPORTED LIGANDS MEASURED BY EPR. **Paul Focke**, Pierre Moenne-Loccoz, Hans Koch, Peter Larsson.

3268-PLAT 9:45 AM
MECHANISM OF SELECTIVE UREA PERMEATION THROUGH A BACTERIAL UREA TRANSPORTER. **Elena J. Levin**, Matthias Quick, Ming Zhou.

8:15 AM–10:15 AM, Room 308
PLATFORM BE

Protein Conformation

Co-Chairs

Sean Decatur, Oberlin College
Ana Saraiva, Max Planck Institute, Germany

3269-PLAT 8:15 AM
SWITCHING AMYLOID β -PEPTIDES OLIGOMERIZATION AND CYTOTOXICITY WITH NANOPARTICLES. **Ana M. Saraiva**, Isabel Cardoso, Maria João Saraiva, M. Carmo Pereira, Manuel A. N. Coelho, Helmuth Moehwald, Gerald Brezesinski.

3270-PLAT 8:30 AM
 α -LACTALBUMIN, ENGINEERED TO BE NON-NATIVE AND INACTIVE, KILLS TUMOR CELLS WHEN IN COMPLEX WITH OLEIC ACID: A NEW BIOLOGICAL FUNCTION RESULTING FROM PARTIAL UNFOLDING. **Jenny Pettersson-Kastberg**, Ann-Kristin Mossberg, Maria Trulsson, Yeon Joong Yong, Soyoung Min, Yoongho Lim, John E. O'Brien, Catharina Svanborg, K. Hun Mok.

3271-PLAT 8:45 AM
NEUTRON SPIN ECHO STUDIES OF DYNAMICS IN HEMOGLOBIN AND MYOGLOBIN. **Jyotsana Lal**, Peter Fouquet, Marco Maccarini, Lee Makowski.

3272-PLAT 9:00 AM
TEMPERATURE DEPENDENCE OF THE AMIDE I FREQUENCY AS A PROBE OF SOLVENT ACCESSIBILITY OF THE PROTEIN BACKBONE. **Dana M. Alessi**, Sean M. Decatur.

3273-PLAT 9:15 AM
A HINGE REGION CIS-PROLINE IN BOVINE PANCREATIC RNASE A ACTS AS A CONFORMATIONAL GATEKEEPER FOR C-TERMINAL DOMAIN SWAPPING. **Katherine H. Miller**, Susan Marqusee, Jessica Karr.

3274-PLAT 9:30 AM
THE IMPORTANCE OF PROTEIN-PROTEIN INTERACTIONS ON THE PH-INDUCED CONFORMATIONAL CHANGES OF BOVINE SERUM ALBUMIN: A SMALL ANGLE X-RAY SCATTERING STUDY. **Leandro R. S. Barbosa**, Maria Grazia Ortore, Francesco Spinazzi, Paolo Mariani, Sigrid Bernstorff, Rosangela Itri.

3275-PLAT 9:45 AM
THE MECHANICAL PROPERTIES OF PCNA: IMPLICATIONS FOR THE LOADING AND FUNCTION OF SLIDING CLAMPS. **Joshua L. Adelman**, John D. Chodera, I-Feng W. Kuo, Thomas F. Miller III, Daniel Barsky.

3276-PLAT 10:00 AM
COORDINATION BETWEEN N- AND C-TERMINAL KINETICS OF HSP90 INVESTIGATED BY SMFRET. **Thorsten Hugel**, Christoph Ratzke, Moritz Mickler, Martin Hessling, Johannes Buchner.

10:30 AM–11:15 AM, Hall D
COFFEE BREAK

10:30 AM–12:30 PM, Hall D
POSTER PRESENTATIONS AND LATE POSTERS

(For a complete listing of Wednesday Poster Presentations and posting information, see page 151.)

1:00 PM–3:00 PM, Room 134
SYMPOSIUM 20

Single Molecules Meet Systems Biology

Chair

Sunney Xie, Harvard University

3919-SYMP 1:00 PM
SINGLE MOLECULES IN SINGLE CELLS: A SYSTEM-WIDE QUANTIFICATION OF GENE EXPRESSION. **Sunney Xie**.

3920-SYMP 1:30 PM
PROBING INTRACELLULAR KINETICS AT THE LEVEL OF SINGLE MOLECULES. **Johan Elf**.

3921-SYMP 2:00 PM
ERROR MINIZATION IN LATERAL INHIBITION CIRCUITS. **Naama Barkai**.

3922-SYMP 2:30 PM
BIOLOGICAL IMPORTANCE OF GENE CIRCUIT INTERACTION PATTERNS. **Gürol M. Süel**, University of Texas Southwestern Medical Center.

1:00 PM–3:00 PM, Room 135
SYMPOSIUM 21

Mechanism of Electromechanical Coupling in Voltage-gated Ion Channels

Chair

William Catterall, University of Washington

3923-SYMP 1:00 PM
THE STRUCTURAL BASIS OF VOLTAGE SENSING.
Roderick MacKinnon.

3924-SYMP 1:30 PM
THE STRUCTURAL BASIS OF GATING CURRENTS: INSIGHTS FROM FLUORESCENCE SPECTROSCOPY. **Francisco Bezanilla.**

3925-SYMP 2:00 PM
DYNAMICS OF VOLTAGE-SENSOR MOVEMENT IN SODIUM CHANNELS. **Todd Scheuer.**

3926-SYMP 2:30 PM
MOLECULAR MOVEMENTS WITHIN THE VOLTAGE-SENSOR DOMAIN OF A POTASSIUM CHANNEL. **Fredrik Elinder.**

1:00 PM–3:00 PM, Room 303

MINISYMPOSIUM 4

New Chemical Modulators by Rational Design

Co-Chairs

*Yuan Chen, Beckman Research Institute of the City of Hope
Marta Filizola, Mt. Sinai School of Medicine*

3927-MINISYMP 1:00 PM
OPTIMIZING LIGAND-PROTEIN INTERACTIONS VIA SILCS: SITE IDENTIFICATION BY LIGAND COMPETITIVE SATURATION. **Alexander MacKerell.**

3928-MINISYMP 0:00 PM
USING MOLECULAR SIMULATIONS TO SCREEN FOR ANTIBIOTICS WITH ENHANCED PERMEATION PROPERTIES THROUGH BACTERIAL PORES. **Eric Hajjar.**
Author Name.

3929-MINISYMP 1:40 PM
CHEMICAL SYNTHESIS OF A HIGHLY SELECTIVE PROBE OF THE RENAL OUTER MEDULLARY POTASSIUM CHANNEL (ROMK). **Jerod S. Denton,** Brian A. Chauder, Rishin Kadakia, Eric S. Dawson, Craig W. Lindsley, C. David Weaver, Gautam Bhawe.

3930-MINISYMP 2:00 PM
GOLD NANOPARTICLES AS A PLATFORM FOR DESIGNING PROTEIN-PROTEIN INTERACTION INHIBITORS: APPLICATION TO UBIQUITIN-LIKE MODIFICATIONS.
Yang Su, Angela Perkins, Yi-Jia Li, Yuelong Ma, David Horne, Yuan Chen.

3931-MINISYMP 2:20 PM
NEW APPROACHES TO ANTI-INFECTIVE AND ANTI-CANCER THERAPEUTICS TARGETING METALLOPROTEINS.
Eric Oldfield.

1:00 PM–3:00 PM, Room 304

PLATFORM BF Cardiac Muscle II

Co-Chairs

*Cristobal dos Remedios, University of Sydney, Australia
Henk Granzier, University of Arizona*

3932-PLAT 1:00 PM
PROTEOMICS OF THE HUMAN CARDIAC INTERCALATED DISC: A MORE COMPLEX MULTI-FUNCTIONAL STRUCTURE THAN WAS PREVIOUSLY THOUGHT.

Cristobal G. dos Remedios, Colleen Estigoy, Darryl Cameron, Joshua W. K. Ho, Benjamin Herbert, Matthew Padula, Russel Pickford, Michael Guilhaus, Jacob Odeberg, Fredrik Ponten.

3933-PLAT 1:15 PM
QUANTITATIVE ANALYSIS OF MYBP-C PHOSPHORYLATION IN HUMAN HEART USING PHOSPHATE AFFINITY SDS-PAGE.
Steven Marston, Sakthivel Sadayappan, O'neal Copeland.

3934-PLAT 1:30 PM
IDENTIFICATION OF AMINO ACID RESIDUES IN THE CARDIAC MYOSIN BINDING PROTEIN-C MOTIF IMPORTANT FOR ACTIN BINDING. **Justin F. Shaffer,** Samantha P. Harris.

3935-PLAT 1:45 PM
N-TERMINAL FRAGMENTS OF CARDIAC MYOSIN BINDING PROTEIN-C INHIBIT ACTOMYOSIN MOTILITY BY TETHERING ACTIN. **Abbey E. Weith,** Sakthivel Sadayappan, Peter VanBuren, Jeffrey Robbins, David M. Warshaw.

3936-PLAT 2:00 PM
PKC PHOSPHORYLATION OF TITIN'S PEVK ELEMENT--A NOVEL AND CONSERVED PATHWAY FOR MODULATING MYOCARDIAL STIFFNESS. **Bryan D. Hudson,** Carlos G. Hidalgo, Julius Bogomolovas, Yi Zhu, Brian Anderson, Marion Greaser, Siegfried Labeit, Henk L. Granzier.

3937-PLAT 2:15 PM
TITIN STRUCTURE AND EXTENSIBILITY IN HEALTHY AND FAILING HEARTS. **Helen K. Graham,** Michael J. Sherratt, Andrew W. Trafford.

3938-PLAT 2:30 PM
INSULIN SIGNALING REGULATES CARDIAC TITIN ISOFORM COMPOSITION IN DEVELOPMENT AND DIABETIC CARDIOMYOPATHY. **Kamila Babicz,** Wolfgang A. Linke, Martina Krueger.

3939-PLAT 2:45 PM
THE EFFECT OF STIFFNESS AND BETA-ADRENERGIC STIMULATION ON NEONATAL CARDIOMYOCYTE CALCIUM-MEDIATED CONTRACTILE FORCE DYNAMICS.
Anthony G. Rodriguez, Sangyoon Han, Michael Regnier, Nathan Sniadecki.

1:00 PM–3:00 PM, Room 305

PLATFORM BG Nano-Materials

Co-Chair

Helen Hansma, University of California Santa Barbara

3940-PLAT 1:00 PM
BIONANO-ELECTRONIC DEVICES BASED ON 1D-LIPID BILAYERS ON NANOTUBE AND NANOWIRE TEMPLATES.
Nipun Misra, Julio Martinez, Alexander Artyukhin, Shih-Chieh Huang, Pieter Stroeve, Costas Grigoropoulos, Aleksandr Noy.

3941-PLAT 1:15 PM
MOLECULAR DYNAMICS STUDY OF CNT NANOPORES EMBEDDED IN LIPID BILAYERS. **Elizabeth Jayne Wallace,** John F. Ryan, Mark S. P. Sansom.

3942-PLAT 1:30 PM
SINGLE-STEP COATING AND BIFUNCTIONALIZATION OF GOLD NANOPARTICLES. **Valerio Voliani,** Stefano Luin, Fabio Beltram.

3943-PLAT 1:45 PM
BRANCHED, AMPHIPATHIC PEPTIDES THAT SELF ASSEMBLE INTO NANOVESICLES. **Sushanth Gudlur,** Yasuaki Hiromasa, Takeo Iwamoto, John M. Tomich.

3944-PLAT 2:00 PM
EVALUATION OF SELECTED KISSING-LOOPS AS BUILDING BLOCKS IN RNA NANO DESIGN. **Wojciech K. Kasprzak,** Eckart Bindewald, Tae-Jin Kim, Andrew Stephen, Robert Fisher, Bruce A. Shapiro.

3945-PLAT 2:15 PM
CHARACTERIZATION OF RNA NANO DESIGN STRUCTURES BY STEERED MOLECULAR DYNAMICS SIMULATIONS APPROACH. **Taejin Kim,** Victor E. Marquez, Bruce A. Shapiro.

3946-PLAT 2:30 PM
NANOPATTERNING AT THE SERVICE OF SINGLE MOLECULE ASSAYS. **Aline Cerf,** Christophe Vieu.

3947-PLAT 2:45 PM
POSSIBLE ORIGIN OF LIFE BETWEEN MICA SHEETS.
Helen G. Hansma.

1:00 PM–3:00 PM, Room 306

PLATFORM BH

Protein Structure

Co-Chairs

Timothy Fenn, Stanford University

Majid Minary-Jolandan, University of Illinois

3948-PLAT 1:00 PM
STRUCTURE OF THE YELLOW FEVER VIRUS MEMBRANE FUSION ENVELOPE E. **Eric Crampon**, Stéphane Duquerroy, Giovanna Barba-Spaeth, Félix A. Rey.

3949-PLAT 1:15 PM
CRYSTAL STRUCTURES OF *P. AERUGINOSA* REVEAL A DYNAMIC TYPE IV PILUS MOTOR PROTEIN. **Ana M. Mistic**, Kenneth A. Satyshur, Katrina T. Forest.

3950-PLAT 1:30 PM
STRUCTURAL, BIOCHEMICAL, AND FUNCTIONAL STUDIES ON THE REGULATION OF THE *S. CEREVISIAE* AMPK HOMOLOG SNF1. **Gabriele A. Amodeo**.

3951-PLAT 1:45 PM
INVESTIGATION OF PROTONATION EFFECTS ON ATP BINDING IN ABC TRANSPORTERS. **Jussi Aittoniemi**, Frances M. Ashcroft, Mark S. P. Sansom.

3952-PLAT 2:00 PM
NANO-MECHANICAL AND -ELECTROMECHANICAL HETEROGENEITY IN SINGLE COLLAGEN FIBRILS. **Majid Minary-Jolandan**, Min-Feng Yu.

3953-PLAT 2:15 PM
SAXS: STRUCTURE VERIFICATION OF AN S-LAYER PROTEIN USING A FRACTAL MEAN FORCE POTENTIAL. **Christine Horejs**, Dietmar Pum, Uwe B. Sleytr, Rupert Tscheliessnig.

3954-PLAT 2:30 PM
IS THEORY LEADING NEUTRON DIFFRACTION IN MACROMOLECULAR SOLVENT NETWORKS? **Timothy Fenn**, Michael Schnieders, Vijay Pande, Axel Brunger.

3955-PLAT 2:45 PM
IDENTIFICATION OF FUNCTIONAL SURFACES OF PROTEINS FROM SEQUENCES. **Jieling Zhao**, Sema Kachalo, Zheng Ouyang, Jie Liang.

1:00 PM–3:00 PM, ROOM 307

PLATFORM BI

Imaging & Optical Microscopy II

Co-Chairs

Malte Wachsmuth, European Molecular Biology Laboratory, Germany

Paul Wiseman, McGill University, Montreal, Canada

3956-PLAT 1:00 PM
SELF-ORGANIZATION OF THE ESCHERICHIA COLI CHEMOTAXIS NETWORK IMAGED WITH SUPER-RESOLUTION LIGHT MICROSCOPY. **Ann McEvoy**, Derek Greenfield, Hari Shroff, Gavin E. Crooks, Ned S. Wingreen, Eric Betzig, Jan Liphardt.

3957-PLAT 1:15 PM
K-SPACE IMAGE CORRELATION SPECTROSCOPY OF QUANTUM DOT LABELED T CELL RECEPTORS CHARACTERIZES THEIR NANOSCALE CLUSTERING IN LIVING CELLS. **Paul W. Wiseman**, David L. Kolin, Sarah Boyle, Joan G. Bieler, Jonathan P. Schneck, Michael Edidin.

3958-PLAT 1:30 PM
THE PAIR-CORRELATION APPROACH TO FCS. **Enrico Gratton**, Michelle A. Digman.

3959-PLAT 1:45 PM
SPATIALLY RESOLVED FLUORESCENCE FLUCTUATION SPECTROSCOPY (FFS) IN LIVING CELLS. **Jérémié Capoulade**, Michael Knop, Malte Wachsmuth.

3960-PLAT 2:00 PM
MULTIPLEXED MEASUREMENT OF MOLECULAR INTERACTIONS USING HYPER-SPECTRAL IMAGING AND MULTI-PARAMETRIC DETECTION. **Alessandro Esposito**, Simon Schlachter, Arjen N. Bader, Lucio Pancheri, David Stoppa, Ashok R. Venkitaraman, Clemens F. Kaminski, Hans C. Gerritsen.

3961-PLAT 2:15 PM
ANALYSIS OF CDC-42 MOBILITY AND DIMERIZATION IN VIVO BY HIGHER ORDER FLUORESCENCE CORRELATION CUMULANTS. **Jay R. Unruh**, Brian D. Slaughter, Boris Rubinstein, Rong Li, Winfried Wiegraebe.

3962-PLAT 2:30 PM
H33D GEN II: A NEW PHOTON COUNTING CAMERA FOR SINGLE-MOLECULE IMAGING AND SPECTROSCOPY. **Xavier Michalet**, Ryan Colyer, Oswald Siegmund, Anton Tremsin, John Vallerga, Shimon Weiss.

3963-PLAT 2:45 PM
LIGHT SHEET MICROSCOPY OPTIMIZED FOR DEPTH PENETRATION TO STUDY EMBRYOGENESIS. **Thai V. Truong**, Willy Supatto, David S. Koos, John M. Choi, Scott E. Fraser.

1:00 PM–3:00 PM, Room 308

PLATFORM BJ

Member-organized Session Kinetics, Mechanisms and Regulation of Ion-Transporting ATPases

Co-Chairs

Howard Kutchai, University of Virginia Health Sciences Center

James Mahaney, Virginia College Osteopathic Medicine

3964-PLAT 1:00 PM
CHARACTERIZATION OF PARTIAL REACTIONS IN THE CATALYTIC CYCLES OF CALCIUM AND COPPER ATPASES. **Giuseppe Inesi**, Yuta Hatori, David Lewis, Rajendra Pilankatta, Yueyong Liu.

3965-PLAT 1:15 PM
THE INVOLVEMENT OF PROTEIN-PROTEIN INTERACTIONS IN THE MECHANISM OF THE NA⁺,K⁺-ATPASE. **Ronald J. Clarke**.

3966-PLAT 1:30 PM
THE NA/K-ATPASE/SRC INTERACTION AND THE E1/E2 TRANSITION. **Qiqi Ye**, Zhichuan Li, Zijian Xie.

3967-PLAT 1:45 PM
OLIGOMER STRUCTURE DETECTED IN NA/K- AND H/K-ATPASE. **Kazuya Taniguchi**, Yoshikazu Tahara, Hitoshi Takenaka, Yutaro Hayashi.

3968-PLAT 2:00 PM
STRUCTURE-BASED DESIGN OF PHOSPHOLAMBAN MUTANTS FOR GENE THERAPY. **Simon J. Gruber**, Kim N. Ha, Elizabeth L. Lockamy, Razvan L. Cornea, Roger J. Hajjar, Gianluigi Veglia, David D. Thomas.

3969-PLAT 2:15 PM
NITROXYL AND “FORBIDDEN DISULFIDES”: PHOSPHOLAMBAN CYSTEINES ARE TARGETED TO ENHANCE SERCA2A ACTIVITY. **Nazareno Paolucci**, Carlo G. Tocchetti, James E. Mahaney, Gizem Keceli, Dong I. Lee, Jeff D. Ballin, Iain K. Farrance, Evangelia Kranias, Wei Dong Gao, Gerald M. Wilson, David A. Kass, John P. Toscano.

3970-PLAT 2:30 PM
PHOSPHOLAMBAN REGULATION OF SERCA2A KINETICS, AS MODULATED BY NITROXYL. **James E. Mahaney**, David D. Thomas, Gizem Keceli, John P. Toscano, Carlo Tocchetti, Nazareno Paolucci.

3971-PLAT 2:45 PM
LOST IN TRANSLATION: REGULATION OF NA PUMP SUBUNIT ABUNDANCE. **Jack H. Kaplan**, Rebecca J. Clifford.

1:00 PM–3:00 PM, Hall A
WEDNESDAY POSTER SESSIONS

Posters should be mounted at 4:30 PM on the day preceding presentation and removed by 3:00 PM on the day of the presentation. Posters will be on view until 5:00 PM the night before presentation. Abstract numbers shown refer to the program order of abstracts as they appear in the on-line Abstracts Issue. Board Numbers indicate where they are located in Hall D.

Authors Present

ODD-NUMBERED BOARDS

10:30 AM–11:30 AM

BOARD NUMBERS

Board #B1–Board #B14
Board #B15–Board #B44
Board #B45–Board #B69
Board #B70–Board #B98
Board #B99–Board #B115
Board #B116–Board #B128
Board #B109–Board #B132
Board #B133–Board #B144
Board #B145–Board #B162
Board #B163–Board #B186
Board #B187–Board #B214
Board #B215–Board #B240
Board #B241–Board #B271
Board #B272–Board #B305
Board #B306–Board #B324
Board #B325–Board #B350
Board #B351–Board #B371
Board #B372–Board #B399
Board #B400–Board #B425
Board #B426–Board #B449
Board #B450–Board #B452
Board #B453–Board #B473
Board #B474–Board #B490
Board #B491–Board #B518
Board #B519–Board #B547
Board #B548–Board #B576
Board #B577–Board #B591

EVEN-NUMBERED BOARDS

11:30 AM–12:30 PM

POSTER CATEGORIES

Protein Dynamics III
Protein Folding & Stability: Computational Approaches
Heme Proteins
Membrane Protein Structure II
Protein Aggregates III
Intrinsically Disordered Proteins II
Protein-Ligand Interactions II
Protein-Ligand Interactions III
Physical Chemistry of Protein & Nucleic Acids
Membrane Structure III
Interfacial Protein-Lipid Interactions II
Muscle: Fiber & Molecular Mechanics & Structure II
Cardiac Muscle II
Bacteria & Motile Cells: Mechanics, Motility & Signal Transduction
Biotechnology & Bioengineering II
Imaging & Optical Microscopy III
Molecular Motors & Force Spectroscopy
Micro & Nanotechnology: Nanopores
Bioinformatics & Structure Prediction
Voltage-gated K Channels-Gating III
Presynaptic Channels & Release Mechanisms
Biophysics of Ion Permeation
Cardiac Electrophysiology II
Ion Channels, Other
Membrane Receptors & Signal Transduction I
Membrane Receptors & Signal Transduction II
Membrane Transporters & Exchangers II

10:30 AM–12:30 PM, Hall D
POSTER PRESENTATIONS

(For a complete listing of Wednesday Poster Presentations, see page 151).

Protein Dynamics III (Boards #B1-#B14)

- 3277-Pos BOARD #B1**
GREEN FLUORESCENT PROTEINS AGGREGATION DYNAMICS EXPLORED WITH A MINIMALIST COARSE GRAINED MODEL. **Fabio Trovato**.
- 3278-Pos BOARD #B2**
ASYMMETRIC DYNAMICS OF THE ACYL-CARRIER PROTEIN INSIDE THE FUNGAL FATTY-ACID MEGA-SYNTHASE. **Claudio Anselmi**, José D. Faraldo-Gómez.
- 3279-Pos BOARD #B3**
INTERACTION OF CO/NO WITH THE APOPTOSIS-INDUCING CYTOCHROME C -CARDIOLIPIN COMPLEX. **Ivan Husu**, Sofia Kapetanaki, Gary Silkstone, Ursula Liebl, Michael T. Wilson, Marten Vos.
- 3280-Pos BOARD #B4**
METRIC SCALING FOR DIMENSIONALITY REDUCTION OF DISORDERED PROTEIN DYNAMICS. **Joshua L. Phillips**, Edmond Y. Lau, V. V. Krishnan, Michael Rexach, Shawn Newsam, Michael E. Colvin.
- 3281-Pos BOARD #B5**
DETECTION OF OXIDATION AND PALMITOYLATION IN SNARE PROTEINS. **April Adams**, Liz C. Flores, Dixon J. Woodbury.
- 3282-Pos BOARD #B6**
APPLICATION OF GAUSSIAN NETWORK MODEL TO ELUCIDATE FUNCTIONAL MODES OF MOTION IN A GLUTAMATE TRANSPORTER. **Indira Shrivastava**, Jie Jiang, Susan G. Amara, Ivet Bahar.
- 3283-Pos BOARD #B7**
SIMULATION OF MEMBRANE SCULPTING BY EFC F-BAR DOMAIN LATTICES. **Hang Yu**, Ying Yin, Anton Arkhipov, Klaus Schulten.
- 3284-Pos BOARD #B8**
A DYNAMICAL MODEL FOR HEAT SHOCK PROTEIN (HSP) TRANSCRIPTION AND ITS CORRELATION WITH HSP70 IN VITRO EXPERIMENTS. **Yusheng Feng**, Carolina Livi.
- 3285-Pos BOARD #B9**
TUNING PROTEIN DYNAMICS BY MODULATING SOLVENT MOTIONS THROUGH GLASSY MATRICES, SOL-GELS AND REVERSE MICELLES. **David Dantsker**, Camille Roche, Mahantesh Navati, Joel M. Friedman.
- 3286-Pos BOARD #B10**
STRUCTURAL AND DYNAMICAL BEHAVIOR OF THE HIV-1 NUCLEOCAPSID PROTEIN BY MOLECULAR DYNAMICS AND QUANTUM MECHANICAL SIMULATIONS. **Jooyeon Hong**, Sihyun Ham.
- 3287-Pos BOARD #B11**
BIO-MECHANICAL AND BINDING EFFECTS IN CLEAVAGE OF VON WILLEBRAND FACTOR A2 DOMAIN BY ADAMTS13: MOLECULAR DYNAMICS, QUANTUM MECHANICS AND FORCE DISTRIBUTION. **Agnieszka K. Bronowska**, Carsten Baldauf, Frauke Graeter.
- 3288-Pos BOARD #B12**
MAPPING THE PROTON CONDUCTION PATHWAYS IN THE INNER MEMBRANE MULTI-DRUG TRANSLOCASE ACRB. **Nadine Fischer**, Martin Raunest, Christian Kandt.
- 3289-Pos BOARD #B13**
APPLICATION OF AN INTER-PROTEIN COARSE-GRAINED FORCE FIELD TO BINDING PROCESS OF ACTOMYOSIN. **Kei-ichi Okazaki**, Mitsunori Takano.
- 3290-Pos BOARD #B14**
FLUCTUATION THEOREM APPLIED TO F1-ATPASE. **Kumiko Hayashi**, Hiroshi Ueno, Ryota Iino, Hiroyuki Noji.

Protein Folding & Stability: Computational Approaches (Boards #B15-#B44)

- 3291-Pos BOARD #B15**
COMPUTATIONAL SEARCH OF EVIDENCE FOR THE DIVISION OF AMINO ACIDS INTO TRANSITIONAL GROUPS IN A VIRTUAL STATE PROTEIN. PHASE I: EQUILIBRIUM FLUCTUATIONS. **Svetlana Aroutiounian**.
- 3292-Pos BOARD #B16**
MULTISCALE MODELING AND DESIGN OF MOLECULAR CONFORMATIONAL STATES. **Nikolay V. Dokholyan**.
- 3293-Pos BOARD #B17 STUDENT TRAVEL AWARDEE**
IDENTIFYING TWO-STATE TRANSITIONS BY MICROCANONICAL ANALYSIS: COARSE-GRAINED SIMULATIONS OF HELICAL PEPTIDES. **Tristan Beraud**, Michael Bachmann, Markus Deserno.
- 3294-Pos BOARD #B18**
TRYPTOPHAN FLUORESCENCE QUANTUM YIELD PREDICTIONS IN THE STUDY OF PROTEIN FOLDING. AC-TRP-ALA-ALA-ALA-HIS-NH₂ AND VILLIN HEADPIECE SUBDOMAIN. **Jose R. Tusell**, Patrik R. Callis.
- 3295-Pos BOARD #B19**
EXPLORING THE KINETICS AND FOLDING PATHWAYS OF TRP-CAGE USING A KINETIC NETWORK MODEL. **Weihua Zheng**, Emilio Gallicchio, Michael Andrec, Ronald M. Levy.
- 3296-Pos BOARD #B20**
INSIGHTS FROM MOLECULAR SIMULATIONS INTO THE TEMPERATURE-INDUCED COLLAPSE OF UNFOLDED PROTEINS. **Robert B. Best**.
- 3297-Pos BOARD #B21**
AN ALTERNATELY CHARGED RESIDUE CLUSTER AT THE N-TERMINAL END FORMS A RING SYSTEM AND DYNAMICALLY REGULATES CALSEQUESTRIN POLYMERIZATION. **Naresh C. Bal**, Ashoke Sharon, Subash C. Gupta, Nivedita Jena, Sandor Gyorke, Muthu Periasamy.
- 3298-Pos BOARD #B22**
MODELING AND SIMULATION OF RODLET ASSEMBLY OF HYDROPHOBIN EAS IN AN ALL-ATOM FREE-ENERGY FORCEFIELD. **Timo Strunk**, Wolfgang Wenzel.
- 3299-Pos BOARD #B23**
MODELING PROTEIN STABILITY. **Kingshuk Ghosh**, Lucas Sawle.
- 3300-Pos BOARD #B24**
A TOY MODEL FOR CALCULATING THE RATE AND POSITION OF AMYLOID FIBRIL DISSOCIATION. **Damien Hall**.
- 3301-Pos BOARD #B25**
COOPERATIVE FOLDING KINETICS OF BBL PROTEIN AND PERIPHERAL SUBUNIT-BINDING DOMAIN HOMOLOGUES. **Woosung Yu**, Kwanghoon Chung, Mookyoung Cheon, Muyeong Heo, Kyou-Hoon Han, Sihyun Ham, Iksoo Chang.
- 3302-Pos BOARD #B26**
FAST PREDICTION OF PROTEIN THERMODYNAMICS. **Hui Wang**, Chuanbin Du, Dennis R. Livesay, Donald J. Jacobs.
- 3303-Pos BOARD #B27 INTERNATIONAL TRAVEL AWARDEE**
NON-COVALENT INTERACTIONS INVOLVING AROMATIC RESIDUES IN PROTEIN STRUCTURES: STABILITY AND DYNAMICS IN MEMBRANE AND GLOBULAR PROTEINS USING MOLECULAR DYNAMICS SIMULATIONS. **Alok Jain**, Ramasubbu Sankaramakrishnan.
- 3304-Pos BOARD #B28**
SIMPLIFIED GLOBAL NONLINEAR FUNCTION FOR FITNESS LANDSCAPE OF PROTEIN DESIGN. **Yun Xu**, ChangYu Hu, Yang Dai, Jie Liang.
- 3305-Pos BOARD #B29**
INVESTIGATIONS INTO ALPHA-HELIX TO BETA-SHEET PHASE TRANSITIONS. **John S. Schreck**, Jian-Min Yuan.

