

Monday, February 22, 2010

Daily Program Summary

All rooms in the Moscone Center unless noted otherwise.

7:30 AM–8:30 AM	Graduate Student Breakfast	Room 301
7:30 AM–5:00 PM	Registration/Exhibitor Registration/Information	Moscone North
7:30 AM–10:00 PM	Family Room	Room 114
8:00 AM–5:30 PM	Career Center	Room 130-131
8:00 AM–6:00 PM	Child Care	Marriott, Pacific A-C
8:00 AM–10:00 PM	Poster Viewing	Hall D
8:15 AM–10:15 AM	Symposium 7 Protein and Cellular Mechanics <i>Viola Vogel</i> , ETH Zurich, Switzerland, Chair HOW MECHANICAL FORCES CAN SWITCH ON AND OFF PROTEIN AND CELL BINDING SITES. <i>Viola Vogel</i> NANOSCALE PROTEIN ARCHITECTURE OF FOCAL ADHESIONS. <i>Clare Waterman</i> FORCE PROBING THE MOLECULAR MECHANICS OF CELL ROUNDING. <i>Daniel J. Mueller</i> REGULATION OF MECHANICAL EQUILIBRIUM IN MULTICELLULAR ARRANGEMENTS. <i>Manuel Ther</i>	Room 134
8:15 AM–10:15 AM	Symposium 8 Structure and Dynamics of Membrane Transporters <i>Jue Chen</i> , Purdue University, Chair A DYNAMICAL VIEW OF MEMBRANE TRANSPORTER FUNCTION AT SUB-ANGSTROM RESOLUTION. <i>Emad Tajkhorshid</i> ION TRANSPORT BY THE SODIUM PUMP. <i>Hanne Poulsen</i> ALTERNATING ACCESS MECHANISM OF GLUTAMATE TRANSPORTERS. <i>Olga Boudker</i> ALTERNATING ACCESS OF THE MALTOSE TRANSPORTER. <i>Jue Chen</i>	Room 135
8:15 AM–10:15 AM	Platform R Channel Regulation & Modulation	Room 303
8:15 AM–10:15 AM	Platform S Imaging & Optical Microscopy I	Room 304
8:15 AM–10:15 AM	Platform T Muscle: Fiber & Molecular Mechanics & Structure II	Room 305
8:15 AM–10:15 AM	Platform U Membrane Active Peptides	Room 306
8:15 AM–10:15 AM	Platform V Membrane Dynamics & Bilayer Probes	Room 307
8:15 AM–10:15 AM	Platform W Protein-Nucleic Acid Interactions II	Room 308
10:00 AM–11:00 AM	Career Workshop: Your Job Search: Preparing for Success	Room 130-131
10:00 AM–5:00 PM	Exhibits	Hall D
10:15 AM–11:00 AM	Coffee Break	Hall D
10:30 AM–11:30 AM	New Member Welcome Coffee	Room 301
10:45 AM–12:45 PM	Symposium 9 Biophysics of the Failing Heart <i>John Solaro</i> , University of Illinois, Chair WHAT IS THE EFFECT OF A FAMILIAL HYPERTROPHIC CARDIOMYOPATHY MUTATION ON CARDIAC MYOSIN FUNCTION? <i>Susan Lowey</i> REDUCED RESPONSIVENESS TO β -ADRENERGIC AGONISTS IN MURINE CMYBP-C CARDIOMYOPATHY. <i>Richard L. Moss</i> THE GIANT ELASTIC PROTEIN TITIN ROLE IN MUSCLE FUNCTION AND DISEASE. <i>Henk Granzier</i> RESCUE OF FAMILIAL CARDIOMYOPATHIES BY MODIFICATIONS AT THE SARCOMERE LEVEL AND Ca^{2+} FLUXES. <i>Beata M. Wolska</i>	Room 134
10:45 AM–12:45 PM	Symposium 10 The Future of Biophysics Burroughs Wellcome Fund Symposium <i>Taekjip Ha</i> , University of Illinois, Urbana-Champaign, Chair SELF-ASSEMBLY AND MECHANICS OF THE CONTRACTILE ACTIN CYTOSKELETON. <i>Margaret Gardel</i> IMAGING BIOCHEMICAL SIGNALING IN SINGLE SYNAPSES. <i>Ryohei Yasuda</i> EAVESDROPPING ON THE CENTRAL DOGMA THROUGH SINGLE-MOLECULE, REAL-TIME DETECTION. <i>Jonas Korlach</i> X-RAY STRUCTURE OF BACTERIAL CYS-LOOP CHANNEL-RECEPTORS: STRUCTURAL BASIS OF ALLOSTERIC MECHANISM. <i>Pierre-Jean Corringer</i>	Room 135

MONDAY

(Continued from previous page.)

10:45 AM–12:45 PM	Minisymposium 2 Nanomedicine: Biophysical Approaches to Clinical Problems at the Nanoscale	Room 303
10:45 AM–12:45PM	Platform X Membrane Protein Functions	Room 304
10:45 AM–12:45 PM	Platform Y Protein Dynamics I	Room 305
10:45 AM–12:45 PM	Platform Z Mechanosensitive & TRP Channels	Room 306
10:45 AM–12:45 PM	Platform AA Unconventional Myosins	Room 307
10:45 AM–12:45 PM	Platform AB Membrane Physical Chemistry I	Room 308
11:00 AM–12:30 PM	Exhibitor Presentation: Nanonics Imaging	Room 123
11:00 AM–1:00 PM	Publications Committee Meeting	Room 122
11:30 AM–12:30 PM	Career Workshop: Creating a Competitive Resume	Room 130-131
1:00 PM–2:30 PM	Early Careers Committee Panel: Graduate Student to Postdoc: Negotiating the Transition	Room 133
1:00 PM–2:30 PM	Education Committee Panel: Biophysics 101: Visualizing One (or a few) Molecule(s) at a Time	Room 132
1:00 PM–2:30 PM	Exhibitor Presentation: Cellectricon	Room 123
1:30 PM–2:30 PM	Cell Press Workshop: Ensuring a Smooth Publication of Your Paper	Room 124
1:30 PM–3:30 PM	Grant Writing Workshop: How (Not) to Write Your NIH Grant Proposal	Room 303
1:45 PM–3:00 PM	Snack Break	Hall D
1:45 PM–3:45 PM	Poster Presentations	Hall D
4:00 PM–6:00 PM	Symposium 11 DNA Nanomachines in Vitro and Inside Living Cell <i>Hao Yan, Arizona State University, Chair</i> SELF-ASSEMBLY OF DNA INTO NANOSCALE THREE-DIMENSIONAL SHAPES. <i>William Shih</i> THE I-SWITCH: A DNA NANOMACHINE THAT MAPS SPATIOTEMPORAL PH CHANGES IN LIVING SYSTEMS. <i>Yamuna Krishnan</i> SINGLE MOLECULE CUT AND PASTE BY DNA-HYBRIDIZATION AND AFM-POSITIONING. <i>Hermann Gaub</i> DESIGNER DNA ARCHITECTURES FOR NANOBIO TECHNOLOGY. <i>Hao Yan</i>	Room 134
4:00 PM–6:00 PM	Symposium 12 Target Structure-guided Drug Design <i>Philip Cole, Johns Hopkins University, Chair</i> HISTONE ACETYLATION: INHIBITION, REGULATION, AND MIMICRY. <i>Philip Cole</i> CHEMICAL GENETIC APPROACHES FOR DISSECTING SIGNALING CASCADES. <i>Kavita Shah</i> PROTEIN STRUCTURE PREDICTION BY GOLBAL OPTIMIZATION AND ITS APPLICATIONS. <i>Jooyoung Lee</i> FINDING SMALL MOLECULE LIGANDS FOR PROTEIN-PROTEIN INTERACTIONS AND OTHER “UNDRUGGABLE” TARGETS. <i>Michelle Arkin</i>	Room 135
4:00 PM–6:00 PM	Platform AC Cardiac Electrophysiology	Room 303
4:00 PM–6:00 PM	Platform AD Fluorescence Spectroscopy	Room 304
4:00 PM–6:00 PM	Platform AE Muscle Regulation	Room 305
4:00 PM–6:00 PM	Platform AF Bacterial Motility	Room 306
4:00 PM–6:00 PM	Platform AG Membrane Protein Structure I	Room 307
4:00 PM–6:00 PM	Platform AH Membrane Receptors & Signal Transduction	Room 308
4:00 PM–5:00 PM	Membership Committee Meeting	Room 122
5:00 PM–6:30 PM	Exhibitor Presentation: Veeco Instruments	Room 123
6:00 PM–8:00 PM	Korean Biophysicist Meeting	Room 301
7:30 PM–9:30 PM	Child Care	Marriott, Pacific A-C
8:00 PM–9:30 PM	Awards Ceremony and National Lecture	Room 134-135
9:30 PM–12:00 AM	Annual Meeting Reception and Dance	Marriott, Yerba Buena Ballroom

Monday, February 22

7:30 AM–8:30 AM, Room 301 GRADUATE STUDENT BREAKFAST

Supported by the Burroughs Wellcome Fund.

The Early Careers Committee will host this breakfast with graduate student meeting attendees. This breakfast will serve as a valuable forum for meeting other students in the Biophysical Society and discussing current issues facing graduate students in biophysics.

7:30 AM–5:00 PM, Moscone North REGISTRATION/EXHIBITOR REGISTRATION/ INFORMATION

7:30 AM–10:00 PM, Room 114 FAMILY ROOM

8:00 AM–5:30 PM, Room 130-131 CAREER CENTER

8:00 AM–6:00 PM, Marriott, Pacific A-C CHILD CARE

8:00 AM–10:00 PM, Hall D POSTER VIEWING

8:15 AM–10:15 AM, Room 134 SYMPOSIUM 7 Protein and Cellular Mechanics

Chair
Viola Vogel, ETH Zurich, Switzerland

1097-SYMP 8:15 AM
HOW MECHANICAL FORCES CAN SWITCH ON AND OFF PROTEIN AND CELL BINDING SITES. **Viola Vogel.**

1098-SYMP 8:45 AM
NANOSCALE PROTEIN ARCHITECTURE OF FOCAL ADHESIONS. Pakorn Kanchanawong, Gleb Shtengle, Erika B. Ramko, Michael W. Davidson, Harald F. Hess, **Clare Waterman.**

1099-SYMP 9:15 AM
FORCE PROBING THE MOLECULAR MECHANICS OF CELL ROUNDING. **Daniel J. Mueller,** Martin P. Stewart, Jonne Helenius, Yusuke Toyoda, Subramaniam P. Ramanathan, Anthony A. Hyman.

1100-SYMP 9:45 AM
REGULATION OF MECHANICAL EQUILIBRIUM IN MULTICELLULAR ARRANGEMENTS. Qingzong Tseng, Alexandre Deshieres, Hervé Guillou, Odile Filhol-Cochet, **Manuel Thery.**

8:15 AM–10:15 AM, Room 135

SYMPOSIUM 8

Structure and Dynamics of Membrane Transporters

Chair
Jue Chen, Purdue University

1101-SYMP 8:15 AM
A DYNAMICAL VIEW OF MEMBRANE TRANSPORTER FUNCTION AT SUB-ANGSTROM RESOLUTION. **Emad Tajkhorshid.**

1102-SYMP 8:45 AM
ION TRANSPORT BY THE SODIUM PUMP. **Hanne Poulsen.**

1103-SYMP 9:15 AM
ALTERNATING ACCESS MECHANISM OF GLUTAMATE TRANSPORTERS. **Olga Boudker.**

1104-SYMP 9:45 AM
ALTERNATING ACCESS OF THE MALTOSE TRANSPORTER. **Jue Chen.**

8:15 AM–10:15 AM, Room 303

PLATFORM R

Channel Regulation & Modulation

Co-Chairs
Bernard Attali, Tel Aviv University, Israel
Johanna Nilsson, Nobel Institute for Neurophysiology

1105-PLAT 8:15 AM
PHOTOPHARMACOLOGY: CONTROLLING NATIVE VOLTAGE-GATED ION CHANNELS WITH LIGHT. **Alexandre Mouro,** Timm Fehrentz, Michael Kienzler, Ivan Tochitsky, Matthew R. Banghart, Dirk Trauner, Richard H. Kramer.

1106-PLAT 8:30 AM
RECEPTOR AND SUBUNIT SPECIFICITY IN AKAP79/150 ACTIONS ON M-TYPE(KCNQ) K⁺ CHANNELS. **Jie Zhang,** Oleg Zaika, Manjot Bal, Mark Shapiro.

1107-PLAT 8:45 AM
POTASSIUM CHANNEL MODULATION BY A TOXIN DOMAIN IN MATRIX METALLOPROTEASE 23. **Srikant Rangaraju,** Keith Khoo, Zhiping Feng, George Crossley, Daniel Nugent, Ilya Khaytin, Michael Pennington, Raymond Norton, K George Chandry.

1108-PLAT 9:00 AM
DIFFERENTIAL REDOX REGULATION OF ORAI CHANNELS: A MECHANISM TO TUNE T-CELL RESPONSES. **Ivan Bogeski,** Carsten Kummerow, Dalia Al-Ansary, Richard Koehler, Eva C. Schwarz, Daisuke Kozai, Nobuaki Takahashi, Christine Peinelt, Desiree Griesemer, Monika Bozem, Yasuo Mori, Markus Hoth, Barbara A. Niemeyer.

1109-PLAT 9:15 AM
COMPARATIVE ANALYSIS OF CHOLESTEROL SENSITIVITY OF KIR CHANNELS: ROLE OF THE CYTOPLASMIC DOMAIN. **Avia Rosenhouse-Dantsker,** Edgar Leal-Pinto, Diomedes E. Logothetis, Irena Levitan.

1110-PLAT 9:30 AM
MOLECULAR MAPPING OF AN I_{Ks} CHANNEL OPENER REVEALS CRUCIAL INTERACTIONS BETWEEN KCNE1 AND THE KV7.1 VOLTAGE SENSOR PADDLE. **Yoni Haitin,** Nataly Menaker, Simona Shats, Asher Peretz, Bernard Attali.

1111-PLAT 9:45 AM
KV CHANNEL MODULATION: CLOSED STATE BLOCK OF BENZOCAINE BUT NOT OF BUPIVACAINE. **Johanna Nilsson,** Michael Madeja, Kristoffer Sahlholm, Peter Arhem.

1112-PLAT 10:00 AM
INTRODUCING DRUG ACTION INTO SINGLE-CELL CARDIAC MODELS. **Louise Dyson,** Denis Noble, David Gavaghan, Anna Sher.

MONDAY

8:15 AM–10:15 AM, Room 304

PLATFORM S

Imaging & Optical Microscopy I

Co-Chairs

Jay Unruh, Stowers Institute for Medical Research
Rebecca Williams, Cornell University

1113-PLAT 8:15 AM
TELOMERES DIFFUSION STUDY IMPLIES ON A SELF-ORGANIZATION MECHANISM OF THE GENOME IN THE NUCLEUS. **Irena Bronshtein**, Yonatan Israel, Eldad Kepten, Sabine Mai, Yaron Shav-Tal, Eli Barkai, Yuval Garini.

1114-PLAT 8:30 AM
MAPPING NEURONAL CONNECTIVITY USING STOCHASTIC OPTICAL RECONSTRUCTION MICROSCOPY (STORM): THE BRAINSTORM PROJECT. **Melike Lakadamyali**, Mark Bates, Hazen Babcock, Jeff Lichtman, Xiaowei Zhuang.

1115-PLAT 8:45 AM
MONITORING THE [ATP]/[ADP] RATIO IN BETA-CELLS DURING GLUCOSE STIMULATED INSULIN SECRETION USING THE GENETICALLY ENCODED FLUORESCENT REPORTER PERCEVAL. **Gert-Jan Kremers**, Amicia D. Elliott, W. Steven Head, David W. Piston.

1116-PLAT 9:00 AM
MULTIPLE COMPONENTS MAPPING OF LIVE TISSUE BY PHASOR ANALYSIS OF FLUORESCENCE LIFETIME IMAGING. **Chiara Stringari**, Michelle Digman, Peter Donovan, Enrico Gratton.

1117-PLAT 9:15 AM
ULTRA-HIGH RESOLUTION IMAGING OF THE DYNAMIC NATURE OF POST-SYNAPTIC MOLECULES. **Deepak Nair**, Jean-Baptiste Sibarita, Daniel Choquet.

1118-PLAT 9:30 AM
OPTICAL RECORDING OF ELECTRICAL ACTIVITY OF CORTICAL LAYER 2/3 PYRAMIDAL NEURONS USING A GENETICALLY-ENCODED VOLTAGE PROBE. **Walther Akemann**, Hiroki Mutoh, Reiko Yoshida, Tomomi Shimogori, Thomas Knopfel.

1119-PLAT 9:45 AM
FUNCTIONAL AND STRUCTURAL CHARACTERIZATION OF A NEW MONOMERIC FAR-RED FLUORESCENT PROTEIN. **Michael Z. Lin**, Michael R. McKeown, Ho Leung Ng, Tom Alber, Roger Y. Tsien.

1120-PLAT 10:00 AM
ADAPTIVE PHASE MODULATION FOR MULTIPHOTON MICROSCOPY. **Rebecca M. Williams**, Warren R. Zipfel.

8:15 AM–10:15 AM, Room 305

PLATFORM T

Muscle: Fiber and Molecular Mechanics & Structure II

Co-Chairs

Jeffrey Moore, Boston University
Kenneth Taylor, Florida State University

1121-PLAT 8:15 AM
RELAY LOOP STABILIZES THE FORCE-GENERATING REGION IN MYOSIN. **Yuri E. Nesmelov**, Roman V. Agafonov, Igor V. Negrashov, Sarah Blakely, Margaret A. Titus, David D. Thomas.

1122-PLAT 8:30 AM
CONVERTER DOMAIN RESIDUE R759 INTERACTION WITH RELAY LOOP RESIDUE N509 IN DROSOPHILA MUSCLE MYOSIN IS CRITICAL FOR MOTOR FUNCTION, MYOFIBRIL STABILITY AND FLIGHT ABILITY. **Girish C. Melkani**, William A. Kronert, Anju Melkani, Sanford I. Bernstein.

1123-PLAT 8:45 AM
FAMILIAL HYPERTROPHIC CARDIOMYOPATHY MUTATIONS OF THE MYOSIN REGULATORY LIGHT CHAIN REMOVE MYOSIN LOAD SENSITIVITY. **Michael J. Greenberg**, Katarzyna Kazmierczak, Danuta Szczesna-Cordary, Jeffrey R. Moore.

1124-PLAT 9:00 AM
GRAVITATIONAL FORCE SPECTROSCOPY REVEALS SEPARATION OF MYOSIN HEADS AT THE S1/S2 HINGE. **James Dunn**, Kathy Wang, Irene Cai, Nakiuda Hall, Douglas D. Root.

1125-PLAT 9:15 AM
THREE-DIMENSIONAL STRUCTURE OF THE RELAXED STATE OF CALCIUM-REGULATED MYOSIN FILAMENTS. **John L. Woodhead**, Fa-Qing Zhao, Roger Craig.

1126-PLAT 9:30 AM
ELECTRON TOMOGRAPHY OF CRYOFIXED, ISOMETRICALLY CONTRACTING INSECT FLIGHT MUSCLE REVEALS NOVEL ACTIN-MYOSIN INTERACTIONS. **Shenping Wu**, Jun Liu, Mary C. Reedy, Hanspeter Winkler, Richard T. Tregear, Carmen Lucaveche, Clara Franzini-Armstrong, Hiroyuki Sasaki, Yale E. Goldman, Michael K. Reedy, Kenneth A. Taylor.

1127-PLAT 9:45 AM
MICROSCOPIC MEASUREMENT OF PERIODIC CROSS-BRIDGE FORMATION IN SKELETAL MYOFIBRIL. **Madoka Suzuki**, Shin'ichi Ishiwata.

1128-PLAT 10:00 AM
THE FIRST MILLISECOND OF THE MYOSIN WORKING STROKE UNDER CONSTANT LOAD. **Marco Capitanio**, Monica Canepari, Manuela Maffei, Diego Beneventi, Roberto Bottinelli, Francesco Pavone.

8:15 AM–10:15 AM, Room 306

PLATFORM U

Membrane Active Peptides

Co-Chairs

Frances Separovic, University of Melbourne, Australia
William Wimley, Tulane University

1129-PLAT 8:15 AM
EFFECT OF MOLECULAR ORGANIZATION IN MICELLES AND BILAYERS ON BINDING AND CONFORMATION OF BIOLOGICALLY ACTIVE PEPTIDES. **Shirley Schreier**.

1130-PLAT 8:30 AM
CHOLESTEROL EFFECT ON THE LIPID BILAYER PERTURBATION INDUCED BY PEPTIDES DERIVED FROM THE MEMBRANE-PROXIMAL EXTERNAL REGION OF HIV-1 GP41. **Beatriz Apellaniz**, Ana Garcia-Saez, Petra Schwillie, Jose L. Nieva.

1131-PLAT 8:45 AM
DEPENDENCE OF AMYLOID- β OLIGOMER ($A\beta$ O) INTERACTION WITH MEMBRANES ON PREPARATION METHOD. **Yuri Sokolov**, Maria Lioudyno, Philip R. Dennison, James E. Hall, Suhail Rasool, Saskia C. Milton, Charlie G. Glabe, Prabhanshu Shekhar, Matteo Broccio, Frank Heinrich, Mathias Lösche.

1132-PLAT 9:00 AM
AFM FORCE SPECTROSCOPY ON TAT MEMBRANE PENETRATION. **Elizabeth A. Hager-Barnard**, Benjamin D. Almquist, Nicholas A. Melosh.

1133-PLAT 9:15 AM
MEMBRANE FUSION IS INDUCED BY ANTIMICROBIAL AND CELL PENETRATING PEPTIDES, TO AN EXTENT THAT CORRELATES WITH THEIR CONFORMATIONAL CHANGE. **Parvesh Wadhvani**, Johannes Reichert, Jochen Buerck, Anne S. Ulrich.

1134-PLAT 9:30 AM
LIPID CLUSTERING BY THREE HOMOLOGOUS ARGININE-RICH ANTIMICROBIAL PEPTIDES IS INSENSITIVE TO AMINO ACID ARRANGEMENT. **Raquel F. Eband**, Richard M. Eband, Christopher J. Arnusch, Brigitte Papahadjopoulos-Sternberg, Guangshun Wang, Yechiel Shai.

1135-PLAT 9:45 AM
N-ACYLATION OF ANTIMICROBIAL PEPTIDES CAUSES DIFFERENT MODE OF CELL MEMBRANE DAMAGE. **Karl Lohner**, Guenter Deutsch, Eva Sevcik, Dagmar Zweytick, Jörg Andrä, Yechiel Shai, Sylvie E. Blondelle.

1136-PLAT 10:00 AM
PROTEGRIN-1 ORIENTATION IN MEMBRANE BILAYERS: INSIGHTS FROM POTENTIAL OF MEAN FORCE CALCULATIONS AS A FUNCTION OF ITS TILT AND ROTATION ANGLES. **Huan Rui**, Wonpil Im.

8:15 AM–10:15 AM, Room 307
PLATFORM W

Membrane Dynamics & Bilayer Probes

Co-Chairs

Felix Goni, Unidad de Biofisica, Spain
Megan Spence, University of Pittsburgh

1137-PLAT 8:15 AM
CURVATURE SORTING OF LIPIDS AND PROTEINS IN THE STRONG SEGREGATION LIMIT: CURVATURE MEDIATED DOMAIN NUCLEATION AND STEADY STATE TRANSPORT IN TUBULAR MEMBRANES WITH PHASE SEPARATION. **Michael C. Heinrich**, Aiwei Tian, Tom C. Lubensky, Tobias Baumgart.

1138-PLAT 8:30 AM
DYNAMICS OF BICELLE MODEL MEMBRANE PROMOTE DOMAIN FORMATION. **Hyo Soon Cho**, Megan Spence.

1139-PLAT 8:45 AM
DYNAMICS OF 3D AXISYMMETRIC MULTICOMPONENT VESICLES IN A VISCOUS FLUID. **Jin Sun Sohn**, Shuwang Li, Xiaofan Li, John S. Lowengrub.

1140-PLAT 9:00 AM
LIPID PHASE SPECIFIC ORGANISATION OF THE TRANSMEMBRANE ANCHOR OF INFLUENZA HEMAGGLUTININ. **Joerg Nikolaus**, Andreas Herrmann.

1141-PLAT 9:15 AM
NANOMETRIC PHASE TRANSITIONS ON PHOSPHOLIPID MEMBRANES USING PLASMONIC HEATING OF SINGLE GOLD NANOPARTICLES. **Alexander S. Urban**, Michael Fedoruk, Stefan Wimmer, Fernando D. Stefani, Jochen Feldmann.

1142-PLAT 9:30 AM
DYNAMIC AND STATIC MEASUREMENTS OF A SINGLE AND DOUBLE PHOSPHOLIPID BILAYER SYSTEM. **Justin D. Berry**, Curt M. DeCaro, Daniel A. Bricarello, Yicong Ma, Mrinmay Mukhopadhyay, Gang Chen, Zhang Jiang, Alec Sandy, Suresh Narayanan, Atul N. Parikh, Sunil K. Sinha, Laurence B. Lurio.

1143-PLAT 9:45 AM
COEXISTENCE OF IMMISCIBLE MIXTURES OF PALMITOYLSPHINGOMYELIN AND PALMITOYLCERAMIDE IN MONOLAYERS AND BILAYERS. **Jon V. Busto**, Maria Laura Fanani, Luisina De Tullio, Jesus Sot, Bruno Maggio, Felix M Goni, Alicia Alonso.

1144-PLAT 10:00 AM
DIFFUSION OF NANO-METER-SIZED DOMAINS ON A VESICLE. **Yuka Sakuma**, Masayuki Imai, Naohito Urakami, Michihiro Nagao, Shigeyuki Komura, Toshihiro Kawakatsu.

8:15 AM–10:15 AM, Room 308

PLATFORM W

Protein-Nucleic Acid Interactions II

Co-Chairs

Mario Diaz de la Rosa, Stanford University
Markita Landry, University of Illinois at Urbana Champagne

1145-PLAT 8:15 AM MINORITY BIOPHYSICISTS TRAVEL AWARDEE

SINGLE MOLECULE STUDIES OF THE RECOGNITION SEQUENCE FINDING MECHANISM OF PROTELOMERASE TELK. **Markita P. Landry**, Wai Mun Huang, Toshio Yanagida, Yann Robert Chemla.

1146-PLAT 8:30 AM
BACTERIOPHAGE PHI29 TRANSLOCATES DNA ALONG A LEFT-HANDED HELICAL PATH DURING PACKAGING.

Craig L. Hetherington, Aathavan Karunakaran, Paul Jardine, Shelley Grimes, Dwight Anderson, Carlos Bustamante.

1147-PLAT 8:45 AM
REELING IN DNA ONE BASE AT A TIME: PCRA TRANSLOCATION COUPLED TO DNA LOOPING DISMANTLES RECA FILAMENTS.

Jeehae Park, Sua Myong, Anita Niedziela-Majka, Jin Yu, Timothy M. Lohman, Taekjip Ha.

1148-PLAT 9:00 AM
PROTEIN-MEDIATED DNA LOOPS ARE RESISTANT TO COMPETITIVE BINDING. **Joel D. Revalee**, Jens-Christian Meiners.

1149-PLAT 9:15 AM
SINGLE MOLECULE ANALYSIS OF SUBSTEPS IN THE MECHANOCHEMICAL CYCLE OF DNA GYRASE. **Aakash Basu**, Lena Koslover, Allyn Schoeffler, Elsa Tretter, James M. Berger, Andrew J. Spakowitz, Zev D. Bryant.

1150-PLAT 9:30 AM
TWO STRUCTURALLY DIFFERENT FAMILIES OF DNA BASE EXCISION REPAIR (BER) PROTEINS DIFFUSE ALONG DNA TO FIND INTRAHELICAL LESIONS. **Andrew R. Dunn**, Jeffrey P. Bond, David M. Warshaw, Susan S. Wallace, Neil M. Kad.

1151-PLAT 9:45 AM
TARGET-SITE SEARCH OF DNA-BINDING PROTEINS. **Mario A. Diaz de la Rosa**, Elena F. Koslover, Peter J. Mulligan, Andrew J. Spakowitz.

1152-PLAT 10:00 AM
ILLUMINATING THE DNA BINDING BEHAVIOR OF MITOCHONDRIAL TRANSCRIPTION FACTOR A. **Géraldine Farge**, Onno D. Broekmans, Niels Laurens, Linda Dekker, Maria Falkenberg, Erwin J. G. Peterman, Gijs J. L. Wuite.

10:00 AM–11:00 AM, Room 130-131

CAREER WORKSHOP

Your Job Search: Preparing for Success

An effective job search is not just a simple process of sending out hundreds of resumes or CVs and then waiting for the interview invitations and job offers to pour in. A proper search is comprised of several small steps, each of which has its own set of challenges. This seminar will give participants a "roadmap" of the overall job search process by explaining and discussing the importance of each step along the way to career success.

10:00 AM–5:00 PM, Hall D
EXHIBITS

10:15 AM–11:00 AM, Hall D
COFFEE BREAK

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Y**

10:30 AM–11:30 AM, Room 301
NEW MEMBER WELCOME COFFEE

All new Biophysical Society members are invited to participate in an informal gathering to meet members of the Society's council, executive board, and committees, find out about the Society's activities, get acquainted with other new members, and enjoy refreshments. Current members are encouraged to come meet the new members.

10:45 AM–12:45 PM, Room 134
SYMPOSIUM 9
Biophysics of the Failing Heart

Chair
John Solaro, University of Illinois

1153-SYMP 10:45 AM
WHAT IS THE EFFECT OF A FAMILIAL HYPERTROPHIC CARDIOMYOPATHY MUTATION ON CARDIAC MYOSIN FUNCTION? **Susan Lowey.**

1154-SYMP 11:15 AM
REDUCED RESPONSIVENESS TO β -ADRENERGIC AGONISTS IN MURINE CMYBP-C CARDIOMYOPATHY. **Richard L. Moss,** Carl Tong.

1155-SYMP 11:45 AM
THE GIANT ELASTIC PROTEIN TITIN ROLE IN MUSCLE FUNCTION AND DISEASE. **Henk Granzier.**

1156-SYMP 12:15 AM
RESCUE OF FAMILIAL CARDIOMYOPATHIES BY MODIFICATIONS AT THE SARCOMERE LEVEL AND Ca^{2+} FLUXES. **Beata M. Wolska.**

10:45 AM–12:45 PM Room 134
SYMPOSIUM 10
The Future of Biophysics
Burroughs Wellcome Fund Symposium

Supported by the *Burroughs Wellcome Fund*

Chair
Taekjip Ha, University of Illinois, Urbana-Champaign

10:45 AM
SELF-ASSEMBLY AND MECHANICS OF THE CONTRACTILE ACTIN CYTOSKELETON. **Margaret Gardel.**

11:15 AM
IMAGING BIOCHEMICAL SIGNALING IN SINGLE SYNAPSES. **Ryohei Yasuda.**

11:45 AM
EAVESDROPPING ON THE CENTRAL DOGMA THROUGH SINGLE-MOLECULE, REAL-TIME DETECTION. **Jonas Korlach.**

12:15 PM
X-RAY STRUCTURE OF BACTERIAL CYS-LOOP CHANNEL-RECEPTORS: STRUCTURAL BASIS OF ALLOSTERIC MECHANISM. **Pierre-Jean Corringer.**

10:45 AM–12:45 PM, Room 303
MINISYMPOSIUM 2

Nanomedicine: Biophysical Approaches to Clinical Problems at the Nanoscale

Co-Chairs
Wah Chiu, Baylor College of Medicine
Ehud Isacoff, University of California, Berkeley

1157-MINISYMP 10:45 AM
4.0 Å CRYO-EM STRUCTURE OF THE MAMMALIAN CHAPERONIN: TRIC/CCT. **Yao Cong,** Matthew Baker, Joanita Jakana, David Woolford, Stefanie Reissmann, Steven J. Ludtke, Judith Frydman, Wah Chiu.

1158-MINISYMP 11:05 AM
COUNTING HYDROLYZED ATP ON SINGLE TRIC NANOMACHINES IN SOLUTION. **Yan Jiang,** Nick Douglas, Nick Conley, Judith Frydman, W. E. Moerner.

1159-MINISYMP 11:25 AM
RECONSTITUTING EPHA2-EPHRIN SIGNALING WITH SUPPORTED MEMBRANES. **Jay T. Groves,** Rebecca Petit.

1160-MINISYMP 11:45 AM
ENGINEERING VESICLE MEMBRANES FOR CELLULAR RECONSTITUTIONS. **David L. Richmond,** Eva M. Schmid, Sascha Martens, Jeanne C. Stachowiak, Nicole Liska, Daniel A. Fletcher.

1161-MINISYMP 12:05 PM
A LIGHT-GATED, POTASSIUM-SELECTIVE GLUTAMATE RECEPTOR FOR THE OPTICAL INHIBITION OF NEURONAL FIRING. **Harald Janovjak,** Dirk Trauner, Ehud Y. Isacoff.

1162-MINISYMP 12:25 PM
COMPUTATIONAL NANOMEDICINE: SIMULATING PROTEIN MISFOLDING DISEASE. **Vijay Pande.**

10:45 AM–12:45 PM, Room 304
PLATFORM X
Membrane Protein Functions

Co-Chairs
Stephen White, University of California at Irvine
James Gumbart, University of Illinois, Urbana-Champaign

1163-PLAT 10:45 AM
USING GIANT UNI-LAMELLAR VESICLES TO STUDY ION CHANNEL ACTIVITY AND INTERACTIONS. **Sophie Aimon,** Gilman E. S. Toombes, Patricia Bassereau.

1164-PLAT 11:00 AM
LIPID MEMBRANE COMPOSITION HAS A DRAMATIC EFFECT ON THE DYNAMICS OF THE GLPG RHOMBOID PROTEASE FROM ESCHERICHIA COLI. **Ana Nicoleta Bondar,** Stephen H. White.

1165-PLAT 11:15 AM
ENERGETICS OF GLYCOPHORIN A DIMERIZATION IN MAMMALIAN PLASMA MEMBRANES. **Lirong Chen,** Lawrence J. Novicky, Mikhail Merzlyakov, Kalina Hristova.

1166-PLAT 11:30 AM
MONITORING PROTON FLUX QUANTITATIVELY; INFLUENZA PROTON CHANNEL A/M2. **Thom Leiding,** Alexei Polishchuk, William DeGrado, Cecilia Hägerhäll, Sergei Vinogradov, Sindra Peterson Årsköld.

1167-PLAT 11:45 AM
THE ROLE OF THE PROTEIN-CONDUCTING CHANNEL IN THE MEMBRANE INSERTION OF TRANSMEMBRANE SEGMENTS. **James C. Gumbart,** Christophe Chipot, Klaus Schulten.

1168-PLAT 12:00 PM **MINORITY BIOPHYSICISTS TRAVEL AWARDEE**
NATURE AS A SCAFFOLD: THE RATIONAL REDESIGN OF A PROTEIN PORE. **Khalil R. Howard,** Mohammad M. Mohammad, Liviu Movileanu.

1169-PLAT 12:15 PM
MODULATION OF THE LATERAL MOBILITY OF TRANSMEMBRANE PEPTIDES WITH HYDROPHOBIC MISMATCH. **Yann Gambin**, Myriam Reffay, Emma Sierecki, François Homblé, Marc Genest, Robert S. Hodges, Nir Gov, Nicolas Taulier, Wladimir Urbach.

1170-PLAT 12:30 PM
THE GATING MECHANISM OF YEAST AQUAPORIN STUDIED BY MOLECULAR DYNAMICS SIMULATIONS. **Gerhard Fischer**, Urszula Kosinska-Eriksson, Camilo Aponte-Santamaria, Madelene Palmgren, Cecilia Geijer, Kristina Hedfalk, Stefan Hohmann, Bert L. de Groot, Richard Neutze, Karin Lindkvist-Pettersson.

10:45 AM–12:45 PM, Room 305

PLATFORM Y

Protein Dynamics I

Co-Chairs

Ruth Prassl, Institute of Biophysics and Nanosystems Research, Austria
Richard Ludescher, Rutgers University

1171-PLAT 10:45 AM
PROTEIN SIMILARITY DERIVED SOLELY FROM MOLECULAR DYNAMICS. **Philip C. Biggin**, Rune Lyngsø, Jotun Hein, Márton Münz.

1172-PLAT 11:00 AM
STRUCTURE FLUCTUATIONS IN PROTEINS AND THEIR RELATIONSHIP TO AMINO ACID PROPENSITIES. **Anatoly M. Ruvinsky**, Ilya A. Vakser.

1173-PLAT 11:15 AM
DIRECT OBSERVATION OF LIGAND DYNAMICS IN CYTOCHROME C USING TIME-RESOLVED FTIR SPECTROSCOPY. **Joerg Zimmermann**, Megan C. Thielges, Floyd E. Romesberg.

1174-PLAT 11:30 AM
PHOSPHORESCENCE FROM SINGLE TRYPTOPHAN IN AMORPHOUS SOLID HUMAN SERUM ALBUMIN EXHIBITS SOLVENT-PROTEIN DYNAMICS SLAVING. **Andrew Draganski**, Richard D. Ludescher.

1175-PLAT 11:45 AM
STRUCTURAL DYNAMICS OF LIGHT-DRIVEN PROTON PUMPS. **Magnus Andersson**, Erik Malmerberg, Sebastian Westenhoff, Gergely Katona, Marco Cammarata, Annemarie B. Wohri, Linda C. Johansson, Friederike Ewald, Mattias Eklund, Michael Wulff, Jan Davidsson, Richard Neutze.

1176-PLAT 12:00 PM
MECHANOEZYMATICS AND PROTECTIVE MECHANISMS OF TITINS' CATALYTIC AND IG DOMAINS. **Ulf Hensen**, Lars Schaefer, Frauke Graeter, Joao M. Nunes, Daniel J. Mueller, Helmut Grubmueller.

1177-PLAT 12:15 PM
DYNAMICS OF APOB100-CONTAINING LIPOPROTEINS DETERMINED BY INCOHERENT ELASTIC NEUTRON SCATTERING. **Christian Milk**, Judith Peters, Markus Trapp, Giuseppe Zaccai, Ruth Prassl.

1178-PLAT 12:30 PM
VALINE-INDUCED PACKING DEFICIENCIES OF TRANSMEMBRANE DOMAINS PROMOTE HELIX FLEXIBILITY AND MEMBRANE FUSION. **Christina Scharnagl**, Stefan Quint, Simon Widmaier, Dieter Langosch.

10:45 AM–12:45 PM, Room 306

PLATFORM Z

Mechanosensitive & TRP Channels

Co-Chairs

Sharona Gordon, University of Washington
Sergei Sukharev, University of Maryland

1179-PLAT 10:45 AM
OUTER PORE DOMAIN OF TRPV1 ION CHANNEL IS REQUIRED FOR TEMPERATURE-INDEPENDENT STEP DURING TEMPERATURE-ACTIVATION. **Jorg Grandl**, Sung Eun Kim, Valerie Uzzell, Badry Bursulaya, Matt Petrus, Michael Bandell, Ardem Patapoutian.

1180-PLAT 11:00 AM
TEMPERATURE-DRIVEN ACTIVATION OF THERMOTRPS: A DISTINCT PATHWAY INVOLVED. **Fan Yang**, Yuanyuan Cui, Kewei Wang, Jie Zheng.

1181-PLAT 11:15 AM
ROLE OF PIP2 ON CA²⁺-DEPENDENT DESENSITIZATION OF TRPV2. **Jose Mercado**, William N. Zagotta, Sharona E. Gordon.

1182-PLAT 11:30 AM
TRPM8 CATION CHANNEL. EFFECTS OF VOLTAGE, COLD AND MENTHOL ON SINGLE-CHANNEL GATING. **Jose A. Fernandez**, C. Norman Scholfield, J. Graham McGeown, Alexander V. Zholos.

1183-PLAT 11:45 AM
PHOSPHOINOSITIDE REGULATION OF TRPM8 CHANNELS IN PLANAR LIPID BILAYERS. **Eleonora Zakharian**, Tibor Rohacs.

1184-PLAT 12:00 PM
ACTIVATION OF TRPML CHANNELS IN THE LYSOSOME. **Haoxing Xu**, Xian-ping Dong, Dongbiao Shen, Xiang Wang.

1185-PLAT 12:15 PM
STRUCTURAL MODELS OF TWO-PORE-DOMAIN POTASSIUM CHANNELS. FOCUS ON TREK. **Adina L. Milac**, Andriy Anishkin, Sarosh N. Fatakia, Carson C. Chow, Sergei Sukharev, Robert H. Guy.

1186-PLAT 12:30 PM
ELECTROSTATIC INTERACTIONS BETWEEN THE TRANSMEMBRANE AND CYTOPLASMIC DOMAINS CRITICALLY STABILIZE TENSION-SENSITIVE STATES IN MSCS. **Kenjiro Yoshimura**, Kishore Kamaraju, Vladislav Belyy, Naili Liu, Andriy Anishkin, Sergei Sukharev.

10:45 AM–12:45 PM, Room 307

PLATFORM AA

Unconventional Myosins

Co-Chair

Jessica Armstrong, University of Vermont
Alexander Dunn, Stanford University

1187-PLAT 10:45 AM
NEWS FROM THE MYOSIN TREE: 1000 NEW SEQUENCES, 100 NEW SPECIES, 1 NEW CLASS. **Martin Kollmar**.

1188-PLAT 11:00 AM
PROGRESSIVE NON-MUSCLE MYOSIN IIB TAKES LOAD-INDEPENDENT BACKWARD STEPS. **Melanie Norstrom**, Ronald S. Rock.

1189-PLAT 11:15 AM
CALCIUM REGULATION OF MYO1B TENSION SENSING. **John H. Lewis**, Joe Laakso, Tianming Lin, Henry Shuman, E. Michael Ostap.

1190-PLAT 11:30 AM
MYOSIN 5A WALKING MECHANISM: THE STRUCTURAL BASIS OF SLOW ADP DISSOCIATION FROM THE LEAD HEAD. **Olusola Oke**, Takeshi Sakamoto, Eva Forgacs, Peter Knight, Burgess Stan, James Sellers, Howard D. White, John Trinick.

MONDAY

1191-PLAT 11:45 AM
PROGRESSIVE RUNS OF FULL LENGTH MYOSIN VA ARE INTERRUPTED BY PAUSES AND DWELLS. **Jessica M. Armstrong**, Elena Krementsova, Shane R. Nelson, Kathleen M. Trybus, David M. Warshaw.

1192-PLAT 12:00 PM
SIMULTANEOUS OBSERVATION OF TAIL AND HEAD MOVEMENTS OF MYOSIN V DURING PROGRESSIVE MOTION PROVIDES INSIGHT INTO ITS STEPPING DYNAMICS. **Hailong Lu**, Guy G. Kennedy, David M. Warshaw, Kathleen M. Trybus.

1193-PLAT 12:15 PM
CONTRIBUTION OF THE MYOSIN VI TAIL DOMAIN TO PROGRESSIVE STEPPING AND INTRAMOLECULAR TENSION SENSING. **Alexander R. Dunn**, Peiyong Chuan, Zev Bryant, James A. Spudich.

1194-PLAT 12:30 PM
ENGINEERING A CONTROLLABLE BIDIRECTIONAL MOLECULAR MOTOR. **Lu Chen**, Muneaki Nakamura, Tony Schindler, Zev D. Bryant.

10:45 AM–12:45 PM, Room 308

PLATFORM AB

Membrane Physical Chemistry I

Co-Chairs

Adam Simonsen, MEMPHYS, University of Southern Denmark, Denmark
Shan Zou, National Research Council Canada

1195-PLAT 10:45 AM
QUANTIFICATION OF THE NANOMECHANICAL STABILITY OF MULTICOMPONENT LIPID BILAYERS. **Shan Zou**.

1196-PLAT 11:00 AM
SIMULATIONS OF LIPID BILAYER DOMAIN FORMATION: EFFECTS OF STEROID STRUCTURE AND ASYMMETRY. **Jason D. Perlmutter**, Jonathan N. Sachs.

1197-PLAT 11:15 AM
PROBING STRUCTURE AND DYNAMICS OF LIPID MICRODOMAINS WITH TAGGED PROTEINS AND LIPIDS: A HYBRID PARTICLE-CONTINUUM SIMULATION APPROACH. **Jun Fan**, Maria Sammalkorpi, Mikko P. Haataja.

1198-PLAT 11:30 AM **INTERNATIONAL TRAVEL AWARDEE**
CHOLESTEROL-RICH FLUID MEMBRANES SOLUBILIZE CERAMIDE GEL DOMAINS. IMPLICATIONS FOR THE ORGANIZATION OF MAMMALIAN MEMBRANES. **Bruno M. Castro**, Liana C. Silva, Rodrigo FM de Almeida, Manuel Prieto.

1199-PLAT 11:45 AM
TEXTURE OF MEMBRANE GEL DOMAINS. **Uffe Bernchou**, Jonathan Brewer, Henrik Midtby, John H. Ipsen, Luis A. Bagatolli, Adam C. Simonsen.

1200-PLAT 12:00 PM
UNDERSTANDING THE BEHAVIOR OF NANOMETER-SIZE LIPID DOMAINS IN MODEL MEMBRANES: A SMALL ANGLE NEUTRON SCATTERING STUDY. **Sumit Garg**, Lionel Porcar, Paul Butler, Ursula Perez-Salas.

1201-PLAT 12:15 PM
DIRECT IMAGING OF THE STRUCTURE OF LIPID RAFTS BY ATOMIC FORCE MICROSCOPY. **Khizar H. Sheikh**.

1202-PLAT 12:30 PM
HIGH PRESSURE STATIC AND TIME-RESOLVED X-RAY STUDIES OF INVERSE PHASES IN CHOLESTEROL / LIPID MIXTURES. **Arwen I. I. Tyler**, Gemma C. Shearman, Nicholas J. Brooks, Richard H. Templer, Oscar Ces, Robert V. Law, John M. Seddon.

11:00 AM–12:30 PM, Room 123
EXHIBITOR PRESENTATION
Nanonics Imaging

11:00 AM–1:00 PM, Room 122
PUBLICATIONS COMMITTEE MEETING

11:30 AM–12:30 PM, Room 130-131
CAREER WORKSHOP
Creating a Competitive Resume

The importance of creating a powerful résumé or CV cannot be overstated. Whether or not you make the “first cut” and go on to interview depends heavily on the interpretation and analysis of your “paper” by the decision makers. The real you has to show through strongly enough to be noticed in this very competitive job market. This session will explore both the art and science of crafting an accurate, honest, and powerful document that showcases your knowledge, skills, and abilities.

1:00 PM–2:30 PM, Room 133
EARLY CAREERS COMMITTEE PANEL
Graduate Student to Postdoc:
Negotiating the Transition

After great success last year, the Early Careers Committee brings back this panel, in which current postdocs will compare their experiences of choosing a postdoctoral position, and take questions from the audience about the process of moving from graduate student to postdoc.

Speakers to be announced

1:00 PM–2:30 PM, Room 132
EDUCATION COMMITTEE PANEL
Biophysics 101: Visualizing One (or a few)
Molecule(s) at a Time

This is the inaugural session in a new series of symposia initiated by the Education Committee of the Biophysical Society to educate the Society membership about fundamentals of various biophysical techniques with which they may not be familiar. The “Biophysics 101” series is envisioned to be not only for novice students but also for specialists in non-related areas, and will be an annual event with topics changing each year.

Speakers:
Paul Selvin, University of Illinois, Urbana-Champaign
Lori S. Goldner, University of Massachusetts

1:00 PM–2:30 PM, Room 123
EXHIBITOR PRESENTATION
Collectricon

1:30 PM–2:30 PM, Room 124
CELL PRESS WORKSHOP
Ensuring a Smooth Publication of Your Paper

Ever wonder what actually happens with your paper after acceptance, and how you can make this process go more smoothly? With an overview of a manuscript’s journey from acceptance to final publication in print and online, this seminar will offer tips for the preparation of files, including the text, figures, and supporting material; a review of important journal policies; guidelines to the proof stage; and

a discussion of the common—and avoidable—problems that can complicate the publication process. Although this will be particularly helpful for newer authors, those with many papers under their belts are welcome, too. Light refreshments will be served.

Speaker:

Gabriel Peter-Harp, Production Manager, Biophysical Journal

1:30 PM–3:30 PM, Room 303

GRANT WRITING WORKSHOP

How (Not) to Write Your NIH Grant Proposal

Through mock study sections, veteran NIH officials will demonstrate what review panels look for when they read and rank proposals. They will also explain how to communicate with funding agencies prior to submitting a proposal. This session is sponsored by the Early Careers and Public Affairs Committees.

Speakers:

Ravi Basavappa, NIGMS, NIH
Jean Chin, NIGMS, NIH
Charles Edmonds, NIGMS, NIH
Catherine Lewis, NIGMS, NIH
Geoffrey Schofield, CSR, NIGMS

1:45 PM–3:00 PM, Hall D

SNACK BREAK

1:45 PM–3:45 PM, Hall D

POSTER PRESENTATIONS

(For a complete listing of Monday Poster Presentations, see page XX.) 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–3:30 PM, Room 304

CPOW PANEL

If I Knew Then What I Know Now

This session, sponsored by CPOW, will present a panel of recently tenured faculty who will discuss their paths to success and issues they had to encounter.

Speakers:

Dorothy Beckett, University of Maryland, College Park
Jack Kaplan, University of Illinois, Chicago
Merritt Maduke, Stanford University
Dan Minor, University of California, San Francisco

4:00 PM–6:00 PM, Room 134

SYMPOSIUM 11

DNA Nanomachines in Vitro and Inside Living Cells

Chair

Hao Yan, Arizona State University

2114-SYMP 4:00 PM
SELF-ASSEMBLY OF DNA INTO NANOSCALE THREE-DIMENSIONAL SHAPES. **William Shih.**

2115-SYMP 4:30 PM
THE I-SWITCH: A DNA NANOMACHINE THAT MAPS SPATIOTEMPORAL PH CHANGES IN LIVING SYSTEMS. **Yamuna Krishnan.**

2116-SYMP 5:00 PM
SINGLE MOLECULE CUT AND PASTE BY DNA-HYBRIDIZATION AND AFM-POSITIONING. **Hermann Gaub.**

2117-SYMP 5:30 PM
DESIGNER DNA ARCHITECTURES FOR NANOBIOLOGY. **Hao Yan.**

4:00 PM–6:00 PM, Room 135

SYMPOSIUM 12

Target Structure-Guided Drug Design

Chair

Philip Cole, Johns Hopkins University

2118-SYMP 4:00 PM
HISTONE ACETYLATION: INHIBITION, REGULATION, AND MIMICRY. **Philip Cole.**

2119-SYMP 4:30 PM
CHEMICAL GENETIC APPROACHES FOR DISSECTING SIGNALING CASCADES. **Kavita Shah.**

2120-SYMP 5:00 PM
PROTEIN STRUCTURE PREDICTION BY GLOBAL OPTIMIZATION AND ITS APPLICATIONS. **Jooyoung Lee.**

2121-SYMP 5:30 PM
FINDING SMALL MOLECULE LIGANDS FOR PROTEIN-PROTEIN INTERACTIONS AND OTHER “UNDRUGGABLE” TARGETS. **Michelle Arkin.**

4:00 PM–6:00 PM, Room 303

PLATFORM AC

Cardiac Electrophysiology

Co-Chairs

Randall Rasmusson, SUNY Buffalo, New York
Dierk Thomas, University of Heidelberg, Germany

2122-PLAT 4:00 PM
DIVERSE EFFECTS OF A FAMILIAL ATRIAL FIBRILLATION (FAF)-RELATED KCNE2 MUTATION, R27C, ON CARDIAC VOLTAGE-GATED POTASSIUM (KV) CHANNELS. **Yu-Hong Wang,** Min Jiang, Mei Zhang, Gea-Ny Tseng.

2123-PLAT 4:15 PM
SIMULATION OF THE IMPACT OF ELEVATED CYTOSOLIC NA⁺ ON CA²⁺ HANDLING, MITOCHONDRIAL ENERGETICS AND CELLULAR ELECTROPHYSIOLOGY IN GUINEA PIG MYOCYTES. **Lufang Zhou,** An-Chi Wei, Ting Liu, Sonia Cortassa, Raimond Winslow, Brian O'Rourke.

2124-PLAT 4:30 PM
BIEXCITABILITY AND EARLY AFTERDEPOLARIZATION-MEDIATED CARDIAC ARRHYTHMIAS. **Daisuke Sato,** Alan Garfinkel, James N. Weiss, Zhilin Qu.

2125-PLAT 4:45 PM
B-TYPE NATRIURETIC PEPTIDE (BNP) PROLONGS ACTION POTENTIAL DURATION THROUGH SUPPRESSING TRANSIENT OUTWARD POTASSIUM CURRENT IN RAT HEARTS. **Junping Sun,** Yutao Xi, Geru Wu, Justin Wang, Jie Cheng.

2126-PLAT 5:00 PM
THE MITOCHONDRIAL BIOENERGETIC PHENOTYPE FOR PROTECTION FROM ISCHEMIA IN SUR2-MUTANT MICE. **Nitin Aggarwal,** Danijel Pravdic, Elizabeth M. McNally, Zeljko J. Bosnjak, Nian-Qing Shi, Jonathan C. Makielski.

2127-PLAT 5:15 PM
MULTIPLE MECHANISMS OF HERG LIABILITY: K⁺ CURRENT INHIBITION, DISRUPTION OF PROTEIN TRAFFICKING, AND APOPTOSIS INDUCED BY AMOXAPINE. **Sabrina Obers,** Ingo Staudacher, Ramona Bloehs, Eckhard Ficker, Adrienne Dennis, Jana Kisselbach, Patrick Schweizer, Ioana Baldea, Hugo Katus, Dierk Thomas.

2128-PLAT 5:30 PM
CARDIAC GLYCOSIDE CHRONOTROPIC AND ARRHYTHMOGENIC EFFECTS IN SINUATRIAL NODAL PACEMAKER CELLS (SANC) OCCUR ALONG A CONTINUUM OF ELECTROCHEMICAL GRADIENTS OF Na^+ (E_{Na}) AND Ca^{2+} (E_{Ca}). **Syevda Sirenko**, Dan Yaeger, Tatiana M. Vinogradova, Yue Li, Yael Vaniv, Ihor Zahanich, Harold Spurgeon, Victor Maltsev, Edward G. Lakatta.

2129-PLAT 5:45 PM
CALCIUM CURRENTS IN CHRONICALLY DYSFUNCTIONAL PIG MYOCARDIUM. **Derek L. Beahm**, Ki-Hyuk Yoo, Glenna C. L. Bett, John M. Canty, James A. Fallavollita, Randall L. Rasmusson.

4:00 PM–6:00 PM, Room 304

PLATFORM AD

Fluorescence Spectroscopy

Co-Chairs

Joachim Mueller, University of Minnesota

Karin Nienhaus, Karlsruhe Institute of Technology, Germany

2130-PLAT 4:00 PM
PROTON TRANSFER AND HYDROGEN-BOND INTERACTIONS DETERMINE THE FLUORESCENCE QUANTUM YIELD OF BACTERIOPHYTOCHROME, A NOVEL DEEP-TISSUE FLUORESCENT PROBE. **K. C. Toh**, Emina Stojkovic, Ivo H. M. van Stokkum, Keith Moffat, John T. Kennis.

2131-PLAT 4:15 PM
FINE TUNING THE OPTICAL PROPERTIES OF GREEN TO RED PHOTOCONVERTIBLE FLUORESCENT PROTEINS. **Karin Nienhaus**, Virgile Adam, Dominique Bourgeois, G. Ulrich Nienhaus.

2132-PLAT 4:30 PM
COLOR HUES IN FLUORESCENT PROTEINS WITH THE SAME CHROMOPHORE ARE DUE TO INTERNAL QUADRATIC STARK EFFECT. **Mikhail Drobizhev**, Shane Tillo, Nikolay S. Makarov, Aleksander Rebane, Thomas Hughes.

2133-PLAT 4:45 PM **STUDENT TRAVEL AWARDEE**
TIRF-BASED FRET WITH ONE BASE-PAIR RESOLUTION. **Seamus J. Holden**, Stephan Uphoff, David Yadin, Johannes Hohlbein, Ludovic Le Reste, Oliver J. Britton, Achillefs N. Kapanidis.

2134-PLAT 5:00 PM
SINGLE-MOLECULE STED WITH PHOTOSTABLE FLUOROPHORES. **Robert Kasper**.

2135-PLAT 5:15 PM
FLUORESCENCE CORRELATION SPECTROSCOPY ELUCIDATES THE PATHWAY OF RNA INTERFERENCE. **Jörg Mütze**, Thomas Ohrt, Wolfgang Staroske, Lasse Weinmann, Julia Höck, Gunter Meister, Petra Schwillie.

2136-PLAT 5:30 PM
G-QUADRUPLEX FOLDING OBSERVED BY TWO PHOTON FLUORESCENCE CORRELATION SPECTROSCOPY AND DUAL TIME SCALE. **Tilman Rosales**, Xiuyi Liu, Yasemin Kopkalli, Lesley Davenport, Mary Hawkins, Jay R. Knutson.

2137-PLAT 5:45 PM
OBSERVING NUCLEAR RECEPTOR / COACTIVATOR INTERACTIONS IN LIVE CELLS BY HETERO-SPECIES PARTITION ANALYSIS. **Joachim Mueller**, Bin Wu, Yan Chen.

4:00 PM–6:00 PM, Room 305

PLATFORM AE

Muscle Regulation

Co-Chairs

William Lehman, Boston University School of Medicine

Larry Tobacman, University of Illinois at Chicago

2138-PLAT 4:00 PM
DETERMINING MECHANISM OF PHOSPHORYLATION OF SMOOTH MUSCLE MYOSIN BY CALMODULIN-MYOSIN LIGHT CHAIN KINASE USING AN IN VITRO MODEL SYSTEM. **Feng Hong**, Brain D. Haldeman, Shaowei Ni, Nick Ruana, Del R. Jackson, Josh E. Baker, Christine R. Cremo.

2139-PLAT 4:15 PM
THE CRYSTAL STRUCTURE OF THE N-TERMINAL 15 HEPTADS OF SMOOTH MUSCLE MYOSIN ROD OFFERS INSIGHTS INTO THE INHIBITED STATE OF MYOSIN. **Usha B. Nair**, Patricia M. Fagnant, Susan Lowey, Mark A. Rould, Kathleen M. Trybus.

2140-PLAT 4:30 PM
ELECTRON MICROSCOPY AND MOLECULAR DYNAMICS ON A D137L MUTANT OF TROPOMYOSIN. **Jasmine Nirody**, Xiaochuan Li, Duncan Sousa, John Sumida, Stefan Fischer, Sherwin S. Lehrer, William Lehman.

2141-PLAT 4:45 PM
TROPONIN REGULATORY FUNCTION AND DYNAMICS REVEALED BY H/D EXCHANGE-MASS SPECTROMETRY. **Devanand Kowlessur**, Larry S. Tobacman.

2142-PLAT 5:00 PM
MAGNESIUM STABILIZES THE CLOSED CONFORMATION OF THE C-DOMAIN OF TROPONIN C. **Sarah S. Learman**, Rishabh Khandelwal, Franklin Fuchs, Zenon Grabarek.

2143-PLAT 5:15 PM
PHOSPHOMIMETIC SUBSTITUTIONS IN ONE OR BOTH SER43/45 RESIDUES OF CARDIAC TROPONIN I PRODUCES COMPARABLE CHANGES IN CONTRACTILE PERFORMANCE. **Tamara Stevenson**, Sarah Kampert, Justin Steggerda, Gail Romanchuk, Margaret Westfall.

2144-PLAT 5:30 PM
EFFECT OF TROPONIN Ca^{2+} BINDING PROPERTIES ON THE KINETICS OF MYOFIBRIL FORCE INITIATION AND RELAXATION. **Nicoletta Piroddi**, Karen L. Kreutziger, Beatrice Scellini, Scott Lundy, Cecilia Ferrantini, Chiara Tesi, Michael Regnier, Corrado Poggesi.

2145-PLAT 5:45 PM
NEBULIN ALTERS CROSSBRIDGE CYCLING KINETICS AND INCREASES THIN FILAMENT ACTIVATION - A NOVEL MECHANISM FOR INCREASING TENSION AND REDUCING TENSION COST. **Coen Ottenheijm**, Murali Chandra, R. Mamidi, Steven Ford, Carlos Hidalgo, Christian Witt, Ger Stienen, Siegfried Labeit, Alan Beggs, Henk Granzier.

4:00 PM–6:00 PM, Room 306

PLATFORM AF

Bacterial Motility

Co-Chairs

Joshua Shaevitz, Princeton University

Sean Sun, Johns Hopkins University

2146-PLAT 4:00 PM
HIGH RESOLUTION, LONG TERM CHARACTERIZATION OF BACTERIAL MOTILITY USING OPTICAL TWEEZERS. **Taejin L. Min**, Patrick J. Mears, Lon M. Chubiz, Christopher V. Rao, Ido Golding, Yann R. Chemla.

2147-PLAT 4:15 PM
IMPACT OF MICROSCOPIC MOTILITY SCHEMES ON THE OVERALL SWIMMING BEHAVIOR OF PARASITES. **Sravanti Uppaluri**, Jan Nagler, Eric Stellamanns, Niko Heddergott, Markus Ensgtler, Thomas Pfohl.

2148-PLAT 4:30 PM
A MODEL FOR BACTERIAL MOTILITY UTILIZING HELICAL CYTOSKELETON FILAMENTS AND ION-DRIVEN MOTORS. **Jing Chen**, Beiyuan Nan, John Neu, David R. Zusman, George Oster.

- 2149-PLAT** 4:45 PM
DIRECT EVIDENCES OF A MOTILITY MOTORS IN MYXOCOCCUS XANTHUS. **Mingzhai Sun**, Adrien Ducret, Tam Mignot, Joshua Shaevitz.
- 2150-PLAT** 5:00 PM
MORPHOGENESIS AND CELL DIVISION OF E. COLI UNDER MECHANICAL CONFINEMENT. **Jaan Mannik**, Peter Galajda, Juan E. Keymer, Cees Dekker.
- 2151-PLAT** 5:15 PM
MORPHOLOGY, GROWTH AND SIZE LIMIT OF BACTERIA. **Hongyuan Jiang**, Sean X. Sun.
- 2152-PLAT** 5:30 PM
STRUCTURE AND ASSEMBLY OF CFA/I PILI FROM ENTEROTOXIGENIC ESCHERICHIA COLI THAT CAUSE TRAVELER'S DIARRHEA. **Di Xia**, Stephen J. Savarino, Esther Bullitt.
- 2153-PLAT** 5:45 PM
FORCE GENERATION BY TYPE IV PILI OF NEISSERIA GONORRHOEAE. **Dirk Opitz**, Martin Clausen, Berenike Maier.

4:00 PM–6:00 PM, Room 307

PLATFORM AG

Membrane Protein Structure I

Co-Chairs

Petra Fromme, Arizona State University
Mark Sansom, University of Oxford, United Kingdom

- 2154-PLAT** 4:00 PM
MOLECULAR MODELING AND SIMULATIONS OF THE TRANSMEMBRANE DOMAIN OF HUMAN GROWTH HORMONE RECEPTOR. **Ritesh Kumar**, Shahir S. Rizk, Anthony A. Kossiakoff, Wonpil Im.
- 2155-PLAT** 4:15 PM
MOLECULAR DYNAMICS SIMULATIONS OF THE DIMERIZATION OF TRANSMEMBRANE α -HELICES. **Emi Psachoulia**, Beatrice Nikolaidi, David Marshall, Mark S. P. Sansom.
- 2156-PLAT** 4:30 PM
AROMATIC INTERFACES BETWEEN TRANSMEMBRANE HELICES M1/M4 AND M3/M4 PLAY A KEY ROLE IN CYS-LOOP RECEPTOR ASSEMBLY. **Svenja Haeger**, Dmitry Kuzmin, Silvia Detro-Dassen, Niklas Lang, Michael Kilb, Victor Tsetlin, Heinrich Betz, Bodo Laube, Gunther Schmalzing.
- 2157-PLAT** 4:45 PM
CONFORMATIONAL CHANGES IN GPCR SURFACE AND CORE PROBED BY [¹³C]-METHYL NMR SPECTROSCOPY. **Michael P. Bokoch**, Rie Nygaard, Yaozhong Zou, Soren G. F. Rasmussen, Leonardo Pardo, R. Scott Prosser, Luciano Mueller, Brian K. Kobilka.
- 2158-PLAT** 5:00 PM
OBSERVATION OF STRUCTURAL CHANGES ON ACTIVATION OF THE NTS1 G-PROTEIN-COUPLED RECEPTOR ON DNA-TEMPLATED PROTEIN ARRAYS BY CRYO-EM. **Daniele N. Selmi**, Helen Attrill, Anthony Watts, Robert J. C. Gilbert, Andrew J. Turberfield.
- 2160-PLAT** 5:15 PM
CRYSTAL STRUCTURE OF THE MEMBRANE FUSION PROTEIN CUSB FROM ESCHERICHIA COLI. **Edward Yu**.

- 2161-PLAT** 5:30 PM
A NOVEL PHOTOSYNTHETIC STRATEGY FOR ADAPTATION TO LOW IRON ENVIRONMENTS. **Petra Fromme**, Devendra Chauhan, Mihaela Folea, Craig Jolley, Roman Koufifil, Carolyn E. Lubner, Su Lin, Dorota Kolber, Felisa Wolfe-Simon, John H. Golbeck, Egbert J. Boekema.

4:00 PM–6:00 PM, Room 308

PLATFORM AH

Membrane Receptors & Signal Transduction

Co-Chairs

Saranga Naganathan, Rockefeller University
Damien Thevenin, Yale University

- 2162-PLAT** 4:00 PM
A NOVEL METHOD TO PROBE MEMBRANE PROTEIN TOPOLOGY USING UNNATURAL AMINO ACID MUTAGENESIS AND ANTIBODY EPI TOPE TAGGING. **Saranga Naganathan**, Shixin Ye, Terence Duarte, Thomas Huber, Pallavi Sachdev, Thomas P. Sakmar.
- 2163-PLAT** 4:15 PM
LARGE-SCALE MD SIMULATIONS REVEAL STRUCTURAL ELEMENTS OF THE ACTIVATED STATE IN THE 5-HT_{2A} RECEPTOR AND THEIR RELATION TO CHOLESTEROL DYNAMICS. **Jufang Shan**, George Khelashvili, Harel Weinstein.
- 2164-PLAT** 4:30 PM
MOLECULAR MODEL OF THE OPSIN-G-PROTEIN COMPLEX. **Parag Mukhopadhyay**, Thomas P. Sakmar, Thomas Huber.
- 2165-PLAT** 4:45 PM
INSIGHTS INTO G-PROTEIN COUPLED RECEPTORS ACTIVATION FROM ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS. **Stefano Vanni**, Marilisa Neri, Ivano Tavernelli, Ursula Rothlisberger.
- 2166-PLAT** 5:00 PM
DYNAMICS OF GQ PROTEIN INTERACTIONS WITH PLC₃ STUDIED BY TIRF MICROSCOPY. **Thomas Pollinger**, Markus Milde, Monika Frank, Moritz Bünemann.
- 2167-PLAT** 5:15 PM
ROLE OF PLASMA MEMBRANE STRUCTURING ON INTERFERON RECEPTOR ASSEMBLY & SIGNALING. **Anna Pezzarossa**, Jacob Piehler, Thomas Schmidt.
- 2168-PLAT** 5:30 PM
INVOLVEMENT OF TRANSMEMBRANE HELIX DIMERIZATION AND ROTATION IN SIGNALING BY THE THROMBOPOIETIN RECEPTOR. **Damien Thévenin**, Erin E. Matthews, Julia M. Rogers, Ming An, Lisa Gotow, Paul D. Lira, Lawrence A. Reiter, William H. Brissette, Donald M. Engelman.
- 2169-PLAT** 5:45 PM
SPATIO-TEMPORAL PATTERNS OF REACTIVE OXYGEN SPECIES PRODUCTION IN PDGF SIGNALING REVEALED BY NANOPARTICLE IMAGING IN LIVING CELLS. **Cedric I. Bouzigues**, Thanh-Liem Nguyễn, Didier Casanova, Rivo Ramodiharilafy, Thierry Gacoin, Jean-Pierre Boilot, Antigoni Alexandrou.

4:00 PM–5:00 PM, Room 122
MEMBERSHIP COMMITTEE MEETING

5:00 PM–6:30 PM, Room 123
EXHIBITOR PRESENTATION
Veeco Instruments

6:00 PM–8:00 PM, Room 301
KOREAN BIOPHYSICIST MEETING

7:30 PM–9:30 PM, Marriott, Pacific A-C
CHILD CARE

8:00 PM–9:30 PM, Room 134-135
**AWARDS CEREMONY AND
NATIONAL LECTURE**

Henry Lester, California Institute of Technology, Society President, Chair

Presentation of Society Awards

National Lecture

Roger Tsien, University of California, San Diego

BREEDING AND BUILDING MOLECULES TO SPY ON CELLS IN
HEALTH AND DISEASE

9:30 PM–12:00 AM, Marriott, Yerba Buena Ballroom
ANNUAL MEETING RECEPTION AND DANCE

Registrants are invited to attend the reception following the National Lecture. Live music will accompany a dessert buffet. A quiet room with soft music will also be available. The cost is included in the registration fee. Badges will be required for admittance.

1:45 PM–3:45 PM, HALL D
MONDAY POSTER SESSIONS

Posters should be mounted at 6:00 PM on the day preceding presentation and removed by 5:30 PM on the day of the presentation. Posters will be on view until 10:00 PM the night before presentation. Abstract numbers shown refer to the program order of abstracts as they appear in the on-line Abstracts Issue. Board Numbers indicate where they are located in Hall D.

Authors Present

ODD-NUMBERED BOARDS

1:45 PM–2:45 PM

BOARD NUMBERS

Board #B1-Board #B10
Board #B11-Board #B40
Board #B41-Board #B48
Board #B49-Board #B75
Board #B76-Board #B82
Board #B83-Board #B106
Board #B107-Board #B129
Board #B130-Board #B150
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Board #B188-Board #B211
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Board #B857-Board #B868
Board #B869-Board #B883
Board #B884-Board #B907
Board #B908-Board #B911

EVEN-NUMBERED BOARDS

2:45 PM–3:45 PM

POSTER CATEGORIES

Protein Conformation II
Protein Dynamics I
Protein Folding & Stability: Interactions with Membranes & Lipids Protein-Ligand Interactions II
Membrane Protein
Function II
Protein Structure I
Protein Aggregates I
Intrinsically Disordered Proteins I
Ribosomes & Translation
DNA, RNA Structure & Conformation I
Protein-Nucleic Acid Interactions II
Membrane Physical Chemistry II 41
Membrane Active Peptides II
Membrane Structure I
Membrane Receptors & Signal Transduction I
Calcium Fluxes, Sparks & Waves II
Local Calcium Signaling
Ryanodine Receptors I
Motions of the Cell Surface Molecules
Nucleocytoplasmic Transport
Voltage-gated Na Channels II
Voltage-gated K Channels-Gating II
Anion Channels
Mechanosensitive Channels
Biophysics of Ion Permeation
Cardiac Electrophysiology I
TRP Channels
Muscle: Fiber & Molecular Mechanics & Structure II
Muscle Regulation II
Cardiac Muscle I
Microtubules & Microtubule-associated Proteins
Cell & Bacterial Mechanics & Motility II
Microtubule Motors-Kinesin-1
Membrane Transport
Mitochondria in Cell Life & Death
Cryo-Electron Microscopy & Reconstruction
Molecular Dynamics I
Computational Methods I
Imaging & Optical Microscopy II
EPR Spectroscopy
Nano-Materials
Biotechnology & Bioengineering I
Biophysics Education

Protein Conformation II (Boards #B1-#B10)

1203-Pos BOARD #B1
MOLECULAR DYNAMICS SIMULATIONS PREDICT A PH-DEPENDENT CONFORMATIONAL CHANGE IN THE C-HELIX OF CELL CYCLE CHECKPOINT KINASE WEE1. **Michael S. Chimenti**, Mark J. S. Kelly, Diane L. Barber, Matthew P. Jacobson.

1204-Pos BOARD #B2
THE L49F MUTATION IN ERYTHROID ALPHA SPECTRIN INDUCES LOCAL DISORDER IN THE TETRAMER ASSOCIATION REGION: FLUORESCENCE AND MOLECULAR DYNAMICS STUDIES OF FREE AND BOUND ALPHA SPECTRIN. **Yuanli Song**, Nina H. Pipalia, Leslie W. -M. Fung.

1205-Pos BOARD #B3 STUDENT TRAVEL AWARDEE
CHARACTERIZATION OF CONFORMATIONAL TRANSITIONS IN SRC KINASE USING THE STRING METHOD WITH SWARMS-OF-TRAJECTORIES AND MARKOVIAN MILESTONING. **Wenxun Gan**, Benoit Roux.

1206-Pos BOARD #B4
PROBING THE STRUCTURE OF MEMBRANE PROTEINS USING PULSED EPR ESEEM SPECTROSCOPY. **You Zhou**, Daniel J. Mayo, Robert M. McCarrick, Gary A. Lorigan.

1207-Pos BOARD #B5
SDSL-EPR STUDY OF A C-TERMINAL SEGMENT OF MYELIN BASIC PROTEIN IN A MYELIN MIMETIC ENVIRONMENT. **Lopamudra Homchaudhuri**, Miguel De Avila, Stina B. Nilsson, Vladimir V. Bamm, Abdiwahab A. Musse, Graham S. T. Smith, George Harauz, Joan M. Boggs.

1208-Pos BOARD #B6
A STUDY OF THE CONFORMATION OF HIV NEF BOUND TO LIPID MEMBRANES BY NEUTRON REFLECTIVITY. **Michael S. Kent**, Jaclyn K. Murton, Sushil Satija, Bulent Akgun, Hirsh Nanda, Joseph Curtis, Jaroslaw Majewski, Christopher Morgan, John R. Engen.

1209-Pos BOARD #B7
SITE-DIRECTED SPIN LABELING ELECTRON PARAMAGNETIC RESONANCE STUDIES OF FLAP CONFORMATIONS AND FLEXIBILITY IN MULTIPLE HIV-1 PROTEASE VARIANTS. **Jamie L. Kear**, Mandy E. Blackburn, Gail E. Fanucci.

1210-Pos BOARD #B8
CORRELATED FORCE-OPTICAL SPECTROSCOPY OF SINGLE HUMAN NUCLEOLAR PHOSPHOPROTEIN-140 IMMOBILIZED ON NANO-ARRAY PATTERNS. **Joon Lee**, Won-Kyu Lee, Yeon Gyu Yu, Doo Wan Boo.

1211-Pos BOARD #B9
ALLOSTERIC INHIBITION OF THERMUS THERMOPHILUS PHOSPHOFRUCTOKINASE. **Maria Shubina-McGresham**, Gregory D. Reinhart.

1212-Pos BOARD #B10
NUCLEOTIDE BINDING INDUCES CONFORMATIONAL CHANGES IN FULL-LENGTH CLC-5. **Leigh Wellhauser**, Christine E. Bear.

Protein Dynamics I (Boards #B11-#B40)

1213-Pos BOARD #B11
DYNAMICS AND CO-LOCALIZATION OF THE ELECTRON TRANSPORT CHAIN OF ESCHERICHIA COLI: INVESTIGATIONS THROUGH FLUORESCENCE MICROSCOPY. **Alex Robson**, Mark Leake.

1214-Pos BOARD #B12
SPECTROSCOPIC PROPERTIES OF TRUNCATED GFP AND SYNTHETIC STRAND REASSEMBLY. **Kevin P. Kent**.

1215-Pos BOARD #B13
MEASUREMENT OF PROTEIN BINDING RATES IN LIVE CELLS WITH FCS. **Ariel Michelman-Ribeiro**, Davide Mazza, Tilman Rosales, Timothy J. Stasevich, Hacene Boukari, Vikas Rishi, Charles Vinson, Jay R. Knutson, James G. McNally.

1216-Pos BOARD #B14
PROBING THE CHANGES IN ANTIBODY FLEXIBILITY DURING AFFINITY-MATURATION USING SINGLE MOLECULE SPECTROSCOPY. **Elias Aba-Milki**, Patricia B. O'Hara.

1217-Pos BOARD #B15
KINETICS OF LIGHT-INDUCED CONFORMATIONAL CHANGE IN PHOT1 LOV2-JALPHA PROBED BY TRANSIENT TRYPTOPHAN FLUORESCENCE. **Daniel Hoersch**, Farzin Bolourchian, Harald Otto, Maarten P. Heyn, Roberto A. Bogomolni.

1218-Pos BOARD #B16
THE CONTRIBUTION OF FAST PROTEIN DYNAMICS TO CYTOCHROME P450 MOLECULAR RECOGNITION CHARACTERIZED BY TWO-DIMENSIONAL INFRARED SPECTROSCOPY. **Megan C. Thielges**, Jean K. Chung, Michael D. Fayer.

1219-Pos BOARD #B17
DISCRETE AND CONTINUOUS THREE DIMENSIONAL SIMULATIONS FOR FLUORESCENCE RECOVERY IN BACTERIA. **Gabriel Rosser**, Mark C. Leake.

1220-Pos BOARD #B18
PH INDUCED DYNAMICS ENABLES THE PEPTIDE EXCHANGE OF MHCII MOLECULES. **Haruo Kozono**, Naoki Ogawa, Osami Kanagawa, Yuji Sasaki.

1221-Pos BOARD #B19
MOLECULAR MECHANISMS FOR PHOSPHORYLATION DRIVEN DISSOCIATION OF RB-E2F COMPLEXES. **Jason R. Burke**, Jeffrey G. Pelton, Seth M. Rubin.

1222-Pos BOARD #B20
EXPANDING THE RANGE OF REDOX POTENTIALS OF THE 2FE-2S CLUSTERS OF THE OUTER MITOCHONDRIAL MEMBRANE PROTEIN MITONEET. **John A. Zuris**, Mark L. Paddock, Andrea R. Conlan, Edward C. Abresch, Rachel Nechushtai, Patricia A. Jennings.

1223-Pos BOARD #B21
"A COMPARATIVE THERMAL KINETIC INVESTIGATION OF THE FRESH AND STALE-EXPIRED PROTEIN DENATURING TRANSITION". **Dipti Sharma**.

1224-Pos BOARD #B22
HIGH-ORDER CORRELATIONS IN INTERNAL PROTEIN MOTIONS AND ENERGETICS. **Arvind Ramanathan**, Andrej Savol, Chris Langmead, Pratul Agarwal, S. Chakra Chennubhotla.

1225-Pos BOARD #B23
AN ELECTROHYDRODYNAMIC MODEL AND EXTENSIVE MD SIMULATIONS AGREE ON THE POSITIONAL AND INTRA-RESIDUAL RELAXATIONS UP TO SUB-MICROSECOND DYNAMICS. **Rana A. Atilgan**, Canan Atilgan.

1226-Pos BOARD #B24
TRADE-OFF BETWEEN LOCALIZATION AND EXPRESSION LEVELS IN FLAGELLAR POLE DEVELOPMENT OF THE BACTERIUM CAULOBACTER CRESCENTUS. **Carolina Tropini**, Steve Sciochetti, Austin Newton, Kerwyn Casey Huang.

1227-Pos BOARD #B25
FREE ENERGY PROFILES OF LARGE SCALE PROTEIN CONFORMATIONAL CHANGES. **Andrew J. Rader**.

1228-Pos BOARD #B26
A20 NEGATIVE FEEDBACK REGULATES PERIOD OF NF-KB OSCILLATIONS. **Benedicte Mengel**, Mogens Jensen, Sandeep Krishna, Ala Trusina.

1229-Pos BOARD #B27
SYSTEMATICALLY DEFINING COARSE-GRAINED REPRESENTATIONS OF LARGE BIOMOLECULAR COMPLEXES. **Zhiyong Zhang**, Gregory A. Voth.

1230-Pos BOARD #B28
INTEGRATION OF COMPUTER SIMULATION AND NEUTRON SCATTERING IN THE CHARACTERIZATION OF PROTEIN DYNAMICS. **Nikolay Smolin**, Benjamin Lindner, Hao-Bo Guo, Jeremy C. Smith.

1231-Pos BOARD #B29
PISQRD: A NOVEL VARIATIONAL SCHEME TO IDENTIFY DYNAMICAL DOMAINS IN PROTEINS. **Raffaello Potestio**, Francesco Pontiggia, Tyanko Aleksiev, Stefano Cozzini, Cristian Micheletti.

1232-Pos BOARD #B30
ENZYME MILLISECOND CONFORMATIONAL DYNAMICS DO NOT CATALYZE THE CHEMICAL STEP. **Andrei V. Pislakov**, Jie Cao, Shina C. L. Kamerlin, Arieh Warshel.

1233-Pos BOARD #B31
JAMMING PROTEINS WITH SLIPKNOTS AND THEIR FREE ENERGY LANDSCAPE. **Joanna I. Sulkowska**, Piotr Sulkowski, Jose N. Onuchic.

1234-Pos BOARD #B32
A STUDY OF UNFOLDING AND THE BETA SHEET-TO-ALPHA HELIX CONFORMATIONAL SWITCH IN BETA-LACTOGLOBULIN. **Tania Marin**, Laura J. Juszczak.

1235-Pos BOARD #B33
THE RELATIVE SIGNIFICANCE OF EXTERNAL AND INTERNAL FRICTION IN PROTEIN CONFORMATIONAL CHANGES. **Imre Derenyi**, Anna Rauscher, Gergely J. Szollosi, Zoltan Simon, Laszlo Graf, Andras Malnasi-Csizmadia.

1236-Pos BOARD #B34
SOLUTION STRUCTURE AND BACKBONE DYNAMICS OF HUMAN LIVER FATTY ACID BINDING PROTEIN. **Jun Cai**, Christian Lücke, Ye Qiao, Elena Klimtchuk, James A. Hamilton.

1237-Pos BOARD #B35
DYNAMIC PREDISPOSITIONS OF PROTEIN-PROTEIN DOCKING ORIENTATION REVEALED BY INTRINSIC DYNAMIC DOMAINS. **Lee Wei Yang**, Shun Sakuraba.

1238-Pos BOARD #B36
MULTISCALE MODELING OF INTRA- AND INTER-MOLECULAR COMMUNICATIONS THROUGH PROTEIN STRUCTURES. **Jhieh-Wei Chu**.

1239-Pos BOARD #B37
MULTISCALE MODELING OF STRUCTURAL DYNAMICS IN ACTOMYOSIN COMPLEX. **Wenjun Zheng**.

1240-Pos BOARD #B38
DIFFUSION AND ALIGNMENT OF DOMAIN REPEATS IN MODULAR PROTEINS - A NMR STUDY. **Joseph D. Walsh**, Katlyn Meier, Rieko Ishima, Angela M. Gronenborn.

1241-Pos BOARD #B39
FUNCTIONAL MOTIONS OF IMMUNOGLOBIN HYPERVARIABLE LOOPS. **Michael T. Zimmermann**.

1242-Pos BOARD #B40
INTERFACE DYNAMICS IN HUB PROTEINS. **Arianna Fornili**, Alessandro Pandini, Franca Fraternali.

Protein Folding & Stability: Interactions with Membranes & Lipids (Boards #B41-#B48)

1243-Pos BOARD #B41
RESOLVING THE NATIVE STRUCTURE OF *ESCHERICHIA COLI* OMPA. **Rosetta N. Reusch**, Alexander Negoda, Elena Negoda.

1244-Pos BOARD #B42
SPECTROSCOPIC STUDY OF ANCHORING AROMATIC RESIDUES IN MEMBRANE PROTEINS AND PEPTIDES: APPLICATIONS TO PROTEIN FOLDING AND VESICLE DISRUPTION. **Judy E. Kim**, Katheryn M. Sanchez, Diana E. Schlamadinger, Jonathan E. Gable, Beijing Wu.

1245-Pos BOARD #B43
COMBINING GENOMIC INFORMATION WITH MOLECULAR DYNAMICS SIMULATION TO MODEL TWO-COMPONENT SIGNAL-TRANSDUCTION SYSTEMS. **Alexander Schug**.

1246-Pos BOARD #B44
COMPUTER SIMULATIONS OF ALZHEIMER'S BETA AMYLOID INTERACTIONS WITH MULTICOMPONENT LIPID BILAYERS. **Creighton Buie**, Liming Qiu, Mark Vaughn, Kwan H. Cheng.

1247-Pos BOARD #B45
LIPID-MEMBRANE MEDIATED TAU MISFOLDING AND AGGREGATION. **Philip Camp**, Jacek Biernat, Eckhard Mandelkow, Jaroslaw Majewski, Eva Y. Chi.

1248-Pos BOARD #B46
GLOBAL BILAYER PROPERTIES CAN MODULATE MEMBRANE PROTEIN OLIGOMERIZATION. **Anbazhagan Veerappan**, Dirk Schneider.

1249-Pos BOARD #B47
EFFECTS OF POST-TRANSLATIONAL MODIFICATIONS ON THE STRUCTURE AND STABILITY OF HUMAN LDL. **Shobini Jayaraman**.

1250-Pos BOARD #B48
THERMODYNAMICS OF GNDHCL INDUCED UNFOLDING OF A HELICAL MEMBRANE PROTEIN IN MIXED MICELLES. **Ernesto A. Roman**, José M. Argüello, F. Luis González-Flecha.

Protein-Ligand Interactions II (Boards #B49-#B75)

1251-Pos BOARD #B49
THERMODYNAMICS OF BINDING SILVER ION TO JACK BEAN UREASE. **Ali Akbar Saboury**, Elaheh Poorakbar, Ghoamreza Rezaei-Behbehani.

1252-Pos BOARD #B50
A NEW ITC ASSAY FOR MEASURING ULTRATIGHT AND LOW-AFFINITY PROTEIN-LIGAND INTERACTIONS. **Georg Krainer**, Sandro Keller.

1253-Pos BOARD #B51
BINDING OF A NATURAL STEROL TO THE OSH4 PROTEIN OF YEAST AND MEMBRANE ATTACHMENT. **Brent Rogaski**, Jeffery B. Klauda.

1254-Pos BOARD #B52
SPLITTING OF THE ALLOSTERIC FUNCTION IN HUMAN HEMOGLOBIN WITH AN ALTERED ALPHA1BETA1 INTERFACE. **Antonio Tsuneshige**, Katsumi Takahashi, Takuro Ohara.

1255-Pos BOARD #B53
CONTRASTING EFFECTS OF HALIDES ON THE STRUCTURE AND FUNCTION OF A MULTIMERIC ALLOSTERIC PROTEIN. **Takuro Ohara**, Antonio Tsuneshige.

1256-Pos BOARD #B54 INTERNATIONAL TRAVEL AWARDEE

EXPLORING THE CONFORMATIONAL SPACE FOR THE INTERACTIONS OF AROMATIC RESIDUE ANALOGS WITH BIOLOGICALLY IMPORTANT SACCHARIDES. **Manju Kumari**, Raghavan B. Sunoj, Petety V. Balaji.

1257-Pos BOARD #B55
FROM SPRI (SURFACE PLASMON RESONANCE IMAGING) AFFINITY CAPTURE ANALYSIS UP TO ON-CHIP MALDI-MS/MS ANALYTE IDENTIFICATION. **Karen E. Steege Gall**, Sophie Bellon.

1258-Pos BOARD #B56
THERMODYNAMIC PRINCIPLES OF METAL BINDING TO BIOLOGICAL SYSTEMS. **Purushottam D. Dixit**, Dilip Asthagiri.

1259-Pos BOARD #B57
EFFECT OF VARIANTS AT THE 78TH RESIDUE ON NEOCARZINOSTATIN CHROMOPHORE RELEASE. **Hung-Wen Chi**, Zhi-Ming Lu, Yu-Hua Luo, Der-Hang Chin.

1260-Pos BOARD #B58
MECHANICAL REGULATION OF A CELL BINDING SITE: BACTERIAL ADHESINS CAN DISTINGUISH DIFFERENT PHYSICAL STATES OF FIBRONECTIN. **Samuel Hertig**.

1261-Pos BOARD #B59
QUANTIFYING WATER-MEDIATED PROTEIN-LIGAND INTERACTIONS IN A GLUTAMATE RECEPTOR. **Michelle A. Sahai.**

1262-Pos BOARD #B60
EPI TOPE MAPPING OF ANTI-DCP ANTIBODY USING FLUORESCENCE CORRELATION SPECTROSCOPY. **Qiaoqiao Ruan,** Gangamani Beligere, Sergey Y. Tetin.

1263-Pos BOARD #B61
THE EFFECT OF ALPHA-HELIX LINKER LENGTH ON VOLATILE GENERAL ANESTHETIC BINDING TO THE FOUR-ALPHA-HELIX BUNDLE (A α 2-L38M)2. **Lucia M. Morstadt,** Jonas S. Johansson.

1264-Pos BOARD #B62
ESCHERICHIA COLI REDOX ENZYME MATURATION PROTEINS, TORD AND DMSD INTERACT WITH GTP AS SHOWN BY NATIVE PAGE ASSAYS. **Vy A. Tran,** Raymond J. Turner.

1265-Pos BOARD #B63
ROLE OF DIMERIZATION IN POLY-UBIQUITIN CHAIN FORMATION. **Benjamin W. Cook.**

1266-Pos BOARD #B64
HOW INSULIN-LIKE GROWTH FACTOR HORMONES, IGF1 AND IGF2, ENGAGE THEIR COGNATE RECEPTOR. **Harish Vashisth,** Cameron F. Abrams.

1267-Pos BOARD #B65
INVESTIGATION OF THE CU(II)-BINDING PROPERTIES OF ALPHA-SYNUCLEIN. **Christopher Dudzik.**

1268-Pos BOARD #B66
THERMODYNAMIC AND HYDRODYNAMIC CHARACTERIZATION OF THE INTERACTION BETWEEN DMSD AND THE DMSA TWIN-ARGININE LEADER PEPTIDE. **Tara M. L. Winstone,** Raymond J. Turner.

1269-Pos BOARD #B67
BINDING OF ANTIBODIES TO CONTINUOUS ANTIGENIC EPI TOPE. **Sergey Y. Tetin,** Qiaoqiao Ruan, Sylvia C. Saldana.

1270-Pos BOARD #B68
CREATING STEROIDAL LIGAND-RECEPTOR PAIRS FOR BEHAVIORAL STUDIES OF ANDROGEN RECEPTOR. **Leslie A. Cruz,** Marc B. Cox, Robert J. Fletterick.

1271-Pos BOARD #B69
MOLECULAR DYNAMICS STUDY OF 2-ARACHIDONOYL-SN-GLYCERO-3-PHOSPHOINOSITOL (2-AGPI) AND LYSOPHOSPHATIDYLINOSITOL (LPI) IN A POPC BILAYER AND THEIR GPR55 DOCKING SITES. **Evangelia Kotsikorou,** Karla E. Madrigal, Diane L. Lynch, Dow P. Hurst, Mary E. Abood, Patricia H. Reggio.

1272-Pos BOARD #B70
DIMINISHED COOPERATIVITY: COMPARING LINKER LENGTHS IN SYNAPTOTAGMIN I C2A DOMAIN. **Jesse R. Murphy,** Kristofer J. Knutson, Jacob W. Gauer, R. Bryan Sutton, Anne Hinderlter.

1273-Pos BOARD #B71
SELECTIN MECHANOKINETICS AND TWO-DIMENSIONAL BOND FORMATION DETERMINE AND ARE REPORTED BY NANO-MOTION DYNAMIC PATTERNS. **Brian J. Schmidt,** Jason A. Papin, Michael B. Lawrence.

1274-Pos BOARD #B72
SINGLE-MOLECULE FORCE SPECTROSCOPY OF THE INTERACTIONS BETWEEN PLATELET INTEGRIN α IIB β 3 AND MONOMERIC FIBRIN. **Rustem I. Litvinov,** Henry Shuman, David H. Farrell, Joel S. Bennett, John W. Weisel.

1275-Pos BOARD #B73
CHARACTERIZATION OF SELECTIN-MEDIATED CELL BINDING IN SHEAR FLOW USING MICROPATTERNING TECHNOLOGY AND MODELING. **Konstantinos Konstantopolous,** ZiQiu Tong, Luthur Siu-Lun Cheung.

1276-Pos BOARD #B74
DISTINGUISHING BINDING FROM ALLOSTERIC ACTION IN ESCHERICHIA COLI PHOSPHOFRUCTOKINASE. **Bobby W. Laird,** Gregory D. Reinhart.

1277-Pos BOARD #B75
SUPERHEATING OF ICE IN THE PRESENCE OF ICE BINDING PROTEINS. **Yeliz Celik,** Laurie A. Graham, Yee-Foong Mok, Maya Bar, Peter L. Davies, Ido Braslavsky.

Membrane Protein Function II (Boards #B76-#B82)

1278-Pos BOARD #B76
BACTERIAL PORIN DISRUPTS MITOCHONDRIAL MEMBRANE POTENTIAL AND SENSITIZES HOST CELLS TO APOPTOSIS. **Anke Harsman,** Michael Meinecke, Thomas Rudel, Joachim Rassow, Richard Wagner.

1279-Pos BOARD #B77
FUNCTIONAL RECONSTITUTION OF MEMBRANE PROTEINS MONITORED BY ISOTHERMAL TITRATION CALORIMETRY. **Nadin Jahnke,** Oxana O. Krylova, Sandro Keller.

1280-Pos BOARD #B78
QUANTITATIVE MEASUREMENTS OF RECEPTOR INTERACTIONS IN MAMMALIAN CELLS: IMPLICATIONS FOR HUMAN PATHOLOGIES. **Sarvenaz Sarabipour,** Kalina Hristova.

1281-Pos BOARD #B79
THE PHYSICAL BASIS BEHIND ACHONDROPLASIA, THE MOST COMMON FORM OF HUMAN DWARFISM. **Lijuan He,** Kalina Hristova.

1282-Pos BOARD #B80
SPECTROSCOPIC DESIGN OF PHOSPHOLAMBAN MUTANTS TO TREAT HEART FAILURE. **Simon J. Gruber,** Suzanne Haydon, Kim N. Ha, Roger J. Hajjar, Gianluigi Veglia, David D. Thomas.

1283-Pos BOARD #B81
THE ACTIVITY OF A LOW-AFFINITY L-ARGININE TRANSPORTER QUENCHES PEROXYNITRITE-INDUCED FLUORESCENCE IN VENTRICULAR CARDIOMYOCYTES. **Jayalakshmi Ramachandran,** R. Daniel Peluffo.

1284-Pos BOARD #B82
STUDIES ON THE STRUCTURE AND FUNCTION OF THE INTRACELLULAR REGION OF THE PLEXIN-B1 TRANSMEMBRANE RECEPTOR. **Prasanta K. Hota,** Yufeng Tong, Junia Y. Penachioni, Luca Tamagnone, Hee-Won Park, Matthias Buck.

Protein Structure I (Boards #B83-#B106)

1285-Pos BOARD #B83
STRUCTURAL AND FUNCTIONAL STUDIES OF BACTERIAL TOXIN-ANTITOXIN SYSTEMS. **Gregory Verdon,** Lauren DeStefano, Chi Wang, Gregory Boel, Guy Montelione, Nancy Woychik, John F. Hunt.

1286-Pos BOARD #B84
OVERPRODUCTION, PURIFICATION AND STRUCTURE DETERMINATION OF HUMAN DUAL SPECIFICITY PHOSPHATASE 14. **George Lountos,** Joseph Tropea, Scott Cherry, David Waugh.

1287-Pos BOARD #B85
STRUCTURAL STUDIES ON MUTANTS OF HMG COA REDUCTASE FROM PSEUDOMONAS MEVALONIL. **Moumita Sen,** Nicklaus C. Steussy, Chandra Duncan, Victor W. Rodwell, Cynthia V. Stauffacher.

1288-Pos BOARD #B86
STRUCTURE OF THE E. COLI GYRASE DNA BINDING AND CLEAVAGE CORE REVEALS A UNIQUE DOMAIN. **Allyn Schoeffler,** James Berger.

1289-Pos BOARD #B87
STRUCTURE OF CROHN'S DISEASE-RELATED PROTEINS AND THEIR BINDING TO CLASS II MHC. **Lihui Liu,** Guo Yi, Hongmin Li.

1290-Pos BOARD #B88
STRUCTURAL AND METAL-BINDING CHARACTERIZATION OF THE C-TERMINAL METALLOCHAPERONE DOMAIN OF THE MEMBRANE FUSION PROTEIN SILB FROM *CUPRIAUDIDUS METALLIDURANS* CH34. **Beate Bersch**, Kheiro-Mouna Derfoufi, Fabien De Angelis, Elisabeth Ngonlong Ekendé, Max Mergeay, Jean-Marie Ruysschaert, Guy Vandenbussche.

1291-Pos BOARD #B89
CRYSTAL STRUCTURE AND METAL-BINDING SPECIFICITY OF ZNEB, THE PERIPLASMIC ADAPTOR PROTEIN OF A HEAVY METAL RESISTANCE SYSTEM FROM *CUPRIAUDIDUS METALLIDURANS* CH34. **Fabien De Angelis**, John K. Lee, Joseph D. O'Connell III, Larry J. W. Miercke, Koen H. Verschuieren, Vasundara Srinivasan, Rebecca A. Robbins, Cédric Govaerts, Jean-Marie Ruysschaert, Robert M. Stroud, Guy Vandenbussche.

1292-Pos BOARD #B90
CRYSTAL STRUCTURE OF THE N-TERMINAL REGION OF BRAIN SPECTRIN REVEALS A HELICAL JUNCTION REGION AND A STABLE STRUCTURAL DOMAIN. **Marta A. Wittek**, Shahila Mehboob, Yuanli Song, Fei Long, Bernard D. Santarsiero, M. E. Johnson, L. W. -M. Fung.

1293-Pos BOARD #B91
AN OVERLAPPING KINASE AND PHOSPHATASE DOCKING SITE REGULATES ACTIVITY OF THE RETINOBLASTOMA PROTEIN. **Alexander Hirschi**, Matthew Cecchini, Rachel Steinhardt, Frederick A. Dick, Seth M. Rubin.

1294-Pos BOARD #B92
CRYSTAL STRUCTURES OF YEAST MITOCHONDRIAL ATPASE WITH UNCOUPLING MUTATIONS. **Diana Arsenieva**, Yamin Wang, Jindrich Symersky, Luke Vistain, David M. Mueller.

1295-Pos BOARD #B93
MOLECULAR MECHANISM OF THE PEPTIDOGLYCAN HYDROLYSIS BY FLGJ, A PUTATIVE FLAGELLAR ROD CAP PROTEIN FROM *SALMONELLA*. **Yuki Kikuchi**, Hideyuki Matsunami, Midori Yamane, Katsumi Imada, Keiichi Namba.

1296-Pos BOARD #B94
STRUCTURE OF THE NEWCASTLE DISEASE VIRUS F PROTEIN IN THE POST-FUSION CONFORMATION. **Xiaolin Wen**, Kurt Swanson, Robert A. Lamb, Theodore S. Jardetzky.

1297-Pos BOARD #B95
STRUCTURE OF DNA BINDING DOMAIN OF PLANT TELOMERE BINDING PROTEINS REPRESENTS UNIQUE FEATURES OF TELOMERE BINDING PROTEIN FAMILY. **Weontae Lee**, Sunggeon Ko, Hyun-Soo Cho, Chaejoon Cheong.

1298-Pos BOARD #B96
STRUCTURAL AND FUNCTIONAL CHARACTERIZATION OF AN UNUSUAL SH3 DOMAIN FROM THE FUNGAL ADAPTOR PROTEIN BEM1. **Maryna Gorelik**, Ranjith Muhandiram, Alan Davidson.

1299-Pos BOARD #B97
STRUCTURAL INVESTIGATION OF A FIBRONECTIN TYPE III DOMAIN TANDEM FROM THE A-BAND OF THE TITIN. **Andras Czajlik**, Gary Thompson, Ghulam N. Khan, Arnout Kalverde, Steve W. Homans, John Trinick.

1300-Pos BOARD #B98
LOCALIZATION OF THE FISSION YEAST U5,U2/U6 SPLICEOSOME SUBUNITS. **Yoshimasa Takizawa**, Melanie D. Ohi.

1301-Pos BOARD #B99
3D SOLUTION STRUCTURE OF THE C-TERMINAL CHROMODOMAIN OF THE CHLOROPLAST SIGNAL RECOGNITION PARTICLE. **Ananthamurthy Koteswara**, Kathir M. Karuppanan, Robyn Goforth, Ralph Henry, Suresh Kumar K. Thallapuram.

1302-Pos BOARD #B100
THE PSI SGKB TECHNOLOGY PORTAL - AN ONLINE DATABASE OF STRUCTURAL GENOMICS TECHNOLOGIES. **Lester Carter**, Maggie Gabanyi, Helen M. Berman, Paul Adams.

1303-Pos BOARD #B101
PROTEIN STRUCTURE INITIATIVE MATERIAL REPOSITORY (PSI-MR): A RESOURCE OF STRUCTURAL GENOMICS PLASMIDS FOR THE BIOLOGICAL COMMUNITY. **Catherine Cormier**, Jean Chin, Joshua LaBaer.

1304-Pos BOARD #B102
HOW TO USE THE PSI STRUCTURAL GENOMICS KNOWLEDGEBASE TO ENABLE RESEARCH. **Andrei Kouranov**, John Westbrook, Margaret Gabanyi, Yi-Ping Tao, Raship Shah, Torsten Schwede, Konstantin Arnold, Florian Kiefer, Lorenza Bordoli, Paul Adams, Lester Carter, Wladek Minor, Rajesh Nair, Joshua LaBaer, Helen M. Berman.

1305-Pos BOARD #B103
NIGMS PSI: BIOLOGY INITIATIVE -- HIGH-THROUGHPUT-ENABLED STRUCTURAL BIOLOGY. **Peter C. Preusch**, Ravi Basavappa, Jean Chin, Charles Edmonds, Ward Smith, Catherine Lewis.

1306-Pos BOARD #B104
TECHNOLOGY DEVELOPMENT HIGHLIGHTS GENERATED FROM THE CENTER FOR EUKARYOTIC STRUCTURAL GENOMICS. **George N. Phillips, Jr.**, John Primm, David Aceti, Craig A. Bingman, Ronnie Frederick, Shin-ichi Makino, Francis Peterson, Frank Vojtk, Russel Wrobel, Zsolt Zolnai, Brian Volkman, Brian G. Fox, John L. Markley.

1307-Pos BOARD #B105
EFFECTIVE PROTEIN CRYSTALLIZATION SCREENING WITH SYNTHETIC ZEOLITE MOLECULAR SIEVES AS HETERO-EPI TAXIC NUCLEANT. **Michihiro Sugahara**, Yuko Kageyama-Morikawa, Naoki Kunishima.

1308-Pos BOARD #B106 INTERNATIONAL TRAVEL AWARDEE
STRUCTURAL BIOLOGY REVEALS A NEW PROTEIN FAMILY FROM *S. CEREVISIAE* WITH A NOVEL FOLD AND IMPLICATED IN THE METABOLISM CONTROL AND DRUG RESISTANCE. **Tatiana Domitrovic**, Guennadi Kozlov, João G. Freire, Claudio A. Masuda, Marcus S. Almeida, Monica Montero-Lomeli, Edna Matta-Camacho, Kalle Gehring, Eleonora Kurtenbach.

Protein Aggregates I (Boards #B107-#B129)

1309-Pos BOARD #B107
THERMODYNAMIC INSTABILITY OF A SELF-ASSEMBLED 16-RESIDUE ALANINE-BASED OLIGOPEPTIDE IN AQUEOUS MEDIA: HYDROGEL, FIBRIL, AND BEADED FILAMENT FORMATION. **Thomas J. Measey**, Konstantin Kornev, Reinhard Schweitzer-Stenner.

1310-Pos BOARD #B108
THE SELF-AGGREGATION OF A POLYALANINE OCTAMER PROMOTED BY ITS C-TERMINAL TYROSINE AND PROBED BY A STRONGLY ENHANCED VCD SIGNAL. **Thomas J. Measey**, Kathryn B. Smith, Sean M. Decatur, Liming Zhao, Guoliang Yang, Reinhard Schweitzer-Stenner.

1311-Pos BOARD #B109
MOLECULAR BASIS FOR THE CATALYSIS OF B-SHEET FORMATION BY WATER-NONPOLAR INTERFACES. **Ana Nikolic**, Stéphanie Baud, Sarah Rauscher, Régis Pomès.

1312-Pos BOARD #B110
OLIGOMERISATION, FIBRILLATION AND ACTIVITY OF HEN LYSOZYME IN ALKALINE MEDIUM: A CONCENTRATION DEPENDENT INVESTIGATION. **Vijay K. Ravi**, Nividh Chandra, Rajaram Swaminathan.

1313-Pos BOARD #B111
THE ADDITION OF AN OSMOLYTE, TRIMETHYLAMINE N-OXIDE PROMOTES SECONDARY STRUCTURE HETEROGENEITY AMONG AMYLOID FIBRILS. **Melissa J. Paulite**, Nikhil Gunari, Gilbert C. Walker.

1314-Pos BOARD #B112
STRUCTURAL AND FUNCTIONAL ANALYSIS OF AMYLOID FIBRIL FORMATION BY TWO CLOSELY RELATED LIGHT CHAINS. **Douglas Martin**, Marina Ramirez-Alvarado.

1315-Pos BOARD #B113
INSTANTANEOUS FIBRIL FORMATION OF α -SYNUCLEIN BY LATERAL ASSOCIATION OF THE PREFORMED OLIGOMERIC GRANULES. **Daekyun Lee**, Jung-Ho Lee, Ghibom Bhak, Sang-Gil Lee, Seung R. Paik.

1316-Pos BOARD #B114
NEW FLUORESCENT PROBE FOR CONTINUOUS MONITORING OF ALPHA-SYNUCLEIN AGGREGATION. **Dmytro A. Yushchenko**, Jonathan A. Fauerbach, Alexander P. Demchenko, Elizabeth Jares-Erijman, Thomas M. Jovin.

1317-Pos BOARD #B115
CHARACTERIZATION OF ALPHA-SYNUCLEIN EARLY AGGREGATES BY ATOMIC FORCE MICROSCOPY. **Jonathan Fauerbach**, Dmytro Yushchenko, Alexander Demchenko, Thomas M. Jovin, Elizabeth A. Jares-Erijman.

1318-Pos BOARD #B116
SICKLE HEMOGLOBIN FIBER KINETICS REVEALED BY OPTICAL PATTERN GENERATION. **Zenghui Liu**, Alexey Aprelev, Mikhail Zakharov, Frank A. Ferrone.

1319-Pos BOARD #B117
DO DIFFERENT LIGANDS PRODUCE DIFFERENT EFFECTS IN SICKLE HEMOGLOBIN POLYMER GROWTH? **Donna Yosmanovich**, Alexey Aprelev, Maria Rotter, Frank A. Ferrone.

1320-Pos BOARD #B118
LIGHT SCATTERING MEASUREMENTS OF HEMOGLOBIN CRITICAL FLUCTUATION AND THE ENERGY LANDSCAPE FOR POLYMERIZATION. **Yihua Wang**, Alexey Aprelev, Suzanna Kwong, Robin W. Briehl, Antonio Emanuele, Frank A. Ferrone.

1321-Pos BOARD #B119
SICKLE CELL OCCLUSION IN MICROCHANNELS. **Alexey Aprelev**, William Stephenson, Hongseok (Moses) Noh, Frank A. Ferrone.

1322-Pos BOARD #B120
MICRORHEOLOGY OF SICKLE HEMOGLOBIN GELS. **Mikhail Zakharov**, Alexey Aprelev, Matthew S. Turner, Frank A. Ferrone.

1323-Pos BOARD #B121
UNRAVELING THE PRESSURE EFFECT ON NUCLEATION PROCESSES OF AMYLOIDOGENIC PROTEINS. **Roland Winter**.

1324-Pos BOARD #B122
POINT SUBSTITUTION IN ALBETIN SEQUENCE ACCELERATES THE AMYLOID STRUCTURE FORMATION. **Vitaly A. Balobanov**, Yakov S. Anisimov, Rita V. Chertkova, Nelly B. Ilyina, Victor D. Vasilyev, Valentina E. Bychkova.

1325-Pos BOARD #B123
AMINO ACID MODIFICATIONS IN THE N TERMINAL SEQUENCE OF HTT EXON-1 MODULATE IN VITRO AGGREGATION. **Rakesh Mishra**, Ravindra Kodali, Ronald Wetzel.

1326-Pos BOARD #B124 **MINORITY BIOPHYSICISTS TRAVEL AWARDEE**
PREFIBRILLAR FORMATION CONDITIONS OF β -LACTOGLOBULIN BY TITRATION AND CHAOTROPES UREA AND KSCN UNDER THERMAL LOAD. **Rolando Valdez**, Lorenzo Brancaleone, Jerimah Bapcock.

1327-Pos BOARD #B125
AMYLOID GELS: FORMATION OF AN INSULIN FIBRILLAR NETWORK. **Mauro Manno**, Daniela Giacomazza, Jay Newman, Vincenzo Martorana, Pier Luigi San Biagio.

1328-Pos BOARD #B126
HYBRID AMYLOID FIBRIL GENESIS WITH COMPONENTS OF SPORADIC AND FAMILIAL ALZHEIMER'S DISEASE. **Julian Ollesch**, Marcus Fändrich.

1329-Pos BOARD #B127
IAPP PREAMYLOID OLIGOMERS ACCUMULATE IN THE HEART AND CONTRIBUTE TO CARDIAC DYSFUNCTION IN TYPE-2 DIABETES. **Sanda Despa**, Flavia Andronic, Phung Thai, Jeffrey H. Walton, Kenneth B. Margulies, Donald M. Bers, Florin Despa.

1330-Pos BOARD #B128
SMALL MOLECULE INHIBITORS OF ISLET AMYLOID POLYPEPTIDE FIBRILLOGENESIS AND CYTOTOXICITY. **Mazin Magzoub**, James A. Hebda, Andrew Miranker.

1331-Pos BOARD #B129
ZINC INHIBITS HUMAN ISLET AMYLOID POLYPEPTIDE (IAPP) AMYLOIDOGENESIS. **Kevin Hartman**, Jeffrey R. Brender, Vivekanandan Subramanian, Daniel W. Youngstrom, Ayyalusamy Ramamoorthy.

Intrinsically Disordered Proteins I (Boards #B130-#B150)

1332-Pos BOARD #B130
EFFECTS OF PH ON CONFORMATIONAL EQUILIBRIA OF INTRINSICALLY DISORDERED PROTEINS. **Albert H. Mao**, Scott L. Crick, Caitlin L. Chicoine, Rohit V. Pappu.

1333-Pos BOARD #B131
DEVELOPMENT OF NEW PREDICTORS OF INTRINSICALLY DISORDERED PROTEINS AND RESIDUES. **Bin Xue**, Christopher J. Oldfield, Weilun Hsu, Vladimir Uversky, A. Keith Dunker.

1334-Pos BOARD #B132
STRUCTURAL DISORDER WITHIN HENIPAVIRUS NUCLEOPROTEIN AND PHOSPHOPROTEIN. **Sonia Longhi**, Johnny Habchi, Laurent Mamelli, Hervé Darbon.

1335-Pos BOARD #B133
SEARCHING FOR THE NATIVE MOLTED GLOBULES. **Vladimir N. Uversky**, A. Keith Dunker, Bin Xue, Christopher J. Oldfield.

1336-Pos BOARD #B134
EXPLORING THE BINDING DIVERSITY OF INTRINSICALLY DISORDERED PROTEINS. **Wei-Lun Hsu**.

1337-Pos BOARD #B135
ENERGY LANDSCAPE ANALYSIS REVEALS RESIDUAL ORDER IN HISTONE TAIL DYNAMICS. **Davit Potoyan**, Garegin Papoian.

1338-Pos BOARD #B136
CONNECTING UNFOLDED PROTEIN DYNAMICS AND AGGREGATION. **Lisa J. Lapidus**, Yujie Chen, Vijay R. Singh, Steven A. Waldauer, Eric Buscarino, Vince A. Voelz, Vijay S. Pande.

1339-Pos BOARD #B137
INVESTIGATION OF THE INTRINSICALLY DISORDERED PROTEIN IA3 BY MULTIPLE SDSL-EPR TECHNIQUES. **Natasha L. Pirman**, Gail E. Fanucci.

1340-Pos BOARD #B138
COUPLED FOLDING AND BINDING OF PKID WITH KIX DOMAIN INVESTIGATED BY MULTICANONICAL MOLECULAR DYNAMICS SIMULATION IN EXPLICIT SOLVENT. **Koji Umezawa**, Jinzen Ikebe, Haruki Nakamura, Junichi Higo.

1341-Pos BOARD #B139
ON THE ORIGINS OF INTRINSICALLY DISORDERED PROTEINS. **Jintao Liu**, Faeder R. James, Carlos J. Camacho.

1342-Pos BOARD #B140
CONCERTED INVOLVEMENT OF LONG-RANGE ELECTROSTATIC INTERACTIONS AND FLY-CATSING IN RECOGNITION OF INTRINSICALLY DISORDERED PROTEINS. **Debabani Ganguly**, Jianhan Chen.

1343-Pos BOARD #B141
REVERSE REGULATION: CONTROLLING INTRINSICALLY DISORDERED DOMAINS WITH STRUCTURED ELEMENTS. **Ying Liu**, Annie Huang, Jordan McIntyre, Sarah E. Bondos.

1344-Pos BOARD #B142
SINGLE-MOLECULE FRET REVEALS ALTERED BINDING-INDUCED FOLDING LANDSCAPE OF PD-RELATED MUTANT PROTEIN ALPHA-SYNUCLEIN. **Crystal R. Moran**, Allan Chris M. Ferreon, Yann Gambin, Ashok A. Deniz.

1345-Pos BOARD #B143
 α -SYNUCLEIN N-TERMINUS ELICITS VESICLE BINDING AND FOLDING NUCLEATION. **Tim Bartels**, Logan S. Ahlstrom, Avigdor Leftin, Christian Haas, Michael F. Brown, Klaus Beyer.

1346-Pos BOARD #B144
EFFECTS OF VESICLE DIAMETER AND LIPID COMPOSITION ON α -SYNUCLEIN BINDING. **Elizabeth Middleton**, Elizabeth Rhoades.

1347-Pos BOARD #B145
VESICLE-BOUND ALPHA-SYNUCLEIN: ARE THE HELICES ANTI-PARALLEL OR EXTENDED? **Malte Drescher**, Bart D. van Rooijen, Gertjan Veldhuis, Frans Godschalk, Sergey Milikisyants, Vinod Subramaniam, Martina Huber.

1348-Pos BOARD #B146
A SINGLE MOLECULE FLUORESCENCE STUDY ON THE CONSEQUENCES OF ALPHA-SYNUCLEIN OXIDATION. **Eva Sevcsik**, Elizabeth Rhoades.

1349-Pos BOARD #B147
NATURE OF THE LOW PH ALPHA SYNUCLEIN CONFORMATIONAL STATE REVEALED WITH SINGLE MOLECULE FLUORESCENCE. **Adam Trexler**, Elizabeth Rhoades.

1350-Pos BOARD #B148
MONITORING THE LIPID- BINDING PROPERTIES OF BETA- AND GAMMA- SYNUCLEIN USING FLUORESCENCE CORRELATION SPECTROSCOPY (FCS). **Vanessa C. Ducas**, Elizabeth Rhoades.

1351-Pos BOARD #B149
DETERMINING THE THE EFFECTS OF DISORDER ON BINDING AFFINITY. **Wai Kit Ma**, Rebecca Sacora, Matthew Gage.

1352-Pos BOARD #B150
MECHANISM OF SMALL-MOLECULE BINDING BY INTRINSICALLY DISORDERED PROTEINS. **Steven J. Metallo**, Ariele Viacava Follis, Dalia I. Hammoudeh, Edward V. Prochownik.

Ribosomes & Translation (Boards #B151-#B166)

1353-Pos BOARD #B151
SIMULATIONS OF THE RIBOSOME SUGGEST REVERSIBLE TRANSITIONS AND PARALLEL PATHWAYS ARE INVOLVED IN THE LARGE-SCALE FUNCTIONAL MOTIONS OF TRNA DURING TRANSLATION. **Paul C. Whitford**, Peter Geggier, Roger Altman, Scott C. Blanchard, José N. Onuchic, Kevin Y. Sanbonmatsu.

1354-Pos BOARD #B152
FAST BIOSYNTHESIS OF GFP MOLECULES - A SINGLE MOLECULE FLUORESCENCE STUDY. **Georg Büldt**, Alexandros Katranidis, Ramona Schlesinger, Knud H. Nierhaus, Ingo Gregor, Michael Gerrits, Jörg Fitter.

1355-Pos BOARD #B153
FLUCTUATING TRNA GUIDED BY INDUCED FIT AS A BASIS OF HIGH FIDELITY TRANSLATION BY THE RIBOSOME. **Padmaja P. Mishra**, Wenhui Ren, Mohd Tanvir Qureshi, Tae-Hee Lee.

1356-Pos BOARD #B154
SIMULATIONS OF THE BACTERIAL RIBOSOMAL DECODING SWITCH. **Andrea C. Vaiana**, Helmut Grubmueller, Kevin Y. Sanbonmatsu.

1357-Pos BOARD #B155
SINGLE-MOLECULE STUDY OF PROGRAMMED RIBOSOMAL FRAMESHIFTING. **Jin-Der Wen**, Laura Lancaster, Harry Noller, Carlos Bustamante, Ignacio Tinoco.

1358-Pos BOARD #B156
SINGLE-MOLECULE OPTICAL-TWEEZERS STUDIES OF RIBOSOME TRANSLATION AND UNWINDING OF MESSENGER RNA. **Xiaohui Qu**, Jin-Der Wen, Steven B. Smith, Laura Lancaster, Harry F. Noller, Carlos Bustamante, Ignacio Tinoco, Jr.

1359-Pos BOARD #B157
INSIGHTS INTO TRANSLATIONAL TERMINATION FROM CRYSTAL STRUCTURES OF THE 70S RIBOSOME BOUND TO RELEASE FACTOR. **Hong Jin**, Albert Weixlbaumer, Cajetan Neubauer, Rebecca Voorhees, Sabine Petry, David Loakes, Ann Kelley, Venki Ramakrishnan.

1360-Pos BOARD #B158
REALTIME OBSERVATION OF TRNA DYNAMICS AT HIGH CONCENTRATIONS IN SINGLE MOLECULE TRANSLATION. **Sotaro Uemura**, Jonas Korlach, Benjamin Flusberg, Stephen Turner, Joseph D. Puglisi.

1361-Pos BOARD #B159
FOLLOWING MOVEMENT OF THE L1 STALK BETWEEN THREE FUNCTIONAL STATES IN SINGLE RIBOSOMES. **Dmitri N. Ermolenko**, Peter V. Cornish, David W. Staple, Lee Hoang, Robyn P. Hickerson, Taekjip Ha, Harry F. Noller.

1362-Pos BOARD #B160
SIDE-CHAIN REACTIVITY OF A NASCENT PEPTIDE IN THE RIBOSOMAL EXIT TUNNEL. **Jianli Lu**, Zhengmao Hua, William R. Kobertz, Carol Deutsch.

1363-Pos BOARD #B161
A UNIVERSAL ZONE IN THE RIBOSOMAL EXIT TUNNEL FOR HELIX FORMATION IN KV1.3. **LiWei Tu**, Carol Deutsch.

1364-Pos BOARD #B162
SINGLE-MOLECULE FORCE MEASUREMENT FOR 30S- MRNA INTERACTION IN TRANSLATION INITIATION. **Tomoaki Masuda**, Ryo Iizuka, Takashi Funatsu, Sotaro Uemura.

1365-Pos BOARD #B163
STRUCTURAL ANALYSIS OF BOUND MOLECULES TO RIBOSOME BY EM-FITTING. **Atsushi Matsumoto**.

1366-Pos BOARD #B164
SPONTANEOUS VS. ALLOSTERIC DISSOCIATION OF E-SITE TRNA DURING POLYPEPTIDE ELONGATION. **Chunlai Chen**, Benjamin Stevens, Jaskiran Kaur, Diana Cabral, Zeev Smilansky, Barry S. Cooperman, Yale E. Goldman.

1367-Pos BOARD #B165
ENHANCEMENT OF SINGLE MOLECULE FLUORESCENCE SIGNALS BY COLLOIDAL SILVER NANOPARTICLES IN STUDIES OF RIBOSOME DYNAMICS. **Shashank Bharill**, Chunlai Chen, Ben Stevens, Jaskiran Kaur, Wlodek Mandecki, Ignacy Gryczynski, Zygmunt Gryczynski, Barry S. Cooperman, Yale E. Goldman.

1368-Pos BOARD #B166
ESTABLISHING A FLUORESCENCE-BASED HELICASE ASSAY FOR MONITORING EUKARYOTIC PROTEIN SYNTHESIS INITIATION. **Ali Ozes**, Christopher S. Fraser.

DNA, RNA Structure & Conformation I (Boards #B167-#B187)

1369-Pos BOARD #B167
STRUCTURE AND MECHANISM OF THE GLMS RIBOZYME. **Julie Soukup**, Danielle Renner.

1370-Pos BOARD #B168
ANTIBIOTIC DEVELOPMENT BY INVESTIGATION OF THE GLMS RIBOSWITCH. **Danielle Renner**, Julie Soukup.

1371-Pos BOARD #B169
FOLDING OF THE THIAMINE PYROPHOSPHATE (TPP) RIBOSWITCH. **Peter C. Anthony**, Christian F. Perez, Cuauhtémoc García-García, Steven M. Block.

1372-Pos BOARD #B170
STRUCTURE AND FUNCTION OF A POTENTIAL MAMMALIAN RIBOSWITCH. **Kelley Wanzeck**, Natalie Erbs, Katie Del Vecchio, Julie Soukup.

1373-Pos BOARD #B171
DYNAMICS OF THE CATALYTIC POCKET OF A DIELS-ALDER RIBOZYME. **Tomasz Berezniak**, Petra Imhof, Andres Jäschke, Jeremy C. Smith.

1374-Pos BOARD #B172
STRUCTURAL PROBING OF THE T BOX ANTTERMINATOR-TRNA COMPLEX. **Jennifer Hines**, John A. Means, Abigail Muchenditsi, Akwasi Agyeman.

1375-Pos BOARD #B173
NANOSECOND MOTIONS OF THE SUBSTRATE-RECOGNITION DUPLEX IN A GROUP I INTRON ASSESSED BY SITE-DIRECTED SPIN LABELING. **Gian Paola G. Grant**, Phuong Nguyen, Nathan Boyd, Daniel Herschlag, Peter Qin.

1376-Pos BOARD #B174
MAPPING THE GLOBAL CONFORMATION OF THE PHI29 PACKAGING RNA DIMER USING DEER DISTANCE CONSTRAINTS. **Xiaojun Zhang**, Mamoon Hatmal, Ian Haworth, Peter Z. Qin.

1377-Pos BOARD #B175
ACCURATE DISTANCE CONSTRAINTS FOR RNA STRUCTURES USING DEER SPECTROSCOPY. **Victoria J. DeRose**, Nak-Kyoon Kim, Michael K. Bowman, Brandon Green, Adam Unger, Stefan Stoll, R. David Britt.

1378-Pos BOARD #B176
FILTERING RNA DECOYS WITH SMALL ANGLE X-RAY SCATTERING AND CLUSTERING ANALYSIS. **Adelene Y. L. Sim**, Michael Levitt.

1379-Pos BOARD #B177
MOLECULAR DYNAMICS AND DISTRIBUTION OF IONS IN KISSING LOOP. **Abhishek Singh**, Latsavongsakda Sethaphong, Yaroslava G. Yingling.

1380-Pos BOARD #B178
PORTABILITY OF A COMMON NUCLEIC ACID HAIRPIN LOOP MOTIF BETWEEN RNA AND DNA. **Joshua M. Blose**, Kenneth P. Lloyd, Philip C. Bevilacqua.

1381-Pos BOARD #B179
SINGLE MOLECULE FRET CHARACTERIZATION OF DNA G-QUADRUPLEXES FORMED IN THE PROMOTER OF HUMAN MEF2D AND TNNI3 GENES. **Wenhua Zhou**, Liming Ying.

1382-Pos BOARD #B180
STRUCTURAL DIVERSITY OF G-QUADRUPLEXES : POTASSIUM CONCENTRATION EFFECT. **Chang-Ting Lin**, Ting-Yuan Tseng, Ta-Chau Chang*.

1383-Pos BOARD #B181
DOES THE UNFOLDING STATE OF THE HUMAN TELOMERE EXIST UPON ION EXCHANGE? **Jen-Fei Chu**, Zi-Fu Wang, Hung-Wen Li, Ta-Chau Chang*.

1384-Pos BOARD #B182
METADYNAMICS STUDY OF THE FREE ENERGY SURFACE OF A G-QUADRUPLEX DNA STRUCTURE. **Juan-Antonio Mondragón-Sánchez**, Edmundo Mendieta-Fernández, Ramon Garduño-Juárez, Gilberto Sánchez-González.

1385-Pos BOARD #B183
LOCAL DYNAMIC STUDIES OF GUANINE RESIDUES WITHIN THE HUMAN TELOMERIC DNA G-QUADRUPLEXED CONFORMATION. **Xiuyi Liu**, Yasemin Kopkalli, Aleksandr V. Smirnov, Tilman Rosales, Mary E. Hawkins, Jay R. Knutson, Lesley Davenport.

1386-Pos BOARD #B184 MINORITY BIOPHYSICISTS TRAVEL AWARDEE
BENZO[B]FLUORENONE AS A QUADRUPLEX INTERACTIVE AGENT (QIA): BINDING STUDIES AND QUADRUPLEX FORMATION WITH THE HUMAN TELOMERIC HT4 SEQUENCE. **Yasemin Kopkalli**, Meylyn Chery, Brian W. Williams, Lesley Davenport.

1387-Pos BOARD #B185
WHICH COMES FIRST, THE DEFORMATION OR THE BINDING? **Sungchul Hohng**, Sangsu Bae.

1388-Pos BOARD #B186
MONITORING STRUCTURAL TRANSITIONS OF A DNA HOLLIDAY JUNCTION USING AN ACOUSTIC WAVE SENSOR. **Achilleas Tsortos**.

1389-Pos BOARD #B187
SINGLE MOLECULE FRET MEASURES STRUCTURE AND FAST DYNAMICS OF DNA AND RNA FOUR-WAY JUNCTIONS. **Claus A. M. Seidel**, Stanislav Kalinin, Suren Felekyan, Alessandro Valeri, Simon Sindbert.

Protein-Nucleic Acid Interactions II (Boards #B188-#B211)

1390-Pos BOARD #B188
KINETIC ENHANCEMENT OF NF-KB/DNA DISSOCIATION BY IKBALPHA. **Vera Alverdi**, Byron Hetrick, Simpson Joseph, Elizabeth A. Komives.

1391-Pos BOARD #B189
PRION APTAMER, FREE AND BOUND STATES. **Abigail Miller**, Lori Goldner.

1392-Pos BOARD #B190
SALT CONCENTRATION AND FORCE AFFECT HU-DNA INTERACTION. **Botao Xiao**, Reid C. Johnson, John F. Marko.

1393-Pos BOARD #B191
MOLECULAR PROPERTIES OF TELOMERIC TRF1/TRF2 - DNA SYSTEMS. **Bartłomiej Tomiczek**, Joanna Bidzinska, Karina Dzedzej, Jacek Czub, Andrzej Skladanowski, Maciej Baginski.

1394-Pos BOARD #B192
NUCLEIC ACID CHAPERONE ACTIVITY OF THE YEAST TY3 RETROTRANSPOSON NUCLEOCAPSID PROTEIN. **Kathy R. Chaurasiya**, Hylkje Geertsema, Fei Wang, Gael Cristofari, Jean-Luc Darlix, Mark Williams.

1395-Pos BOARD #B193
5'-SINGLE STRANDED DNA DUPLEX JUNCTIONS PROVIDE SPECIFIC LOADING SITES FOR THE *E. COLI* UVRD SINGLE STRANDED DNA TRANSLOCASE. **Eric J. Tomko**, Nasib K. Maluf, Timothy M. Lohman.

1396-Pos BOARD #B194
MECHANISMS OF NUCLEOTIDE COFACTOR INTERACTIONS WITH THE REPA PROTEIN OF PLASMID RSF1010. **Maria J. Jezewska**, Iraida E. Andreeva, Michal R. Szymanski, Wlodek Bujalowski.

1397-Pos BOARD #B195
DYNAMICS OF THE SSDNA RECOGNITION BY THE REPA HEXAMERIC HELICASE OF PLASMID RSF1010. ANALYSES USING FLUORESCENCE STOPPED-FLOW INTENSITY AND ANISOTROPY METHODS. **Wlodek Bujalowski**, Maria J. Jezewska, Iraida E. Andreeva, Michal R. Szymanski, Roberto Galletto.

1398-Pos BOARD #B196
ENERGETICS OF THE *E. COLI* PRIA HELICASE INTERACTIONS WITH THE DOUBLE STRANDED DNA. **Michal R. Szymanski**, Maria J. Jezewska, Wlodzimierz Bujalowski.

1399-Pos BOARD #B197
MECHANISTIC STUDIES AT THE SINGLE MOLECULE LEVEL REVEAL THE DYNAMICS OF HCV POLYMERASE PROTEIN IN COMPLEX WITH RNA. **Pierre Karam**, Colins Vasquez, Wayne Mah, Megan Powdrill, Matthias Götte, Gonzalo Cosa.

1400-Pos BOARD #B198
SINGLE-MOLECULE VISUALIZATION OF THE OLIGOMERIC FORM OF *ESCHERICHIA COLI* UVRD HELICASE *IN VITRO*. **Yuko Ayabe Chujo**, Yoshie Harada, Hiroaki Yokota.

1401-Pos BOARD #B199
MECHANISM OF DNA-DEPENDENT ENZYMATIC ACTIVATION OF *E. COLI* RECQ HELICASE. **Kata Sarlos**, Mate Gyimesi, Mihaly Kovacs.

1402-Pos BOARD #B200
E. COLI RECBC HELICASE ACTIVELY TRANSLOCATES ON BOTH STRANDS DURING DNA UNWINDING. **Colin G. Wu**, Timothy M. Lohman.

1403-Pos BOARD #B201
PROBING PROTEIN DIFFUSION AND DISSOCIATION MECHANISMS ON DNA USING FLUORESCENCE-FORCE SPECTROSCOPY. **Ruobo Zhou**, Rahul Roy, Alexander G. Kozlov, Timothy M. Lohman, Taekjip Ha.

1404-Pos BOARD #B202
UNDERSTANDING DNA CONDENSATION: FROM SIMPLE IONS TO COMPLEX PROTEINS. **Jason DeRouchey**, Don C. Rau, Adrian Parsegian.

1405-Pos BOARD #B203
DNA INTERACTION KINETICS OF HIV-1 NUCLEOCAPSID AND GAG PROTEINS. **Jialin Li**, Christopher Jones, Siddhartha A. Datta, Alan Rein, Robert J. Gorelick, Ioulia Rouzina, Karin Musier-Forsyth, Mark C. Williams.

1406-Pos BOARD #B204
REPLACEMENT OF A SINGLE AROMATIC RESIDUE IN HIV-1 NUCLEOCAPSID PROTEIN STRONGLY ALTERS ITS NUCLEIC ACID CHAPERONE ACTIVITY. **Hao Wu**, Micah J. McCauley, Robert J. Gorelick, Ioulia Rouzina, Karin Musier-Forsyth, Mark C. Williams.

1407-Pos BOARD #B205
CORRELATION BETWEEN DNA BINDING THERMODYNAMICS AND FUNCTIONAL BEHAVIOR OF POL I DNA POLYMERASES.
Hiroimi S. Brown, Vince J. LiCata.

1408-Pos BOARD #B206
DNA BINDING AND TRANSLOCATION BY *S. CEREVISIAE* RSC.
Allen Eastlund, Shuja Malik, Christopher Fischer.

1409-Pos BOARD #B207
E. COLI SSB UNDER TENSION. **Rustem G. Khafizov**, Alexander G. Kozlov, Timothy M. Lohman, Yann R. Chemla.

1410-Pos BOARD #B208
ANALYSIS OF NUCLEIC ACID CONFORMATIONS AND AMINO ACID PROPENSITIES IN SINGLE-STRANDED BINDING PROTEINS. **Phillip Steindel**, Douglas Theobald.

1411-Pos BOARD #B209 STUDENT TRAVEL AWARDEE
BINDING AND BENDING PARAMETERS OF INTEGRATION HOST FACTOR TO FOUR-WAY HOLLIDAY JUNCTION.
Olga Buzovetsky.

1412-Pos BOARD #B210
INHIBITION OF EUKARYOTIC RNASE P. **Michael C. Marvin**, Scott C. Walker, David R. Engelke.

1413-Pos BOARD #B211
FINDING THE RIGHT 'MIS'MATCH: MILLISECOND CONFORMATIONAL DYNAMICS OF MUTS-DNA COMPLEX DURING DNA DAMAGE RECOGNITION. **Velmurugu Yogambigai**, Ranjani Narayanan, Serguei V. Kuznetsov, Manju Hingorani, Anjum Ansari.

Membrane Physical Chemistry II (Boards #B212-#B241)

1414-Pos BOARD #B212
SPATIALLY-RESOLVED FLUORESCENCE SPECTRA OF PATTERNED LIPID BILAYERS. **Teiwei Luo**, Alfred Kwok.

1415-Pos BOARD #B213
TETHERED LIPID BILAYERS THAT MIMIC THE COMPOSITION OF NEURONAL MEMBRANES. **Matteo Broccio**, Rima Budvytyte, Gintaras Valincius, Mathias Loesche.

1416-Pos BOARD #B214
FABRICATION OF A MEMBRANE INTERFEROMETER CONTAINING ELECTRODES. **Laura D. Hughes**, Prasad V. Ganesan, Steven G. Boxer.

1417-Pos BOARD #B215
CONFORMATIONAL FLEXIBILITY IN MEMBRANE BINDING PROTEINS: SYNAPTOTAGMIN I C2A. **Jacob W. Gauer**, Jesse Murphy, Kristofer Knutson, R Bryan Sutton, Greg Gillispie, Anne Hinderliter.

1418-Pos BOARD #B216
PROTRUSIVE GROWTH AND PERIODIC CONTRACTILE MOTION IN SURFACE-ADHERED VESICLES INDUCED BY Ca^{2+} -GRADIENTS. **Tatsiana Lobovkina**, Irep Gözen, Yavuz Erkan, Jessica Olofsson, Stephen G. Weber, Owe Orwar.

1419-Pos BOARD #B217 STUDENT TRAVEL AWARDEE
DEPOSITION OF MODEL BIOMIMETIC MEMBRANES ON A SOFT SUPPORT. **Agnieszka Gorska**, Malgorzata Hermanowska, Aleksander Balter, Beate Klösgen.

1420-Pos BOARD #B218
MECHANICS OF POPC BILAYERS IN PRESENCE OF ALKALI SALTS. **Hélène Bouvrais**, Olav S. Garvik, Tanja Pott, Philippe Méléard, John H. Ipsen.

1421-Pos BOARD #B219
REPRODUCTION OF FATTY ACID VESICLES. **Nicole Pflieger**, Albert J. Markvoort, Rutger Staffhorst, Rutger A. van Santen, Ben de Kruijff, Antoinette J. A. Killian.

1422-Pos BOARD #B220
EFFECT OF SOLUBILIZATION ON RHODOPSIN THERMAL DENATURATION IN ROD OUTER SEGMENT DISK MEMBRANES. **Scott Corley**, Arlene Albert.

1423-Pos BOARD #B221
A COARSE GRAINED MOLECULAR DYNAMICS STUDY OF SELF-REPRODUCTION OF FATTY ACID VESICLES. **Albert J. Markvoort**, Bram van Hoof, Nicole A. Pflieger, Rutger A. van Santen, Peter A. J. Hilbers.

1424-Pos BOARD #B222
ON THE MISCIBILITY OF CARDIOLIPIN WITH THE MAJOR LIPID COMPONENTS OF THE BACTERIAL INNER MEMBRANE.
Maria Frias, Matthew G. K. Benesch, Ruthven N. A. H. Lewis, Ronald N. McElhanev.

1425-Pos BOARD #B223
MEASUREMENT OF THE DURATION AND CRITICAL EXPONENT OF CONCENTRATION FLUCTUATIONS IN LIPID BILAYERS NEAR THE CRITICAL POINT. **Aurelia R. Honerkamp-Smith**, Sarah L. Keller.

1426-Pos BOARD #B224
INTERACTION OF A NOVEL IRON CHELATOR WITH MODEL MEMBRANES. **Andreia Leite**, Paula Gameiro, Baltazar de Castro, Maria Rangel.

1427-Pos BOARD #B225
UNRAVELING THE MECHANISM OF MEMBRANE BINDING BY ANNEXIN 5. **Kristofer J. Knutson**, Jacob Gauer, Jesse Murphy, Anne Hinderliter.

1428-Pos BOARD #B226
DRUG RELEASE FROM LIPOSOMES CAN BE MODULATED BY THE EXTENT OF CHOLESTEROL SUPERLATTICE IN THE LIPID MEMBRANE. **Berenice Venegas**, Parkson L. -G. Chong.

1429-Pos BOARD #B227
MEASURING PASSIVE TRANSPORT USING CONFOCAL MICROSCOPY OF GIANT LIPID VESICLES. **Su Li**, Noah Malmstadt.

1430-Pos BOARD #B228
BUFFER PROPERTIES REVEALED WITH MODEL LIPID MEMBRANES. **Megan M. Koerner**, Matthew J. Justice, Bruce D. Ray, Horia I. Petrache.

1431-Pos BOARD #B229
MOLECULES PUSHING MOLECULES: DYNAMIC CONSEQUENCES OF CROWDING. **Philip A. Gurney**, Rudolf Podgornik, Joel A. Cohen, Sergey M. Bezrukov, V. Adrian Parsegian.

1432-Pos BOARD #B230
EFFECT OF PAH CONCENTRATION ON SOPS LIPOSOMES. **Ricardo L. Esparza**, María Leticia Valenzuela Sánchez, Araceli Arteaga Jiménez, César Márquez Beltrán, Amir Maldonado Arce.

1433-Pos BOARD #B231
LOCALIZED PHOTOTHERMAL HEATING OF TEMPERATURE SENSITIVE LIPOSOMES. **Natalie A. Forbes**, Joseph A. Zasadzinski.

1434-Pos BOARD #B232
PHASE DIAGRAM OF A 3-COMPONENT LIPID MIXTURE CONTAINING A POLYUNSATURATED PHOSPHATIDYLCHOLINE. **Tatyana Konyakhina**, Gerald W. Feigenson.

1435-Pos BOARD #B233
INVESTING EARLY SIGNALING EVENTS IN IGE-FCÂRI ACTIVATION USING SEM. **Ethan N. Chiang**, Sarah L. Veatch, David Holowka, Christopher Ober, Barbara A. Baird.

1436-Pos BOARD #B234
FLUORESCENCE MEASUREMENTS IN FRUIT FLY (*DROSOPHILA MELANOGASTER*). **Lin Shin Teo**.

1437-Pos BOARD #B235
THE INFLUENCES OF ELECTRIC FIELDS ON LIPID MEMBRANES. **Andreas Blicher**, Thomas Rainer Heimburg.

1438-Pos BOARD #B236
FRET REVEALS COEXISTING NANOSCOPIC FLUID PHASES IN POPC/DSPC/CHOLESTEROL. **Frederick A. Heberle**, Gerald W. Feigenson.

1439-Pos BOARD #B237
QUANTITATIVE IR SPECTROSCOPY STUDIES OF CHANGES IN LIPID DYNAMICS AND ORGANIZATION IN ISOLATED STRATUM CORNEUM EXPOSED TO BASIC PH. **Peter Saad**, Daniel Moore, David J. Moore, Evan Flach, Carol R. Flach, Richard Mendelsohn.

1440-Pos BOARD #B238
PHASE DIAGRAM OF A 3-COMPONENT LIPID MIXTURE OF PS/PE/CHOL TO MODEL THE INNER LEAFLET OF A PLASMA MEMBRANE. **Nelson F. Morales-Pennington**, Shih Lin Goh, Gerald W. Feigenson.

1441-Pos BOARD #B239
LIPID MONOLAYER LINE TENSION MEASUREMENTS AND MODEL CONVOLUTION. **Andrew H. Nguyen**, Erkan Tuzel, Benjamin L. Stottrup.

1442-Pos BOARD #B240
THE COMPLEX AND UNEXPECTED IONIZATION BEHAVIOR OF PHOSPHOINOSITIDES. **Edgar E. Kooijman**, Katrice E. King, Mahinda Gangoda, Arne Gericke.

1443-Pos BOARD #B241
EFFECT OF POLYMER ON THE ELASTIC PROPERTIES OF MEMBRANES. **Ramon Iniguez**, Heriberto Acuna, Amir Maldonado.

Membrane Active Peptides II (Boards #B242-#B267)

1444-Pos BOARD #B242
EFFECTS OF A MEMBRANE-ACTIVE AMPHIBIAN ANTIMICROBIAL PEPTIDE ON THE BACTERIAL PROTEOME. **Ludovica Marcellini**, Marina Borro, Giovanna Gentile, Lorenzo Stella, Donatella Barra, Maria Luisa Mangoni.

1445-Pos BOARD #B243
A NEW LOOK AT AN OLD FRIEND: NOVEL INSIGHTS INTO PORE FORMATION BY ALAMETHICIN. **Aram J. Krauson**, William C. Wimley.

1446-Pos BOARD #B244
EFFECT OF L- TO D-PEPTIDE ISOMERISATION ON THE ACTIVITY OF ANTIMICROBIAL PEPTIDE ANOPLIN. **Amy Won**, Mourin Khan, Sorin Gustin, Akuvi Akpawu, Stahs Pripotnev, Anatoli Ianou.

1447-Pos BOARD #B245
BIOPHYSICAL STUDIES OF CECROPIN-MELLITIN ANTIMICROBIAL PEPTIDES WITH IMPROVED SELECTIVITY. **Heather Kaminski**, Jimmy B. Feix.

1448-Pos BOARD #B246
STRUCTURAL MODIFICATIONS TO CONVERT MELITTIN FROM A CYTOLYTIC PEPTIDE TO A STABLE CARGO LINKER. **Hua Pan**, Olena Ivashyna, Joshua L. Hood, Eric Christenson, Gregory M. Lanza, Paul H. Schlesinger, Samuel A. Wickline.

1449-Pos BOARD #B247
CATIONIC, HELICAL ANTIMICROBIAL PEPTOIDS WITH BIOMIMETIC ANTIMICROBIAL ACTIVITY. **Rinki Kapoor**.

1450-Pos BOARD #B248 STUDENT TRAVEL AWARDEE
INVESTIGATION OF A SEQUENCE-MODIFIED ANTIMICROBIAL PEPTIDE. **Luba Arotzky**, Michael Urban, Gregory A. Caputo.

1451-Pos BOARD #B249
STRUCTURAL ASPECTS OF THE INTERACTION OF NK-2 DERIVED PEPTIDES WITH CANCER CELLS. **Yasemin Manavbasi**, Yana Gofman, Nir Ben-Tal, Regine Willumeit, Dagmar Zwegyck, Karl Lohner.

1452-Pos BOARD #B250
ANTIMICROBIAL PEPTIDE MIMICS AS POTENTIAL ANTICANCER AGENTS: INTERACTIONS OF ACYL-LYSINE OLIGOMER C12K-7ALPHA8 WITH GANGLIOSIDE/DPPC MIXTURES. **Anastasia Antipova**, Andrey Ivankin, Inna Radzishhevsky, Amram Mor, David Gidalevitz.

1453-Pos BOARD #B251
CANCER CELL PROLIFERATION IS INHIBITED BY PHLIP MEDIATED DELIVERY OF MEMBRANE IMPERMEABLE TOXIN PHALLOIDIN. **Ming An**, Dayanjali Wijesinghe, Oleg A. Andreev, Yana K. Reshetnyak, Donald M. Engelman.

1454-Pos BOARD #B252
MEMBRANE SUPERFICIAL CHARGE MODIFICATION AFFECTS MITOCHONDRIAL PERMEABILIZATION BY DERIVATIVES OF THE POLYCATIONIC PEPTIDE BTM-P1. **Victor V. Lemeshko**.

1455-Pos BOARD #B253
STRUCTURE-FUNCTION INVESTIGATION OF A NOVEL DENDRIMERIC AND LIPIDATED ANTIMICROBIAL PEPTIDE. **Mariano A. Scorciapino**, Andrea Ardu, Jochen Buerck, Carla Cannas, Mariano Casu, Andrea Giuliani, Giovanna Pirri, Andrea C. Rinaldi, Anne S. Ulrich.

1456-Pos BOARD #B254
EFFECTS OF BACILLUS LIPOPEPTIDES ON LIPID MEMBRANE STRUCTURE AND DYNAMICS. **Mozhgan Nazari**, Mustafa Kurdi, Hireen Patel, Heiko Heerklotz.

1457-Pos BOARD #B255
RAPID BINDING AND TRANSMEMBRANE DIFFUSION OF PEPDUCINS IN PHOSPHOLIPID BILAYERS. **Kellen B. Fontanini**, Jay Janz, Richard Looby, James A. Hamilton.

1458-Pos BOARD #B256
NANOSTRUCTURE DETERMINES ANTIFUNGAL ACTIVITY OF DE NOVO DESIGNED PH DEPENDENT HISTIDINE CONTAINING ULTRA-SHORT LIPOPEPTIDES. **Christopher J. Arnusch**, H. Bauke Albada, Rob M. J. Liskamp, Yechiel Shai.

1459-Pos BOARD #B257
SPECTROSCOPIC STUDIES OF THE INTERACTION OF NATIVE AND TOAC-LABELED PEPTIDE HORMONES WITH MODEL MEMBRANES: ANGIOTENSIN II. **Nélida Marín**, Erick Poletti, Clóvis Ryuichi Nakaie, Shirley Schreier.

1460-Pos BOARD #B258
UNRAVELING THE MOLECULAR BASIS OF THE SELECTIVITY OF THE HIV-1 FUSION INHIBITOR SIFUVIRTIDE TOWARDS PHOSPHATIDYLCHOLINE-RICH RIGID MEMBRANES. **Henri G. Franquelim**, A. Salomé Veiga, Nuno C. Santos, Miguel A. R. B. Castanho.

1461-Pos BOARD #B259
FUSION PEPTIDE OF GP41 SELF ASSOCIATES IN THE MODEL MEMBRANE AND THEN INTERACTS WITH ITS TRANSMEMBRANE DOMAIN. **Hirak Chakraborty**, David G. Klapper, Barry R. Lentz.

1462-Pos BOARD #B260
HIV FUSION PEPTIDES SIGNIFICANTLY SOFTEN LIPID BILAYERS. **Pavlo Shchelokovskyy**, Stephanie Tristram-Nagle, Reinhard Lipowsky, Rumiana Dimova.

1463-Pos BOARD #B261
AUGMENTATION OF SINGLE CHANNEL WATER PERMEABILITY BY MODIFICATION OF MEMBRANE ANCHORING. **Florian Zocher**, Tanya Polupanowa, Danila Boytsov, Guillem Portella, Bert de Groot, Ulf Diederichsen, Peter Pohl.

1464-Pos BOARD #B262
AMYLOID OLIGOMERS INCREASE THE LIFETIME AND SINGLE CHANNEL CONDUCTANCE OF GRAMICIDIN CHANNELS. **Yuri Sokolov**, Saskia C. Milton, Charles G. Glabe, James E. Hall.

1465-Pos BOARD #B263
OBSERVATION OF BETA-AMYLOID FORMATION VIA MEMBRANE BINDING. **Yen Sun**, Tzu-Hsuan Chen, Chang-Chun Lee, Huey W. Huang.

1466-Pos BOARD #B264
MEMBRANE MEDIATED PEPTIDE CONFORMATION CHANGE FROM ALPHA-MONOMERS TO BETA-AGGREGATES. **Chang-Chun Lee**, Yen Sun, Huey W. Huang.

1467-Pos BOARD #B265
THE HYDROPHOBIC SURFACTANT PROTEINS INDUCE CUBIC PHASES WITHOUT ALTERING SPONTANEOUS CURVATURE. **Mariya Chavarha**, Hamed Khoojinian, Leonard C. Schulwitz, Samares C. Biswas, Shankar B. Rananavare, Stephen B. Hall.

1468-Pos BOARD #B266
MODIFICATIONS TO SURFACTANT PROTEIN B STRUCTURE AND LIPID INTERACTIONS UNDER ARDS CONDITIONS: CONSEQUENCES OF TRYPTOPHAN OXIDATION. **Muzaddid Sarker**, Jarratt Rose, John Bartlett, Mitchell Browne, Valerie Booth.

1469-Pos BOARD #B267
ANTIMICROBIAL PEPTIDES IN TOROIDAL AND CYLINDRICAL PORES. **Maja Mihajlovic**, Themis Lazaridis.

Membrane Structure I (Boards #B268-#B297)

- 1470-Pos** BOARD #B268
HYBRID LIPIDS AS A BIOLOGICAL LINE-ACTIVE COMPONENT.
Robert Brewster, Sam A. Safran.
- 1471-Pos** BOARD #B269
CHARACTERIZATION OF HORIZONTAL LIPID BILAYERS AS A MODEL SYSTEM TO STUDY LIPID PHASE SEPARATION.
Richard Wagner, Frank Erdmann, Alf Honigmann.
- 1472-Pos** BOARD #B270
PHASE-FIELD MODELING AND SIMULATIONS OF LIPID MEMBRANES COUPLING COMPOSITION WITH MEMBRANE MECHANICAL PROPERTIES. **Chloe M. Funkhouser**, Francisco J. Solis, Katsuyo Thornton.
- 1473-Pos** BOARD #B271
COMPUTATION OF LIPID HEADGROUP INTERACTIONS.
Andrew M. Smith, Adriana L. Rogozza, Carina M. Poltera, Gonzalo Ordonez, Shubho Banerjee, Horia I. Petrache.
- 1474-Pos** BOARD #B272
X-RAY SCATTERING FROM GOLD LABELED SUPPORTED MEMBRANES. **Curt M. DeCaro**, Laurence B. Lurio, Justin Berry, Sunil K. Sinha, Gang Chen, Atul Parikh, Adrian Brozell.
- 1475-Pos** BOARD #B273
ANALYSIS OF THE STRUCTURE AND INTERACTION IN TWO-DIMENSIONAL ASSEMBLIES OF TOBACCO MOSAIC VIRUSES ON MODEL LIPID MEMBRANES. **Lin Yang**, Suntao Wang, Masafumi Fukuto.
- 1476-Pos** BOARD #B274
STRUCTURE AND WATER PERMEABILITY OF FULLY HYDRATED DIPHYTANOYLPC. **Stephanie Tristram-Nagle**, Dong Joo Kim, Nadia Akhuzada, Norbert Kučerka, John C. Mathai, Mark Zeidel, John Katsaras, John F. Nagle.
- 1477-Pos** BOARD #B275
OSMOTIC MEMBRANE DEFORMATION REVEALED BY SOLID-STATE 2H NMR AND SMALL-ANGLE X-RAY SCATTERING.
K. J. Mallikarjunaiah, Avigdor Lefitin, Jacob J. Kinnun, Matthew J. Justice, Adriana L. Rogozza, Horia I. Petrache, Michael F. Brown.
- 1478-Pos** BOARD #B276
A MODIFIED LIPID FORCE FIELD FOR CHARMM: DEVELOPMENT AND APPLICATION TO SINGLE-CELLED ORGANISM MEMBRANES. **Jeffery B. Klauda**, Richard M. Venable, Richard W. Pastor.
- 1479-Pos** BOARD #B277
CALCULATION OF PARTITION COEFFICIENTS OF CHAIN ANCHORS IN LIQUID-ORDERED AND LIQUID-DISORDERED PHASES IN MODEL LIPID BILAYERS. **Mark Uline**, Gabriel Longo, Michael Schick, Igal Szleifer.
- 1480-Pos** BOARD #B278
XEROGEL-SUPPORTED LIPID BILAYERS: EFFECT OF SURFACE CURVATURE AND SURFACE CHEMISTRY ON BILAYER PROPERTIES. **Emel I. Goksu**, Barbara A. Nellis, Joe H. Satcher, Jr., Subhash H. Risbud, Marjorie L. Longo.
- 1481-Pos** BOARD #B279
WHAT IS THE DIFFERENCE BETWEEN A SUPPORTED AND A FREE LIPID BILAYER? **Chenyue Xing**, Roland Faller.
- 1482-Pos** BOARD #B280
MICROSCOPY WITH NANOAPERTURES TO REVEAL MEMBRANE ORGANIZATION WITH 1 MICROSECOND AND 100 NANOMETER RESOLUTION. **Christopher V. Kelly**, David A. Holowka, Barbara A. Baird, Harold G. Craighead.
- 1483-Pos** BOARD #B281
BUDDING AND VESICULATION INDUCED BY CONICAL MEMBRANE PROTEINS. **Thorsten Auth**, Gerhard Gompper.
- 1484-Pos** BOARD #B282
A COMPARISON OF THE MEMBRANE PROPERTIES OF THE LIPID MODIFICATIONS OF PROTEINS. **Daniel Huster**.

- 1485-Pos** BOARD #B283
STRUCTURE ANALYSIS OF SYNAPTIC VESICLES BY SOLUTION SMALL-ANGLE SCATTERING OF X-RAYS. **Simon Castorph**, Matthew Holt, Dietmar Riedel, Lise Arleth, Michael Sztucki, Reinhard Jahn, Tim Salditt.
- 1486-Pos** BOARD #B284
IMPLICATIONS OF CRITICALITY IN MEMBRANE BOUND PROCESSES. **Benjamin B. Machta**, Sarah Veatch, Stefanos Papanikolaou, James Sethna.
- 1487-Pos** BOARD #B285
STRUCTURE AND DYNAMICS OF LIPID-MODIFIED ANTIMICROBIAL PEPTIDES IN ANIONIC AND ZWITTERIONIC MEMBRANES INVESTIGATED BY SOLID-STATE NMR.
Holger Scheidt, Alexander Vogel.
- 1488-Pos** BOARD #B286
CURVATURE SENSING BY THE EPSIN N-TERMINAL HOMOLOGY (ENTH) DOMAIN MEASURED ON CYLINDRICAL LIPID MEMBRANE TETHERS. **Benjamin R. Capraro**, Michael C. Heinrich, Youngdae Yoon, Wonwha Cho, Tobias Baumgart.
- 1489-Pos** BOARD #B287
CORRELATION FUNCTION ANALYSIS CORRECTS ARTIFACTUAL SELF-CLUSTERING AND REVEALS SIGNIFICANT CO-LOCALIZATION OF FCER1 AND LYN IN RESTING RBL-2H3 MAST CELLS. **Sarah Veatch**, Ethan Chiang, David Holowka, Barbara Baird.
- 1490-Pos** BOARD #B288
DESIGN OF A BIOLOGICALLY RELEVANT SUPPORTED BILAYER PLATFORM FOR THE STUDY OF MEMBRANE ACTIVE PEPTIDES.
Janice Lin, John Szymanski, Peter C. Searson, Kalina Hristova.
- 1491-Pos** BOARD #B289
STAPHYLOCOCCUS AUREUS ENRICHED IN ORDERED LIPIDS PRESENT RESISTANCE TOWARDS THE ANTIBACTERIAL AGENT SPLA²-IIA: AN UNUSUAL MECHANISM TO SURVIVE.
Hector Jackson Ocampo Ariza, Johanna Paola Chavez Escobar, Jorge L. Romero Becerra, Martha J. Vives, Chad Leidy.
- 1492-Pos** BOARD #B290
LIFETIME OF HYALURONAN CONTAINING TETHERS OBEYS A GENERALIZED BELL MODEL. **Marius C. Staiculescu**, Phillip Stein, Mingzhai Sun, Imre Derenyi, Gabor Forgacs.
- 1493-Pos** BOARD #B291
ANALYTICAL DERIVATION OF THERMODYNAMIC PROPERTIES OF BOLALIPID MEMBRANE. **Sergei I. Mukhin**, Boris B. Kheyfets.
- 1494-Pos** BOARD #B292
HIGHLY STABLE POLY(LIPID) BILAYERS FOR LONG-TERM ION CHANNEL RECORDINGS. **Benjamin A. Heitz**, Robert P. Cordero, S. Scott Saavedra, Craig A. Aspinwall.
- 1495-Pos** BOARD #B293
SOLID-SUPPORTED BILAYER LIPID MEMBRANES FROM LIPID MIXTURES: STRUCTURE AND COMPOSITION.
Prabhanshu Shekhar, Frank Heinrich, Hirsh Nanda, Mathias Loesche.
- 1496-Pos** BOARD #B294
CONDENSING AND FLUIDIZING EFFECTS OF GANGLIOSIDES ON VARIOUS PHOSPHOLIPID FILMS. **Matthew T. Davidson**, Shelli L. Frey.
- 1497-Pos** BOARD #B295
DETERMINING THE WATER CONTENT OF LIPID MEMBRANES BY NEUTRON DIFFRACTION. **Ella Mihalescu**, David Worcester, Francisco Castro-Roman, Monica Fernandez-Vidal, Stephen H. White.
- 1498-Pos** BOARD #B296
OBSERVATION OF INTERMEDIATES IN LAMELLAR TO CUBIC PHASE TRANSFORMATIONS OF LIPID NANOPARTICLES.
Xavier Mulet, Xiaojuan Gong, Lynne J. Waddington, Calum J. Drummond.
- 1499-Pos** BOARD #B297
NATIVE PULMONARY SURFACTANT MEMBRANES IN MICE SHOW COEXISTENCE OF TWO DIFFERENT PHASES IN BILAYERS AND MONOLAYERS: WHEN THE LIPID COMPOSITION CAN PREDICT THE STRUCTURAL PHASE SEGREGATIONS.
Jorge Bernardino de la Serma, Søren Hansen, Hans K. Hannibal-Bach, Uffe Holmskov, Adam C. Simonsen, Jens Knudsen, Luis A. Bagatolli.

Membrane Receptors & Signal Transduction I (Boards #B298-#B325)

1500-Pos BOARD #B298 WITHDRAWN

1501-Pos BOARD #B299
QUANTITATIVE GPCR ASSAY USING TIME-RESOLVED FRET.
Adam M. Knepp, Thomas P. Sakmar, Thomas Huber.

1502-Pos BOARD #B300
EFFECTS OF SENSORY RHODOPSIN II COMPLEXATION WITH
ITS COGNATE TRANSDUCER HTRII ON THE LOCAL
ENVIRONMENT OF INTERNAL WATER MOLECULES.
Mikkel Jensen, Erica C. Saint Clair, Alan Gabel, Vladislav B. Bergo,
Elena N. Spudich, John L. Spudich, Kenneth J. Rothschild.

1503-Pos BOARD #B301
EXPLORING THE MECHANICS AND ENERGETICS OF
EPIDERMAL GROWTH FACTOR RECEPTOR ACTIVATION.
Marco Cavalli, Marco Ceruso.

1504-Pos BOARD #B302
OLIGOMERIZATION OF MEMBRANE RECEPTORS: FRET
ANALYSIS USING COILED-COIL TAG-PROBE LABELING AND
SPECTRAL IMAGING. **Yoshiaki Yano**, Kaoru Omae, Katsumi Matsuzaki.

1505-Pos BOARD #B303
HOW DOES THE STATE OF AGGREGATION OF RHODOPSIN IN
RETINAL DISCS INFLUENCE THE VARIABILITY OF ITS
ACTIVATED LIFE TIME? **Samuel A. Ramirez**, Chad Leidy.

1506-Pos BOARD #B304
COMPARATIVE INTERACTION OF TRICYCLIC
ANTIDEPRESSANTS AND MECAMLYAMINE WITH THE HUMAN
 $\alpha 4\beta 2$ NICOTINIC ACETYLCHOLINE RECEPTOR. **Joringel F. Kaiser**,
Katarzyna M. Targowska-Duda, Dominik Feuerbach, Krzysztof Jozwiak,
Hugo R. Arias.

1507-Pos BOARD #B305
COMMON DYNAMIC BEHAVIOR OF INACTIVE G-PROTEIN
COUPLED RECEPTOR STRUCTURES FOR DIFFUSIBLE LIGANDS.
Juan Carlos Mobarec, Marta Filizola.

1508-Pos BOARD #B306
PROTONATION SWITCHES IN GPCR ACTIVATION:
PHYSIOLOGICALLY SIGNIFICANT RHODOPSIN
PHOTOINTERMEDIATES. **James W. Lewis**, Karina Martinez-Mayorga,
Istvan Szundi, David S. Kliger, Michael F. Brown.

1509-Pos BOARD #B307
MULTI-SCALE DYNAMICS OF RHODOPSIN ACTIVATION AS A
PARADIGM FOR GPCR FUNCTION. **Blake Mertz**, Andrey V. Struts,
Michael F. Brown.

1510-Pos BOARD #B308
CONSEQUENCES OF FAST, STOCHASTIC RHODOPSIN SHUTOFF
FOR A MODEL OF PHOTOTRANSDUCTION IN RODS.
Owen P. Gross, Edward N. Pugh, Marie E. Burns.

1511-Pos BOARD #B309
FUNCTIONAL STRUCTURES OF PHOTO-ACTIVATED
RHODOPSIN DISK MEMBRANES USING SINGLE PARTICLE
TRACKING. **Sebastian Haase**, Tai-Yang Kim, Ulrike Alexiev.

1512-Pos BOARD #B310
MOLECULAR DYNAMICS SIMULATIONS OF ACTIVE RECEPTOR-
G PROTEIN COMPLEX IN A LIPID BILAYER. **Thomas Huber**,
Parag Mukhopadhyay, Thomas P. Sakmar.

1513-Pos BOARD #B311
STUDYING THE DIFFUSION CHARACTERISTICS OF DIFFERENT
ACTIVITY STATES OF THE HUMAN ADENOSINE-A3 RECEPTOR
USING FLUORESCENCE CORRELATION SPECTROSCOPY.
Ross Corriden, Leigh Stoddart, Stephen Briddon, Stephen J. Hill.

1514-Pos BOARD #B312
COMPUTATIONAL INSIGHT INTO THE LIGAND-INDUCED
CONFORMATIONAL SPECIFICITY OF G-PROTEIN COUPLED
RECEPTORS. **Davide Provasi**, Juan Carlos Mobarec,
Marta Camacho Artacho, Marta Filizola.

1515-Pos BOARD #B313
STRUCTURAL AND KINETIC MODELING OF AN ACTIVATING
HELIX SWITCH IN THE RHODOPSIN-TRANSDUCIN INTERFACE.
Peter W. Hildebrand.

1516-Pos BOARD #B314
AGONIST-SPECIFIC EFFECTS OF TM V SERINE MUTATIONS ON
DOPAMINE D2S RECEPTOR VOLTAGE-SENSITIVITY.
Kristoffer Sahlholm, Daniel Marcellino, Johanna Nilsson, Kjell Fuxe,
Peter Århem.

1517-Pos BOARD #B315
INFLUENCE OF MEMBRANE COMPOSITION ON FUNCTION OF
HUMAN PERIPHERAL CANNABINOID RECEPTOR CB2.
Tomohiro Kimura, Alexei A. Yeliseev, Krishna Vukoti, Klaus Gawrisch.

1518-Pos BOARD #B316
A POLYBASIC REGION IN THE C-TERMINUS OF M3
MUSCARINIC ACETYLCHOLINE RECEPTORS MEDIATES AN
INTERACTION WITH GQ HETEROTRIMERS. **Kou Qin**,
Sudha Kuravi, Nevin Lambert.

1519-Pos BOARD #B317
THE HUMAN MUSCARINIC RECEPTOR COUPLES TO G-13 VIA
CATALYTIC COLLISION. **Shai Berlin**, Daniel Yakubovich,
Tal Keren-Raifman, Nathan Dascal.

1520-Pos BOARD #B318
STRUCTURAL CHARACTERIZATION OF THE N-TERMINAL
REGION OF THE SACCHAROMYCES CEREVISIAE G-PROTEIN
COUPLED RECEPTOR, STE2P. **Stephanie Kendall**, Chunhua Shi,
Shelley Forgeron, Michele C. Loewen.

1521-Pos BOARD #B319
ARRESTIN CAN BIND TO A SINGLE G-PROTEIN COUPLED
RECEPTOR. **Hisao Tsukamoto**, Abhinav Sinha, Mark DeWitt,
David L. Farrens.

1522-Pos BOARD #B320
SOLID-STATE NMR DEMONSTRATES THAT ACTIVE SIGNALING
COMPLEXES OF BACTERIAL CHEMORECEPTORS DO NOT
ADOPT THE PROPOSED TRIMER-OF-DIMERS STRUCTURE.
Daniel J. Fowler, Robert M. Weis, Lynmarie K. Thompson.

1523-Pos BOARD #B321
SITE-SPECIFIC FLUORESCENT LABELING OF PURIFIED G-
PROTEIN-COUPLED RECEPTORS USING GENETICALLY-
ENCODED UNNATURAL AMINO ACIDS. **Shixin Ye**,
Manija A. Kazmi, Terence Duarte, Saranga Naganathan, Thomas P. Sakmar,
Thomas Huber.

1524-Pos BOARD #B322
PROBING THE BINDING SITES AND TRANSMEMBRANE
PROLINES OF GPCRS USING UNNATURAL AMINO ACIDS.
Ethan B. Van Arnam, Kristina N. McCleary, Michael M. Torrice,
Kiowa S. Bower, Elizabeth H. Jensen, Henry A. Lester, Dennis A. Dougherty.

1525-Pos BOARD #B323
ANODIC ALUMINUM OXIDE NANOPORES AS SUBSTRATE FOR
FUNCTIONAL AND STRUCTURAL STUDIES ON G PROTEIN-
COUPLED MEMBRANE RECEPTORS. **Olivier Soubias**,
Tomohiro Kimura, Holly C. Gaede, Alexei A. Yeliseev, Klaus Gawrisch.

1526-Pos BOARD #B324
NOVEL TECHNOLOGY TO STUDY CHEMOKINE RECEPTOR
SIGNALING COMPLEXES. **Amy Grunbeck**, Thomas Huber, Shixin Ye,
Sourabh Banerjee, Thomas P. Sakmar.

1527-Pos BOARD #B325
SINGLE-CELL BIOCHEMICAL ASSAYS FOR THE MOLECULAR
TARGETS OF DISEASE. **Christopher Sims**, Nancy Allbritton,
Dechen Jiang, Shan Yang, Angie Proctor, Ryan Phillips.

Calcium Fluxes, Sparks & Waves II (Boards #B326-#B338)

1528-Pos BOARD #B326
POLYHISTIDINE PEPTIDE INHIBITOR OF THE $\alpha\beta$ CALCIUM
CHANNEL POTENTIALLY BLOCKS THE $\alpha\beta$ -INDUCED CALCIUM
RESPONSE IN CELLS. **Nelson Arispe**, Stewart R. Durell, Yinon Shafir,
H. R. Guy.

