

Sunday, February 21, 2010

Daily Program Summary

All rooms in the Moscone Center unless noted otherwise.

7:30 AM–8:30 AM	Postdoctoral Breakfast	Room 301
7:30 AM–10:00 PM	Family Room	Room 114
7:30 AM–5:00 PM	Registration/Exhibitor Registration/Information	Moscone North
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 1 Amyloids in Human Disease <i>Frank LaFerla</i> , University of California, Irvine, Chair DYSREGULATION OF INTRACELLULAR CALCIUM IN ALZHEIMER'S DISEASE. <i>Brian J. Bacskai</i> ALZHEIMER'S PRESENILIN REGULATION OF INSP3R CA2+ RELEASE CHANNEL GATING. <i>J. Kevin Foskett</i> STRUCTURAL DIVERSITY OF AMYLOID OLIGOMERS. <i>Charles Glabe</i> MECHANISMS UNDERLYING NEURONAL "HYPERACTIVITY" IN A MOUSE MODEL OF ALZHEIMER'S DISEASE. <i>Olga Garaschuk</i>	Room 134
8:15 AM–10:15 AM	Symposium 2 The Cytoskeleton: Variations on a Theme <i>Edward Egelman</i> , University of Virginia, Chair FUNCTION AND REGULATION OF THE BACTERIAL CYTOSKELETON. <i>Christine Jacobs-Wagner</i> ACTIN AND BACTERIAL ACTIN-LIKE PROTEINS: INSIGHTS INTO EVOLUTION. <i>Edward Egelman</i> ACTIN FILAMENT NUCLEATION: STRUCTURE-FUNCTION RELATIONSHIPS. <i>Roberto Dominguez</i> COLLECTIVE ACTION OF MOTOR PROTEINS ON MICROTUBULES REGULATES LARGE-SCALE FORCES IN THE CELL. <i>Iva Tolic-Norrelykke</i>	Room 135
8:15 AM–10:15 AM	Platform A Member-organized Session: Biopolymer Dynamics in Cell-like Environment	Room 303
8:15 AM–10:15 AM	Platform B Cardiac Muscle I	Room 304
8:15 AM–10:15 AM	Platform C Voltage-gated Na Channels	Room 305
8:15 AM–10:15 AM	Platform D Protein Assemblies	Room 306
8:15 AM–10:15 AM	Platform E Computational Methods	Room 307
8:15 AM–10:15 AM	Platform F Protein-Nucleic Acid Interactions I	Room 308
9:00 AM–10:30 AM	CPOW Committee Meeting	Room 122
10:00 AM–5:00 PM	Exhibits	Hall D
10:15 AM–11:00 AM	Coffee Break	Hall D
10:30 AM–11:30 PM	Career Workshop: Creating a Competitive Resume	Room 130-131
10:45 AM–12:45 PM	Symposium 3 Multiscale Structural Analysis of Very Large Complexes <i>Andrej Sali</i> , University of California, San Francisco, Chair MASS SPECTROMETRY AND ITS CONTRIBUTION TO HYBRID STRUCTURE DETERMINATION. <i>Carol Robinson</i> ASSEMBLY OF THE 30S RIBOSOME FROM THE RNA FOLDING PERSPECTIVE. <i>Sarah Woodson</i> NUCLEAR PORE COMPLEX STRUCTURE, CONVERSATION AND PLASTICITY. <i>Ueli Aebi</i> INTEGRATING DIVERSE DATA FOR STRUCTURE DETERMINATION OF MACROMOLECULAR ASSEMBLIES. <i>Andrej Sali</i>	Room 134
10:45 AM–12:45 PM	Symposium 4 New and Notable Information provided in the On-site Addendum	Room 135

(Continued from previous page.)

10:45 AM–12:45 PM	Minisymposium 1 Cellular Decision Making: Gene Networks and Evolutionary Dynamics	Room 303
10:45 AM–12:45 PM	Platform G Voltage-gated Ca Channels	Room 304
10:45 AM–12:45 PM	Platform H Physical Chemistry of Proteins & Nucleic Acids	Room 305
10:45 AM–12:45 PM	Platform I Actin & Actin-binding Proteins	Room 306
10:45 AM–12:45 PM	Platform J Interfacial Protein-Lipid Interactions	Room 307
10:45 AM–12:45 PM	Platform K Calcium Signaling in Heart & Non-excitabile Cells	Room 308
11:00 AM–12:00 PM	International Relations Committee Meeting	Room 300
11:30 AM–1:00 PM	Undergraduate Student Symposium	Room 132
12:00 PM–1:00 PM	Career Workshop: Interviewing for Results	Room 130-131
12:00 PM–1:00 PM	International Travel Awardee Luncheon	Room 300
12:00 PM–2:00 PM	CPOW Career Roundtable Luncheon	Room 301
12:00 PM–2:00 PM	Public Affairs Committee Meeting	Room 125
1:00 PM–2:30 PM	Early Careers Committee Panel Moving on from your Postdoctoral Position: Negotiating the Transition	Room 133
1:00 PM–2:30 PM	Exhibitor Presentation: Asylum Research	Room 123
1:00 PM–3:00 PM	Graduate & Postdoc Institution Fair	Hall D
1:45 PM–3:00 PM	Snack Break	Hall D
1:45 PM–3:45 PM	Poster Presentations	Hall D
2:30 PM–4:00 PM	Public Affairs Committee Panel: U.S. Science Policy: Where Are We Now? Where Are We Headed?	Room 132
3:00 PM–4:30 PM	Exhibitor Presentation: ICx Technologies	Room 123
3:30 PM–4:30 PM	Career Workshop: Wherever You Go, There You Are: Self-Reflection as a Career Tool	Room 130-131
3:30 PM–4:30 PM	Early Careers Committee Meeting	Room 125
4:00 PM–6:00 PM	Symposium 5 RNAs Large and Small <i>Anna Pyle, Yale University, Chair</i> PRINCIPLES OF RNA TERTIARY STRUCTURAL ORGANIZATION REVEALED BY GROUP II INTRON CRYSTAL STRUCTURES. <i>Anna Pyle</i> STRUCTURAL INSIGHTS INTO METABOLITE-SENSING MESSENGER RNAs. <i>Robert Batey</i> BIOPHYSICAL ANALYSIS OF GENE REGULATION PATHWAYS CONTROLLED BY BACTERIAL NON-CODING RNAs. <i>Andrew L. Feig</i> TRANSLATION FACTOR CONTROL OF RIBOSOME DYNAMICS DURING PROTEIN SYNTHESIS. <i>Ruben L. Gonzalez, Jr</i>	Room 134
4:00 PM–6:00 PM	Symposium 6 The Proton Gets Channeled <i>Thomas DeCoursey, Rush University, Chair</i> THE HV1 VOLTAGE-GATED PROTON CHANNEL: ARE TWO PORES BETTER THAN ONE? <i>Francesco Tombola</i> VOLTAGE-DEPENDENT ACTIVATION AND PROTON PERMEATION IN HV1. <i>I. Scott Ramsey</i> STRUCTURE AND MECHANISM OF INFLUENZA PROTON CHANNELS. <i>James J. Chou</i> PROTON TRANSPORT THROUGH CHANNELS: INSIGHTS AND SURPRISES FROM MOLECULAR SIMULATION. <i>Gregory A. Voth</i>	Room 135

(Continued from previous page.)

4:00 PM–6:00 PM	Platform L Protein Folding Pathways	Room 303
4:00 PM–6:00 PM	Platform M Excitation-Contraction Coupling	Room 304
4:00 PM–6:00 PM	Platform N Emerging Single Molecule Techniques I	Room 305
4:00 PM–6:00 PM	Platform O Membrane Structure I	Room 306
4:00 PM–6:00 PM	Platform P Member-organized Session: Biophysical Approaches to Study Nucleoid Compaction, Recombination & Gene Regulation	Room 307
4:00 PM–6:00 PM	Platform Q Member-organized Session: Diverse Views of VDAC Structure & Functioning: Quest for the Native Conformations	Room 308
5:00 PM–6:30 PM	Exhibitor Presentation TILL Photonics	Room 123
6:00 PM–7:00 PM	Biophysical Society of Canada Mixer	Room 301
6:00 PM–8:00 PM	SRAA Student Poster Competition	Hall D
7:30 PM–9:30 PM	Workshop 1 Applied Single-Molecule Techniques <i>Stephen Quake</i> , Stanford University, Chair SINGLE MOLECULE DNA SEQUENCING: FROM DEMONSTRATION TO APPLICATION. <i>Ido Braslavsky</i> NANO-DEVICES FOR PROBING SINGLE MOLECULES. <i>Adam Cohen</i> PHYSICS AND ENGINEERING OF BIOLOGICAL MOLECULAR MOTORS. <i>Zev Bryant</i> SELECTIVITY MECHANISM OF THE NUCLEAR PORE COMPLEX CHARACTERIZED BY SINGLE CARGO TRACKING. <i>Jan T. Liphardt</i> THE NANO-POSITIONING SYSTEM - A FRET-BASED TOOL FOR MACRO-MOLECULAR STRUCTURAL ANALYSIS. <i>Adam Muschielok</i>	Room 134
7:30 PM–9:30 PM	Workshop 2 Complementary Methods for Studying Membrane Protein Structure <i>Bonnie Wallace</i> , Birbeck College, London, United Kingdom, Chair THE ROLE OF DETERGENTS AND LIPIDS IN MEMBRANE PROTEIN CRYSTALLOGRAPHY. <i>Robert Stroud</i> NMR STRUCTURAL STUDIES OF MEMBRANE PROTEINS IN LIPID MICELLES AND LIPID BILAYERS. <i>Francesca M. Marassi</i> USING CIRCULAR DICHROISM (CD) AND SYNCHROTRON RADIATION CIRCULAR DICHROISM (SRCD) SPECTROSCOPY TO STUDY MEMBRANE PROTEINS. <i>B. A. Wallace</i> MASS SPECTROMETRY FOR STUDYING MEMBRANE PROTEIN STRUCTURE. <i>Nelson P. Barrera</i>	Room 135
7:30 PM–9:30 PM	Workshop 3 Biophysics of Renewable Energy and Cellular Power Plants <i>Chris Somerville</i> , University of California, Berkeley, Chair THE DEVELOPMENT OF CELLULOSIC FUELS. <i>Chris Somerville</i> ULTRASTRUCTURAL PLANT CELL WALL 3D ORGANIZATION AND MICROBIAL DECONSTRUCTION. <i>Manfred Auer</i> BIOPHYSICS IN CELLULOSE BIOSYNTHESIS AND BIODEGRADATION. <i>Shi-you Ding</i> THE GENUS PREVOTELLA, A RESOURCE OF ENZYMES FOR HEMICELLULOSE DEGRADATION. <i>Isaac Cann</i> ENGINEERING FEEDSTOCKS FOR BIOFUEL PRODUCTION. <i>Pamela Ronald</i>	Room 133

Sunday, February 21

7:30 AM–8:30 AM, Room 301 POSTDOCTORAL BREAKFAST

Supported by the Burroughs Wellcome Fund.

This breakfast will be a valuable forum for meeting other postdocs in the Biophysical Society. Discussion will focus on the career development activities of the Early Careers Committee, plans for future events, and other issues facing the Early Career members of the Society.

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

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

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 1 Amyloids in Human Disease

Chair
Frank LaFerla, University of California, Irvine

14-SYMP 8:15 AM
DYSREGULATION OF INTRACELLULAR CALCIUM IN ALZHEIMER'S DISEASE. **Brian J. Bacskai**, Kishore V. Kuchibhotla, Carli Lattarulo, Bradley T. Hyman.

15-SYMP 8:45 AM
ALZHEIMER'S PRESENILIN REGULATION OF INSP3R CA2+ RELEASE CHANNEL GATING. **J. Kevin Foskett**.

16-SYMP 9:15 AM
STRUCTURAL DIVERSITY OF AMYLOID OLIGOMERS. **Charles Glabe**.

17-SYMP 9:45 AM
MECHANISMS UNDERLYING NEURONAL "HYPERACTIVITY" IN A MOUSE MODEL OF ALZHEIMER'S DISEASE. Bianca Brawek, Gerhard Eichhoff, **Olga Garaschuk**.

8:15 AM–10:15 AM, Room 135 SYMPOSIUM 2 The Cytoskeleton

Chair
Edward Egleman, University of Virginia

18-SYMP 8:15 AM
FUNCTION AND REGULATION OF THE BACTERIAL CYTOSKELETON. **Christine Jacobs-Wagner**.

19-SYMP 8:45 AM
ACTIN AND BACTERIAL ACTIN-LIKE PROTEINS: INSIGHTS INTO EVOLUTION. **Edward Egelman**.

20-SYMP 9:15 AM
ACTIN FILAMENT NUCLEATION: STRUCTURE-FUNCTION RELATIONSHIPS. Malgorzata Boczkowska, Suk Namgoong, Grzegorz Rebowski, **Roberto Dominguez**.

21-SYMP 9:45 AM
COLLECTIVE ACTION OF MOTOR PROTEINS ON MICROTUBULES REGULATES LARGE-SCALE FORCES IN THE CELL. **Iva Tolic-Norrelykke**.

8:15 AM–10:15 AM, Room 303 PLATFORM A Member-organized Session Biopolymer Dynamics in Cell-like Environment

Chair
Margaret Cheung, University of Houston

22-PLAT 8:15 AM
PROTEIN STRUCTURE, STABILITY AND FOLDING IN THE CELL - IN SILICO BIOPHYSICAL APPROACHES. **Margaret S. Cheung**.

23-PLAT 8:30 AM
MOLECULAR MODELING OF THE BACTERIAL CYTOPLASM. **Adrian Elcock**.

24-PLAT 8:45 AM
ENTHALPIC VS. ENTROPIC EFFECTS OF CROWDED CELLULAR ENVIRONMENTS. **Michael Feig**.

25-PLAT 9:00 AM
PROTEIN DIFFUSION AND MACROMOLECULAR CROWDING. **Gary Pielak**, Yaqiang Wang, Conggang Li.

26-PLAT 9:15 AM
UNDERSTANDING HOW THE CROWDED INTERIOR OF CELLS STABILISES DNA/DNA AND DNA/RNA HYBRIDS - IN SILICO PREDICTIONS AND IN VITRO PROOF. **Michael Raghunath**, Karthik Harve, Ricky R. Lareu, Raj Rajagopalan.

27-PLAT 9:30 AM
SIMULATIONS OF PROTEIN AGGREGATION IN THE CELLULAR MILIEU. **Joan-Emma Shea**.

28-PLAT 9:45 AM
PROTEIN STRUCTURE, STABILITY AND FOLDING IN THE CELL - IN VITRO BIOPHYSICAL APPROACHES. **Pernilla Wittung-Stafshede**.

29-PLAT 10:00 AM
ATOMISTIC SIMULATIONS OF MACROMOLECULAR CROWDING. **Huan-Xiang Zhou**.

8:15 AM–10:15 AM, Room 304 PLATFORM B Cardiac Muscle I

Co-Chairs
Michael Regnier, University of Washington, Seattle
Jil Tardiff, Albert Einstein College of Medicine

30-PLAT 8:15 AM
STED BASED SUPER-RESOLUTION IMAGING OF TRANSVERSE TUBULES IN VENTRICULAR MYOCYTES. **Eva Wagner**, Marcel Lauterbach, Volker Westphal, Brian Hagen, W. J. Lederer, Stefan W. Hell, Stephan E. Lehnart.

31-PLAT 8:30 AM
IMPACT OF LOSS OF T-TUBULES ON MYOCARDIAL CONTRACTILE FORCE AND KINETICS. **Cecilia Ferrantini**, Raffaele Coppini, Guo Liang Wang, Mei Luo Zhang, Ewout de Vries, Chiara Tesi, Corrado Poggesi, Henk Ter Keurs.

32-PLAT 8:45 AM
CALCIUM-INDUCED CONFORMATIONAL CHANGES IN THE CARDIAC ISOFORM OF THE TROPONIN COMPLEX MONITORED BY HYDROGEN/DEUTERIUM EXCHANGE AND FOURIER TRANSFORM ION CYCLOTRON RESONANCE MASS SPECTROMETRY. **George M. Bou-Assaf**, Jean E. Chamoun, Piotr G. Fajer, Mark R. Emmett, Alan G. Marshall.

33-PLAT 9:00 AM
STRUCTURE OF TROPONIN COMPLEX:FRET AND MOLECULAR DYNAMIC SIMULATIONS. **Jayant J. Jayasundar**, Jun Xing, John M. Robinson, Herbert C. Cheung, Wen-ji Dong.

34-PLAT 9:15 AM
FUNCTIONAL AND STRUCTURAL CHANGES INDUCED BY CTNT-RELATED FHC MUTATIONS IN TNT1 ALTER ACTOMYOSIN BINDING INTERACTIONS. **Rachel K. Moore**, Pia J. Guinto, Candice Dowell-Martino, Jil C. Tardiff.

35-PLAT 9:30 AM
PKA PHOSPHORYLATION HAS NO EFFECT ON THE FORCE-PCA RELATIONSHIP OR LENGTH DEPENDENT ACTIVATION FOLLOWING L48Q CTNC-TN EXCHANGE IN RAT DEMEMBRANATED TRABECULAE. **Frederick S. Korte**, Maria V. Razumova, Erik R. Feest, Dan Wang, Michael Regnier.

36-PLAT 9:45 AM
THE EFFECT OF HYPERTROPHIC CARDIOMYOPATHY (HCM) MUTATIONS OF TROPOMYOSIN ON FORCE GENERATION AND CROSS-BRIDGE KINETICS IN THIN-FILAMENT RECONSTITUTED BOVINE CARDIAC MUSCLE FIBERS. **Fan Bai**, Adam Weis, Aya Takeda, Bryant Chase, Masataka Kawai.

37-PLAT 10:00 AM
UNC-45 KNOCK-DOWN IN DROSOPHILA HEART TARGETS MYOSIN ACCUMULATION AND YIELDS SEVERE MYOFIBRILLAR DISARRAY AND CARDIAC DYSFUNCTION. **Girish C. Melkani**, Karen Ocorr, Rolf Bodmer, Sanford I. Bernstein.

8:15 AM–10:15 AM, Room 305

PLATFORM C

Voltage-gated Na Channels

Co-Chairs

Colleen Clancy, University of California, Davis
Barbara Wallace, Birbeck College, University of London, United Kingdom

38-PLAT 8:15 AM
THE NACHBAC PORE: CREATION AND CHARACTERISATION OF A KC-SA-LIKE SODIUM CHANNEL. **Andrew M. Powl**, Maurits R. R. de Planque, Hywel Morgan, B. A. Wallace.

39-PLAT 8:30 AM
A CENTRAL ROLE FOR MITOCHONDRIA IN THE REGULATION OF CARDIAC SODIUM CURRENT. **Man Liu**, Georgia Gacconnet, Barry London, Samuel C. Dudley.

40-PLAT 8:45 AM **CPOW TRAVEL AWARDEE**
NAV-MEDIATED SODIUM CURRENTS ARE NECESSARY FOR VERTEBRATE APPENDAGE REGENERATION. **Kelly Ai-Sun Tseng**, Michael Levin.

41-PLAT 9:00 AM
MOLECULAR BASIS OF COUPLING BETWEEN THE DIII VOLTAGE-SENSOR AND PORE OF A SODIUM CHANNEL. **Manoel Arcisio-Miranda**, Yukiko Muroi, Sandipan Chowdhury, Baron Chanda.

42-PLAT 9:15 AM
THE BIOPHYSICAL COSTS ASSOCIATED WITH TETRODOTOXIN RESISTANCE IN THE GARTER SNAKE, THAMNOPHIS SIRTALIS. **Chong Hyun Lee**, David K. Jones, Christopher Ahern, Maen F. Sarhan, Peter C. Ruben.

43-PLAT 9:30 AM
A CATION-PI INTERACTION IN THE CARDIAC SODIUM CHANNEL LOCAL ANESTHETIC RECEPTOR DISCRIMINATES BETWEEN ANTIARRHYTHMICS. **Stephan A. Pless**, Jason D. Galpin, Adam Frankel, Christopher A. Ahern.

44-PLAT 9:45 AM
USE-DEPENDENT BLOCK OF NAV1.4 HUMAN PARAMYOTONIA CONGENITA MUTATION BY RANOLAZINE. **Nesrine El-Bizri**, John C. Shryock, Alfred L. George, Luiz Belardinelli, Sridharan Rajamani.

45-PLAT 10:00 AM
CARDIAC DYNAMICS IN-SILICO: PHARMACOLOGICAL TARGETING OF LONG QT3 SYNDROME. **Jonathan D. Moreno**, John R. Bankston, Robert S. Kass, Colleen E. Clancy.

8:15 AM–10:15 AM, Room 306

PLATFORM D

Protein Assemblies

Co-Chairs

Alex Dajkovic, Universite Rene Descartes, France
Frank Sobott, University of Oxford, United Kingdom

46-PLAT 8:15 AM
BIOPHYSICAL CHARACTERIZATION OF THE COMPLEX FORMED BY DISF AND RNA POLYMERASE II. **Wei-hau Chang**.

47-PLAT 8:30 AM
STRUCTURE-FUNCTION ANALYSIS OF THE HIV-1 INTEGRASE IN COMPLEX WITH TWO CELLULAR PROTEINS: LEDGF AND INI1. **Benoit Maillot**, Corinne Crucifix, Florence Granger, Sylvia Eiler, Dino Moras, Patrick Schultz, Marc Ruff.

48-PLAT 8:45 AM
ZAPA CONTROLS THE SCAFFOLDING FUNCTION OF FTSZ THROUGH THREE SYNERGISTIC ACTIVITIES. **Alex Dajkovic**, Sebastien Pichoff, Joe Lutkenhaus, Denis Wirtz.

49-PLAT 9:00 AM
DNA NANOMACHINES INVESTIGATED BY NON-DENATURING MASS SPECTROMETRY. **Frank Sobott**, Stephen E. Halford, Alistair J. Jacklin, Jacqueline J.T. Marshall, Rachel M. Smith.

50-PLAT 9:15 AM
STRUCTURES AND INTERACTIONS IN NEUROFILAMENT: GEL EXPANDED TO GEL CONDENSED TRANSITION. **Roy Beck**, Joanna Deek, Jayna B. Jones, M. C. Choi, Taiji Ikawa, Osamu Watanabe, Cyrus R. Safinya.

51-PLAT 9:30 AM
PROTEGRIN-1 (PG-1), AN ANTIMICROBIAL PEPTIDE FORMS ION CHANNELS: ATOMIC FORCE MICROSCOPY, CHANNEL CONDUCTANCE, AND MOLECULAR DYNAMICS SIMULATION STUDY. **Ricardo Capone**, Mirela Mustata, Hyunbum Jang, Srinivasan Ramachandran, Ruth Nussinov, Ratneshwar Lal.

52-PLAT 9:45 AM
S-LAYER SELF-ASSEMBLY ON SUPPORTED LIPID-BILAYERS: THE IMPORTANCE OF AMORPHOUS PRECURSORS AND FOLDING TRANSITIONS. **Sungwook Chung**, Seong-Ho Shin, Stephen Whitelam, Carolyn Bertozzi, Jim De Yoreo.

53-PLAT 10:00 AM
A PREDICTIVE THEORETICAL MODEL FOR CLATHRIN SELF-ASSEMBLY. **Shafiq Mehraeen**, Nick Cordella, Andrew J. Spakowitz.

8:15 AM–10:15 AM, Room 307

PLATFORM E

Computational Methods

Co-Chairs

Marc Baaden, Centre National de la Recherche Scientifique, France
Edward Harder, University of Chicago

54-PLAT 8:15 AM
MOLECULAR DYNAMICS SIMULATION OF PHOSPHOLIPID BILAYERS AND MONOLAYERS USING A POLARIZABLE FORCE FIELD. **Edward Harder**, Benoit Roux, Alex D. MacKerell, Jr.

55-PLAT 8:30 AM
THE SMALL ANGLE SCATTERING TOOLBOX. **Haiguang Liu**, Peter H. Zwart.

56-PLAT 8:45 AM
LARGE-SCALE SIMULATIONS OF FLUCTUATING BIOLOGICAL MEMBRANES. **Lutz Maibaum**, Andrea Pasqua, George Oster, Daniel A. Fletcher, Phillip L. Geissler.

57-PLAT 9:00 AM
APPLICATION OF LARGE-SCALE FIRST PRINCIPLES QUANTUM MECHANICAL CALCULATIONS WITH THE ONETEP PROGRAM TO BIOPHYSICAL PROBLEMS. **Chris-Kriton Skylaris**, Daniel J. Cole, Stephen J. Fox, Eeson Rajendra, Mike C. Payne, Ashok R. Venkitaraman.

58-PLAT 9:15 AM
RECENT DEVELOPMENTS OF THE MOLECULAR DYNAMICS FLEXIBLE FITTING METHOD. **Kwok Yan Chan**, Leonardo G. Trabuco, James Gumbart, Klaus Schulten.

59-PLAT 9:30 AM
ON BOOTSTRAP TECHNIQUES FOR CLASSIFYING PROJECTIONS IN SINGLE PARTICLE ELECTRON MICROSCOPY. **Hstau Y. Liao**, Joachim Frank.

60-PLAT 9:45 AM
MYPAL, A MULTI-RESOLUTION APPROACH FOR INTERACTIVELY LOCATING FUNCTIONALLY LINKED ION BINDING SITES. **Olivier Delalande**, Nicolas Férey, Benoist Laurent, Marc Guérout, Brigitte Hartmann, Marc Baaden.

61-PLAT 10:00 AM
GNEIMO: CONSTRAINED MOLECULAR DYNAMICS METHODS FOR LONG TIME SCALE SIMULATION OF MACROMOLECULES. **Gouthaman S. Balaraman**, Jeff Wagner, Rudranarayan Mukherjee, Abhinandan Jain, Nagarajan Vaidehi.

8:15 AM–10:15 AM, Room 308

PLATFORM F

Protein-Nucleic Acid Interactions I

Co-Chairs

James Cole, University of Connecticut
Christopher Fischer, University of Kansas

62-PLAT 8:15 AM
NUCLEIC ACID TRANSLOCATION BY HEPATITIS C VIRUS HELICASE NS3H IS DEPENDENT ON SUGAR AND BASE MOIETIES. **Christopher J. Fischer**, Ali R. Khaki, Cassandra Field, Shuja Malik, Ruth Wang, Anita Niedziela-Majka, Stephanie Leavitt, Magdeleine Hung, Roman Sakowicz, Katherine M. Brendza.

63-PLAT 8:30 AM
PROTEIN-MRNA INTERACTIONS OBSERVED IN LIVING CELLS BY DUAL-COLOR FLUORESCENCE FLUCTUATION SPECTROSCOPY. **Bin Wu**, Robert H. Singer.

64-PLAT 8:45 AM
HYBRIDIZATION KINETICS IS DIFFERENT INSIDE CELLS. **Ingmar Schoen**, Hubert Krammer, Dieter Braun.

65-PLAT 9:00 AM
DYNAMICS OF THE HIV REVERSE TRANSCRIPTION INITIATION COMPLEX. **Bryan T. Harada**, Shixin Liu, Stuart F. J. Le Grice, Xiaowei Zhuang.

66-PLAT 9:15 AM
DNA UNWINDING BY DNAB AND THE DNAB/TAU COMPLEX. **Noah Ribbeck**, Omar A. Saleh.

67-PLAT 9:30 AM
CHEMO-MECHANICAL STUDY OF A HEXAMERIC HELICASE ON THE SINGLE-MOLECULE LEVEL. **Michael Schlierf**, Ganggang Wang, Xiaojiang S. Chen, Taekjip Ha.

68-PLAT 9:45 AM
SINGLE MOLECULE STUDIES REVEALING THE DYNAMICS OF RNA HELICASE EIF4A. **Evrim Atas**, Yingjie Sun, Lisa Lindqvist, Jerry Pelletier, Amit Meller.

69-PLAT 10:00 AM
REGULATION OF PKR BY VIRAL RNAs. **C. Jason Wong**, Laurie A. Heinicke, Katherine Launer-Felty, Jeffrey W. Lary, Graeme L. Conn, Philip C. Bevilacqua, James L. Cole.

9:00 AM–10:30 AM, Room 122 CPOW COMMITTEE MEETING

10:00 AM–5:00 PM, Hall D
EXHIBITS

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

10:30 AM–11:30 AM, Room 130-131

CAREER WORKSHOP

Creating a Competitive Resume

The importance of creating a powerful resume or CV cannot be overstated. This session will explore both the art and science of crafting an accurate, honest and powerful document that showcases the knowledge, skills and abilities that you possess. This session will also be offered on Monday at 11:30 AM.

10:45 AM–12:45 PM, Room 134

SYMPOSIUM 3

Multiscale Structural Analysis of Very Large Complexes

Chair

Andrej Sali, University of California, San Francisco

70-SYMP 10:45 AM
MASS SPECTROMETRY AND ITS CONTRIBUTION TO HYBRID STRUCTURE DETERMINATION. **Carol Robinson**.

71-SYMP 11:15 AM
ASSEMBLY OF THE 30S RIBOSOME FROM THE RNA FOLDING PERSPECTIVE. **Sarah Woodson**, Tadeepalli Adilakshmi, Priya Ramaswamy, Sarah F. C. Soper, Deepti L. Bellur.

72-SYMP 11:45 AM
NUCLEAR PORE COMPLEX STRUCTURE, CONSERVATION AND PLASTICITY. **Ueli Aebi**.

73-SYMP 12:15 PM
INTEGRATING DIVERSE DATA FOR STRUCTURE DETERMINATION OF MACROMOLECULAR ASSEMBLIES. **Andrej Sali**.

10:45 AM–12:45 PM, Room 135

SYMPOSIUM 4

New and Notable

Chair

Paul A. Slesinger, Salk Institute

CRYSTAL STRUCTURE OF SV40 LARGE T HEXAMER BOUND TO ORIGIN DNA IN THE CENTRAL CHANNEL: MECHANISM OF ORIGIN dsDNA MELTING AND UNWINDING Xiaojiang Chen, University of Southern California

PRECISION FORCE SPECTROSCOPY: A NEW WINDOW ON THE DYNAMICS OF UNFOLDING AND REFOLDING MEMBRANE PROTEINS Thomas Perkins, JILA, University of Colorado, Boulder

ADAPTIVE OPTICAL TWO-PHOTON MICROSCOPY FOR HIGH RESOLUTION IMAGING IN BIOLOGICAL TISSUES Na Ji, Janelia Farm Research Campus, HHMI

MULTIPLE MODES OF INTERCONVERTING DYNAMIC PATTERN FORMATION BY BACTERIAL CELL DIVISION PROTEINS Vassilli Ivanov, NIDDK, NIH

FAST AND HIGH-RESOLUTION PERTURBATION OF SIGNALING NETWORKS USING LIGHT Christopher A. Voight, University of California, San Francisco

A DISCRETE ALCOHOL POCKET INVOLVED IN ACTIVATION OF A GIRK POTASSIUM CHANNEL Paul A. Slesinger, Salk Institute

10:45 AM–12:45 PM, Room 303

MINISYMPOSIUM 1

Cellular Decision Making: Gene Networks and Evolutionary Dynamics

Co-Chairs

Jeff Gore, MIT

Tanja Kortemme, University of California, San Francisco

74-MINISYMP 10:45 AM

A MODEL FOR GENETIC AND EPIGENETIC REGULATORY NETWORKS IDENTIFIES RARE PATHWAYS FOR TRANSCRIPTION FACTOR INDUCED PLURIPOTENCY. **Maxim N. Artyomov**, Alexander Meissner, Arup C. Chakraborty.

75-MINISYMP 11:05 AM

COMPLEX TOPOLOGY RATHER THAN COMPLEX MEMBERSHIP IS A DETERMINANT OF PROTEIN DOSAGE SENSITIVITY. **Richard Oberdorf**, Tanja Kortemme.

76-MINISYMP 11:25 AM

DECISION-MAKING IN BACTERIOPHAGE LAMBDA: A VIEW FROM THE SINGLE PHAGE. **Lanying Zeng**, Samuel O. Skinner, Jean Sippy, Michael Feiss, Ido Golding.

77-MINISYMP 11:45 AM

VARIABILITY IN GENE EXPRESSION UNDERLIES INCOMPLETE PENETRANCE IN *C. ELEGANS*: USING SINGLE MOLECULES TO STUDY THE DEVELOPMENT OF SINGLE CELLS. **Arjun Raj**.

78-MINISYMP 12:05 PM

FM SIGNALING IN SINGLE CELLS. **Long Cai**.

79-MINISYMP 12:25 PM

GAMES MICROBES PLAY: THE GAME THEORY BEHIND COOPERATIVE SUCROSE METABOLISM IN YEAST. **Jeff Gore**, Hyun Youk, Alexander van Oudenaarden.

10:45 AM–12:45 PM, Room 304

PLATFORM G

Voltage-gated Ca Channels

Co-Chairs

Evgeny Kobilinsky, National Institute on Aging

David Yue, Johns Hopkins University

80-PLAT 10:45 AM

CALCIUM CHANNEL-ACTIVATED CREB-DEPENDENT EXCITATION-TRANSCRIPTION COUPLING: MICRODOMAIN ORGANIZATION AND FREQUENCY-DEPENDENT REGULATION REVEALED BY WAVELET ANALYSIS. **Evgeny Kobilinsky**, Sonny Duong, Anna Sheydina, Nikolai Soldatov.

81-PLAT 11:00 AM

CA_vβ₂ SUBUNIT ASSOCIATES WITH CAVEOLIN-3 AND REGULATES TRAFFICKING AND β₂ ADRENERGIC RECEPTOR REGULATION OF THE CAVEOLAR L-TYPE CA²⁺ CHANNELS. **Ravi C. Balijepalli**, Jason D. Foell, Jabe M. Best, Timothy J. Kamp.

82-PLAT 11:15 AM

LYSOPHOSPHOLIPIDS MODULATE VOLTAGE-GATED CALCIUM CHANNEL CURRENTS IN PITUITARY CELLS; EFFECTS OF LIPID-STRESS. **Galia Ben-Zeev**, Michael Telias, Daniel Bert, Itzhak Nussinovitch.

83-PLAT 11:30 AM

INTERFERENCE BETWEEN TWO MODULATORS OF N-TYPE (CAV2.2) CALCIUM CHANNEL GATING CHARGE MOVEMENT. **Viktor Yarotsky**, Keith S. Elmslie.

84-PLAT 11:45 AM

ACTIVATION OF PKC-ALPHA INCREASES CA₂₊ SPARKLET ACTIVITY IN CARDIAC MYOCYTES. **Edward P. Cheng**, Can Yuan, Manuel F. Navedo, Luis F. Santana.

85-PLAT 12:00 PM

RECONSTITUTION OF PKA-DEPENDENT MODULATION OF CARDIAC CAV1.2 CHANNELS. **Matthew D. Fuller**, Todd Scheuer, William A. Catterall.

86-PLAT 12:15 PM

BIOCHEMICAL AND FUNCTIONAL CHARACTERIZATION OF CRYSTALLOGRAPHIC CA₂₊/CAM-CAV1.2 A-C-IQ COMPLEX DIMER. **Eun Young Kim**, Christine Rumpf, Filip Van Petegem, Ryan Arant, Elizabeth S. Cooley, Ehud Y. Isacoff, Daniel L. Minor.

87-PLAT 12:30 PM

ENZYME-INHIBITOR-LIKE TUNING OF CALCIUM CHANNEL CONNECTIVITY WITH CALMODULIN. **Xiaodong Liu**, Phil S. Yang, Wanjun Yang, David T. Yue.

10:45 AM–12:45 PM, Room 305

PLATFORM H

Physical Chemistry of Proteins & Nucleic Acids

Co-Chairs

Ana Jofre, University of North Carolina at Charlotte

Martin Muschol, University of South Florida

88-PLAT 10:45 AM

SINGLE MOLECULE OBSERVATIONS OF DNA HYBRIDIZATION KINETICS. **Ana Jofre**, Jason Case, Sean Hicks.

89-PLAT 11:00 AM

CONTROL OF THE VISCOELASTICITY OF THE GENOME BY TOPOISOMERASE TYPE II AND ANTI-CANCER DRUGS. **Johan R. C. van der Maarel**, Binu Kundukad.

90-PLAT 11:15 AM

PHOTOCONTROL OF GENE EXPRESSIONS SYSTEMS USING LIGHT-INDUCED CONFORMATIONAL CHANGES OF NUCLEIC ACIDS. **Damien Baigl**.

91-PLAT 11:30 AM

LONG-RANGE ELECTRONIC COUPLINGS OBSERVED IN DNA BY SR-EPR. **Donald J. Hirsh**, Joselle McCracken, Ryan Biczko.

92-PLAT 11:45 AM

OVERCHARGING BELOW THE NANOSCALE: MULTIVALENT CATIONS REVERSE THE ION SELECTIVITY OF A BIOLOGICAL CHANNEL. **Antonio Alcaraz**, Elena García-Giménez, María L. López, Andreu Andrio, Vicente M. Aguilera.

93-PLAT 12:00 PM

OPTICAL PROTEOMICS COMBINING NONLINEAR ELECTROKINETICS AND COHERENT TWO-DIMENSIONAL INFRARED SPECTROSCOPY. **Christian Loeffeld**, Christopher J. Barnett, Joseph Kaplinsky, Fred Fournier, Anca Margineanu, Keith Willison, David R. Klug.

94-PLAT 12:15 PM

DENATURED-STATE CONFORMATION AS REGULATOR OF AMYLOID ASSEMBLY PATHWAYS? **Shannon E. Hill**, Tyson Richmond, Martin M. Muschol.

95-PLAT 12:30 PM

THE HEME AND SICKLE CELL HEMOGLOBIN POLYMERIZATION. **Peter G. Vekilov**, Veseilina Uzunova, Weichun Pan.

10:45 AM–12:45 PM, Room 306

PLATFORM I

ACTIN & ACTIN-BINDING PROTEINS

Co-Chairs

Linda Hirst, University of California, Merced
Claudia Mierke, Universität Erlangen, Germany

96-PLAT 10:45 AM

INTERNAL DYNAMICS OF F-ACTIN STUDIED BY NEUTRON SCATTERING. **Satoru Fujiwara**, Marie Plazanet, Fumiko Matsumoto, Toshiro Oda.

97-PLAT 11:00 AM

MOLECULAR BASIS FOR THE INSTABILITY OF PARASITIC ACTIN FILAMENTS. **Karthikeyan Diraviyam**, Kristen Skillman, David Sibley, David Sept.

98-PLAT 11:15 AM

HIERARCHICAL CROSSLINKED F ACTIN NETWORKS: UNDERSTANDING STRUCTURE AND ASSEMBLY. **Linda S. Hirst**, Lam T. Nguyen.

99-PLAT 11:30 AM

COOPERATIVE INTERACTIONS BETWEEN MYOSIN II AND ACTIN CROSS-LINKING PROTEINS TO ACTIN FILAMENTS. **Tianzhi Luo**, Douglas N. Robinson.

100-PLAT 11:45 AM

TURNOVER DYNAMICS OF DIFFUSE ACTIN AND REGULATORS AT THE LEADING EDGE. **Matthew B. Smith**, Naoki Watanabe, Dimitrios Vavylonis.

101-PLAT 12:00 PM

DEPOLYMERIZATION OF F-ACTIN PRODUCES A PULLING FORCE AT THE PLASMA MEMBRANE *IN VIVO*. **Brenda Farrell**, Feng Qian, Anatoly B. Kolomeisky, Bahman Anvari, William E. Brownell.

102-PLAT 12:15 PM

VINCULIN AND FAK FACILITE CELL INVASION IN DENSE 3D-EXTRACELLULAR MATRIX NETWORKS. **Claudia Tanja Mierke**, Philip Kollmannsberger, Anna H. Klemm, Daniel P. Zitterbart, Thorsten M. Koch, Susanna Marg, Wolfgang H. Ziegler, Wolfgang H. Goldmann, Ben Fabry.

103-PLAT 12:30 PM

PROBING THE RESPONSE OF STRUCTURAL PROTEINS TO MECHANICAL STIMULATION IN NEUROBLASTS. **Szu-Yuan Chou**, Chao-Min Cheng, Yi-Wen Lin, Chih-Cheng Chen, Philip R. LeDuc.

10:45 AM–12:45 PM, Room 307

PLATFORM J

Interfacial Protein-Lipid Interactions

Co-Chairs

Drake Mitchell, Portland State University
Jeanne Stachowiak, Sandia National Laboratories

104-PLAT 10:45 AM

THERMODYNAMICS OF MEMBRANE-MEDIATED β -AMYLOID FORMATION: A FREE ENERGY DESCRIPTION BASED ON X-RAY, CD, AND GUV EXPERIMENTS. **Huey W. Huang**, Chang-Chun Lee, Yen Sun, Tzu-Hsuan Chen.

105-PLAT 11:00 AM

INTERACTIONS OF LIPIDATED RAS PROTEINS WITH RAFT MEMBRANES STUDIED BY TIME-LAPSE ATOMIC FORCE MICROSCOPY. **Katrin Weise**, Gemma Triola, Sebastian Koch, Herbert Waldmann, Roland Winter.

106-PLAT 11:15 AM

AGGREGATIBACTER ACTINOMYCETEMCOMITANS LEUKOTOXIN DISRUPTS MEMBRANES BY INDUCING THE FORMATION OF AN INVERTED HEXAGONAL LIPID PHASE. **Angela C. Brown**, Irene R. Kieba, Kathleen Boesze-Battaglia, Edward T. Lally.

107-PLAT 11:30 AM

LATERAL PRESSURE PROFILE AND CURVATURE FRUSTRATION IN MECHANONSENSITIVE CHANNEL GATING. **Samuli O. H. Ollila**, Martti Louhivuori, Siewert-Jan Marrink, Ilpo Vattulainen.

108-PLAT 11:45 AM

STERIC CONFINEMENT OF PROTEINS IN LIPID DOMAINS CAN DRIVE MEMBRANE CURVATURE AND TUBULATION. **Jeanne C. Stachowiak**, Carl C. Hayden, Darryl Y. Sasaki.

109-PLAT 12:00 PM

CA²⁺-ATPASE; LIPID-PROTEIN INTERACTION AS OBSERVED IN CRYSTALS AND MD SIMULATIONS. **Yonathan Sonntag**, Maria Musgaard, Claus Olesen, Jesper Vuust Møller, Birgit Schiøtt, Poul Nissen, Lea Thøgersen.

110-PLAT 12:15 PM

FUNCTIONAL CONSEQUENCES OF LIPID-MEDIATED INTERACTION BETWEEN RHODOPSIN MOLECULES. **Olivier Soubias**, Drake C. Mitchell, Klaus Gawrisch.

111-PLAT 12:30 PM

HYDROPHOBIC MISMATCH MODULATES THE KINETICS OF G PROTEIN BINDING AND RECEPTOR CONFORMATION CHANGE. **Michael P. Bennett**, Laura A. Greeley, Drake C. Mitchell.

10:45 AM–12:45 PM, Room 308

PLATFORM K

Calcium Signaling in Heart & Non-excitabile Cells

Co-Chairs

Thierry Capiod, Inserm U800, France
Kenneth Ginsburg, University of California, Davis

112-PLAT 10:45 AM

RECRUITMENT OF MULTIPLE SPONTANEOUS CA²⁺ RELEASE INITIATION SITES PROMOTES CA²⁺ WAVES IN MYOCYTES OF INTACT RAT HEART UNDER CONDITIONS OF CA²⁺ OVERLOAD. **Gary Aistrup**, Yohannes Shiferaw, Heetabh Patel, Satvik Ramakrishna, Rishi Arora, J. Andrew Wasserstrom.

113-PLAT 11:00 AM

EMERGENCE OF LOCAL CA OSCILLATORS IN CARDIAC PACEMAKER CELLS: 2D CA DYNAMICS MEASUREMENTS, AN ANALYTICAL THEORY, AND COMPLEX SYSTEMS NUMERICAL MODELING. **Anna V. Maltsev**, Victor A. Maltsev, Maxim Mikheev, Larissa A. Maltseva, Syevda G. Sirenko, Edward G. Lakatta, Michael D. Stern.

114-PLAT 11:15 AM

CYTOSOLIC CA-DEPENDENT NA/CA EXCHANGE REGULATION IN INTACT CARDIOMYOCYTES: ROLE OF CYTOSOLIC NA. **Kenneth Ginsburg**, Donald M. Bers.

115-PLAT 11:30 AM

QUANTIFICATION OF MLCK ACTIVATION IN ARTERIES OF LIVING MICE THAT EXPRESS A GENETICALLY ENCODED FRET-BASED BIOSENSOR. **Jin Zhang**, Ling Chen, Mordecai P. Blaustein, W. Gil Wier.

116-PLAT 11:45 AM

SYSTEMATIC CHARACTERIZATION OF INITIAL CALCIUM SIGNALING IN T CELLS. **Anna Lipp**, Christian Paar, Ulrich Bodenhofer, Alois Sonnleitner.

117-PLAT 12:00 PM

STRUCTURAL DETERMINANTS OF ION PERMEATION IN CRAC CHANNELS. **Beth McNally**, Megumi Yamashita, Anita Engh, Murali Prakriya.

118-PLAT 12:15 PM

ORAI1 EXPRESSION, MITOSIS AND CELL CYCLE PROGRESSION IN HEK293 CELLS. **Anne-Sophie Borowiec**, Charbel El Boustany, Maria Katsogiannou, Gabriel Bidaux, Philippe Delcourt, Etienne Dewailly, Christian Slomianny, Natalia Prevarskaya, Thierry Capiod.

119-PLAT 12:30 PM
BIOPHYSICAL PROPERTIES OF CALCIUM HOMEOSTASIS
MODULATOR 1 (CALHM1) ION CHANNEL, **Zhongming Ma**,
Adam P. Siebert, Jeremy D. Grevet, J. Kevin Foskett.

11:00 AM–12:00 PM, Room 300
**INTERNATIONAL RELATIONS
COMMITTEE MEETING**

11:30 AM–1:00 PM, Room 132
UNDERGRADUATE STUDENT SYMPOSIUM

This program, sponsored by the Education Committee, introduces college and university undergraduates to research and career opportunities in biophysics through a seminar on emerging topics in biophysics and the Emily M. Gray award lecture. A special graduate and postdoc institution fair will follow the symposia.

12:00 PM–1:00 PM, Room 130-131
CAREER WORKSHOP
Interviewing for Results

In today's extremely competitive environment for job seekers, the successful candidate is often the one who has mastered the art of "interviewing for results." The effective use of good interviewing skills and techniques can make your interview matter and can significantly increase your chances of receiving a job offer. This session is appropriate for anyone who wishes to measurably improve their interview skills or to simply learn the basics of a proper interview. This session will also be offered on Tuesday at 11:30 AM.

12:00 PM–1:00 PM, Room 300
**INTERNATIONAL TRAVEL
AWARDEE LUNCHEON**

A selective number of international students and scientists will be recognized during this luncheon for their outstanding achievements in biophysics research. This event is hosted by the International Relations Committee.

12:00 PM–2:00 PM, Room 301
CPOW CAREER ROUNDTABLE LUNCHEON

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

12:00 PM–2:00 PM, ROOM 125
PUBLIC AFFAIRS COMMITTEE MEETING

1:00 PM–2:30 PM, Room 133
EARLY CAREERS COMMITTEE PANEL
**Moving on from your Postdoctoral Position:
Negotiating the Transition**

This popular session, hosted by the Early Careers Committee, will provide advice on how to find a permanent position after your postdoctoral training. Panel members will include representatives from academia and industry.

Speakers:
Ian Thorpe, University of Maryland, Baltimore County
Aaron Hinken, Cytokinetics
Vera Moiseenkova-Bell, Case Western Reserve University
Additional speaker to be announced

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

1:00 PM–3:00 PM, Hall D
GRADUATE & POSTDOC INSTITUTION FAIR

This fair will introduce undergraduate students to colleges and universities with leading graduate training programs in biophysics; and provide an opportunity for postdocs seeking fellowships.

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 Sunday Poster Presentations, see page 21.) Posters will be posted all day long. Authors with odd-numbered boards will present from 1:45 PM–2:45 PM, and those with even-numbered boards will present from 2:45 PM–3:45 PM. Additional hours (day or evening) may be posted by the authors as desired. Also note, paper may be left so that visitors may request an appointment.

2:30 PM–4:00 PM Room 132
PUBLIC AFFAIRS COMMITTEE PANEL
**U.S. Science Policy: Where Are We Now?
Where Are We Headed?**

A new President has the power to redefine the nation's agenda on many matters of policy, including science and technology (S&T). With a year for President Obama to put his mark on S&T policies through the appointment of key advisors and agency directors, what does U.S. science policy look like? What does the 2010 and proposed 2011 federal budget tell us? Do the rhetoric and the policies match? Is there a marked change over the last administration's S&T policies? In what areas has the President focused? This session will examine how the Obama administration has utilized its first year in office to set a new course in S&T policy.

Speakers:
Arthur Bienenstock, Stanford University
James McMahon, Lawrence Berkley National Lab

3:00 PM–4:30 PM, Room 123
EXHIBITOR PRESENTATION
ICx Technologies

3:30 PM–4:30 PM, Room 130-131
CAREER WORKSHOP
**Wherever You Go, There You Are:
Self-Reflection as a Career Tool**

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

3:30 PM–4:30 PM, Room 125
EARLY CAREERS COMMITTEE MEETING

4:00 PM–6:00 PM, Room 134
SYMPOSIUM 5
RNAs Large and Small

Chair
Anna Pyle, Yale University

1027-SYMP 4:00 PM
PRINCIPLES OF RNA TERTIARY STRUCTURAL ORGANIZATION REVEALED BY GROUP II INTRON CRYSTAL STRUCTURES.
Anna Pyle.

1028-SYMP 4:30 PM
STRUCTURAL INSIGHTS INTO METABOLITE-SENSING MESSENGER RNAs. **Robert Batey.**

1029-SYMP 5:00 PM
BIOPHYSICAL ANALYSIS OF GENE REGULATION PATHWAYS CONTROLLED BY BACTERIAL NON-CODING RNAs.
Nilshad Salim, Dandan Li, Martha Faner, **Andrew L. Feig.**

1030-SYMP 5:30 PM
TRANSLATION FACTOR CONTROL OF RIBOSOME DYNAMICS DURING PROTEIN SYNTHESIS. **Ruben L. Gonzalez, Jr.**

4:00 PM–6:00 PM, Room 135
SYMPOSIUM 6

The Proton Gets Channeled

Chair
Thomas DeCoursey, Rush University

1031-SYMP 4:00 PM
THE HV1 VOLTAGE-GATED PROTON CHANNEL: ARE TWO PORES BETTER THAN ONE? **Francesco Tombola.**

1032-SYMP 4:30 PM
VOLTAGE-DEPENDENT ACTIVATION AND PROTON PERMEATION IN HV1. **I. Scott Ramsey.**

1033-SYMP 5:00 PM
STRUCTURE AND MECHANISM OF INFLUENZA PROTON CHANNELS. **James J. Chou,** Rafal M. Pielak, Jason R. Schnell, Junfeng Wang.

1034-SYMP 5:30 PM
PROTON TRANSPORT THROUGH CHANNELS: INSIGHTS AND SURPRISES FROM MOLECULAR SIMULATION. **Gregory A. Voth.**

4:00 PM–6:00 PM, Room 303
PLATFORM L

Protein Folding Pathways

Co-Chairs
Ryan Hoffman, University of California, San Diego
Krishna Mallela, University of Colorado, Denver

1035-PLAT 4:00 PM
PROTEIN FOLDING: INDEPENDENT UNRELATED PATHWAYS OR PREDETERMINED PATHWAY WITH OPTIONAL ERRORS.
Krishna Mallela, S. Walter Englander.

1036-PLAT 4:15 PM
MULTIPLE ROUTES AND MILESTONES IN THE FOLDING OF HIV-1 PROTEASE MONOMER. **Massimiliano Bonomi,** Alessandro Barducci, Francesco L. Gervasio, Michele Parrinello.

1037-PLAT 4:30 PM
CHARACTERIZING ENERGY LANDSCAPES OF PROTEINS AND IDENTIFYING SHAPE-DETERMINING FACTORS. **Yue Li,** Gary Tyson, Jinfeng Zhang.

1038-PLAT 4:45 PM
COMMON FOLDING MECHANISM OF A PEPTIDE REVEALED BY MULTIPLE MD SIMULATIONS. **Lipi Thukral,** Jeremy C. Smith, Isabella Daidone.

1039-PLAT 5:00 PM
RESIDUE SPECIFIC ANALYSIS OF FRUSTRATION IN FOLDING LANDSCAPE OF REPEAT ALPHA/BETA PROTEIN APOFLAVODOXIN. **Antonios Samiotakis,** Loren Stagg, Dirar Homouz, Margaret S. Cheung, Pernilla Wittung-Stafshede.

1040-PLAT 5:15 PM
FOLDING KINETICS OF IKB: EXCURSIONS THROUGH THE ENERGY LANDSCAPE. **Ryan M. B. Hoffman,** Patricio O. Craig, Ingrid L. DeVries, Elizabeth A. Komives, Peter G. Wolynes.

1041-PLAT 5:30 PM
PROTEIN FOLDING LANDSCAPES FOR ALPHA- AND BETA-MINIPROTEINS USING ALL-ATOM SIMULATIONS WITH AN OPTIMIZED FORCE-FIELD. **Jeetain Mittal,** Robert B. Best.

1042-PLAT 5:45 PM
AMYLOID FIBER PRECURSORS IN NATIVE AND DENATURING MD SIMULATIONS OF AN IG LIGHT CHAIN DOMAIN. **Nina Pastor,** Cesar Millan-Pacheco, Francisco Murphy-Perez, Daniel Alejandro Fernandez-Velasco.

4:00 PM–6:00 PM, Room 304
PLATFORM M

Excitation-Contraction Coupling

Co-Chairs
Kenneth Philipson, David Geffen School of Medicine at UCLA
Amanda Vega, University of Washington

1043-PLAT 4:00 PM
SIMULTANEOUS PHOSPHORYLATION OF RYR2 BY PKA AND CAMKII IS REQUIRED FOR INDUCTION OF CA-DEPENDENT ARRHYTHMIA CAUSED BY MIR-1 OVEREXPRESSION.
Dmitry Terentyev, Andriy E. Belevych, Radmila Terentyeva, Inna Gyorke, Sarah Sansom, Mickey M. Martin, Jody L. Martin, Maha Abdellatif, Cynthia A. Carnes, Terry S. Elton, Sandor Gyorke.

1044-PLAT 4:15 PM
DEFECTIVE RYR2 CHANNELS TRIGGER VENTRICULAR ARRHYTHMIAS IN DUCHENNE MUSCULAR DYSTROPHY.
Jérémy Fauconnier, Jérôme Thireau, Steven Reiken, Cécile Cassan, Sylvain Richard, Stefan Matecki, Andrew R. Marks, Alain Lacampagne.

1045-PLAT 4:30 PM
SODIUM CURRENT-INDUCED RELEASE OF CALCIUM FROM THE SARCOPLASMIC RETICULUM IN RABBIT VENTRICULAR MYOCYTES. **Natalia S. Torres,** Robert Larbig, Alex Rock, Frank B. Sachse, Kenneth D. Philipson, Joshua I. Goldhaber, John H.B. Bridge.

1046-PLAT 4:45 PM
SINGLE CELL MEASUREMENTS OF ISOMETRIC FORCE AND CYTOSOLIC CALCIUM IN INTACT MAMMALIAN CARDIOMYOCYTES. **Benjamin L. Prosser,** Christopher W. Ward, W. J. Lederer.

1047-PLAT 5:00 PM
NA/K-ATPASE $\alpha 2$ -SUBUNIT PREFERENTIALLY MODULATES CA TRANSIENTS AND SR CA RELEASE IN CARDIAC MYOCYTES.
Sanda Despa, Yong Wu, Jerry B. Lingrel, Enrico Stefani, Donald M. Bers.

1048-PLAT 5:15 PM
MOLECULAR MECHANISM OF STORE OPERATED Ca^{2+} ENTRY IN ADULT MAMMALIAN SKELETAL MUSCLE. **Alla D. Lyfenko,** Robert T. Dirksen.

1049-PLAT 5:30 PM
DEVELOPMENTAL CHANGES OF THE SARCOPLASMIC RETICULUM. **Amanda L. Vega,** Can Yuan, Luis Fernando Santana.

1050-PLAT 5:45 PM
SUPERFAST CONFOCAL IMAGING OF CA²⁺ REVEALS THE SPREAD OF EXCITATION THROUGH THE TUBULAR NETWORK AND THE CA²⁺ RELEASE WAVEFORM IN SKELETAL MUSCLE. **Joshua N. Edwards**, Tanya R. Cully, Frederick von Wegner, Oliver Friedrich, Peter Thorn, Bradley S. Launikonis.

4:00 AM–6:00 PM, Room 305

PLATFORM N

Emerging Single Molecule Techniques I

Co-Chairs

Samuel Lord, Stanford University
Fabien Pinaud, Ecole Normale Supérieure, France

1051-PLAT 4:00 PM
SPLIT-GFP COMPLEMENTATION FOR TARGETING AND IMAGING SINGLE MOLECULES IN LIVING CELLS. **Fabien Pinaud**, Maxime Dahan.

1052-PLAT 4:15 PM
INTRACELLULAR DELIVERY AND FATE OF PEPTIDE-CAPPED GOLD NANOPARTICLES. **Yann Cesbron**, Violaine Sée, Paul Free, Paula Nativo, Umbreen Shaheen, Daniel J. Rigden, David G. Spiller, David G. Fernig, Michael R H White, Ian A. Prior, Mathias Brust, Brahim Lounis, Raphaël Lévy.

1053-PLAT 4:30 PM
PHOTOACTIVATABLE AZIDO PUSH-PULL FLUOROPHORES FOR SINGLE-MOLECULE IMAGING IN AND OUT OF CELLS. **Samuel J. Lord**, Nicholas R. Conley, Hsiao-lu D. Lee, Marissa K. Lee, Na Liu, Reichel Samuel, Robert J. Twieg, W. E. Moerner.

1054-PLAT 4:45 PM
CONFOCAL, 3D TRACKING OF SINGLE QUANTUM DOTS: FOLLOWING RECEPTOR TRAFFIC AND MEMBRANE TOPOLOGY. **James H. Werner**, Nathan P. Wells, Guillaume A. Lessard, Mary E. Phipps, Patrick J. Cutler, Diane S. Lidke, Bridget S. Wilson.

1055-PLAT 5:00 PM
HIGH PRECISION TRACKING OF INTRACELLULAR TRANSPORT WITH FLUORESCENT NANOPARTICLES. **Ahmet Yildiz**, Shengmin Shih, Fatih Kocabas.

1056-PLAT 5:15 PM
INTRACELLULAR MYOSIN MOTOR PROTEIN MOTION USING LASER SCANNING CONFOCAL MICROSCOPY. **Patrick Moyer**, Ryan Hefti.

1057-PLAT 5:30 PM
SINGLE QUANTUM DOT TRAJECTORY ANALYSIS: BEYOND THE SINGLE DIFFUSION MODE MODEL. **Xavier Michalet**, Fabien Pinaud, Shimon Weiss.

1058-PLAT 5:45 PM
FAR FIELD FLUORESCENCE SUPER RESOLUTION IMAGING OF MOLECULAR SCALE BIOLOGICAL STRUCTURES. **Alexandros Pertsinidis**, Yunxiang Zhang, Steven Chu.

4:00 PM–6:00 PM, Room 306

PLATFORM O

Membrane Structure I

Co-Chairs

Sumit Garg, Argonne National Lab
Ruby May Sullen, University of Toronto, Canada

1059-PLAT 4:00 PM
MOLECULAR ORGANIZATION OF CHOLESTEROL IN PHOSPHOLIPIDS. **Andrey Ivankin**, Ivan Kuzmenko, David Gidalevitz.

1060-PLAT 4:15 PM
IN-SITU MEASUREMENT OF CHOLESTEROL TRANSPORT IN MODEL-MEMBRANE SYSTEMS STUDIED BY TIME RESOLVE SMALL ANGLE NEUTRON SCATTERING AND COMPARISON WITH MD SIMULATION. **Sumit Garg**, Lionel Porcar, Paul Butler, Francisco Castro-Roman, Ursula Perez-Salas.

1061-PLAT 4:30 PM
STEROL TRANSFER FROM VESICLES TO MBCD IS GOVERNED BY THE EXTENT OF STEROL SUPERLATTICE. **Berenice Venegas**, Parkson L.-G. Chong.

1062-PLAT 4:45 PM
INVESTIGATING THE NANODOMAIN STRUCTURE OF SPHINGOMYELIN/CHOLESTEROL MEMBRANES USING 2H NMR. **Amirmohamad Keyvanloo**, Martin Zuckermann, Jenifer Thewalt.

1063-PLAT 5:00 PM
THE EFFECT OF CHOLESTEROL ON THE ELECTROPORATION PROCESS. **Iris van Uitert**, Séverine Le Gac, Albert van den Berg.

1064-PLAT 5:15 PM
LIPID RAFT COMPOSITION MODULATES SPHINGOMYELINASE ACTIVITY AND CERAMIDE-INDUCED MEMBRANE PHYSICAL ALTERATIONS. **Liana C. Silva**, Anthony H. Futerman, Manuel Prieto.

1065-PLAT 5:30 PM
REAL TIME FLUORESCENCE MICROSCOPY OBSERVATIONS OF DEHYDRATION-INDUCED DOMAIN FORMATION IN RAFT FORMING MULTI LAMELLAR LIPID STACKS. **Lobat Tayebi**, Sean F. Gilmore, Atul N. Parikh.

1066-PLAT 5:45 PM
CHOLESTEROL-DEPENDENCE OF THE RUPTURE ACTIVATION ENERGY IN PHASE-SEGREGATED MULTICOMPONENT LIPID BILAYERS. **Ruby May A. Sullan**, James K. Li, Gilbert C. Walker, Shan Zou.

4:00 PM–6:00 PM, Room 307

PLATFORM P

Member-organized Session Biophysical Approaches to Study Nucleoid Compaction, Recombination and Gene Regulation

Co-Chairs

Linda Kenney, University of Illinois-Chicago
Jie Yan, National University of Singapore

1067-PLAT 4:00 PM
DIRECT VISUALIZATION OF FIS-DNA INTERACTIONS. **John S. Graham**, Reid C. Johnson, John F. Marko.

1068-PLAT 4:15 PM
DNA SHAPE RECOGNITION BY THE NUCLEOID PROTEIN FIS AND ITS ROLE IN CHROMOSOME COMPACTION AND DNA RECOMBINATION. **Reid C. Johnson**, Stefano Stella, Gautam Dhar, Meghan M. McLean, John K. Heiss, John F. Marko.

1069-PLAT 4:30 PM
FIDELITY AND TARGET LOCATION DURING RECA-CATALYZED HOMOLOGOUS RECOMBINATION. **Joel Stavans**, Adam Mani, Rinat Arbel-Goren.

1070-PLAT 4:45 PM
BIOPHYSICAL STUDIES OF H-NS BINDING TO DNA. **Yingjie Liu**, Hu Chen, Linda J. Kenney, Jie Yan.

1071-PLAT 5:00 PM
THE ROLE OF SSRB AND H-NS IN TRANSCRIPTION ACTIVATION AND SILENCING/ANTI-SILENCING DURING SALMONELLA PATHOGENESIS. **Don Walthers**, Yingjie Liu, Hu Chen, Jie Yan, Linda J. Kenney.

1072-PLAT 5:15 PM
UNRAVELLING THE ROLE OF ALBA IN THE ORGANIZATION OF THE ARCHAEAL NUCLEOID. **Remus T. Dame**, Niels Laurens, Maarten C. Noom, Felix J. H. Hol, Malcolm F. White, Gijs J. L. Wuite.

1073-PLAT 5:30 PM
UNRAVELING CHROMATIN STRUCTURE USING MAGNETIC TWEEZERS. **John van Noort**.

1074-PLAT 5:45 PM
SPATIO-TEMPORAL PLASTICITY IN CHROMATIN ASSEMBLY & TRANSCRIPTION CONTROL WITHIN LIVING CELLS. **G. V. Shivashankar**.

4:00 PM–6:00 PM, Room 308

PLATFORM Q

Member-organized Session Diverse Views of VDAC Structure and Functioning: Quest for the Native Conformations

Co-Chairs

Marco Colombini, University of Maryland
Tatiana Rostovtseva, NICHD, NIH

1075-PLAT 4:00 PM
ELECTRON MICROSCOPY OF VDAC MEMBRANE CRYSTALS
REDUX. PORE SHAPE, SIZE, AND LOCATION(S) OF THE N-
TERMINAL DOMAIN. **Carmen A. Mannella**, David Mankus.

1076-PLAT 4:15 PM
THE CRYSTAL STRUCTURE OF THE MURINE VOLTAGE
DEPENDENT ANION CHANNEL 1 (MVDAC1) (LIKELY)
REPRESENTS A NATIVE CONFORMATION. **Jeff Abramson**,
Rachna Ujwal.

1077-PLAT 4:30 PM
VDAC STUDIED BY SOLUTION NMR: IMPLICATIONS FOR THE
NATIVE STRUCTURE. **Sebastian Hiller**, Tsy-Yan Yu, Thomas Raschle,
Amanda J. Rice, Thomas Walz, Gerhard Wagner.

1078-PLAT 4:45 PM
USING VDAC-TUBULIN INTERACTION TO ASSESS VDAC
ORIENTATION IN THE MITOCHONDRIAL MEMBRANE.
Tatiana K. Rostovtseva, Kely Sheldon, Sergey M. Bezrukov.

1079-PLAT 5:00 PM
ELECTROSTATIC PROPERTIES OF VDAC CHANNEL: STRUCTURE
VS. SELECTIVITY. **Vicente M. Aguilera**, Victor Levadny.

1080-PLAT 5:15 PM
ROLE OF THE N-TERMINAL MOIETY IN VDAC ISOFORMS.
Vito De Pinto, Simona Reina, Andrea Guarnera, Flora M. Tomasello,
Francesca Guarino, Angela A. Messina.

1081-PLAT 5:30 PM
INVESTIGATING VDAC1 ORIENTATION IN VIVO.
Jeremy H. Lakey, Beth M. McDonald, Mateusz M. Wydro,
Robert N. Lightowers.

1082-PLAT 5:45 PM
HARD CONSTRAINTS ON THE STRUCTURE OF VDAC FROM
FUNCTIONAL STUDIES. **Marco Colombini**.

5:00 PM–6:30 PM, Room 123

EXHIBITOR PRESENTATION

TILL Photonics

6:00 PM–7:00 PM, Room 301

BIOPHYSICAL SOCIETY OF CANADA MIXER

6:00 PM–8:00 PM, Hall D

SRAA STUDENT POSTER COMPETITION

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

7:30 PM–9:30 PM, Room 134

WORKSHOP 1

Applied Single-Molecule Techniques

Chair

Stephen Quake, Stanford University

1083-WKSH 7:30 PM
SINGLE MOLECULE DNA SEQUENCING: FROM
DEMONSTRATION TO APPLICATION. **Ido Braslavsky**.

1084-WKSH 7:55 PM
NANO-DEVICES FOR PROBING SINGLE MOLECULES.
Adam Cohen, Sabrina Leslie, Min Ju Shon.

1085-WKSH 8:20 PM
PHYSICS AND ENGINEERING OF BIOLOGICAL MOLECULAR
MOTORS. **Zev Bryant**.

1086-WKSH 8:45 PM
SELECTIVITY MECHANISM OF THE NUCLEAR PORE COMPLEX
CHARACTERIZED BY SINGLE CARGO TRACKING. Alan R. Lowe,
Jake J. Siegel, Petr Kalab, Merek Siu, Karsten Weis, **Jan T. Liphardt**.

1087-WKSH 9:10 PM
THE NANO-POSITIONING SYSTEM - A FRET-BASED TOOL FOR
MACRO-MOLECULAR STRUCTURAL ANALYSIS. **Adam Muschielok**,
Joanna Andrecka, Barbara Treutlein, Jens Michaelis.

7:30 PM–9:30 PM, Room 135

WORKSHOP 2

Complementary Methods for Studying Membrane Protein Structure

Chair

Bonnie Wallace, Birbeck College, London, United Kingdom

1088-WKSH 7:30 PM
THE ROLE OF DETERGENTS AND LIPIDS IN MEMBRANE
PROTEIN CRYSTALLOGRAPHY. **Robert Stroud**.

1089-WKSH 7:55 PM
NMR STRUCTURAL STUDIES OF MEMBRANE PROTEINS IN
LIPID MICELLES AND LIPID BILAYERS. **Francesca M. Marassi**.

1090-WKSH 8:20 PM
USING CIRCULAR DICHROISM (CD) AND SYNCHROTRON
RADIATION CIRCULAR DICHROISM (SRCD) SPECTROSCOPY TO
STUDY MEMBRANE PROTEINS. **B. A. Wallace**.

1091-WKSH 8:45 PM
MASS SPECTROMETRY FOR STUDYING MEMBRANE PROTEIN
STRUCTURE. **Nelson P. Barrera**

7:30 PM–9:30 PM, Room 133

WORKSHOP 3

Biophysics of Renewable Energy and Cellular Power Plants

Chair

Chris Somerville, University of California, Berkeley

1092-WKSH 7:30 PM
THE DEVELOPMENT OF CELLULOSIC FUELS. **Chris Somerville**.

1093-WKSH 7:55 PM
ULTRASTRUCTURAL PLANT CELL WALL 3D ORGANIZATION
AND MICROBIAL DECONSTRUCTION. **Manfred Auer**.

1094-WKSH 8:20 PM
BIOPHYSICS IN CELLULOSE BIOSYNTHESIS AND
BIODEGRADATION. **Shi-you Ding**.

1095-WKSH 8:45 PM
THE GENUS PREVOTELLA, A RESOURCE OF ENZYMES FOR
HEMICELLULOSE DEGRADATION. **Isaac Cann**, Dylan Dodd, Shinichi
Kiyonari, Young Hwan Moon, Charles Schroeder, Satish Nair, Roderick Mackie.

1096-WKSH 9:10 PM
ENGINEERING FEEDSTOCKS FOR BIOFUEL PRODUCTION.
Pamela Ronald.

1:45 PM–3:45 PM, Hall D
SUNDAY 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 #B30
Board #B31-Board #B54
Board #B55-Board #B63
Board #B64-Board #B96
Board #B97-Board #B125
Board #B126-Board #B150
Board #B151-Board #B178
Board #B179-Board #B208
Board #B209-Board #B240
Board #B241-Board #B255
Board #B256-Board #B280
Board #B281-Board #B310
Board #B311-Board #B340
Board #B341-Board #B370
Board #B371-Board #B389
Board #B390-Board #B392
Board #B393-Board #B416
Board #B417-Board #B440
Board #B441-Board #B460
Board #B461-Board #B481
Board #B482-Board #B500
Board #B501-Board #B522
Board #B523-Board #B548
Board #B549-Board #B575
Board #B576-Board #B594
Board #B595-Board #B617
Board #B618-Board #B642
Board #B643-Board #B672
Board #B673-Board #B701
Board #B702-Board #B726
Board #B727-Board #B748
Board #B749-Board #B767
Board #B768-Board #B784
Board #B785-Board #B794
Board #B795-Board #B798
Board #B799-Board #B828
Board #B829-Board #B858
Board #B859-Board #B880
Board #B881-Board #B896
Board #B897-Board #B907

EVEN-NUMBERED BOARDS

2:45 PM–3:45 PM

Protein Conformation I
Protein Folding & Stability I
Molecular Chaperones
Protein-Ligand Interactions I
Physical Chemistry of Proteins & Nucleic Acids
Membrane Protein Structure I
Membrane Protein Function I
Protein Assemblies
DNA Replication, Recombination, & Repair
Transcription
Protein-Nucleic Acid Interactions I
Membrane Physical Chemistry I
Membrane Active Peptides I
Interfacial Protein-Lipid Interactions I
Intracellular Communications & Gap Junctions
Epithelial Channels & Physiology
Calcium Signaling Pathways
Calcium Fluxes, Sparks & Waves I
Peptide & Toxin Ion Channels
Voltage-gated Na Channels I
Voltage-gated K Channels-Permeation
Voltage-gated K Channels-Gating I
Ca-Activated Channels
Acetylcholine Receptors
Channel Regulation & Modulation I
Neuronal Systems & Modeling
Muscle: Fiber & Molecular Mechanics & Structure I
Muscle Regulation I
Actin & Actin-binding Proteins
Cell & Bacterial Mechanics & Motility I
Microtubule Motors-Kinesin-related Proteins
Ion Motive ATPases
Photosynthesis & Photoreceptors
Biomolecular NMR Spectroscopy
X-ray Diffraction
Imaging & Optical Microscopy I
Emerging Single Molecule Techniques I
Atomic Force Spectroscopy
Nano & Microfluidics, Biosensors
Bioinformatics

Protein Conformation I (Boards #B1-#B30)

120-Pos BOARD #B1

FRET STUDIES OF THE CONFORMATIONAL CHANGES IN THE 2B SUB-DOMAIN OF UVRD HELICASE. **Haifeng Jia**, Anita Niedziela-Majka, Sergey Korolev, Taekjip Ha, Timothy Lohman.

121-Pos BOARD #B2 STUDENT TRAVEL AWARDEE

PYRENE FLUORESCENCE ANALYSIS OFFERS NEW INSIGHTS INTO THE CONFORMATION OF THE LIPOPROTEIN-BINDING DOMAIN OF HUMAN APOLIPOPROTEIN E. **Arti B. Patel**, Panupon Khumsupan, Vasanthi Narayanaswami.

122-Pos BOARD #B3

IDENTIFYING UNIQUE CONFORMATIONAL FORMS OF PHOSPHOFRUCTOKINASE USING FLUORESCENCE PHASOR ANALYSIS. **Mauricio D. Lasagna**, Gregory D. Reinhart.

123-Pos BOARD #B4

PROTEIN CONFORMATIONAL DYNAMICS DETECTED VIA FLUORESCENCE FLUCTUATION SPECTROSCOPY.

Robel B. Yirdaw, Hassane S. Mchaurab, Shruti Sharma.

124-Pos BOARD #B5

CONFORMATIONAL TRANSITIONS ASSOCIATED WITH ELECTROCHEMICALLY-INDUCED REDOX PROCESSES THROUGH THE CYTOCHROME C OXIDASE FOLLOWED BY TIME-RESOLVED 2D-SURFACE-ENHANCED INFRARED ABSORPTION SPECTROSCOPY (TR-2D-SEIRAS). **Christoph Nowak**.

125-Pos BOARD #B6

THERMODYNAMIC PROPERTIES AND NMR DATA INDICATE AN INVERSE CALCIUM-MYRISTOYL SWITCH OF GCAP2.

Thomas Schroder, Stephan Theisgen, Alexander Vogel, Daniel Huster, Christian Lange.

126-Pos BOARD #B7

HOW ELECTRON TRANSFER IS LINKED TO CONFORMATIONAL TRANSITIONS OF PEPTIDE GROUPS OF THE CYTOCHROME C OXIDASE, A STUDY BY 2D-IR SPECTRO-ELECTROCHEMISTRY.

Renate L. Naumann.

127-Pos BOARD #B8

FITTING TO LIFETIME DISTRIBUTIONS IN PHOTOACOUSTIC CALORIMETRY. **Randy W. Larsen**.

128-Pos BOARD #B9

COMPARISON OF PERSISTENCE LENGTH CALCULATIONS OF MODEL COLLAGEN IN TWO AND THREE DIMENSIONS TO AFM MEASUREMENTS. **C. Brad Bennett**, H. M. Harper, W. G. Matthews, D. A. Rabson, Sagar A. Pandit.

129-Pos BOARD #B10

COMBINING SINGLE MOLECULE OPTICAL TRAPPING AND SMALL ANGLE X-RAY SCATTERING MEASUREMENTS TO COMPUTE THE PERSISTENCE LENGTH OF A PROTEIN ALPHA-HELIX. **Sivaraj Sivaramakrishnan**, Ruth Sommese, Jong Min Sung, Mona Ali, Sebastian Doniach, Henrik Flyvbjerg, James A. Spudich.

130-Pos BOARD #B11

EXAMINING THE DEPENDENCY OF THE FLEXIBILITY OF TYPE I MOLECULAR COLLAGEN ON SOLVENT CONDITIONS.

Heather Harper, Satish Shashidhara, C. Brad Bennett, Sagar Pandit, W. Garrett Matthews.

131-Pos BOARD #B12

CROWDING EFFECTS ON PROTEIN CONFORMATIONAL CHANGES. **Hao Dong**, Sanbo Qin, Huan-Xiang Zhou.

132-Pos BOARD #B13

CONFORMATIONAL STUDIES OF SOLUBLE GUANYLATE CYCLASE THROUGH TIME-RESOLVED FLUOROMETRY.

Stephanie M. Wood.

133-Pos BOARD #B14

UNDERSTANDING THE ROLE OF ANKYRIN DOMAIN OF THE 43-KDA SUBUNIT OF THE CHLOROPLAST SIGNAL RECOGNITION PARTICLE IN PROTEIN TARGETING. **Cory Garren**, Karuppanan M. Kathir, T.K.S. Kumar.

134-Pos BOARD #B15

UNDERSTANDING THE CONFORMATIONAL PREFERENCES OF ALANINE HEPTAPEPTIDE BY THEORETICAL APPROACHES.

Jooyeon Hong, Sihyun Ham.

135-Pos BOARD #B16

REENGINEERING PROTEIN SPECIFICITY BY REPACKING THE HYDROPHOBIC CORE. **Katherine W. Tripp**, Geoffrey A. Horner, Susan Marqusee.

136-Pos BOARD #B17

GLOBAL CONFORMATIONAL CHANGE INDUCED BY SINGLE AMINO ACID RESIDUE OF PHOTOACTIVE YELLOW PROTEIN IN TIME DOMAIN. **Shahbaz J. Khan**.

137-Pos BOARD #B18

EXPLORATION OF FREE-ENERGY PROFILES WITH CONFORMATIONAL CHANGES OF PROTEINS. **Hiroko Kondo**, Noriaki Okimoto, Gentaro Morimoto, Makoto Taiji.

138-Pos BOARD #B19

LARGE-SCALE CONFORMATIONAL SAMPLING OF PROTEINS USING TEMPERATURE-ACCELERATED MOLECULAR DYNAMICS. **Cameron F. Abrams**, Eric Vanden-Eijnden.

139-Pos BOARD #B20

MOLECULAR DYNAMICS SIMULATION STUDY OF ISOLATED HAMP DOMAIN. **Lizhe Zhu**, Peter Bolhuis, Jocelyne Vreede.

140-Pos BOARD #B21

APPLICATION OF LINEAR RESPONSE THEORY ON PROTEIN NETWORKS FOR IDENTIFYING ALLOSTERIC TRANSITIONS. **Z. Nevin Gereks**, S. Banu Ozkan.

141-Pos BOARD #B22

ORIENTATION DEPENDENT RESIDUE ENERGIES FOR PROTEINS COARSE-GRAINED FROM ATOMIC FORCE FIELDS. **Marcos R. Betancourt**.

142-Pos BOARD #B23

CONFORMATIONAL CONTROL OF UBIQUITINATION IN THE CULLIN-RING E3 LIGASE MACHINERY. **Jin Liu**, Ruth Nussinov.

143-Pos BOARD #B24

EVOLUTIONARY ANALYSIS OF CONFORMATIONAL CHANGES IN ALLOSTERIC PROTEINS. **Jouhyun Jeon**, Yoon Sup Choi, Jae-Seong Yang, Hyun-Jun Nam, Sanguk Kim.

144-Pos BOARD #B25

THE ADENYLATE KINASE TRANSITION REQUIRES MANY EASY MOTIONS, NOT A FEW HARD ONES. **Michael D. Daily**, Qiang Cui.

145-Pos BOARD #B26

FUNCTIONAL PATHWAYS IN PROTEINS ARE UNCOVERED BY STRONG DISORDER. **Canan Atilgan**, Sema Ermez, Ozlem Keskin, Ali Rana Atilgan.

146-Pos BOARD #B27

LONG TIME SCALE DYNAMICS OF MOLECULES WITH INTERNAL RIGID FRAGMENTS. **Sebnem G. Essiz**, Rob D. Coalson.

147-Pos BOARD #B28

CRITICAL ASSESSMENT OF THE STATISTICAL SIGNIFICANCE OF SIMULATED MOTIONS IN MYOSIN V. **Charles C. David**, Christopher M. Yengo, Donald J. Jacobs.

148-Pos BOARD #B29

MODELING DRKN SH3 DOMAIN USING SEQUENCE SPECIFIC WORMLIKE CHAIN MODEL. **Yujie Chen**, William J. Wedemeyer, Lisa J. Lapidus.

149-Pos BOARD #B30

COMPARISON OF λ CRO SOLUTION ENSEMBLE TO ITS OPEN AND CLOSED CRYSTAL FORMS. Logan S. Ahlstrom, Osamu Miyashita.

Protein Folding & Stability I (Boards #B31-#B54)

150-Pos BOARD #B31

RHEOLOGY OF SMALL VOLUME ANTIBODY FORMULATIONS AND KINETICS OF SURFACE INDUCED PROTEIN FIBRILLATION. **Matthew C. Dixon**.

- 151-Pos BOARD #B32 STUDENT TRAVEL AWARDEE**
DIRECT OBSERVATION OF THE TUG-OF-WAR DURING THE FOLDING OF A MUTUALLY EXCLUSIVE PROTEIN. **Qing Peng**, Hongbin Li.
- 152-Pos BOARD #B33 INTERNATIONAL TRAVEL AWARDEE**
PROTEIN OLIGOMERIZATION: THERMODYNAMIC AND STRUCTURAL ANALYSIS OF THE DIMERIZATION OF BETA-LACTOGLOBULIN. **Martha I. Burgos**, Sergio A. Dassie, Gerardo D. Fidelio.
- 153-Pos BOARD #B34**
STRUCTURE AND FOLDING THERMODYNAMICS OF MFPA, A PENTAPEPTIDE REPEAT PROTEIN FROM *MYCOBACTERIUM TUBERCULOSIS*. **Sergei Khrapunov**, Huiyong Cheng, Michael Brenowitz.
- 154-Pos BOARD #B35**
CONCENTRATION AND ION INDUCED EFFECTS ON NUCLEOTIDE BINDING, AGGREGATION AND THERMAL UNFOLDING TRANSITIONS OF RECA. **Nate D. Talley**, Brittany A. Danzig, William R. Cannon, Jennifer S. Martinez, Andrew P. Shreve, Gina MacDonald.
- 155-Pos BOARD #B36**
INFLUENCE OF MATRIX METALLOPROTEASE ON THE FLEXIBILITY OF TYPE I COLLAGEN FIBRILS STUDIED BY ATOMIC FORCE MICROSCOPY. **Arkady Bitler**, Emanuel Perugia, Inna Solomonov, Robert Visse, Joseph Orgel, Hideaki Nagase, Sidney Cohen, Irit Sagi.
- 156-Pos BOARD #B37**
POPULATION ANALYSIS OF FOLDING INTERMEDIATES FROM TIME-RESOLVED AND SPECTRAL FLUORESCENCE OF SINGLE-TRYPTOPHAN APOFLAVODOXIN. **Nina V. Visser**, Sergey P. Laptanok, Ruchira Engel, Adrie H. Westphal, Carlo P. van Mierlo, Arie van Hoek, Ivo H. van Stokkum, Herbert van Amerongen, Antonie J. Visser.
- 157-Pos BOARD #B38**
PHOTON-BY-PHOTON ANALYSIS OF SINGLE MOLECULE FLUORESCENCE TRAJECTORIES OF A FAST FOLDING PROTEIN. Hoi Sung Chung, Irina V. Gopich, John M. Louis, Kevin McHale, Troy Cellmer, William A. Eaton.
- 158-Pos BOARD #B39**
CONFORMATIONS AND DYNAMICS OF POLYPEPTIDE CHAINS REVEALED BY TRYPTOPHAN-CYSTEINE CONTACT FORMATION KINETICS. **Marco Buscaglia**, Andrea Soranno, Francesca Cabassi, Renato Longhi, Tommaso Bellini.
- 159-Pos BOARD #B40**
ELECTROSTATIC INTERACTIONS AFFECT THE MECHANICAL STABILITY OF ELASTOMERIC PROTEINS. **Peng Zheng**, Hongbin Li.
- 160-Pos BOARD #B41**
MOLECULAR MECHANISM OF UREA-INDUCED PROTEIN DENATURATION. **Soyoung Lee**, Yuen Lai Shek, Tigran V. Chalikian.
- 161-Pos BOARD #B42**
CONFINED DYNAMICS OF A RIBOSOME-BOUND NASCENT GLOBIN: CONE ANGLE ANALYSIS OF FLUORESCENCE DEPOLARIZATION DECAYS IN THE PRESENCE OF TWO LOCAL MOTIONS. **Silvia Cavagnero**.
- 162-Pos BOARD #B43**
UNRAVELING THE POSSIBLE MECHANISM BEHIND LEPTOMENINGEAL AMYLOIDOSIS USING AS MODEL A HIGHLY UNSTABLE TRANSTHYRETIN TETRAMER. **Fernando Palhano**, Estefania Azevedo, Juliana Freire, Leonardo Palmieri, Luiz Mauricio Lima, Debora Foguel.
- 163-Pos BOARD #B44**
THERMAL STABILITY OF THE EXTRACELLULAR HEMOGLOBIN OF *GLOSSOSCOLEX PAULISTUS*: DIFFERENTIAL SCANNING CALORIMETRY (DSC) AND CIRCULAR DICHROISM (CD) STUDIES. **José Wilson Pires Carvalho**, Patrícia Soares Santiago, Marcel Tabak.
- 164-Pos BOARD #B45 CPOW TRAVEL AWARDEE**
ON THE THERMAL STABILITY OF EXTRACELLULAR HEMOGLOBIN OF *GLOSSOSCOLEX PAULISTUS*: OPTICAL SPECTROSCOPIC STUDIES. **Patricia S. Santiago**, Jose Wilson Pires Carvalho, Alessandra Lima Poli, Marco M. Domingues, Nuno C. Santos, Marcel Tabak.
- 165-Pos BOARD #B46**
GEOMETRY AND EFFICACY OF TRP-TRP, TRP-TYR AND TYR-TYR AROMATIC INTERACTION IN CROSS-STRAND POSITIONS OF A DESIGNED β -HAIRPIN. **Ling Wu**, Dan McElheny, Timothy A. Keiderling.
- 166-Pos BOARD #B47 STUDENT TRAVEL AWARDEE**
EFFECTS OF MUTATIONS ON SIDE-SPECIFIC FOLDING MECHANISM OF A HELIX-TURN-HELIX PROTEIN. **Ginka Buchner**, Krista E. Amunson, Jan Kubelka.
- 167-Pos BOARD #B48 STUDENT TRAVEL AWARDEE**
INVESTIGATING CONFORMATIONAL ENSEMBLES IN ALANINE BASED PEPTIDES USING VIBRATIONAL AND ECD SPECTROSCOPY. **Daniel Verbaro**, Thomas Measey, Indrajit Gosh, Werner Nau, Reinhard Schweitzer-Stenner.
- 168-Pos BOARD #B49**
A COMPREHENSIVE APPROACH TO PROTEIN THERMAL STABILIZATION. **Euiyoung Bac**, Du-Kyo Jung, George N. Phillips.
- 169-Pos BOARD #B50**
TRIPLE-HELIX FOLDING AROUND INTERRUPTIONS IN THE COLLAGEN REPEATING SEQUENCE. **Eileen Hwang**, Barbara Brodsky.
- 170-Pos BOARD #B51**
CONTRIBUTIONS OF AROMATIC RESIDUES TO THE FOLDING AND STABILITY OF HUMAN γ D-CRYSTALLIN. **Fanrong Kong**, Jonathan A. Kong.
- 171-Pos BOARD #B52**
ROLE OF PROLINE IN THE FOLDING OF CONOTOXINS. **Michele R. Hargittai**, Heather J. Harteis, KaLynn M. Kline, Balazs Hargittai.
- 172-Pos BOARD #B53**
INVESTIGATION OF W121 ON THE CONFORMATION AND FUNCTIONAL PROPERTIES OF THE HUMAN ACIDIC FIBROBLAST GROWTH FACTOR-1. **Hannah M. Henson**, Anna E. Daily, T. K. S. Kumar.
- 173-Pos BOARD #B54**
CHARACTERIZATION OF THE MINIMALISTIC FGF-D2 DOMAIN INTERFACE. **Lindsay N. Rutherford**, D. Rajalingam, Fei Guo, Joshua Sakon, T. K. S. Kumar.

Molecular Chaperones (Boards #B55-#B63)

- 174-Pos BOARD #B55**
ROCKING MOTION OF A PROTEIN-FOLDING NANO-MACHINE REVEALED BY SINGLE-PARTICLE CRYO-EM. **Junjie Zhang**, Matthew L. Baker, Gunnar Schroeder, Nick R. Douglas, Joanita Jakana, Caroline J. Fu, Michael Levitt, Steven J. Ludtke, Judith Frydman, Wah Chiu.
- 175-Pos BOARD #B56**
THE GROUP II CHAPERONIN MM-CPN BINDS AND REFOLDS HUMAN GAMMA D CRYSTALLIN. **Kelly M. Knee**, Daniel R. Goulet, Kate L. Drahos, Jonathan A. King.
- 176-Pos BOARD #B57**
CHAPERONE INTERACTIONS OF THE SMALL HEAT SHOCK PROTEIN HUMAN α B-CRYSTALLIN WITH ITS PHYSIOLOGICAL SUBSTRATE γ D-CRYSTALLIN AND ITS ISOLATED DOMAINS. **Ligia Acosta-Sampson**, Jonathan King.
- 177-Pos BOARD #B58**
IDENTIFICATION OF A CONSENSUS MOTIF IN SUBSTRATES BOUND BY A TYPE I HSP40. **Pradeep Kota**, Daniel W. Summers, Hong-Yu Ren, Douglas M. Cyr, Nikolay V. Dokholyan.
- 178-Pos BOARD #B59**
INVESTIGATING INTERACTIONS BETWEEN THE HSP90 MOLECULAR CHAPERONE AND UNFOLDED PROTEIN SUBSTRATES. **Timothy O. Street**.
- 179-Pos BOARD #B60**
INSERTION OF HSP70 INTO MEMBRANES CORRELATES WITH THE FLIPPING OF PHOSPHATIDYL SERINE ACROSS THE LIPID BILAYER. **Antonio De Maio**, Jonathan Okerblom, David M. Cauvi, Virginia L. Vega, Nelson Arispe.

180-Pos BOARD #B61
SINGLE-MOLECULE IMAGING OF 1:2 GROEL-GROES COMPLEXES IN ZERO-MODE WAVEGUIDES. **Tomoya Sameshima**, Taro Ueno, Junichi Wada, Ryo Iizuka, Mutsuko Aoki, Naonobu Shimamoto, Iwao Ohdomari, Takashi Tani, Takashi Funatsu.

181-Pos BOARD #B62
CRYSTAL STRUCTURE OF *DROSOPHILA* UNC-45, A PUTATIVE MYOSIN CHAPERONE. **Chi F. Lee**, Arthur V. Hauenstein, William C. Gasper, Banumathi Sankaran, Sanford I. Bernstein, Tom Huxford.

182-Pos BOARD #B63
CLXP DEGRADATION OF PROTEINS PROBED BY SINGLE-MOLECULE FLUORESCENCE. **Yongdae Shin**, Joseph H. Davis, Ricardo R. Brau, Andreas Martin, Tania A. Baker, Robert T. Sauer, Matthew J. Lang.

Protein-Ligand Interactions I (Boards #B64-#B96)

183-Pos BOARD #B64
EFFICACY AS AN INTRINSIC PROPERTY OF THE M2 MUSCARINIC RECEPTOR IN ITS OLIGOMERIC STATE. **Dar'ya S. Redka**, Heiko Heerklotz, James W. Wells.

184-Pos BOARD #B65
SELECTIVITY OF BINDING TO ESTROGEN RECEPTORS ALPHA AND BETA AS DETERMINED BY FLUORESCENCE POLARIZATION. **Catherine T. Knuff**, Hannah M. Varner, Patricia B. O'Hara.

185-Pos BOARD #B66
ION CHANNEL BLOCKADE OF NMDA RECEPTORS BY ARGITOXINS: IDENTIFICATION OF STRUCTURAL DETERMINANTS FOR SUBTYPE SELECTIVITY. **Anders S. Kristensen**, Simon Lucas, Claudius Wenzler, Dennis B. Tikhonov, Kristian Strömgaard.

186-Pos BOARD #B67
A SURVEY FOR SMALL MULTIDRUG RESISTANCE PROTEIN MULTIMERIZATION IN THE PRESENCE OF LIGAND USING SDS-PAGE ANALYSIS. **Denice C. Bay**, Raymond J. Turner.

187-Pos BOARD #B68
TOWARDS IDENTIFYING THE STRUCTURAL BASIS FOR INHIBITION BY A NEWLY DISCOVERED CLASS OF CLC CHLORIDE-CHANNEL INHIBITORS. **Andrew E. Howery**, Jonas Almqvist, Justin Du Bois, Merritt Maduke.

188-Pos BOARD #B69
STRUCTURAL BASIS FOR THE ALLOSTERIC MECHANISM OF SERINE PROTEASE INHIBITION BY AN ANTIBODY. **Rajkumar Ganesan**.

189-Pos BOARD #B70
ALLOSTERIC MECHANISM IN NEUROPHYSIN. **Hunjoong Lee**, Mandar Nail, Clay Bracken, Esther Breslow.

190-Pos BOARD #B71
LACTOSE BINDING TO GALECTIN-1 OCCURS WITH NEGATIVE COOPERATIVITY AND ATTENUATES INTERNAL MOTIONS THROUGHOUT THE PROTEIN. **Irina V. Nesmelova**, Elena Ermakova, Vladimir A. Daragan, Mabel Pang, Linda G. Baum, Kevin H. Mayo.

191-Pos BOARD #B72
CONFORMATIONAL PLASTICITY IN IL-2 IS CAPTURED VIA IN SILICO FRAGMENT-BASED DRUG DESIGN USING SILCS FRAGMAPS. **Olgun Guvench**.

192-Pos BOARD #B73
DIFFERENT BINDING MODES OF COMPOUNDS AFFECTING CETP ACTIVITY: DALCETRAPIB AND TORCETRAPIB. **Christine Magg**, Cyrille Maugeais, Gregor Dernick, Walter Huber, Elisabeth von der Mark, Georg Schmid, Ralf Thoma, Eric J. Niesor.

193-Pos BOARD #B74
CHOLESTERYL ESTER TRANSFER PROTEIN PENETRATES LIPOPROTEINS FOR CHOLESTERYL ESTER TRANSFER. **Gang Ren**, Shengli Zhang, Giorgio Cavignolo, Dongsheng Lei, Michael Oda, Karl H. Weisgraber, Kerry-Anne Rye, Henry J. Pownall, Xiayang Qiu.

194-Pos BOARD #B75
MOLECULAR MODELLING STUDIES OF BOVINE AND CAMEL CHYMOSIN- κ -CASEIN COMPLEXES. **Jesper Sørensen**, David S. Palmer, Anders U. Christensen, Leyla Celik, Karsten B. Qvist, Birgit H. Schiøtt.

195-Pos BOARD #B76
CHANGES IN HIV-1 PROTEASE-INHIBITOR INTERACTION DUE TO AMINO ACIDS POLYMORPHISMS AND DRUG-PRESSURE SELECTED MUTATIONS. **Angelo M. Veloro**, Mandy E. Blackburn, Jamie L. Kear, Xi Huang, Gail E. Fanucci.

196-Pos BOARD #B77
INTERACTIONS WITHIN THE E2 ENZYME CDC34-UBIQUITIN COMPLEX ARE TRANSIENT. **Donald E. Spratt**, Anne C. Rintala-Dempsey, Kathryn R. Barber, Gary S. Shaw.

197-Pos BOARD #B78
BINDING OF SMALL-MOLECULE INHIBITORS TO MAP KINASE ERK2, STUDIED WITH RESONANCE ENERGY TRANSFER (RET). **Kerrick Nevels**, Paul Shapiro, Peter Butko.

198-Pos BOARD #B79
RECEPTOR TRANSACTIVATION MEASURED IN LIVE CELLS USING SPATIAL INTENSITY DISTRIBUTION ANALYSIS (SPIDA). **Antoine G. Godin**, Jody L. Swift, Kim Doré, Mikhail Sergeev, Laure Freland, Yves De Koninck, Martin J. Beaulieu, Paul W. Wiseman.

199-Pos BOARD #B80
WHY IS $\alpha 4\beta 2$ NACHR MORE SENSITIVE TO VOLATILE ANESTHETICS THAN $\alpha 7$ NACHR? **David D. Mowrey**, Lu T. Liu, Dan Willenbring, Esmal J. Haddadian, Yan Xu, Pei Tang.

200-Pos BOARD #B81
CONFORMATIONAL DOCKING OF MULTIPLE TOXINS AGAINST KV1-CHANNELS HIGHLIGHT KEY MOTIFS FOR SELECTIVITY. **Po-chia Chen**, Serdar Kuyucak.

201-Pos BOARD #B82
THEORETICAL MODELS OF THE BIOLOGICAL CATCH-BOND. **Yuriy Pereverzev**, Oleg Prezhdo.

202-Pos BOARD #B83
CORRELATION BETWEEN FUNCTIONALITY AND BIOCHEMICAL PROPERTIES IN BIOTIN PROTEIN LIGASES. **Kyle Daniels**, Dorothy Beckett.

203-Pos BOARD #B84
REMOTE REGIONS INVOLVED IN PHOSPHOENOLPYRUVATE BINDING TO LACTOBACILLUS DELBREUCKII PHOSPHOFRUCTOKINASE. **Scarlett A. Blair**, Gregory D. Reinhart.

204-Pos BOARD #B85
SURFACE-EXPOSED HYDROPHOBIC RESIDUES ON SMALL ANKYRIN-1 MEDIATE BINDING TO OBSCURIN. **Chris D. Willis**, Ben Busby, Taiji Oashi, Alexander D. MacKerell Jr, Robert J. Bloch.

205-Pos BOARD #B86
CLUSTERING METHOD IN QMMM MODELING OF THE HLADH BINDING SITE. **Richard O. Tjörnhammar**.

206-Pos BOARD #B87
EFFECTS OF KCL ON CALMODULIN MUTANTS DEFECTIVE IN ION CHANNEL REGULATION. **John Froehlig**, Madeline A. Shea.

207-Pos BOARD #B88
REDEFINING THE ROLE OF THE QUATERNARY SHIFT IN THE ALLOSTERIC INHIBITION OF BACILLUS STEAROTHERMOPHILUS PHOSPHOFRUCTOKINASE. **Rockann Mosser**, Manchi Reddy, John Bruning, James C. Sacchettini, Gregory D. Reinhart.

208-Pos BOARD #B89
COMPUTATIONAL STUDIES OF EVOLUTIONARY SELECTION PRESSURE ON RAINBOW TROUT ESTROGEN RECEPTORS. **Conrad Shyu**, F. Marty Ytreberg.

209-Pos BOARD #B90
USE OF CRYSTAL MD SIMULATIONS TO SPEED UP EVALUATION OF BINDING FREE ENERGIES OF DIMANNOSE DEOXY ANALOGS WITH M4-P51G-CYANOVIRIN-N. **Ivan I. Vorontsov**, Osamu Miyashita.

210-Pos BOARD #B91
COMPUTATIONAL PREDICTION AND EXPERIMENTAL VALIDATION OF A NOVEL BINDING SITE FOR PLATELET INTEGRIN ALPHAIIIB-BETA3. **Ana Negri**, Davide Provasi, Jieqing Zhu, Jianghai Zhu, Barry S. Collier, Timothy A. Springer, Marta Filizola.

211-Pos BOARD #B92
MEMBRANE BINDING AND LIPID EXTRACTION STUDIES OF GM2 ACTIVATOR PROTEIN (GM2AP). **Stacey-Ann Benjamin**, Gail E. Fanucci.

212-Pos BOARD #B93
EXTRACELLULAR PH AND REGULATION OF INTEGRIN-LIGAND INTERACTIONS. **Ranjani Krishnan**, Douglas A. Lauffenburger, Krystyn J. Van Vliet.

213-Pos BOARD #B94
EFFECT OF MOLECULAR SWAY ON THE RECOGNITION OF PEPTIDE/MHC COMPLEX BY T CELLS. **Naoki Ogawa**, Haruo Kozono, Yuji C. Sasaki, Osami Kanagawa.

214-Pos BOARD #B95
A FORCE SPECTROSCOPY-BASED PROTEIN-LIGAND INTERACTION ASSAY. **Yi Cao**, Kai Shih Er, Rakesh Parhar, Hongbin Li.

215-Pos BOARD #B96
BINDING OF ANTIMICROBIAL LACTOFERRICIN PEPTIDES TO TARGETS IN THE ANGIOGENESIS PATHWAY.

Gerri E. Burkett, Nicole McClellan, D. Rajalingam, Anna E. Daily, Thallapuram Suresh Kumar, Denise V. Greathouse.

Physical Chemistry of Proteins & Nucleic Acids (Boards #B97-#B125)

216-Pos BOARD #B97
SALT-DEPENDENCE OF DNA-PROTEIN BINDING: A STUDY OF FOUR DNA-BINDING FAMILIES. **Cristina Russo**, Erin Asbury, Meredith Wall, Marcia O. Fenley.

217-Pos BOARD #B98
SORPTION, INTERCALATION AND COOPERATIVITY: THE MODES OF INTERACTION OF ACTINOMYCIN TO DNA. **André L. Galo**, Marcio F. Colombo.

218-Pos BOARD #B99
UREA DESTABILIZATION OF DNA AND RNA DOUBLE HELICES: PREFERENTIAL INTERACTIONS WITH NUCLEOBASE CONJUGATED PI-PI-SYSTEMS. **Jeffrey J. Schweinfus**, Joe McDevitt.

219-Pos BOARD #B100
THE EFFECT OF SITE-SPECIFIC MODIFICATIONS OF DNA ON THERMODYNAMIC STABILITY, ION BINDING AND HYDRATION. **Manjori Ganguly**, Ruowen Wang, Feng Wang, Michael P. Stone, Luis A. Marky, Barry I. Gold.

220-Pos BOARD #B101
MELTING BEHAVIOR OF DNA COMPLEXES WITH JOINED TRIPLE AND DUPLEX MOTIFS. **Irine Khutsishvili**, Sarah Johnson, Hui-Ting Lee, Luis A. Marky.

221-Pos BOARD #B102
FORMATION AND QUANTIFICATION OF TWO-PHOTON INDUCED DNA PHOTOLESIONS. **Michael Tycon**, Asima Chakraborty, Christopher J. Fecko.

222-Pos BOARD #B103
6MI ENHANCED FLUORESCENCE IN A SPECIFIC DNA PENTAMER SEQUENCE. **Andrew T. Moreno**, Ishita Mukerji, Joseph Knee.

223-Pos BOARD #B104
ALTERATION OF NUCLEIC ACID FLUORESCENCE BY AN EXTERNAL MOLECULE AND ITS PRACTICAL APPLICATION IN ENZYMOLOGY. **Dan N. Bigman**, Edwin Quinones, Cristina Padilla.

224-Pos BOARD #B105
CATIONIC SEQUENCE DEPENDENCE IN NUCLEIC ACID STRUCTURES. **Latsavongsakda Sethaphong**, Abhishek Singh, Ashley E. Marlowe, Yaroslava G. Yingling.

225-Pos BOARD #B106
COMPUTATIONAL EXPLORATION OF THERMODYNAMICS AND KINETICS OF MOBILE IONS AROUND RNA DUPLEX. **Serdal Kirmizialtin**, Ron Elber.

226-Pos BOARD #B107
PHOTOCHEMISTRY OF DNA FRAGMENTS VIA SEMICLASSICAL NONADIABATIC DYNAMICS. **Anastassia Alexandrova**, John Tully, Giovanni Granucci.

227-Pos BOARD #B108
APPLICATION OF REPTATION MODEL ON BROWNIAN DYNAMICS FOR ELECTROPHORESIS OF SINGLE DNA IN POLYMER SOLUTION. **Seungtae Kang**, Byung Jun Yoon.

228-Pos BOARD #B109
PARTITIONING OF THE ELASTIC ENERGY IN PROTEIN-DNA CHIMERAS. **Andrew Wang**, Chiao-Yu Tseng, Biljana Rolih, Alex J. Levine, Giovanni Zocchi.

229-Pos BOARD #B110
SELF-ASSEMBLY IN A MODEL AMPHIPHILE SYSTEM. **Lorna Dougan**.

230-Pos BOARD #B111
HYDROPHOBIC AND HYDROPHILIC INTERACTIONS. **David V. Svintradze**.

231-Pos BOARD #B112
IN SILICO STUDY OF THE INHIBITION OF TAQ POLYMERASE BY FULLEROL C60(OH)20. **Praveen N. Govindan**, Empu Salonen.

232-Pos BOARD #B113
ELECTROSTATIC CONTRIBUTION TO THE TRANSITION STATES BINDING FREE ENERGY USING SIMPLIFIED COARSE GRAINED MODEL. **Maria P. Frushicheva**, Arieh Warshel.

233-Pos BOARD #B114
HYDRATION ANALYSIS ON ATP HYDROLYSIS BY MICROWAVE DIELECTRIC SPECTROSCOPY. **Makoto Suzuki**, George Mogami.

234-Pos BOARD #B115
THERMODYNAMIC STUDIES ON THE CATARACT-ASSOCIATED MUTANT, E107A, OF HUMAN GAMMA-D CRYSTALLIN: MOLECULAR BASIS FOR CATARACT FORMATION. **Priya R. Banerjee**, Ajay Pande, George Thurston, Jayanti Pande.

235-Pos BOARD #B116
UREA FACILITATES THE TRANSLOCATION OF SINGLE-STRANDED DNA AND RNA THROUGH THE α -HEMOLYSIN NANOPORE. **Deanpen Japrun**, Marsiyana Henricus, Qihong Li, Giovanni Maglia, Hagan Bayley.

236-Pos BOARD #B117
ANALYSIS OF HOFMEISTER EFFECTS ON PROTEIN ADSORPTION AT AQUEOUS-SOLID INTERFACES. **Florian Evers**, Roland Steitz, Metin Tolan, Claus Czeslik.

237-Pos BOARD #B118
CHARACTERIZATION OF PRIB PROTEIN FROM *KLEBSIELLA PNEUMONIAE*. **Cheng-Yang Huang**, Hui-Mei Hung, Hui-Chuan Hsieh, Hau-Chern Jan.

238-Pos BOARD #B119
DESIGN OF NOVEL METHODS TO ELIMINATE DNA BINDING TO RECOMBINANT PROTEINS. **Melisa Bolanos**, Lindsay N. Rutherford, Anna E. Daily, K. M. Kathir, T. K. S. Kumar.

239-Pos BOARD #B120
HYDRATION POTENTIAL OF LYSOZYME: PROTEIN DEHYDRATION USING A SINGLE MICROPARTICLE TECHNIQUE. **Deborah L. Rickard**, P. Brent Duncan, David Needham.

240-Pos BOARD #B121
THE PHOSPHORUS-OXYGEN BOND AS AN INTRINSIC VIBRATIONAL PROBE OF ELECTRIC FIELD IN BIOLOGICAL SYSTEMS. **Nick Levinson**, Steven Boxer.

241-Pos BOARD #B122
LIGAND DEPLETION IN VIVO MODULATES THE DYNAMIC RANGE OF COOPERATIVE SIGNAL TRANSDUCTION. **Stuart J. Edelstein**, Melanie Stefan, Nicolas Le Novère.

242-Pos BOARD #B123
COMPARATIVE STUDY OF THE EFFECT OF UV- VS. GAMMA RADIATION ON HUMAN HAIR. **Ervin Palma**, David Gomez, Eugene Galicia, Yuri V. Griko.

243-Pos BOARD #B124
DIRECT OBSERVATION OF OSTWALD RIPENING IN FREE-INTERFACE DIFFUSION BASED PROTEIN CRYSTALLIZATION. **Aaron M. Streets**, Stephen R. Quake.

244-Pos BOARD #B125
CONFORMATIONAL FLEXIBILITY OF AGGREGATION-PRONE PEPTIDES STUDIED BY PET-FCS. **Sören Doose**, Marc Löllmann, Michael Schwering, Markus Sauer.

Membrane Protein Structure I (Boards #B126-#B150)

245-Pos BOARD #B126
X-RAY STRUCTURE DETERMINATION OF ISOCYTOCHROME C2 FROM THE PHOTOSYNTHETIC BACTERIUM *RHODOBACTER SPHAEROIDES*. **Peace C. Esonwune**, Herbert L. Axelrod.

246-Pos BOARD #B127
STRUCTURE DYNAMICS AND ALLOSTERIC REGULATION OF THE E. COLI HIGH-AFFINITY METHIONINE TRANSPORTER METNI. **Eric Johnson**, Chris Vercollone, Allen T. Lee, Douglas C. Rees.

247-Pos BOARD #B128
BETP - X-RAY STRUCTURE AND FUNCTION OF AN OSMOSENSOR AND TRANSPORTER. **Reinhard Kraemer**, Susanne Ressler, Vera Ott, Sascha Nicklisch, Heinz-Juergen Steinhoff, Lucy Forrest, Christine Ziegler.

248-Pos BOARD #B129
A FUNCTIONAL, PENTAMERIC FORM OF PHOSPHOLAMBAN IS REQUIRED FOR TWO-DIMENSIONAL CRYSTALLIZATION WITH THE SARCOPLASMIC RETICULUM CALCIUM PUMP. **John Paul J. Glaves**, Catharine A. Trieber, David L. Stokes, Howard S. Young.

249-Pos BOARD #B130
TOWARDS THE DEVELOPMENT OF RATIONALLY DESIGNED PHOSPHOLAMBAN MUTANTS FOR TREATMENT OF HEART FAILURE. **Kim N. Ha**, Martin Gustavsson, Raffaello Verardi, Naomi Menard, Nathaniel J. Traaseth, Gianluigi Veglia.

250-Pos BOARD #B131
PHOSPHOLAMBAN TOPOLOGY AS A REGULATOR OF SARCOPLASMIC RETICULUM CA₂+ATPASE FUNCTION. **Martin Gustavsson**, Nathaniel T. Traaseth, Gianluigi Veglia.

251-Pos BOARD #B132
SOLID STATE NMR OBSERVATION OF THE GEOMETRY OF KINKED PROTEIN HELICES. **Dylan T. Murray**, Jack R. Quine, Timothy A. Cross.

252-Pos BOARD #B133
STRUCTURAL AND FUNCTIONAL STUDIES OF M2 PROTON CHANNEL FROM INFLUENZA A VIRUS. **Mukesh Sharma**, Myunggi Yi, Emily Peterson, Daniel Inouye, Azlyn Velez, Thach Can, Huajun Qin, David D. Busath, Huan-Xiang Zhou, Timothy A. Cross.

253-Pos BOARD #B134
SITE-DIRECTED SPIN-LABEL EPR STUDIES REPORT ON DRUG-INDUCED CONFORMATIONAL CHANGE OF INFLUENZA A M2 PROTEIN. **Jessica Thomaston**, Kathleen Howard.

254-Pos BOARD #B135
HIV-1 MATRIX BINDING TO MODEL MEMBRANES INVESTIGATED BY NEUTRON REFLECTIVITY: ELECTROSTATICS AND BINDING ORIENTATION. **Hirsh Nanda**.

255-Pos BOARD #B136
OLIGOMERIZATION OF TRANSMEMBRANE ALPHA-HELICES MODULATED BY C-TERMINAL BOUNDARY RESIDUES. **Derek P. Ng**, Charles M. Deber.

256-Pos BOARD #B137 STUDENT TRAVEL AWARDEE
STRUCTURE, DYNAMICS AND TOPOLOGY OF THE N-TERMINUS AND FIRST TRANSMEMBRANE SEGMENT OF APJ. **David N. Langelaan**, Jan K. Rainey.

257-Pos BOARD #B138
CD AND EPR STRUCTURAL STUDIES ON THE KCNE1 PROTEIN IN A LIPID BILAYER. **Aaron T. Coey**, Thusitha S. Gunasekera, Congbao Kang, Rick Welch, Carlos G. Vanoye, Charles R. Sanders, Gary A. Lorigan.

258-Pos BOARD #B139
ACCESSORY ALPHA-HELIX OF COMPLEXIN I CAN DISPLACE VAMP2 LOCALLY IN THE COMPLEXIN-SNARE QUATERNARY COMPLEX. **Bin Lu**, Shuang Song, Yeon-Kyun Shin.

259-Pos BOARD #B140
OSMOLYTES MODULATE CONFORMATIONAL TRANSITIONS IN SOLVENT-EXPOSED REGIONS OF TWO OUTER MEMBRANE PROTEINS. **Ricardo H. Flores Jiménez**, Marie-Ange Do Cao, Miyeon Kim, David S. Cafiso.

260-Pos BOARD #B141
PROXIMITY OF THE EGF RECEPTOR KINASE DOMAIN TO THE PLASMA MEMBRANE. Ping Liu, Stuart McLaughlin.

261-Pos BOARD #B142
DISTINCT TOPOLOGIES FOR THE HIV-1 TRANSMEMBRANE GLYCOPROTEIN GP41 C-TERMINAL TAIL ON CELLULAR AND VIRAL LIPID MEMBRANES. **Jonathan D. Steckbeck**, Chengqun Sun, Timothy J. Sturgeon, Ronald C. Montelaro.

262-Pos BOARD #B143
MEMBRANE TOPOLOGY OF HEPATITIS C VIRUS PROTEIN NS4B. **José Villalain**.

263-Pos BOARD #B144
EVOLUTIONARY CONSERVATION OF PHOSPHOLIPID-BINDING SITES IN MEMBRANE PROTEINS. **Larisa A. Adamian**, Jie Liang.

264-Pos BOARD #B145
TRANSMEMBRANE PROTEIN ASSOCIATION IN A BIOMIMETIC MEDIUM. **Gamal Rayan**, Myriam Reffay, Martin Picard, Nicolas Taulier, Arnaud Ducruix, Wladimir Urbach.

265-Pos BOARD #B146
STUDYING MEMBRANE PROTEIN THERMODYNAMICS USING A STERIC TRAP. Tracy M. Blois, Heedeok Hong, Tae H. Kim, James U. Bowie.

266-Pos BOARD #B147
MEASURING THE THERMODYNAMIC STABILITY OF STRONG PROTEIN-PROTEIN INTERACTIONS IN LIPID BILAYERS USING A STERIC TRAP. **Heedeok Hong**, Tracy M. Blois, James U. Bowie.

267-Pos BOARD #B148
MONITORING AND OPTIMIZING DETERGENT CONCENTRATION FOR MEMBRANE PROTEIN CRYSTALLIZATION WHILE FOLLOWING PROTEIN HOMOGENEITY. **Larry J. W. Miercke**, Rebecca A. Robbins, Mimi Ho, Andrew Sandstrom, Rachel K. Bond, Robert M. Stroud.

268-Pos BOARD #B149
A SEMI-QUANTITATIVE ANALYSIS OF DETERGENT EXCHANGE FOR INTEGRAL MEMBRANE PROTEINS. **Zexuan Li**, Fang Sun, Yue Hu, Yufeng Zhou.

269-Pos BOARD #B150
BIOCHEMICAL DEFINITION OF 'HARSH' VS. 'MILD' DETERGENTS FOR MEMBRANE PROTEIN SOLUBILIZATION. **Vincent G. Nadeau**, Arianna Rath, Charles M. Deber.

Membrane Protein Function I (Boards #B151-#B178)

270-Pos BOARD #B151
ANION TRANSLOCATION IN A BRUSH-LIKE NANOPORE: SIMULATIONS OF THE OUTER MEMBRANE PROTEIN OPRP. **Prapasiri Pongprayoon**, Oliver Beckstein, Chze Ling Wee, Mark Sansom.

271-Pos BOARD #B152
REGULATION OF CHANNEL FUNCTION DUE TO COUPLING WITH A LIPID BILAYER. Md. **Ashrafuzzaman, J. Tuszyński**.

272-Pos BOARD #B153
PROPERTIES OF LIPOSOMES WITH COMPLEX LIPID MIXTURE. **Markus Schwiering**, Antje Brack, Heinz Decker, Nadja Hellmann.

- 273-Pos BOARD #B154**
FUNCTIONAL RECONSTITUTION INTO LIPOSOMES OF PURIFIED HUMAN RHCG AMMONIA CHANNEL. **Isabelle Mouro-Chanteloup**, Sylvie Cochety, Mohamed Cami, Sandrine Genetet, Nedjma Zidi-Yahiaoui, Andreas Engel, Yves Colin, Olivier Bertrand, Pierre Ripoché.
- 274-Pos BOARD #B155**
TRACKING SINGLE PROTEIN TRANSLOCATION COMPLEXES IN THE MEMBRANES OF LIVING BACTERIA. **Yves Bollen**, Siet van den Wildenberg, Erwin Peterman.
- 275-Pos BOARD #B156**
SOLVATION AND BINDING OF THE MEMBRANE ENZYME PAGP BY DETERGENTS AND LIPIDS. **Chris Neale**, Régis Pomès.
- 276-Pos BOARD #B157**
PROTEIN SECONDARY STRUCTURE PREDICTION USING KNOWLEDGE-BASED POTENTIALS AND AN ENSEMBLE OF CLASSIFIERS. **Saraswathi Sundararajan**, Pawel Gniewek, Robert L. Jernigan, Andrzej Kolinski, Andrzej Kloczkowski.
- 277-Pos BOARD #B158**
DETERMINATION OF THE MECHANISM OF SELECTIVITY AND AMMONIA CONDUCTION BY AMTB USING MD SIMULATIONS. **Shahram Khademi**, Ugur Akgun.
- 278-Pos BOARD #B159**
ELECTROPHYSIOLOGY OF VIRAL ENVELOPE PROTEIN ION CHANNELS IN LIPID MEMBRANES ACROSS APERTURES IN POLYSTYRENE AND SILICON. **Nipun Chaptol**, Latrice Faulkner, Sasha Daskalova, Brenda Hogue, Michael Goryll.
- 279-Pos BOARD #B160 WITHDRAWN**
- 280-Pos BOARD #B161**
SINGLE AMINO ACID SUBSTITUTIONS CHANGE THE SODIUM/IODIDE SYMPORTER (NIS) SELECTIVITY AND STOICHIOMETRY. **Nancy Carrasco**.
- 281-Pos BOARD #B162**
CHARACTERIZATION OF PRESTIN OLIGOMERIZATION AND DIFFUSION AT THE SINGLE MOLECULE LEVEL. **Ramsey I. Kamar**, Laurent Cognet, Robert M. Raphael.
- 282-Pos BOARD #B163**
MOLECULAR DYNAMICS SIMULATIONS OF THE ROTARY MOTOR FO UNDER EXTERNAL ELECTRIC FIELDS ACROSS THE MEMBRANE. **Yang-Shan Lin**, Jung-Hsin Lin, Chien-Cheng Chang.
- 283-Pos BOARD #B164**
MECHANISM OF TARGETING THE A KINASE ANCHORING PROTEIN AKAP188 TO THE MEMBRANE. **Andreas Horner**, Frank Goetz, Enno Klusmann, Peter Pohl.
- 284-Pos BOARD #B165**
THE ELECTROSTATICS OF VDAC: IMPLICATIONS IN SELECTIVITY AND GATING. **Om P. Choudhary**, Rachna Ujwal, William Kowallis, Rob Coalson, Jeff Abramson, Michael Grabe.
- 285-Pos BOARD #B166**
MAPPING THE SECA-SECY INTERACTION INTERFACE USING IN VIVO PHOTOCROSSLINKING. **Sanchaita Das**.
- 286-Pos BOARD #B167**
INCREASING CHLORIDE CONDUCTANCE THROUGH THE SECY COMPLEX BY MUTAGENESIS OR TRIVALENT CATIONS. **Huan Bao**, Kush Dalal, Franck Duong.
- 287-Pos BOARD #B168**
STABILITY OF VESICLES WITH INCORPORATED AQUAPORIN Z UNDER VARIOUS PHYSIOCHEMICAL CONDITIONS. **Jinsoo Yi**, Jens Nording, Julie Valbjorn, Chandrasmitha Bhatt, Per Brandt Rasmussen, Anitta Krogh Jensen, Carlo David Montemagno, Jørgen Steen-Pedersen.
- 288-Pos BOARD #B169**
ATOMISTIC MODEL FOR THE OUTWARD-FACING STATE OF LACTOSE PERMEASE AND QUANTIFICATION OF LIGAND BINDING. **Pushkar Y. Pendse**, Jeffery B. Klauda.
- 289-Pos BOARD #B170**
SINGLE MOLECULE STUDIES OF *E-COLI* F_1F_0 *ATP SYNTHASE* IN LIPID BILAYERS. **Wei M. Ho**, Richard M. Berry.
- 290-Pos BOARD #B171**
EXPLORING CONFORMATIONAL CHANGES IN THE RBSABC TRANSPORTER USING EPR SPIN LABELING. **Michael J. Simon**, Matthew C. Clifton, Mark A. Hermodson, Huide Zhang, Cynthia V. Stauffacher.
- 291-Pos BOARD #B172**
INVESTIGATION OF THE MOBILE REGIONS OF GM2 ACTIVATOR PROTEIN USING CONTINUOUS WAVE AND PULSED ELECTRON PARAMAGNETIC RESONANCE AND FLUORESCENCE SPECTROSCOPY. **Jeff D. Carter**, Gail E. Fanucci.
- 292-Pos BOARD #B173**
INTACT PROTEIN COMPONENT OF CYTOCHROME BC1 COMPLEX IS NOT ESSENTIAL FOR THE SUPEROXIDE GENERATION. **Ying Yin**, Shaoqing Yang, Fei Zhou, Linda Yu, Chang-An Yu.
- 293-Pos BOARD #B174**
ALTERATION OF MEMBRANE PROTEIN FUNCTION THROUGH THE PHOTO-ACTIVATION OF THE HYDROPHOBIC PROBE IODONAPHTHYLAZIDE. **Mathias Viard**, Himanshu Garg, Robert Blumenthal, Yossef Raviv.
- 294-Pos BOARD #B175**
SIMULTANEOUS MEASUREMENT OF PHAGOSOME AND PLASMA MEMBRANE POTENTIALS IN HUMAN NEUTROPHILS BY DI-8-ANEPPS AND SEER. **Deri Morgan**, Thomas E. DeCoursey.
- 295-Pos BOARD #B176**
FLIO IS NOT REQUIRED FOR MOTILITY IN SALMONELLA IF ITS CYTOPLASMIC DOMAIN AND FLIP MUTANT SUPPRESSORS ARE EXPRESSED. **Clive S. Barker**, Irina V. Meshcheryakova, Alla S. Kostyukova, Fadel A. Samatey.
- 296-Pos BOARD #B177 STUDENT TRAVEL AWARDEE**
SURFACE ACTIVITY OF SURFACTANT PROTEIN SP-B AND SP-C IN DIFFERENT LIPID ENVIRONMENTS. **Olga Lucia Ospina Ramirez**, Jesus Perez-Gil.
- 297-Pos BOARD #B178**
THE NHERF2 DEPENDENT DYNAMIC Ca^{2+} /LPA REGULATION OF NHE3 MOBILITY AND INTERACTION AT THE EPITHELIAL BRUSH BORDER. **Boyoung Cha**, Xinjun C. Zhu, Nicholas C. Zachos, Rafiqel Sarker, Molee Chakraborty, Olga Kovbasnjuk, Mark Donowitz.

Protein Assemblies (Boards #B179-#B208)

- 298-Pos BOARD #B179**
STRUCTURAL SURVEY OF LARGE PROTEIN COMPLEXES IN *DESULFOVIBRIO VULGARIS*. **Bong-Gyoon Han**, Ming Dong, Mark D. Biggin, Robert M. Glaeser.
- 299-Pos BOARD #B180**
RANOLAZINE PRESERVES THE INTEGRITY OF MITOCHONDRIAL SUPERCOMPLEXES. **Ashish K. Gadicherla**, Meiyang Yang, Amadou K. S. Camara, Mohammed Aldakkak, Age D. Boelens, Bassam Wakim, David F. Stowe.
- 300-Pos BOARD #B181**
A BIOPHYSICAL INVESTIGATION OF THE NON-CLASSICAL RELEASE COMPLEX OF FIBROBLAST GROWTH FACTOR-1. **Katie Hamblin**, Anna E. Daily, T. K. S. Kumar.
- 301-Pos BOARD #B182**
THE MONOMERIZATION OF A DIMERIC, CALCIUM-BINDING PROTEIN INVOLVED IN THE NON-CLASSICAL EXPORT OF FIBROBLAST GROWTH FACTOR 1. **Emily M. Erstine**, Anna E. Daily, T. K. S. Kumar, T. K. S. Kumar.
- 302-Pos BOARD #B183**
RECONSTRUCTING THE NEISSERIA TYPE IV PILUS SYSTEM IN *E. COLI*. **Lorraine S. Meyer**, Katrina T. Forest.
- 303-Pos BOARD #B184**
ASSEMBLY MODELS OF P7 PROTEIN FROM HCV. **Yi Ting Wang**, Hao-Jen Hsu, Wolfgang Fischer.

- 304-Pos BOARD #B185**
DEFINING THE INTERACTION BETWEEN S100A13 AND ANNEXIN II PEPTIDE: INSIGHT INTO NON-CLASSICAL SECRETION. **Anna E. Daily**, T. K. S. Kumar.
- 305-Pos BOARD #B186**
STRUCTURAL MODELING OF A BACTERIAL RNAP/DNA COMPLEX TO UNDERSTAND FUNCTIONS OF THE PROKARYOTIC TRANSCRIPTION MACHINERY. **Chang-Shung Tung**, Paul Fenimore, Benjamin McMahon.
- 306-Pos BOARD #B187**
TOWARDS MOLECULAR DYNAMICS SIMULATIONS OF LARGE PROTEIN COMPLEXES. **Djurre de Jong**, Xavier Periole, Siewert Jan Marrink.
- 307-Pos BOARD #B188**
REPLICA EXCHANGE SIMULATIONS FOR MACROMOLECULAR CROWDING EFFECTS ON MULTIPROTEIN BINDING. **Youngchan Kim**, Robert B. Best, Jeetain Mittal.
- 308-Pos BOARD #B189**
SIMULATION STUDY OF BINDING CHEMISTRY IN CROWDED CONDITIONS USING TWO- AND THREE-DIMENSIONAL STOCHASTIC OFF-LATTICE MODELS. **Byoungkoo Lee**, Philip R. LeDuc, Russell Schwartz.
- 309-Pos BOARD #B190**
MODELING AND MUTATION OF NHERF1 DIMERIZATION DOMAINS. **Tatyana Mamonova**, Bin Wang, Maria Kurnikova, Peter A. Friedman.
- 310-Pos BOARD #B191**
CONFORMATIONAL PLASTICITY OF THE ADENYLYL CYCLASE CYAA FROM BORDETELLA PERTUSSIS. **Edithe Selwa**, Elodie Laine, Thérèse E. Malliavin.
- 311-Pos BOARD #B192**
DYNAMICS OF TELOMERE CLUSTERING IN THE NUCLEUS. **Nathanael Hoze**, Angela Taddei, David Holcman.
- 312-Pos BOARD #B193**
MOLECULAR ARCHITECTURE OF THE COLLAGEN BASED EXTRA-CELLULAR MATRIX. **Joseph P. R. O. Orgel**, James D. San Antonio, Olga Antipova.
- 313-Pos BOARD #B194**
ROLE OF WATER IN MEDIATING THE INTERACTION BETWEEN COLLAGENS. **Krishnakumar Mayuram Ravikumar**, Wonmuk Hwang.
- 314-Pos BOARD #B195**
ELECTROSTATIC INTERACTIONS CONTROL THE PERMEABILITY OF MUCIN HYDROGELS. **Oliver Lieleg**, Ioana Vladescu, Katharina Ribbeck.
- 315-Pos BOARD #B196**
FIBRIN GEL ULTRASTRUCTURE. **Massimiliano Papi**, Giuseppe Maulucci, Giuseppe Arcovito, Mauro Missori, Andrea Bellelli, Giovanna Bumis, Marco De Spirito.
- 316-Pos BOARD #B197**
PROTEIN DOMAIN FORMATION IN LIPID MEMBRANES. **Andrea C. Hamill**, Paul Butler, Lionel Porcar, Sumit Garg.
- 317-Pos BOARD #B198**
SURFACTANT SPONGE PHASE IS A VERSATILE, TUNABLE AND BIOLOGICALLY RELEVANT MEDIUM TO STUDY MEMBRANE PROTEIN INTERACTIONS. **Martin Picard**, Gamal Rayan, Nicolas Taulier, Isabelle Broutin, Arnaud Ducruix, Wladimir Urbach.
- 318-Pos BOARD #B199**
SORTING AND CLUSTERING OF TRANSMEMBRANE HELICES IN COEXISTING FLUID DOMAINS IN MODEL MEMBRANES. **Lars V. Schafer**, Djurre H. de Jong, Andrea Holt, Andrzej J. Rzepiela, Alex H. de Vries, Antoinette Killian, Siewert J. Marrink.
- 319-Pos BOARD #B200**
THEORY OF THE SOLUBILITY OF PROTEIN CRYSTALS. **Jeremy D. Schmit**, Ken Dill.
- 320-Pos BOARD #B201**
DYNAMICS OF IN VITRO BACTERIAL S-LAYER CRYSTALLIZATION. **Steve Whitelam**, Sungwook Chung, Seong-Ho Shin, Carolyn Bertozzi, James J. DeYoreo.

- 321-Pos BOARD #B202**
PROTEOMIC SCALE SMALL ANGLE X-RAY SCATTERING (SAXS): APPLICATIONS AND IMPLICATIONS. **Greg L. Hura**, Michal Hammel, John A. Tainer, Mike W. Adams, Angeli L. Menon, Scott Classen, Robert Rambo.
- 322-Pos BOARD #B203**
(HIS)6-TAG-SPECIFIC OPTICAL PROBES FOR ANALYSES OF PROTEINS AND THEIR INTERACTIONS. **Chunxia Zhao**, Lance M. Hellman, Xin Zhan, Sidney W. Whiteheart, Michael G. Fried.
- 323-Pos BOARD #B204**
STRUCTURAL DETERMINATION OF MACROMOLECULAR MACHINES GUIDED BY PROTEOMICS AND ELECTRON MICROSCOPY. **Keren Lasker**, Haim J. Wolfson, Andrej Sali.
- 324-Pos BOARD #B205**
MULTIFUNCTIONAL GFP TAG: A USEFUL TOOL FOR ISOLATION OF PROTEIN COMPLEXES. **Takuya Kobayashi**, Taku Kashiwama, Nagomi Kurebayashi, Takashi Murayama.
- 325-Pos BOARD #B206**
EFFECT OF KINETICS ON SEDIMENTATION VELOCITY PROFILES AND THE ROLE OF INTERMEDIATES. **John J. Correia**, P. Holland Alday, Peter J. Sherwood, Walter F. Stafford.
- 326-Pos BOARD #B207**
DETERMINING THERMODYNAMIC PARAMETERS OF PROTEIN INTERACTIONS BY GLOBAL ANALYSIS OF DATA FROM MULTIPLE TECHNIQUES. **Huaying Zhao**, Peter Schuck.
- 327-Pos BOARD #B208**
INFORMATION EXTRACTION FROM SIMULATIONS-BASED DATA FITTING OF DISTRIBUTIONS OF FRET EFFICIENCIES FROM DONORS AND ACCEPTORS IN THE CYTOPLASM OF LIVING CELLS. **Deo R. Singh**, Kristin Michalski, Valerica Raicu.

DNA Replication, Recombination, & Repair (Boards #B209-#B240)

- 328-Pos BOARD #B209**
MOLECULAR TRAFFIC JAMS ON DNA HIGHWAYS: SINGLE MOLECULE OBSERVATION OF COLLISIONS BETWEEN RECBCD HELICASE AND DNA BINDING PROTEINS. **Ilya J. Finkelstein**, Eric C. Greene.
- 329-Pos BOARD #B210**
THE DNA-GATE OF GYRASE IS PREDOMINANTLY IN THE CLOSED CONFORMATION DURING DNA SUPERCOILING. **Airat Gubaev**, Manuel Hilbert, Dagmar Klostermeier.
- 330-Pos BOARD #B211 STUDENT TRAVEL AWARDEE**
INVESTIGATING THE NUCLEATION AND EXTENSION RATES OF E.COLI AND DEINOCOCCUS RECA ALONG DUPLEX DNA. **Hsin-Fang Hsu**, Hung-Wen Li, Michael M. Cox.
- 331-Pos BOARD #B212**
EFFECT OF DNA SUPERCOILING ON DNA DECATENATION AND UNKNOTTING FOLLOWED BY BROWNIAN DYNAMICS SIMULATIONS. **Guillaume Witz**, Giovanni Dietler, Andrzej Stasiak.
- 332-Pos BOARD #B213**
DOES T7 DNA POLYMERASE BACKTRACK DURING PROOFREADING? **Tjalle P. Hoekstra**, Peter Gross, Hylkje Geertsema, Erwin J. G. Peterman, Gijs J. L. Wuite.
- 333-Pos BOARD #B214**
A SINGLE MOLECULE VIEW OF THE RAD51-SSDNA INTERACTION. **Andrea Candelli**, Mariella A.M. Franker, Mauro Modesti, Gijs J. L. Wuite, Erwin J. G. Peterman.
- 334-Pos BOARD #B215**
ISOTHERMAL AMPLIFICATION AND QUANTIFICATION OF NUCLEIC ACIDS USING INTRINSIC FLUORESCENCE OF PRIMERS. **Besik Kankia**.
- 335-Pos BOARD #B216**
BINDING AFFINITY AND DISPLACEMENT SYNTHESIS ACTIVITY OF POL I DNA POLYMERASE ON DIFFERENT GAPPED DNAs. **Yanling Yang**, Vince J. LiCata.
- 336-Pos BOARD #B217**
CONFORMATIONAL DYNAMICS OF A DNA POLYMERASE AT THE SINGLE-MOLECULE LEVEL. **Joshua Gill**, David Millar.

- 337-Pos BOARD #B218**
 TOPOISOMERASE IB ACTIVITY INVESTIGATED BY SINGLE MOLECULE MAGNETIC TWEEZERS: MECHANISMS OF CYTOTOXICITY. **Jan Lipfert**, Peter Jan Laverman, Iris Koster, Komaraiah Palle, Mary-Ann Bjornsti, Nynke H. Dekker.
- 338-Pos BOARD #B219**
 DYNAMICS OF AN ARCHAEAL DNA POLYMERASE REVEALED BY SINGLE MOLECULE FRET. **Xinghua Shi**, Cheng Liu, Isaac K. O. Cann, Taekjip Ha.
- 339-Pos BOARD #B220**
 THE DYNAMIC DNA DAMAGE INDUCIBLE PROTEIN UMUD INHIBITS REPLICATION. **Penny J. Beuning**, Jing Fang, Jana Sefcikova, Michelle C. Silva, John R. Engen.
- 340-Pos BOARD #B221**
 A THREE POOL MODEL OF DNA DIGEST GELS. **Matthew Corby**, Julien Laurent, Ilham Naili, Anca M. Segall, Peter Salamon.
- 341-Pos BOARD #B222**
 DIRECT VISUALIZATION OF FLUORESCENT SSB ON SINGLE MOLECULES OF SSDNA AS A MECHANISTIC PROBE IN THE EARLY STAGES OF HOMOLOGOUS RECOMBINATION. **Jason C. Bell**, Stephen C. Kowalczykowski.
- 342-Pos BOARD #B223**
 ANALYSIS OF DYNAMIC PROPERTIES OF DNA REPAIR PROTEIN MUTS AND DNA COMPLEXES USING MOLECULAR DYNAMICS SIMULATIONS. **Hisashi Ishida**.
- 343-Pos BOARD #B224**
 BASE PAIR-POSITION-SPECIFIC DNA 'BREATHING' AT THE REPLICATION FORK JUNCTION REGULATES HELICASE ACCESS. **Davis Jose**, Steven E. Weitzel, Peter H. von Hippel.
- 344-Pos BOARD #B225**
 SINGLE-MOLECULE STUDIES OF THE SSDNA BINDING ACTIVITY OF E. COLI MUTL. **Jonghyun Park**, Yong-Moon Jeon, Daekil In, Seong-Dal Heo, Changill Ban, Jong-Bong Lee.
- 345-Pos BOARD #B226**
 EXTREMELY-LOW-FREQUENCY MAGNETIC FIELD INDUCES DNA DOUBLE STRAND BREAKS IN HUMAN CELLS. **Kiwon Song**.
- 346-Pos BOARD #B227**
 SPECIFICITY OF *E. COLI* SSB PROTEIN BINDING TO THE CHI SUBUNIT OF DNA POL III HE AND PRIA HELICASE IN THE PRESENCE AND ABSENCE OF SSDNA. **Alexander G. Kozlov**, Włodzimierz Bujalowski, Timothy M. Lohman.
- 347-Pos BOARD #B228**
 CONFORMATIONAL DYNAMICS OF SINGLE RECBCD MOLECULES. **Martha Hosotani**, Ashley R. Carter, Hsui-Fang Fan, Hung-Wen Li, Thomas T. Perkins.
- 348-Pos BOARD #B229**
 BIOCHEMICAL ANALYSIS OF RUVA-RUVB COMPLEX FORMATION DURING BRANCH MIGRATION OF HOLLIDAY JUNCTION DNA. **Yong-Woon Han**, Hiroaki Yokota, Takashi Hishida, Hiroshi Iwasaki, Masahito Hayashi, Hideo Shinagawa, Yoshie Harada.
- 349-Pos BOARD #B230**
 ATOMIC FORCE MICROSCOPY SHOWS THAT CHI SEQUENCES AND SSB PROTEINS PREVENT DNA REANNEALING BEHIND THE TRANSLOCATING ADDAB HELICASE-NUCLEASE. **Joseph T. P. Yeeles**, Mark S. Dillingham, Fernando Moreno-Herrero.
- 350-Pos BOARD #B231**
 ACTIVATION OF A HELICASE MOTOR UPON ENCOUNTER WITH A SPECIFIC SEQUENCE IN THE DNA TRACK. **Joseph Yeeles**, Emma Longman, Fernando Moreno-Herrero, Mark S. Dillingham.
- 351-Pos BOARD #B232**
 A CLOSER LOOK AT THE UNWINDING INITIATION BY TWINKLE-THE HUMAN MITOCHONDRIAL DNA HELICASE. **Doyel Sen**, Smita Patel.
- 352-Pos BOARD #B233**
 STEPPING MECHANISM OF BACTERIOPHAGE T7 HELICASE AND PRIMING LOOP OBSERVED USING SINGLE-MOLECULE FRET METHODS. **Salman Syed**, Manjula Pandey, Smita S. Patel, Taekjip Ha.
- 353-Pos BOARD #B234**
 DIRECT OBSERVATION OF TWISTING STEPS DURING RAD51 POLYMERIZATION ON DNA. **Giovanni Cappello**, Hideyuki Arata, Aurélie Dupont, Ludovic Disseau, Jean-Louis Viovy, Axelle Renodon-Cornière, Masayuki Takahashi.
- 354-Pos BOARD #B235**
 REAL-TIME VISUALIZATION OF ASSEMBLY AND DISASSEMBLY OF S. CEREVISIAE RAD51 ON DUPLEX DNA. **Ichiro Amitani**, Amitabh V. Nimonkar, Ronald J. Baskin, Stephen C. Kowalczykowski.
- 355-Pos BOARD #B236**
 COUPLING DNA UNWINDING ACTIVITY WITH PRIMER SYNTHESIS IN THE BACTERIOPHAGE T4 PRIMOSOME. **Vincent Croquette**, Maria Manosas, Michelle M. Spiering, Zhihao Zhuang, Stephen J. Benkovic.
- 356-Pos BOARD #B237**
 SINGLE MOLECULE STUDY ON INCORPORATION EFFICIENCY OF DPO4 AND KLENOW FRAGMENT IN THE PRESENCE OF BPDE ADDUCT. **Lu Song**, Yin Yeh, Rod Balhorn, Monique Cosman.
- 357-Pos BOARD #B238**
 DNA POLYMERIZATION IN OPTICAL TWEEZERS. **Gabija Ziedaite**, Anders Wallin, Heikki Ojala, Kalle Hanhijärvi, Edward Haeggeström, Dennis Bamford.
- 358-Pos BOARD #B239**
 CONFORMATIONAL DYNAMICS OF MISMATCH RECOGNITION BY E. COLI MUTS. **Julie Coats**, Yuyen Lin, Ivan Rasnik.
- 359-Pos BOARD #B240**
 DIRECT VISUALIZATION OF JOINING OF DNA FRAGMENTS BY LIGIII β USING ATOMIC FORCE MICROSCOPY. **Harshad Ghodke**, Hong Wang, Elizabeth Cotner-Gohara, In-Kwon Kim, Tom Ellenberger, Bennett Van Houten.

Transcription (Boards #B241-#B255)

- 360-Pos BOARD #B241**
 SYNERGISTIC ACTION OF RNA POLYMERASES IN OVERCOMING THE NUCLEOSOMAL BARRIER. **Jing Jin**, Lu Bai, Daniel S. Johnson, Robert M. Fulbright, Maria L. Kireeva, Mikhail Kashlev, Michelle D. Wang.
- 361-Pos BOARD #B242**
 CHARACTERIZING THE RELATIONSHIP BETWEEN DNA BENDING AND TRANSCRIPTION ELONGATION BY T7 RNA POLYMERASE. **Erika Cline**, Troy A. Lionberger, Edgar Meyhofer.
- 362-Pos BOARD #B243**
 A NEW MODEL FOR ELONGATION COMPLEX STABILITY IN RNA POLYMERASE - THE "TOPOLOGICAL LOCK". **Satamita Samanta**, Xiaoqing Liu, Craig T. Martin.
- 363-Pos BOARD #B244**
 RNA-DEPENDENT RNA PAUSING OR TAKING A LONG COFFEE BREAK. **Igor D. Vilfan**, Minna M. Poranen, Dennis H. Bamford, Nynke H. Dekker.
- 364-Pos BOARD #B245**
 NON-COOPERATIVE INTERACTIONS BETWEEN TRANSCRIPTION FACTORS AND CLUSTERED DNA BINDING SITES ENABLE GRADED TRANSCRIPTIONAL RESPONSES TO ENVIRONMENTAL INPUTS. **Luca Giorgetti**, Trevor Siggers, Guido Tiana, Greta Caprara, Samuele Notarbartolo, Teresa Corona, Manolis Pasparakis, Paolo Milani, Martha L. Bulyk, Gioacchino Natoli.
- 365-Pos BOARD #B246**
 THE ENERGETIC BASIS OF ABORTIVE CYCLING IN TRANSCRIPTION. **Ankit V. Vahia**, Craig T. Martin.
- 366-Pos BOARD #B247**
 AN ABORTIVE ISOMERIZATION BRANCH IN THE TRANSCRIPTION INITIATION PATHWAY AT A σ^{54} PROMOTER AS REVEALED BY SINGLE MOLECULE FLUORESCENCE MICROSCOPY. **Larry J. Friedman**, Jeff Gelles.

- 367-Pos BOARD #B248**
HIGHLY BENT DNA: A NOVEL REPRESSOR OF T7 RNA POLYMERASE. **Troy Lionberger**, Edgar Meyhöfer.
- 368-Pos BOARD #B249**
SINGLE MOLECULE STUDY OF PROMOTER SEARCH BY E COLI RNAP. **Feng Wang**, Ilya Finkelstein, Eric Greene.
- 369-Pos BOARD #B250**
STRUCTURAL MODELING OF PHOB DIMER AND ITS INTERACTION WITH RNAP COMPLEX. **Chang-Shung Tung**.
- 370-Pos BOARD #B251**
QUANTITATIVE STUDIES OF TRANSCRIPTION IN E.COLI WITH SUBDIFFRACTION FLUORESCENCE MICROSCOPY. **Ulrike Endesfelder**, Kieran Finan, Peter Cook, Achillefs Kapanidis, Mike Heilemann.
- 371-Pos BOARD #B252**
A MICROFLUIDICS-BASED PLATFORM FOR IDENTIFICATION AND DETAILED CHARACTERIZATION OF TRANSCRIPTION FACTOR BINDING SITES. **Polly M. Fordyce**, Doron Gerber, Danh Tran, Jiashun Zheng, Hao Li, Steven R. Quake, Joseph L. DeRisi.
- 372-Pos BOARD #B253**
MODEL OF TRANSCRIPTIONAL ACTIVATION BY MARA IN ESCHERICHIA COLI. **Michael E. Wall**, David A. Markowitz, Judah L. Rosner, Robert G. Martin.
- 373-Pos BOARD #B254**
TRANSCRIPTION FACTOR SWITCHING DYNAMICS REGULATES GENE ACTIVATION. **Juergen Reingruber**, Lana Bosanac, Xavier Darzacq, David Holcman.
- 374-Pos BOARD #B255**
A GENOME-WIDE ANALYSIS OF POISED PROMOTERS IN BACTERIA. **Marko Djordjevic**.

Protein-Nucleic Acid Interactions I (Boards #B256-#B280)

- 375-Pos BOARD #B256**
DYNAMIC INVESTIGATION OF DNA BENDING AND WRAPPING BY TYPE II TOPOISOMERASES. **Qing Shao**, Laura Finzi, David Dunlap.
- 376-Pos BOARD #B257**
CHARACTERIZATION OF HIV-1 REVERSE TRANSCRIPTASE 3TC SPECIFICITY BY CONFORMATIONALLY SENSITIVE FLUORESCENCE REVEALS NEW INSIGHTS INTO THE KINETIC BASIS OF INHIBITOR DISCRIMINATION. **Matthew W. Kellinger**, Kenneth A. Johnson.
- 377-Pos BOARD #B258**
COLIPHAGE 186 GENETIC SWITCH: A SINGLE MOLECULE STUDY. **Haowei Wang**, Ian B Dodd, Keith Shearwin, David Dunlap, Laura Finzi.
- 378-Pos BOARD #B259**
USING REAL-TIME, SINGLE-MOLECULE EXPERIMENTS TO MONITOR RECA-MEDIATED PAIRING AND STRAND EXCHANGE REACTIONS IN VARIOUS NUCLEOTIDE STATES. **Hsiu-Fang Fan**, Michael M. Cox, Hung-Wen Li.
- 379-Pos BOARD #B260**
INTERSUBUNIT REGULATION BETWEEN NUCLEASE AND HELICASE DOMAINS OF RECBCD ENZYME. **Jui-Yun Chang**, Hung-Wen Li.
- 380-Pos BOARD #B261**
A STRUCTURAL MODEL FOR RNA REMODELING BY A DIMERIC DEAD BOX HELICASE. **Markus G. Rudolph**, Dagmar Klostermeier.
- 381-Pos BOARD #B262**
DNA LOOPING BY LACTOSE REPRESSOR REQUIRES TETRAMER OPENING. **Danielis Rutkauskas**, Hongli Zhan, Kathleen S. Matthews, Francesco S. Pavone, Francesco Vanzi.
- 382-Pos BOARD #B263**
NUCLEIC ACID INTERACTION KINETICS OF APOBEC3G INVESTIGATED USING ENSEMBLE AND SINGLE MOLECULE METHODS. **Ioulia Rouzina**, Dominic Qualley, Tiyun Wu, Yasumasa Iwatani, Hylkje Geertsema, Denise Chan, Amber Hertz, Mark C. Williams, Judith Levin, Karin Musier-Forsyth.
- 383-Pos BOARD #B264**
A MULTISCALE MODEL TO ANALYZE THE SLIDING MOVEMENT OF REPRESSOR PROTEINS ON DNA. **Simone Furini**, Carmen Domene, Silvio Cavalcanti.
- 384-Pos BOARD #B265**
A LACI-DNA LOOPING LANDSCAPE AND ALLOSTERIC EFFECTS ON THE LOOP SHAPES. **Aaron R. Haeusler**, Kathy Goodson, Jason D. Kahn.
- 385-Pos BOARD #B266**
RNA LOOPING BY PTB: EVIDENCE USING FRET AND NMR SPECTROSCOPY AND FOR A ROLE IN SPLICING REPRESSION. **Rajan Lamichhane**, Gerrit M. Daubner, Judith Thomas-Crusells, Sigrid D. Auweter, Cristina Manatchal, Keyunna S. Austin, Oksana Valniuk, Frédéric H.-T. Allain, David Rueda.
- 386-Pos BOARD #B267**
SINGLE-MOLECULE IMAGING OF DNA CURTAINS REVEALS INTRINSIC ENERGY LANDSCAPES FOR NUCLEOSOME DEPOSITION. **Mari-Liis Visnapuu**, Eric C. Greene.
- 387-Pos BOARD #B268**
FLUCTUATING FORCES FACILITATE PROTEIN-MEDIATED DNA LOOPING. **Yih-Fan Chen**, J. N. Milstein, Jens-Christian Meiners.
- 388-Pos BOARD #B269**
ON THE STRUCTURE, FUNCTION AND METALLOREGULATORY PROPERTIES OF THE ZINC-ACTIVATED REPRESSOR *STREPTOCOCCUS PNEUMONIAE* ADCR. **Alfredo J. Guerra**, Hermes Reyes-Caballero, Faith E. Jacobsen, Uma Mahendra Kumar Koppolu, Robert A. Scott, Krystyna M. Kazmierczak, Malcolm E. Winkler, David P. Giedroc.
- 389-Pos BOARD #B270**
DNA STRUCTURE SPECIFICITY OF BACILLUS STEAROTHERMOPHILUS PCRA. **Karen R. Thickman**, Sanford H. Leuba, Saleem A. Khan.
- 390-Pos BOARD #B271**
SINGLE MOLECULE STUDIES ON HCV RNA POLYMERASE ACTIVITY. **Pierre Karam**, Colins Vasquez, Wayne Mah, Megan Powdrill, Matthias Götte, Gonzalo Cosa.
- 391-Pos BOARD #B272**
SIMULATING THE RELAXATION OF DNA SUPERCOILS BY TOPOISOMERASE I. **Todd D. Lillian**, Maryna Taranova, Ioan Andricioaei, Noel C. Perkins.
- 392-Pos BOARD #B273**
NUCLEOPROTEIN COMPLEX FORMATION BY *BACILLUS SUBTILIS* SPO0J/PARB. **Candice M. Etson**, David Z. Rudner, Antoine M. van Oijen.
- 393-Pos BOARD #B274**
THEORETICAL ANALYSIS OF THE MOLECULAR MECHANISM OF STABILIZATION OF NOVA-RNA COMPLEX SYSTEM: FRAGMENT MOLECULAR ORBITAL METHOD BASED QUANTUM CHEMICAL CALCULATION FOR THE EFFECT OF THE COMPLEX FORMATION ON THE ELECTRONIC STATE OF BIOMACROMOLECULAR SYSTEM. **Ikuo Kurisaki**, Kaori Fukuzawa, Tatsuya Nakano, Yuji Mochizuki, Hirofumi Watanabe, Shigenori Tanaka.
- 394-Pos BOARD #B275**
INVESTIGATING CLASSIC LAC REPRESSOR-DNA LOOPING EXPERIMENTS USING A COMPUTATIONAL ROD MODEL. **Andrew D. Hirsh**, Todd D. Lillian, Noel C. Perkins.
- 395-Pos BOARD #B276**
HIGH THROUGHPUT SCREENING OF APTAMERS FOR HUMAN THROMBIN AND FACTOR IXA. **Gillian V. Kupakuwana**, Lei Chen, James E. Crill, Mark P. McPike, Philip N. Borer.
- 396-Pos BOARD #B277**
ENGINEERED HOLLIDAY JUNCTIONS AS SINGLE-MOLECULE REPORTERS FOR PROTEIN-DNA INTERACTIONS. **Nesha May O. Andoy**, Susanta Sarkar, Peng Chen.

397-Pos BOARD #B278
COMPLEX KINETICS OF THE λ REPRESSOR-MEDIATED DNA LOOP. **Laura Finzi**, Carlo Manzo, Chiara Zurla, David D. Dunlap.

398-Pos BOARD #B279
FREE ENERGY LANDSCAPE OF NONSPECIFIC PROTEIN-DNA ENCOUNTER. **Chuanying Chen**, B. Montgomery Pettitt.

399-Pos BOARD #B280 INTERNATIONAL TRAVEL AWARDEE
SINGLE-MOLECULE STUDY ON MICRORNA MACHINERIES: MICRORNA PROCESSING WITH IMMUNOPRECIPITATES AT THE SINGLE-MOLECULE LEVEL. **Kyu-Hyeon Yeom**, V. Nary Kim, Chirlmin Joo.

Membrane Physical Chemistry I (Boards #B281-#B310)

400-Pos BOARD #B281
NANOMECHANICS OF LIPID BILAYERS: HEADS OR TAILS? **Sergi Garcia-Manyes**, Gerard Oncins, Lorena Redondo, Fausto Sanz.

401-Pos BOARD #B282
THE PHASE BEHAVIOR OF SUPPORTED LIPID BILAYER MIXTURES AND CELL MEMBRANES IMAGED BY SECONDARY ION MASS SPECTROMETRY. **Monica M. Lozano**, Peter K. Weber, Ian D. Hutcheon, Steven G. Boxer.

402-Pos BOARD #B283 STUDENT TRAVEL AWARDEE
DIRECT MEASUREMENT OF TIME-DEPENDENT DOMAIN COARSENING IN GIANT UNILAMELLAR VESICLES. **Cynthia A. Stanich**, Aurelia R. Honerkamp-Smith, Sarah L. Keller.

403-Pos BOARD #B284
MOLECULAR INTERACTIONS IN PHASE SEPARATION OF DOPC/DSPC/CHOLESTEROL TERNARY MIXTURES. **Mohammad Alwarawrah**, Jian Dai, Juyang Huang.

404-Pos BOARD #B285
MOLECULAR DYNAMICS SIMULATIONS OF CERAMIDE FLIP-FLOP AND DESORPTION IN LIPID RAFTS. **W. F. Drew Bennett**, D. Peter Tieleman.

405-Pos BOARD #B286
DNA LIPOPLEXES: PREDICTION OF PHASE ARCHITECTURES USING CG SIMULATIONS AND EXPERIMENTAL VALIDATION. **Josephine Corsi**, Oscar Ces, Syma Khalid, George S. Attard.

406-Pos BOARD #B287
MICRORHEOLOGY OF FREESTANDING LIPID BILAYERS. **Chris Harland**, Miranda Bradley, Raghuvveer Parthasarathy.

407-Pos BOARD #B288
COPING WITH THE COLD: EFFECT OF HIBERNATION ON PULMONARY SURFACTANT IN THE THIRTEEN-LINED GROUND SQUIRREL. **Fred Possmayer**, Lynda McCaig, Li-Juan Yao, Lin Zhao, James Staples, Sandra Orgeig, Ruud A. Veldhuizen.

408-Pos BOARD #B289
BENDING STIFFNESS AND CURVATURE COUPLING OF TERNARY LIPID MIXTURES. **Aiwei Tian**, Benjamin Capraro, Cinzia Esposito, Tobias Baumgart.

409-Pos BOARD #B290
ELECTRIC FIELDS AND GIANT VESICLES. **Thomas Portet**, Rumiana Dimova, David S. Dean, Marie-Pierre Rols.

410-Pos BOARD #B291
RNA-LIPID INTERACTION AT THE AIR LIQUID INTERFACE. **Agnes Michanek**, Tommy Nylander, Emma Sparr.

411-Pos BOARD #B292
INTRACELLULAR CALCIUM MEDIATED STIFFNESS OF RED BLOOD CELLS IS REVERSED BY HYPOXIC PRE-INCUBATION WITH NITRITE IONS. **Joy G. Mohanty**, Viachaslau Barodka, Dan E. Berkowitz, Joseph M. Rifkind.

412-Pos BOARD #B293
INVESTIGATION OF DYNAMICS OF MOLECULES IN SUPPORTED PHOSPHOLIPID BILAYERS BY SINGLE MOLECULE TRAJECTORIES IN COMBINATION WITH SPOT SIZE ANALYSIS. **Moussa Barhoum**, Karl-Heinz Gericke, Joel M. Harris.

413-Pos BOARD #B294
MICROPATTERNED MODEL MEMBRANES COMPOSED OF POLYMERIZED AND FLUID LIPID BILAYERS. **Kenichi Morigaki**.

414-Pos BOARD #B295
SELF-ASSEMBLY IN PHOSPHOLIPID DNA - PROTEIN MIXTURES WITH APPLICATIONS TO COMPLEX FORMATION IN CATIONIC LIPOSOME-CHROMATIN SYSTEMS. **Lars Nordenskiöld**, Viveka Alfredsson, Nikolay Berezhnoy, Nikolay Korolev, Björn Lindman, Chenning Lu, Dan Lundberg, Maria Miguel.

415-Pos BOARD #B296
ENTROPY DRIVEN STRUCTURES AND INTERACTIONS OF LIPID BASED SELF ASSEMBLIES. **Uri Raviv**.

416-Pos BOARD #B297
FRUSTRATED PHASE TRANSFORMATIONS IN SUPPORTED, INTERDIGITATING LIPID BILAYERS. **Babak Sanii**, Alan W. Szmodis, Daniel A. Bricarello, Ann E. Oliver, Atul N. Parikh.

417-Pos BOARD #B298
EFFECT OF SMOOTH BACTERIAL LIPOPOLYSACCHARIDE ON THE BEHAVIOR OF DPPC FILMS. **Cristina Casals**, Olga Canadas, Kevin M. Keough.

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MEMBRANE CURVATURE MODELING AND LIPID ORGANIZATION IN SUPPORTED LIPID BILAYERS. **Matthew I. Hoopes**, Roland Faller, Marjorie L. Longo.

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CONCERNING A PERCOLATION CONCEPT OF ZETA POTENTIAL AND ELECTROKINETIC PHENOMENA IN BIO-SYSTEMS. **Vladimir Y. Smorodin**.

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STEADY-STATE ELECTROCHEMICAL DETERMINATION OF LIPIDIC NANOTUBE DIAMETER UTILIZING AN ARTIFICIAL CELL MODEL. **Ann-Sofie Cans**, Kelly L. Adams, Johan Engelbrektsson, Marina Voinova, Bo Zhang, Michael L. Heien, Andrew G. Ewing.

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STATISTICAL THERMODYNAMIC DETERMINATION OF CHEMICAL POTENTIAL FROM HAMILTONIAN FOR STEROL SUPERLATTICE DOMAINS IN PHOSPHOLIPID BILAYERS. **Noah J. Weaverdyck**, Rebecca K. Friesen, Erwin Sucipto, Carl S. Helrich.

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MICRO- AND NANOSCALE DEVICES FOR CONTROLLING TWO-DIMENSIONAL CHEMISTRY. **Ilya Czolkos**, Jonas K. Hannestad, Aldo Jesorka, Bo Albinsson, Owe Orwar.

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EMULSIFICATION OF CHOLESTEROL IN BILE SALT MICELLES: RELEVANCE FOR CHOLESTEROL ABSORPTION. **Filipe M. C. Gomes**, Carlos F. G. Geraldes, Winchil L. C. Vaz, Maria J. Moreno.

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PARTITION OF AMPHIPHILIC MOLECULES TO LIPID BILAYERS BY ITC. **Maria Joao Moreno**, Margarida Bastos, Adrian Velazquez-Campoy.

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CHOLESTEROL ORIENTATION AND TILT MODULUS IN DMPC BILAYERS. **George Khelashvili**, Georg Pabst, Harel Weinstein, Daniel Harries.

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COMBINED USE OF STEADY-STATE FLUORESCENCE EMISSION AND ANISOTROPY OF MERCYANINE 540 TO DISTINGUISH CRYSTALLINE, GEL, RIPPLE, AND LIQUID CRYSTALLINE PHASES IN DIPALMITOYLPHOSPHATIDYLCHOLINE BILAYERS. **Hannabeth Franchino**, John D. Bell.

427-Pos BOARD #B308
CHARACTERIZING VESICLE LEAKAGE BY FLUORESCENCE LIFETIME MEASUREMENTS. **Hiren Patel**, Clemens Tscheka, Heiko Heerklotz.

428-Pos BOARD #B309

THE EFFECT OF LIDOCAINE-HCL ON THE PHYSICAL PROPERTIES OF LIPOSOMES OF TOTAL LIPID AND PHOSPHOLIPIDS EXTRACTED FROM NEURONAL MEMBRANES.

Hye Ock Jang, Tae Sang Jung, Yang Ho Noh, Ki Yong Nam, Sung Min Park, Mun Ki Song, Hyung Jin Joo, Young Chan Jeon, Sang Hun Shin, Moon Kyung Bae, Il Yun.

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DRUG DELIVERY SYSTEMS FEATURING WITHDRAWN FLUOROQUINOLONES. **Isabel Sousa**, Paula Gameiro.

Membrane Active Peptides I (Boards #B311-#B340)

430-Pos BOARD #B311

MULTISCALE SIMULATIONS OF RNASE E FROM E.COLI: A MEMBRANE BINDING PROTEIN. **Syma Khalid**, Peter J. Bond, Ben F. Luisi.

431-Pos BOARD #B312

PORATION OF LIPID VESICLES BY ANTIMICROBIAL PEPTIDES: SIMULATION STUDIES WITH A POLARIZABLE COARSE-GRAIN MODEL. **Durba Sengupta**, Martti Louhivuori, Siewert J. Marrink.

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BINDING OF ANTIMICROBIAL LIPOPEPTIDES TO LIPID BILAYERS CHARACTERIZED BY MICROSECOND MOLECULAR DYNAMICS SIMULATIONS. **Joshua N. Horn**, Tod D. Romo, Michael C. Pitman, Alan Grossfield.

433-Pos BOARD #B314

ON THE ROLES OF ANIONIC LIPIDS IN PROTEIN LOCALIZATION AND PERMEABILITY OF MEMBRANES. **Igor Vorobyov**, Toby W. Allen.

434-Pos BOARD #B315

PHYSICAL MODELING OF MEMBRANE-LYTIC ANTIMICROBIAL PEPTIDES: TOWARD OPTIMIZING THEIR MEMBRANE DISRUPTING ACTIVITY. **Sattar Taheri-Araghi**, Bae-Yeun Ha.

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THE ROLE OF HYDROPHOBICITY IN PEPTIDE-MEMBRANE INTERACTIONS: INSIGHTS THROUGH COARSE-GRAINED MOLECULAR DYNAMICS SIMULATIONS. **Paraskevi Gkeka**, Lev Sarkisov.

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A COMPARATIVE STUDY ON THE EFFECT OF HYDROPHOBICITY AND NET POSITIVE CHARGE ON THE ANTIBACTERIAL AND ANTI- ENDOTOXIN ACTIVITIES OF ANTIMICROBIAL PEPTIDES. **Yosef Rosenfeld**, Naama Lev, Yechiel Shai.

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CATIONIC ANTIMICROBIAL PEPTIDES: A PHYSICAL BASIS FOR THEIR SELECTIVE MEMBRANE-DISRUPTING ACTIVITY. **Bae-Yeun Ha**, Sattar Taheri-Araghi.

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ENERGY BARRIERS AND HELIX PLASTICITY IN THE MEMBRANE INSERTION OF PHLIP. **Francisco N. Barrera**, Monika Musial-Siwiek, Oleg A. Andreev, Yana K. Reshetnyak, Donald M. Engelman.

439-Pos BOARD #B320

LIPID MEMBRANE DESTABILISATION BY ARGININE PEPTIDES IS CHAIN LENGTH DEPENDENT. **Ana Bouchet**, Marc Lensink, Fabiana Lairion, Anibal Disalvo, Erik Goormaghtigh, Jean-Marie Ruysschaert.

440-Pos BOARD #B321

MOLECULAR ELECTROPORATION AND THE TRANSDUCTION OF OLIGOARGININES. **Kevin E. Cahill**.

441-Pos BOARD #B322

INFLUENCE OF LIPID COMPOSITION ON THE ORIENTATIONAL STATE OF THE ANTIMICROBIAL PEPTIDE MSI-103 IN MEMBRANES. A SOLID-STATE NMR STUDY. **Erik Strandberg**, Deniz Tiltak, Sebastian Ehni, Parvesh Wadhvani, Anne S. Ulrich.

442-Pos BOARD #B323

UNDERSTANDING THE IMPORTANCE OF RESIDUE 13 AND THE C-TERMINUS ON THE STRUCTURE AND ACTIVITY OF THE AMPHIBIAN ANTIMICROBIAL PEPTIDE, AUREIN 2.2.

John T. J. Cheng, John D. Hale, Havard Jessen, Melissa Elliot, Robert E. W. Hancock, Suzana K. Straus.

443-Pos BOARD #B324

TEMPERATURE DEPENDENCE OF THE INTERACTION OF ANTIMICROBIAL PEPTIDES WITH MIXED LIPID BILAYERS.

David I. Fernandez, Marc-Antoine Sani, John D. Gehman, Frances Separovic.

444-Pos BOARD #B325

DETERMINATION OF A HIGH-DEFINITION STRUCTURE OF ANTIMICROBIAL PISCIDIN-3 AT THE WATER-BILAYER INTERFACE. **William Wiczorek**, Sudheendra U. S., Riqiang Fu, Myriam Cotten.

445-Pos BOARD #B326

STRUCTURAL STUDIES OF AN IMMUNE MODULATING AND DIRECT ANTIMICROBIAL PEPTIDE. **Michal Wiczorek**, Havard Jessen, Jason Kindrachuk, Walter R. P. Scott, Melissa Elliot, Kai Hilpert, Robert E.W. Hancock, Suzana K. Straus.

446-Pos BOARD #B327

DETERMINING THE CHARGE STATE OF HISTIDINE SIDE CHAINS IN ANTIMICROBIAL PISCIDIN BY NUCLEAR MAGNETIC RESONANCE. **Jason McGavin**, Sudheendra U. S., Matthew Baxter, Jolita Seckute, Linda Nicholson, Myriam Cotten.

447-Pos BOARD #B328

INTERACTION OF THE CATIONIC PEPTIDE BACTENCIN WITH DDPC/DMPG PHOSPHOLIPID MIXTURES AT THE AIR-WATER INTERFACE. **Ana B. López-Oyama**, miguel A. valdes.

448-Pos BOARD #B329

LFAMPIN DERIVED ANTIMICROBIAL PEPTIDE: BIOPHYSICAL CHARACTERIZATION AND BIOLOGICAL IMPLICATIONS OF COMPOSITION AND STRUCTURE. **Margarida Bastos**, Regina Adao, Kamran Nazmi, Daniela Uhríková, Sergio S. Funari, Ana Coutinho, Manuel Prieto, Jan Bolscher.

449-Pos BOARD #B330

ROLES OF LYS AND ARG IN THE ACTIVITY OF ANTIMICROBIAL PEPTIDES. **Naoki Choda**, Yoshiaki Yano, Katsumi Matsuzaki.

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STUDENT TRAVEL AWARDEE
CHARACTERIZATION OF INDOLICIDIN-MEMBRANE INTERACTIONS BY SIMULTANEOUS ATTENUATED TOTAL REFLECTION FOURIER-TANSFORM INFRARED SPECTROSCOPY-ATOMIC FORCE MICROSCOPY. **Michelle A. Edwards**, Christopher M. Yip.

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KINETICS OF MASTOPARAN X BINDING TO LIPID BILAYERS. **Alex Kreutzberger**, Antje Pokorny.

452-Pos BOARD #B333

STUDENT TRAVEL AWARDEE
CYANLATED CYSTEINE USED TO MAP MEMBRANE BINDING AND INTER-PEPTIDE CONTACTS IN A MODEL ANTIMICROBIAL PEPTIDE. **Katherine N. Alfieri**, Heather A. McMahan, Casey H. Londergan.

453-Pos BOARD #B334

FINE-TUNING THE ACTIVITY OF LINEAR AMPHIPATHIC BETA-SHEET ANTIMICROBIAL PEPTIDES. **Jing He**, Michelle Pate, Janet Hammer, Jack Blazyk.

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TOWARDS DESIGN OF NOVEL ANTIMICROBIAL AGENTS: ROLE OF THE CONFORMATIONAL RIGIDITY. **Andrey Ivankin**, Anastasia Antipova, Inna Radzishkevsky, Amram Mor, Gregory A. Caputo, William F. DeGrado, David Gidalevitz.

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MEMBRANE-ACTIVE PEPTIDES: STABLE PORE-FORMING OR CELL-PENETRATING PEPTIDES SELECTED WITH ORTHOGONAL HIGH-THROUGHPUT SCREENING. **Jessica R. Marks**, Aram J. Krauson, Kalina A. Hristova, William C. Wimley.

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INTERACTIONS OF ANTIMICROBIAL PEPTIDE LATARCIN WITH MODEL CELL MEMBRANE. **Grace Idiong**, Amy Won, Stahs Pripotnev, Anatoli Ianoul.

457-Pos BOARD #B338
SIMULTANEOUS SINGLE-CHANNEL RECORDING AND FLUORESCENCE IMAGING OF CALCIUM FLUX REVEALS THE BEHAVIOUR OF INDIVIDUAL ANTIMICROBIAL PEPTIDE PORES. **Lydia M. Harriss**, Brid Cronin, Mark I. Wallace.

458-Pos BOARD #B339
PEPTIDE-INDUCED DOMAIN FORMATION IN SUPPORTED LIPID BILAYERS: DIRECT EVIDENCE BY COMBINED ATOMIC FORCE AND POLARIZED TOTAL INTERNAL REFLECTION FLUORESCENCE MICROSCOPY. **John Oreopoulos**, Raquel M. Eband, Richard M. Eband, Christopher M. Yip.

459-Pos BOARD #B340
TIME-RESOLVED, SINGLE-CELL STUDY OF THE ATTACK OF THE ANTIMICROBIAL PEPTIDE LL-37 ON LIVE E. COLI CELLS. **Kem Sochacki**, Kenneth Barns, Robert Bucki, James C. Weisshaar.

Interfacial Protein-Lipid Interactions I (Boards #B341-#B370)

460-Pos BOARD #B341
MEMBRANE DIFFUSION OF PH DOMAIN-PIP3 COMPLEXES: THE EFFECTS OF TARGET LIPID STOICHIOMETRY ON DIFFUSION CONSTANT PROBED USING SINGLE-MOLECULE FLUORESCENCE MICROSCOPY. **Jefferson Knight**, Joseph J. Falke.

461-Pos BOARD #B342
THE AUTISM-RELATED H93R PTEN MUTANT SHOWS ENHANCED PLASMA MEMBRANE BINDING BUT REDUCED ACTIVITY. **Roberta E. Redfern**, Sidd Shenoy, Radu Moldovan, Frank Heinrich, Mathias Lösche, Marie-Claire Daou, Alonzo H. Ross, Arne Gericke.

462-Pos BOARD #B343
UNUSUAL THERMAL STABILITY OF HUMAN SECRETED PHOSPHOLIPASE A2 ENZYMES. **Supriyo Ray**, Erica Jackson, Suren A. Tatulian.

463-Pos BOARD #B344
INTERACTION OF BACTERIAL PI-SPECIFIC PHOSPHOLIPASE C WITH LIPID BILAYER SURFACES. **Ashley D. Parfitt**, Frances J. Sharom.

464-Pos BOARD #B345
EXPLORING MOLECULAR AND SUPRAMOLECULAR ASPECTS OF SPHINGOMYELIN-CONTAINING MEMBRANES UPON ACTION OF SPHINGOMYELINASE D. **Kerstin Wagner**, Jonathan R. Brewer, Blanca Ramos-Cerrillo, Roberto P. Stock, Luis A. Bagatolli.

465-Pos BOARD #B346
HETEROGENEOUS DIELECTRIC AND HYDROGEN BONDING ENVIRONMENT OF TRANSMEMBRANE PEPTIDES. **Tatyana I. Smirnova**, Maxim A. Voynov, Oleg G. Poluektov, Alex I. Smirnov.

466-Pos BOARD #B347
MOLECULAR MECHANISMS OF PEPTIDE TRANSLOCATION ACROSS MICELLES: A CASE STUDY OF CELL-PENETRATING PEPTIDE AND ANTIMICROBIAL PEPTIDE. **Qian Wang**, Gongyi Hong, Ruth Pachter, Margaret S. Cheung.

467-Pos BOARD #B348
CHARACTERIZING THE EFFECTS OF MEMBRANE FLUIDITY AND LIPID CHAIN LENGTH ON THE ANTIMICROBIAL ACTIVITY OF PROTEGRIN-1. **Oliver S. Shafaat**, Matthew Chapman, Kin Lok Lam, Alan J. Waring, Robert Lehrer, Ka Yee Lee.

468-Pos BOARD #B349
A SYSTEMATIC APPROACH TOWARDS ELUCIDATION OF THE MODE OF ACTION OF A BACTERIAL THERMOSENSOR. **Larisa E. Cybulski**, Joost Ballering, Jacques P. F. Doux, Martijn C. Koorengel, Ben de Kruijff, Diego de Mendoza, J. Antoinette Killian.

469-Pos BOARD #B350
ENGINEERING A THERMOSENSOR TO DISSECT A TRANSMEMBRANE SIGNALING SYSTEM. **Larisa E. Cybulski**, Ariel Fernández, Diego de Mendoza.

470-Pos BOARD #B351
MEMBRANE-ASSOCIATED FOLDING AND UNFOLDING. **Alexander G. Karabadzak**, Dhammika Weerakkody, Mak S. Thakur, Gregory O. Andreev, Donald M. Engelman, Oleg A. Andreev, Yana K. Reshetnyak.

471-Pos BOARD #B352
ENHANCED UPTAKE OF INTEGRAL MEMBRANE PROTEINS BY CUBIC NANOPARTICLES. **Charlotte E. Conn**, Connie Darmanin, Xavier Mulet, Minoog Moghaddam, Jose Varghese, Calum J. Drummond.

472-Pos BOARD #B353
REAL-TIME DETECTION OF APOLIPOPROTEIN A-I'S LIPIDATION STATE BY FLUORESCENCE RESONANCE ENERGY TRANSFER. **Giorgio Cavigliolo**, Ethan G. Geier, Michael N. Oda.

473-Pos BOARD #B354
FVIII_A BINDING TO PHOSPHATIDYL-SERINE-MEMBRANES AND ITS INFLUENCE BY ANNEXIN V. **Hanna Engelke**, Joachim O. Rädler.

474-Pos BOARD #B355
EFFECT OF HYDROPHOBIC SURFACTANT PROTEINS SP-B AND SP-C ON THE PHASE AND MORPHOLOGY OF PROTEIN DEFICIENT NATIVE SURFACTANT FILMS. **Prajnaparamita Dhar**, Joseph Zasadzinski.

475-Pos BOARD #B356
ANIONIC POLYMERS REVERSE SERUM INHIBITION OF PULMONARY SURFACTANT BY PROMOTING ACCUMULATION OF SURFACTANT NEAR THE AIR-LIQUID INTERFACE. **Mercedes Echaide**, Karen Lu, Elena Lopez, H William Tausch, Jesus Perez-Gil.

476-Pos BOARD #B357
CONFOCAL MICROSCOPY AND COMPETITIVE ADSORPTION: A NEW LOOK AT POLYMER-ENHANCED LUNG SURFACTANT ADSORPTION. **Ian C. Shieh**, Joseph A. Zasadzinski.

477-Pos BOARD #B358
SURFACE RHEOLOGICAL AND MORPHOLOGICAL STUDIES OF PEPTOID MIMICS OF LUNG SURFACTANT PROTEIN C. **Lin Wang**, Nathan J. Brown, Annelise E. Barron.

478-Pos BOARD #B359
SIMULATION STUDIES ON INTERACTIONS OF LUNG SURFACTANT PROTEIN SP-B WITH LIPID MONOLAYERS AND VESICLES. **Svetlana Baoukina**, D. Peter Tieleman.

479-Pos BOARD #B360 STUDENT TRAVEL AWARDEE
INHIBITION OF PULMONARY SURFACTANT BY MECONIUM: BIOPHYSICAL PROPERTIES AND MOLECULAR MECHANISM. **Elena Lopez-Rodriguez**, Mercedes Echaide, H. William Tausch, Jesus Perez-Gil.

480-Pos BOARD #B361
MEMBRANE OCCUPANCY-DEPENDENT REJUVENATION OF DNAA IS ASSOCIATED WITH ITS CONFORMATIONALLY DRIVEN OLIGOMERIZATION. **Abraham H. Parola**, Alexander Aranovich, Shani Braier, Esti Ansbacher, Hanna Rapoport, Rony Granek, Itzhak Fishov.

481-Pos BOARD #B362
INTERACTION OF CYTOCHROME-C WITH MONOLEIN LIQUID CRYSTALS MESOPHASES. **Serena Mazzoni**, Leandro R. S. Barbosa, Rosangela Itri, Paolo Mariani.

- 482-Pos BOARD #B363**
INSERTION AND FOLDING OF OUTER MEMBRANE PROTEINS INTO LIPID BILAYERS AND THE FUNCTION OF THE PERIPLASMIC CHAPERONE FKPA. **Joerg H. Kleinschmidt**, Regina Pape.
- 483-Pos BOARD #B364**
FUSION PEPTIDE EFFECTS ON EPITOPE RECOGNITION AT MEMBRANE SURFACES BY THE BROADLY NEUTRALIZING ANTI-HIV-1 2F5 MONOCLONAL ANTIBODY. **Nerea Huarte**.
- 484-Pos BOARD #B365**
EFFECT OF THE CONJUGATION OF PEG TO THE PLL ON THE MICRO- AND MESOSCOPIC PROPERTIES OF A POPC BILAYER. **Di Pan**, John T. Wilson, Elliott L. Chaikof, Yuhua Song.
- 485-Pos BOARD #B366**
OBSERVATION OF BACKBONE C α -DEUTERON SIGNALS IN SOLID-STATE NMR SPECTRA OF LABELED ALANINES IN ORIENTED TRANSMEMBRANE PEPTIDES. **Nicholas J. Gleason**, Vitaly V. Vostrikov, Roger E. Koeppe II.
- 486-Pos BOARD #B367**
CHARGED AND AROMATIC ANCHORING AMINO ACIDS AFFECT THE ORIENTATION OF TRANSMEMBRANE PEPTIDES: A DEUTERIUM NMR STUDY. **Vitaly V. Vostrikov**, Anna E. Daily, Denise V. Greathouse, Roger E. Koeppe II.
- 487-Pos BOARD #B368**
INFLUENCE OF WALP PEPTIDES ON PHASE BEHAVIOR OF CHOLESTEROL CONTAINING TERNARY LIPID MIXTURES. **Johanna M. Froyd-Rankenber**, Denise V. Greathouse, Roger E. Koeppe.
- 488-Pos BOARD #B369**
DEVELOPMENT OF BICELLES CONTAINING ANIONIC LIPIDS TO CHARACTERIZE CATIONIC MEMBRANE ACTIVE PEPTIDES BY NMR SPECTROSCOPY. **Joshua D. Brown**, Denise V. Greathouse.
- 489-Pos BOARD #B370**
ACYLATED LACTOFERRIN PEPTIDES USING SOLID STATE NMR AND ALL-ATOM MOLECULAR DYNAMICS SIMULATIONS. **Tod D. Romo**, Alan Grossfield, Laura Bradney, Denise V. Greathouse.

Intracellular Communications & Gap Junctions (Boards #B371-#B389)

- 490-Pos BOARD #B371**
FUNCTIONAL MAPPING OF CONNEXIN PORES REVEALS DIFFERENT PORE TOPOLOGIES AND THE LOCATION OF A CHANNEL GATE. **Bruce J. Nicholson**.
- 491-Pos BOARD #B372**
GATING BY VOLTAGE AND CA²⁺ IN HUMAN CONNEXIN (CX26) HEMICHANNELS. **Jorge E. Contreras**, Agenor Limon, Angelica Lopez-Rodriguez.
- 492-Pos BOARD #B373**
STRUCTURES OF CONNEXIN26 MUTANTS DEMONSTRATE A GLOBAL FLEXIBILITY OF SUBUNITS AND N-TERMINAL REARRANGEMENTS IN THE PORE. **Atsunori Oshima**, Kazutoshi Tani, Masoud M. Toloue, Yoko Hiroaki, Amy Smock, Sayaka Inukai, Nicholson J. Bruce, Gina E. Sosinsky, Yoshinori Fujiyoshi.
- 493-Pos BOARD #B374**
OLIGOMERIC STATE OF PURIFIED WILD-TYPE AND DEAFNESS-ASSOCIATED MUTANTS SOLUBILIZED IN DECYLMALTOSE. **Mariana C. Fiori**, Lan Guan, Luis Reuss, Guillermo A. Altenberg.
- 494-Pos BOARD #B375**
DEAFNESS MUTATION A88S INDUCES CELL DEATH DUE TO IMPAIRMENT OF THE SLOW GATING OF HCX26 HEMICHANNEL. **Ji Xu**, Bruce J. Nicholson.
- 495-Pos BOARD #B376**
HEMICHANNELS IN THYMOCYTES: PARTICIPATION IN APOPTOTIC PROCESSES. **Robson X. Faria**, Paula Candida Fonseca, Cristiano Gonçalves Pontes, David C. Spray, Luiz Anastacio Alves.
- 496-Pos BOARD #B377**
VASCULAR GAP JUNCTION CX37 UNCOUPLING BY TUMOR NECROSIS FACTOR IS DEPENDENT ON ZO-1 EXPRESSION. **Yves Ouellette**, Jenna Borckenhagen, Leonid G. Ermilov, Gary C. Sieck.
- 497-Pos BOARD #B378**
CALCIUM-CALMODULIN REGULATION OF CONNEXIN43 INVOLVES A CYTOPLASMIC LOOP DOMAIN. **Qin Xu**, Yanyi Chen, Jenny J. Yang, Richard D. Veenstra.
- 498-Pos BOARD #B379**
CAM INTERACTION AND BINDING MODE STUDY WITH PEPTIDE FROM INTRACELLULAR LOOP OF CX50. **Yanyi Chen**, Yubin Zhou, Hing-Cheung Wong, Xianming Lin, Qin Xu, Monica M. Lurtz, Charles F. Louis, Richard D. Veenstra, Jenny J. Yang.
- 499-Pos BOARD #B380**
GATING MODULATION OF CONNEXIN45 GAP JUNCTION CHANNELS BY INTRACELLULAR PH. **Nicolas Palacios-Prado**, Stephen Briggs, Feliksas Bukauskas.
- 500-Pos BOARD #B381**
SINGLE CHANNEL CONNEXIN43 PLAQUE FORMATION. **Cole Brokamp**, David Wendell, Carlo Montemagno.
- 501-Pos BOARD #B382**
NEW CLASSES OF GAP JUNCTION CHANNEL BLOCKERS FOR CX43 AND CX50. **Silke B. Bodendiek**, Clio Rubinos, Miduturu Srinivas, Heike Wulff.
- 502-Pos BOARD #B383**
HETEROMULTIMERIC GAP JUNCTION CHANNEL PERMEANCE: DIRECTIONAL FLUXES SIMULATED USING A BROWNIAN DYNAMICS MODEL. **Abhijit Mondal**, Alonso P. Moreno.
- 503-Pos BOARD #B384**
PROPAGATION MECHANISMS OF CALCIUM WAVES ARISING DURING ARTERIAL VASOMOTION. **Dominique Seppy**, Michèle Koenigsberger, Jean-Louis Bény, Jean-Jacques Meister.
- 504-Pos BOARD #B385**
EDEMA: A MISSING LINK IN THE CONDUCTION VELOCITY-GAP JUNCTION RELATIONSHIP. **Rengasayee Veeraraghavan**, Steven Poelzing.
- 505-Pos BOARD #B386**
INCREASED INTERCELLULAR COMMUNICATION IN ACTIVATED CARDIAC FIBROBLASTS. **Carolina Vasquez**, Poornima Mohandas, Karen L. Louie, Ashwini C. Bapat, Gregory E. Morley.
- 506-Pos BOARD #B387**
ASTROCYTES CONTROL BREATHING THROUGH PH-DEPENDENT VESICULAR RELEASE OF ATP. **Vitaliy Kasymov**, Nephtali Marina, Sergey Kasparov, Alexander V. Gourine.
- 507-Pos BOARD #B388**
THE ROLE OF CELL ADHESION MOLECULE 1 (CADM1) IN NERVE-MAST CELL COMMUNICATION. **Tadahide Furuno**, Akihiko Ito, Naohide Hirashima, Mamoru Nakanishi.
- 508-Pos BOARD #B389**
TUNNELING MEMBRANE NANOTUBES GENERATE LOCAL CALCIUM SIGNALS AND MAY ACTIVELY PROPAGATE CALCIUM SIGNALS BETWEEN CELLS. **Ian F. Smith**, Jianwei Shuai, Ian Parker.

Epithelial Channels & Physiology (Boards #B390-#B392)

- 509-Pos BOARD #B390**
EFFECTS OF KCNE SUBUNIT DELETION ON POLARIZED TRAFFICKING OF THE KCNQ1 POTASSIUM CHANNEL *IN VIVO*. **Geoffrey W. Abbott**, Kerry Purtell, Elizabeth C. King, Gianina Panaghie, Daniel J. Lerner, Torsten K. Roepke.

510-Pos BOARD #B391
REGULATION OF DELTA-ENAC ION CHANNELS BY THE NEURONAL-SPECIFIC SGK1.1 KINASE. **Diana Wesch**, Pablo Miranda, Diego Alvarez de la Rosa, Teresa Giraldez.

511-Pos BOARD #B392
A MULTIDOMAIN MODEL FOR ELECTRODIFFUSION AND WATER FLOW. **Yoichiro Mori**, Robert S. Eisenberg.

Calcium Signaling Pathways (Boards #B393-#B416)

512-Pos BOARD #B393
ORAI3 AND THE SELECTIVE ACTIVATION OF THE ARC CHANNEL BY ARACHIDONIC ACID. **Trevor Shuttleworth**, Olivier Mignen, Jill Thompson.

513-Pos BOARD #B394
STIM-DEPENDENT AND INDEPENDENT EFFECTS OF 2-APB ON ORAI3 CRAC CHANNELS. **Megumi Yamashita**, Agila Somasundaram, Murali Prakriya.

514-Pos BOARD #B395
MINIMAL REQUIREMENT FOR STORE-OPERATED CALCIUM ENTRY: STIM1 GATES ORAI1 CHANNELS IN VITRO. **Yubin Zhou**, Paul Meraner, Hyoung T. Kwon, Danya Machnes, Masatsugu Oh-hora, Jochen Zimmer, Yun Huang, Antonio Stura, Anjana Rao, Patrick G. Hogan.

515-Pos BOARD #B396
PROTEOMICS ANALYSIS OF THE DROSOPHILA CRAC CHANNEL COMPLEX IN THE RESTING AND ACTIVE STATE. **Aubin Penna**, Robyn Kaake, Olga Safrina, Luette Forrest, Andriy V. Yeromin, Peter Kaiser, Lan Huang, Michael D. Cahalan.

516-Pos BOARD #B397
PHOSPHORYLATION OF STIM1 UNDERLIES SUPPRESSION OF STORE-OPERATED CALCIUM ENTRY DURING MITOSIS. **Jeremy T. Smyth**, John G. Petranka, Rebecca R. Boyles, Wayne I. DeHaven, Miwako Fukushima, Katina L. Johnson, Jason G. Williams, James W. Putney.

517-Pos BOARD #B398 INTERNATIONAL TRAVEL AWARDEE
IMPAIRED MITOCHONDRIA FAIL TO ENSURE SUSTAINED SOCE: POSSIBLE MECHANISM FOR DECREASED SALIVARY SECRETION UNDER DIABETES. **Olga Kopach**, Nana Voitenko, Nataliya Fedirko.

518-Pos BOARD #B399
REGULATION OF VASCULAR REACTIVITY BY UROCORTIN AND UROTENSIN-II: ROLE OF STORE OPERATED PATHWAY. **Alejandro Dominguez-Rodriguez**, Maria Rodriguez-Moyano, Ignacio Diaz-Carrasco, Eva Calderon-Sanchez, Antonio Ordoñez, Tarik Smani.

519-Pos BOARD #B400
CALCIUM SIGNALING AND PROSTATE CANCER. **Natalia Prevarskaya**, Gabriel Bidaux, Dmitro Gordienko, Roman Skryma.

520-Pos BOARD #B401
FREQUENT CALCIUM OSCILLATIONS LEAD TO NFAT ACTIVATION IN HUMAN IMMATURE DENDRITIC CELLS. **Mirko Vukcevic**, Francesco Zorzato, Giulio Spagnoli, Susan Treves.

521-Pos BOARD #B402
A REDUCTION OF SPONTANEOUS BEATING RATE OF ADULT RABBIT PACEMAKER CELLS IN CULTURE IS REVERSED BY RGS2 OVEREXPRESSION, GI INHIBITION OR β -AR STIMULATION. **Dongmei Yang**, Alexey Lyashkov, Li Yue, Edward G. Lakatta.

522-Pos BOARD #B403
SPONTANEOUS BEATING OF RABBIT SINOATRIAL NODE CELLS REQUIRES BASAL PROTEIN KINASE C ACTIVITY. **Tatiana M. Vinogradova**, Edward G. Lakatta.

523-Pos BOARD #B404
MECHANISMS UNDERLYING SPONTANEOUS BEATING IN HUMAN EMBRYONIC STEM CELL-DERIVED CARDIAC MYOCYTES. **Frank Fabris**, Ardo Illaste, Michelle Park, Eric D. Adler, Eric A. Sobie.

524-Pos BOARD #B405
COMPETITIVE NFAT BOTTLENECK FOR TRANSCRIPTIONAL ACTIVATION OF ENDOGENOUS Ca^{2+} ATPASE (SERCA2) IN ADRENERGIC HYPERTROPHY. **Anand M. Prasad**, Giuseppe Inesi.

525-Pos BOARD #B406
DIFFERENTIAL REGULATION OF B-ADRENERGIC SIGNALING VIA PHOSPHOINOSITIDE-3-KINASE- γ . **Gerrie P. Farman**, Peter B. Helli, Peter H. Backx.

526-Pos BOARD #B407
IMPAIRED INTRACELLULAR CALCIUM HANDLING IN ATRIAL CARDIOMYOCYTES FROM RATS SELECTED FOR LOW AEROBIC CAPACITY AND METABOLIC SYNDROM. **Anne Berit Johnsen**, Marcia Alvez, Guri Kaurstad, Natale Rolim, Ulrik Wisløff, Morten A. Høydal.

527-Pos BOARD #B408
ROLE OF THE PUTATIVE NAADP RECEPTOR, TWO-PORE CHANNEL 2, IN VENTRICULAR MYOCYTE RESPONSES TO ISOPROTERENOL. **Laura C. Elson**, William D. Owen, Arie R. Gafson, John Parrington, Antony Galione, Derek A. Terrar, Stevan Rakovic.

528-Pos BOARD #B409
BIPHASIC EFFECT OF REACTIVE OXYGEN SPECIES ON SKELETAL MUSCLE SARCOLEMMA Ca^{2+} INFLUX. **George G. Rodney**, Luke Michaelson, Guoli Shi, Chris W. Ward.

529-Pos BOARD #B410
THE PURINERGIC AGONIST, ATP, INHIBITS IP_3 -EVOKED Ca^{2+} RELEASE IN SMOOTH MUSCLE. **Debbi MacMillan**, Charles Kennedy, John G. McCarron.

530-Pos BOARD #B411
AKAP150 IS REQUIRED FOR NFATC3 TRANSCRIPTIONAL REGULATION OF KV2.1 AND BK CHANNEL EXPRESSION IN SMOOTH MUSCLE. **Madeline Nieves-Cintrón**, Manuel F. Navedo, John D. Scott, Luis F. Santana.

531-Pos BOARD #B412
CYLIC AMP MEASURED WITH ICUE3 IN VASCULAR SMOOTH MUSCLE CELLS. **Li-ping He**, Guiling Zhao, Withrow G. Wier, William J. Lederer.

532-Pos BOARD #B413
AEROBIC INTERVAL TRAINING PREVENTS CARDIAC DYSFUNCTION AND MORTALITY BY IMPROVING CALCIUM HANDLING IN MI DIABETIC MICE. **Natale Rolim**, Tomas Stølen, Charlotte B. Ingul, Anne Berit Johnsen, Guri Kaurstad, Harald E. M. Hansen, Marcia Alves, Kristine Skårdal, Marte Thuen, Morten Høydal, Ulrik Wisløff.

533-Pos BOARD #B414
CHOLESTEROL ELEVATION IMPAIRS GLUCOSE-MEDIATED Ca^{2+} SIGNALLING IN MOUSE PANCREATIC BETA CELLS. **Amy Tse**, Valerie Yeung-Yam-Wah, Andy K. Lee, Frederick W. Tse.

534-Pos BOARD #B415
ROLE OF IRBIT IN REGULATION OF IP_3 -INDUCED Ca^{2+} RELEASE IN SUPERIOR CERVICAL GANGLION (SCG) NEURONS. **Oleg Zaika**, Mark S. Shapiro.

535-Pos BOARD #B416 STUDENT TRAVEL AWARDEE
KV CHANNEL SUPPRESSION AND ENHANCED CAV CHANNEL ACTIVITY CONTRIBUTE TO INCREASED CONSTRICTION OF PARENCHYMAL ARTERIOLES FROM SUBARACHNOID HEMORRHAGE MODEL RATS. **Matthew A. Nystoriak**, Masayo Koide, Sheila R. Russell, George C. Wellman.

Calcium Fluxes, Sparks & Waves I (Boards #B417-#B440)

536-Pos BOARD #B417
NITRIC OXIDE CAN MEDIATE BETA-ADRENERGIC- AND CAMKII-DEPENDENT SPONTANEOUS Ca^{2+} WAVES IN CARDIAC MYOCYTES, INDEPENDENT OF PKA ACTIVATION. **Jerry Curran**, Donald M. Bers, Thomas R. Shannon.

537-Pos BOARD #B418
ON THE "SPARK FREQUENCY VS. LEAK RATE" RELATIONSHIP IN VENTRICULAR MYOCYTES: A STUDY IN THE RABBIT. **Demetrio J. Santiago**, Eduardo Rios, Thomas R. Shannon.

538-Pos BOARD #B419
REGULATION OF SARCOPLASMIC RETICULUM CALCIUM LEAK BY CYTOSOLIC CALCIUM IN RABBIT VENTRICULAR MYOCYTES. **Elisa Bovo**, Lothar A. Blatter, Aleksey V. Zima.

539-Pos BOARD #B420
DYNAMIC CHANGES OF CALCIUM IN SARCOPLASMIC RETICULUM OF RABBIT ATRIAL MYOCYTES. **Leyla Y. Teos**, Julio Altamirano, W.J. Lederer.

540-Pos BOARD #B421
SPATIOTEMPORAL PROFILES OF SARCOPLASMIC RETICULUM Ca^{2+} RELEASE IN MOUSE ATRIAL CARDIOMYOCYTES *IN SITU*. **Asish Patel**, Wen Tao, Hyder Khatri, Michael Rubart.

541-Pos BOARD #B422
REFRACTORINESS OF RYANODINE RECEPTORS DURING CALCIUM ALTERNANS IN RABBIT ATRIAL MYOCYTES. **Vyacheslav M. Shkryl**, Christoph Litwitz, Timothy L. Domeier, Lothar A. Blatter.

542-Pos BOARD #B423
A NOVEL QUANTITATIVE EXPLANATION OF G PROTEIN-COUPLED RECEPTOR MODULATION OF SINOATRIAL CELL AUTOMATICITY VIA INTERACTIONS OF CA CLOCK AND MEMBRANE VOLTAGE CLOCK. **Victor A. Maltsev**, Edward G. Lakatta.

543-Pos BOARD #B424
IGNITION POINT: A NOVEL PARAMETER OF SINOATRIAL NODAL CELL (SANC) DIASTOLIC DEPOLARIZATION (DD) REPORTS THE ONSET OF SPONTANEOUS LOCAL SUBSARCOLEMMA Ca RELEASE (LCR) AND PREDICTS CYCLE LENGTH. **Alexey E. Lyashkov**, Tatiana M. Vinogradova, Edward G. Lakatta, Victor A. Maltsev.

544-Pos BOARD #B425
CANINE PURKINJE CELLS EXHIBIT COMPLEX AND RATE-DEPENDENT BEAT-TO-BEAT VARIATIONS IN CALCIUM TRANSIENTS. **Young-Seon Lee**, Wen Dun, Penelope A. Boyden, Eric A. Sobie.

545-Pos BOARD #B426
GAP JUNCTION UNCOUPLING PARADOXICALLY INCREASE SYNCHRONIZATION OF SPONTANEOUS CALCIUM RELEASE IN THE INTACT HEART. **Bradley N. Plummer**, Michael J. Cutler, Kenneth R. Laurita.

546-Pos BOARD #B427
SYNCHRONIZATION OF SPONTANEOUS CALCIUM RELEASE WAVES AMONG MYOCYTES IN INTACT HEART DETERMINES THE MAGNITUDE OF DELAYED AFTERDEPOLARIZATIONS AND TRIGGERED ACTIVITY. **J. Andrew Wasserstrom**, Yohannes Shiferaw, Satvik Ramakrishna, Heetab Patel, Matthew J. O'Toole, Amanda Pappas, Asrar Khan, Rishi Arora, Gary L. Aistrup.

547-Pos BOARD #B428
LOOKING AT THE TRIGGER FOR CICR DURING RAT CARDIAC ACTION POTENTIALS. **Cherrie H. T. Kong**, Mark B. Cannell.

548-Pos BOARD #B429
MODELING THE EFFECTS OF GENETIC MANIPULATIONS OF CALSEQUESTRIN ON LOCAL CALCIUM RELEASE AND DEPLETION IN CARDIAC MYOCYTES. **Ryan P. Carpenter**, Sandor Gyorke, Gregory D. Smith.

549-Pos BOARD #B430
LOSS OF CALSEQUESTRIN (CASQ2) IN THE HEART INCREASES SPARK FREQUENCY AND ALTERS SPARK PROPERTIES. **Eleonora Savio Galimberti**, Sabine Huke, Sylvain J. Le Marchand, David W. Piston, Bjorn C. Knollmann.

550-Pos BOARD #B431
ADAPTIVE RETUNING OF SMALL Ca^{2+} FLUXES IN CARDIOMYOCYTE SYNCYTIA PREDICTS THE RESPONSE TO PRO-ARRHYTHMIC STIMULI. **Nicole C. Silvester**, Philip M. Ashton, Steven R. Barberini-Jammaers, F. Anthony Lai, Christopher H. George.

551-Pos BOARD #B432
AUTOMATED REDUCTION OF CALCIUM RELEASE SITE MODELS VIA STATE AGGREGATION. **Yan Hao**, Peter Kemper, Gregory D. Smith.

552-Pos BOARD #B433
CALCIUM SPARKS AND HOMEOSTASIS IN A MINIMAL MODEL OF LOCAL AND GLOBAL CALCIUM RESPONSES IN QUIESCENT VENTRICULAR MYOCYTES. **Jana M. Hartman**, Eric A. Sobie, Gregory D. Smith.

553-Pos BOARD #B434
MECHANISMS OF SPONTANEOUS CALCIUM WAVE GENERATION DURING BETA-ADRENERGIC STIMULATION IN RABBIT VENTRICULAR MYOCYTES. **Timothy L. Domeier**, Lothar A. Blatter.

554-Pos BOARD #B435
ALTERATIONS IN Ca^{2+} SPARKS AND T-TUBULES PROMOTE SLOWED, DYSSYNCHRONOUS Ca^{2+} RELEASE IN FAILING CARDIOMYOCYTES. **William E. Louch**, Halvor K. Mørk, Karina Hougen, Ivar Sjaastad, Ole M. Sejersted.

555-Pos BOARD #B436
CARDIOTROPIN-1: ANOTHER "PLAYER" IN CARDIAC CALCIUM HANDLING. **Gema Ruiz-Hurtado**, Nieves Gómez-Hurtado, Javier Díez, Victoria Cachofeiro, Ana Maria Gómez, Delgado Carmen.

556-Pos BOARD #B437
OCCURRENCE OF SPONTANEOUS SPARKS IN VENTRICULAR MYOCYTES FROM JUNCTIONAL AND NON-JUNCTIONAL RYR CLUSTERS. **Natalia S. Torres**, Alex Rock, Eleonora Savio-Galimberti, Frank B. Sachse, John H. B. Bridge.

557-Pos BOARD #B438
ALTERATION OF RYANODINE RECEPTOR-MEDIATED CALCIUM RELEASE IN HEART FAILURE. **Aleksey V. Zima**, Timothy L. Domeier, Lothar A. Blatter.

558-Pos BOARD #B439
ABNORMAL INTRA-STORE CALCIUM HANDLING AND ARRHYTHMOGENESIS IN HEART FAILURE. **Andriy Belevych**, Yoshinori Nishijima, Cynthia A. Carnes, Sandor Gyorke.

559-Pos BOARD #B440
IMPAIRED FUNCTION OF CARDIAC RYANODINE RECEPTORS IN AN EXPERIMENTAL MODEL OF METABOLIC SYNDROME. **Tarin Paulina Barrera-Lechuga**, Agustín Guerrero-Hernández, José Antonio Arias-Montaño, Angélica Rueda.

Peptide & Toxin Ion Channels (Boards #B441-#B460)

560-Pos BOARD #B441
EFFECT OF DIPOLE MODIFYING AGENTS ON THE SURFACTIN INDUCED CONDUCTANCE OF PLANAR LIPID BILAYERS. **Olga Ostroumova**, Maxim Ilin, Valery Malev, Ludmila Schagina.

561-Pos BOARD #B442 INTERNATIONAL TRAVEL AWARDEE
EFFECT OF ANTIBACTERIAL PEPTIDE INDOLICIDIN ON THE MEMBRANE PERMEABILITY: CARRIER MECHANISM VERSUS PORE FORMATION. **Tatyana I. Rokitskaya**, Nikolay I. Kolodkin, Yuri N. Antonenko.

562-Pos BOARD #B443
MOLECULAR ACTION MECHANISM OF AMPHOTERICIN B AND STRUCTURAL ANALOGS ON BIOLOGICAL MEMBRANES. **Mauricio Carrillo-Tripp**, Alex H. de Vries, Rogelio Hernández, Cristina Vargas, Humberto Saint-Martin, Ivan Ortega-Blake.

563-Pos BOARD #B444
DIVALENT CATIONS REGULATE PORE FORMATION OF SYNTHETIC, NATURALLY OCCURRING ALAMETHICIN AND SELECTED ANALOGS. **Mascia Benedusi**, Alberto Milani, Marco Aquila, Giorgio Rispoli.

564-Pos BOARD #B445
EFFECTS OF TOLAASIN INHIBITORY FACTORS ON TOLAASIN PEPTIDE CHANNEL EVALUATED BY COMPETITION WITH Zn^{2+} . **Min-Hee Kim**, Young-Kee Kim.

565-Pos BOARD #B446
EFFECTS OF TOLAASIN INHIBITORY FACTORS ON TOLAASIN-INDUCED BLOTCH FORMATION AND HEMOLYSIS. **Seong-Wan Park**, Min-Hee Kim, Young-Kee Kim.

566-Pos BOARD #B447
A BIOCHEMICAL CHARACTERIZATION OF THE MAJOR PEPTIDES FROM THE VENOM OF THE GIANT NEOTROPICAL HUNTING ANT *DINOPONERA AUSTRALIS*. **Stephen R. Johnson**, Julio A. Copello.

- 567-Pos BOARD #B448 INTERNATIONAL TRAVEL AWARDEE**
PHLORETIN AFFECTS THE VOLTAGE GATING OF ALPHA-HEMOLYIN CHANNEL. **Svetlana Efimova**, Ludmila Schagina, Olga Ostroumova.
- 568-Pos BOARD #B449**
PEPTIDE-GATING OF HYNACS SHARES FEATURES WITH PROTON-GATING OF ASICs. **Stefan Dürrnagel**, Andjelko Golubovic, Stefan Gründer.
- 569-Pos BOARD #B450**
MAPPING THE β -SCORPION TOXIN RECEPTOR SITE ON VOLTAGE-GATED SODIUM CHANNELS. **Zhongli Zhang**, Izhar Karbat, Lior Cohen, Todd Scheuer, Dalia Gordon, Michel Gurevitz, William A. Catterall.
- 570-Pos BOARD #B451**
A CYTOTOXIC PEPTIDE FROM A MARINE SPONGE, POLYTHEONAMIDE B; II. PROPERTIES FOR ION CONDUCTION AND VOLTAGE DEPENDENT GATING. **Masayuki Iwamoto**, Hirofumi Shimizu, Ikuobu Muramatsu, Shigeki Matsunaga, Shigetoshi Oiki.
- 571-Pos BOARD #B452**
PHYSALIA PHYSALIS POISON DEPOLARIZES BETA CELL MEMBRANE AND INCREASES INSULIN SECRETION. **Carlos Manlio Díaz-García**, Carmen Sanchez-Soto, Deyanira Fuentes-Silva, Neivys García Delgado, Acela Pedrosa, Carlos Varela, Myriam Ortiz-García, Adela Rodríguez, Guillermo Mendoza-Hernández, Olga Castañeda Pasarón, Marcia Hiriart.
- 572-Pos BOARD #B453**
INSIGHTS ON CHANNEL-LIKE ACTIVITY OF MEMBRANE BOUND ALPHA-SYNUCLEIN. **Laura Tosatto**, Nicoletta Plotegher, Isabella Tessari, Marco Bisaglia, Luigi Bubacco, Mauro Dalla Serra.
- 573-Pos BOARD #B454**
DEVELOPING A FUNCTIONAL SCREENING ASSAY OF SMALL MOLECULES THAT CAN REDUCE LEAKAGE OF LIPOSOMES INDUCED BY AMYLOID-BETA PEPTIDES. **Panchika Prangkio**, Divya Rao, Jerry Yang, Michael Mayer.
- 574-Pos BOARD #B455**
EFFICACIOUS IN VIVO ELECTROPHYSIOLOGICAL SCREENING OF NEUROMODULATORY COMPOUNDS: USING DROSOPHILA TO EVALUATE THE ACTIVITY OF CONOTOXINS. **Frank Mari**.
- 575-Pos BOARD #B456 CPOW TRAVEL AWARDEE**
PROBING INTERACTIONS WITHIN ANTHRAX TOXIN BY ELECTRON PARAMAGNETIC RESONANCE. **Laura D. Jennings**, Likai Song, Ellis L. Reinherz, R. John Collier.
- 576-Pos BOARD #B457**
A CYTOTOXIC PEPTIDE FROM A MARINE SPONGE, POLYTHEONAMIDE B; I. CHANNEL ACTIVITY AND VECTORIAL-INSERTION INTO THE MEMBRANE. **Masayuki Iwamoto**, Hirofumi Shimizu, Ikuobu Muramatsu, Shigeki Matsunaga, Shigetoshi Oiki.
- 577-Pos BOARD #B458**
REAL-TIME AFM IMAGING OF SURFACE-INDUCED OLIGOMERIZATION OF THE NON-AMYLOIDOGENIC P3 PEPTIDE: IMPLICATIONS FOR MEMBRANE INSERTION AND ION CHANNEL FORMATION. **Fernando M. Teran Arce**, Hyunbum Jang, Ruth Nussinov, Ratnesh Lal.
- 578-Pos BOARD #B459**
DESIGNER LIGANDS SPECIFIC FOR KV1.3 CHANNELS FROM A SCORPION NEUROTOXIN-BASED LIBRARY. **Z. Takacs**, M. Toups, A. Kollwe, E. Johnson, L. G. Cuello, G. Driessens, A. Koide, C. G. Ponte, E. Perozo, T. F. Gajewski, G. Suarez-Kurtz, S. Koide, O. Strots, J. Ostemeyer, S. A. N. Goldstein.
- 579-Pos BOARD #B460**
GRAMICIDIN PORES REPORT THE ACTIVITY OF MEMBRANE-ACTIVE ENZYMES. **Sheereen Majid**, Erik C. Yusko, Alexander D. MacBriar, Jerry Yang, Michael Mayer.
- 581-Pos BOARD #B462**
DIFFERENTIAL PH-DEPENDENT REGULATION OF NAV CHANNELS. **Yury Y. Vilin**, Peter C. Ruben.
- 582-Pos BOARD #B463**
RECOVERY OF VOLTAGE-GATED NAV1.4 CHANNELS FROM SLOW INACTIVATION REFLECTS MEMORY OF PRIOR STIMULATION IN MULTIPLE MOLECULAR PROCESSES. **Jonathan R. Silva**, Steve A. N. Goldstein.
- 583-Pos BOARD #B464**
ROLE OF THE S4 CHARGES ON ACTIVATION GATING OF THE SODIUM CHANNEL. **Deborah Capes**, Manoel Arcisio-Miranda, Baron Chanda.
- 584-Pos BOARD #B465**
ARGININE MUTATIONS IN THE S4 VSD OF NAV1.4 ASSOCIATED WITH HYPOKALEMIC PERIODIC PARALYSIS, BUT NOT WITH PARAMYOTONIA, CREATE A GATING PORE CONDUCTANCE. **David Francis**, Arie Struyk, Stephen C. Cannon.
- 585-Pos BOARD #B466**
NAV1.4 VOLTAGE SENSOR RESIDUES IMMOBILIZED DURING FAST INACTIVATION. **James R. Groome**, Nishant Mohan.
- 586-Pos BOARD #B467**
DISULFIDE LOCKING REVEALS A CLOSED STATE INTERACTION WITHIN THE VOLTAGE SENSOR OF NACHBAC. **Paul G. DeCaen**, Chen Yuan Pan, Vladimir Yarov-Yarovoy, Todd Scheuer, William A. Catterall.
- 587-Pos BOARD #B468**
FAST REAL-TIME COMPUTATION OF NA CHANNEL KINETIC MODELS FOR DYNAMIC CLAMP. **Lorin S. Milesco**.
- 588-Pos BOARD #B469**
AUTOMATED TWO-ELECTRODE VOLTAGE-CLAMP RECORDING WITH ADDITIONAL COMPENSATION ELECTRODE. **Stephan G. Bode**, Hubert Affolter, Christian N. Heinemann, Stefan H. Heinemann.
- 589-Pos BOARD #B470**
AUTOMATED PATCH CLAMP ELECTROPHYSIOLOGY ENABLES THE DIFFERENTIATION OF COMPOUND MODE OF ACTION AT NAV CHANNELS. **Andrew W. Baxter**, David Downie, Andrew J. Powell.
- 590-Pos BOARD #B471**
USING PATCHXPRESS TO SCREEN BLOCKERS OF THE CARDIAC SODIUM CHANNEL (NAV1.5) FOR EFFECTS ON LATE INA, PEAK INA, AND CHANNEL KINETICS. **Kim W. Chan**, Hilary Zou, Josephine Salcedo, Malcolm McGregor, Dmitry Koltun, Elfatih Elzein, Eric Parkhill, Xiaofen Li, Tetsuya Kobayashi, Rao Kalla, Robert H. Jiang, Jeff A. Zablocki, John Shryock, Luiz Belardinelli, Cathy Smith-Maxwell.
- 591-Pos BOARD #B472**
A COMPARATIVE AUTOMATED ELECTROPHYSIOLOGY STUDY OF 43 SODIUM CHANNEL INHIBITORS. DISTINCT TYPES OF INHIBITION CORRELATE WITH CHEMICAL PROPERTIES OF DRUGS. **Nora Lenkey**, Robert Karoly, Peter Lukacs, E. Sylvester Vizi, Morten Sunesen, Laszlo Fodor, Arpad Mike.
- 592-Pos BOARD #B473**
LIGHT CONTROL OF CELL EXCITABILITY USING A PHOTOCROMIC BLOCKER FOR VOLTAGE-GATED ION CHANNELS. **Timm Fehrentz**, Alexandre Mourot, Michael Kienzler, Makoto Tsunozaki, Matthew Banghart, Diana Bautista, Dirk Trauner, Richard H. Kramer.
- 593-Pos BOARD #B474**
IS THE SKELETAL MUSCLE SODIUM CHANNEL OF THE BATRACHOTOXIN (BTX)-PRODUCING *PHYLLOBATES AUROTAENIA* POISON DART FROG RESISTANT TO BTX? **Ludivine Frezza**, Santiago Castano, Helberg Asencio, Walter Sandtner, Leonardo Fierro, Francisco Bezanilla, Ana M. Correa.
- 594-Pos BOARD #B475**
MOLECULAR LINK BETWEEN VOLTAGE-SENSOR MODIFICATION AND LOCAL ANESTHETIC BLOCK. **Manoel Arcisio-Miranda**, Yukiko Muroi, Baron Chanda.

Voltage-gated Na Channels I (Boards #B461-#B481)

- 580-Pos BOARD #B461**
PH MODULATION OF THE CARDIAC VOLTAGE GATED SODIUM CHANNEL, NAV1.5. **David K. Jones**, Thomas W. Claydon, Peter C. Ruben.

595-Pos BOARD #B476
DIVERGENT PHARMACOLOGICAL PROPERTIES OF SCN1A SPLICE VARIANTS. **Christopher H. Thompson**, Kristopher M. Kahlig, Alfred L. George, Jr.

596-Pos BOARD #B477
FROM PLASTIC-BOTTLE-TOXIN TO SODIUM CHANNEL BLOCKER: A NEW ROLE FOR BISPHENOL A. **Angelika Lampert**, Andrias O. O'Reilly, B. A. Wallace, Christian Alzheimer.

597-Pos BOARD #B478
CHARACTERIZATION OF THE REVERSE USE DEPENDENT BLOCK OF VOLTAGE GATED SODIUM CHANNELS. **Caterina Virginio**, Elisa Ballini, Laura Aldegheri, Laura Castelletti, AnnaMaria Capelli, Wolfgang Jarolimek.

598-Pos BOARD #B479
INSIGHTS ON THE MECHANISMS OF THE FAST BLOCKADE OF TTX-R NA⁺ CHANNELS BY EUGENOL. **João L. Carvalho-de-Souza**, Antonio Carlos Cassola.

599-Pos BOARD #B480
A RESIDUE (W756) IN THE P-LOOP SEGMENT OF SODIUM CHANNEL IS CRITICAL FOR PRIMAQUINE BINDING. **Eduardo M. Salinas**, Evelyn Martinez-Morales, Lourdes Millan-PerezPeña, Thomas F. Scior.

600-Pos BOARD #B481
DEFINING THE VOLTAGE SENSOR PROPERTIES AND PHARMACOLOGY OF NAV1.9. **Frank Bosmans**, Michelino Puopolo, Marie-France Martin-Eauclaire, Bruce P. Bean, Kenton J. Swartz.

Voltage-gated K Channels-Permeation (Boards #B482-#B500)

601-Pos BOARD #B482
KCSA BARIUM PERMEATION BLOCKED BY EXTERNAL POTASSIUM. **Kene N. Piasta**, Christopher Miller.

602-Pos BOARD #B483
THE ROLE OF OLIGO-(R)-3-HYDROXYBUTYRATES IN THE STREPTOMYCES LIVIDANS KCSA CHANNEL. **Alexander Negoda**, Elena Negoda, Rosetta N. Reusch.

603-Pos BOARD #B484
POTASSIUM CHANNEL BLOCK BY A TRIPARTITE COMPLEX OF NEUTRAL LIGANDS WITH A POTASSIUM ION. **Pavel I. Zimin**, Bojan Garic, Heike Wulff, Boris S. Zhorov.

604-Pos BOARD #B485
EFFECT OF PEPTIDE TOXINS ON C-TYPE INACTIVATION OF A MUTANT HUMAN VOLTAGE-GATED POTASSIUM CHANNEL (HKV1.3). **Azadeh Nikouee Ghadikolaei**, Stephan Grissmer.

605-Pos BOARD #B486
ALPRENOLOL INHIBITS HERG POTASSIUM CHANNELS. **Seung Ho Lee**, Hyang Mi Lee, BOK HEE CHOI.

606-Pos BOARD #B487
MUTATIONS AT THE INTRON 9 DONOR SPLICE SITE IN HERG LEAD TO CRYPTIC SPLICING IN LQT2. **Matthew R. Stump**, Qiuming Gong, Zhengfeng Zhou.

607-Pos BOARD #B488
LYSINE VERSUS ARGinine: RNA EDITING IN THE EAG POTASSIUM CHANNEL. **Mary Y. Ryan**, Rachel Maloney, Jeffrey Fineberg, Robert A. Reenan, Richard Horn.

608-Pos BOARD #B489
OVERLAPPING LQT1 AND LQT2 PHENOTYPE IN A PATIENT WITH LONG QT SYNDROME ASSOCIATED WITH LOSS-OF-FUNCTION VARIATIONS IN KCNQ1 AND KCNH2. **Jonathan M. Cordeiro**, Guillermo J. Perez, Ryan Pfeiffer, Elena Burashnikov, Martin Borggreffe, Christian Wolpert, Rainer Schimpf, Charles Antzelevitch.

609-Pos BOARD #B490
DIVERGENT EFFECTS OF AF- OR LQTS-ASSOCIATED HERG MUTATIONS ON ENDOGENOUS I_{KR}. **Jianguo Han**, Franck Potet, Wen Shuai, Dan M. Roden, Dawood Darbar, Sabina Kupersmidt.

610-Pos BOARD #B491
K⁺ OCCUPANCY OF THE PORE CRITICALLY DETERMINES THE SELECTIVITY-STABILITY OF K⁺ CHANNELS. A STUDY WITH SHAB CHANNELS. **Imilla I. Arias-Olguín**, Manuel Soriano-García, Froylan Gomez-Lagunas.

611-Pos BOARD #B492
BIOGENESIS OF PORE ARCHITECTURE IN VOLTAGE-GATED K⁺ CHANNELS. **Christine Gajewski**, Alper Dagcan, Timothy Pian, Benoit Roux, Carol Deutsch.

612-Pos BOARD #B493
DOES A SINGLE MUTATION IN THE P-LOOP OPEN A NOVEL CURRENT PATHWAY BESIDE THE CENTRAL α -PORE IN THE HUMAN VOLTAGE-GATED POTASSIUM CHANNEL KV1.3. **Sylvia Pruetting**, Stephan Grissmer.

613-Pos BOARD #B494
CONDUCTANCE AND CONCENTRATION RELATIONSHIP IN A REDUCED MODEL OF THE K CHANNEL. **James E. Fonseca**, DezsCE Boda, Wolfgang Nonner, Bob Eisenberg.

614-Pos BOARD #B495
HIGH-RESOLUTION STRUCTURAL MODELING OF ION CHANNEL PORE-FORMING DOMAINS USING ROSETTA. **Vladimir M. Yarov-Yarovoy**, Frank DiMaio, Todd Scheuer, David Baker, William A. Catterall.

615-Pos BOARD #B496
CAN BUBBLE GATES BE SEEN IN EXPERIMENTS? **Roland Roth**.

616-Pos BOARD #B497
QUANTUM CALCULATIONS: A TEST OF ACCURACY ON A SOLVATED CROWN ETHER WITH AN ION, A SYSTEM LARGE ENOUGH TO MODEL A USEFUL SECTION OF A PROTEIN. **Alisher M. Kariev**, Michael E. Green.

617-Pos BOARD #B498
QUANTUM CALCULATIONS ON THE KCSA CHANNEL CAVITY: N_A⁺ AND K⁺ SOLVATION, AND THE ENERGETICS OF THE TRANSFER OF THE ION TO THE SELECTIVITY FILTER. **Alisher M. Kariev**, Michael E. Green.

618-Pos BOARD #B499
IMMUNOMODULATION OF VOLTAGE-DEPENDENT K⁺ CHANNELS IN MACROPHAGES: MOLECULAR AND BIOPHYSICAL CONSEQUENCES. **Miren David**, Nuria Villalonga, Joanna Bielafska, Ruben Vicente, Nuria Comes, Antonio Felipe, Carmen Valenzuela.

619-Pos BOARD #B500
FUNCTIONAL KCNH1 POTASSIUM CHANNELS IN DANIO RERIO ARE ESSENTIAL FOR EARLY DEVELOPMENT. **Rayk Stengel**, Nirakar Sahoo, Christina Ebert, Frank Bollig, Christoph Engler, Stefan H. Heinemann, Roland Schönherr.

Voltage-gated K Channels-Gating I (Boards #B501-#B522)

620-Pos BOARD #B501
MICROTUBULE DEPENDENT MECHANISMS REGULATE THE TRAFFICKING DEFICIENT PHENOTYPE OF HERG MUTATIONS LINKED TO LONG QT SYNDROME. **Jennifer L. Smith**, Christie M. McBride, Daniel C. Bartos, Craig T. January, Brian Delisle.

621-Pos BOARD #B502
MINK DICTATES THE ALPHA SUBUNIT COMPOSITION OF SURFACE-EXPRESSED N-TYPE POTASSIUM CHANNELS. **Vikram A. Kanda**, Anthony Lewis, Xianghua Xu, Zoe A. McCrossan, Geoffrey W. Abbott.

622-Pos BOARD #B503
PHARMACOLOGICAL-INDUCED INCREASE IN THE FUNCTIONAL EXPRESSION OF HERG CURRENT. **Christie M. McBride**, Jennifer L. Smith, Brian P. Delisle.

623-Pos BOARD #B504
HERG HETEROMERIC 1A/1B AND HOMOMERIC 1A CHANNELS EXHIBIT DIFFERENTIAL PHARMACOLOGICAL SENSITIVITIES. **Najah Abi-Gerges**, H. Holkham, C. E. Pollard, J. P. Valentin, Gail A. Robertson.

624-Pos BOARD #B505
A NEW MECHANISM FOR LONG QT SYNDROME: POLYPEPTIDES ENCODED BY HERG1A NON-SENSE MUTATIONS REGULATE HERG1A/1B CHANNELS. **Matt Trudeau**, Elon Roti Roti, Gail Robertson.

625-Pos BOARD #B506 STUDENT TRAVEL AWARDEE
THE EAG DOMAIN REGULATES OUTWARD CURRENT DENSITY AND RECOVERY FROM INACTIVATION OF THE HERG K⁺ CHANNEL THROUGH A NON-COVALENT INTERACTION. **Ahleah S. Gustina**, Matthew C. Trudeau.

626-Pos BOARD #B507
MUTATIONS WITHIN THE S4-S5 LINKER ALTER VOLTAGE SENSOR CONSTRAINTS DURING ACTIVATION AND DEACTIVATION OF HERG K⁺ CHANNELS. **Saman Rezazadeh**, Mischa Snopkowski, Aaron Van Slyke, Patrick Shi, Charlene Allard, Tom Claydon.

627-Pos BOARD #B508
RESCUE OF GATING IN HERG1 POTASSIUM CHANNELS CONTAINING LQT2 MUTATIONS IN THE N-TERMINAL PAS DOMAIN. **Elena C. Gianulis**, Matthew C. Trudeau.

628-Pos BOARD #B509
BLOCK OF HERG BY TRAPPED DRUGS SHOWS A DIFFERENT DEPENDENCY ON EXTRACELLULAR POTASSIUM COMPARED TO BLOCK OF HERG BY DRUGS THAT ARE NOT TRAPPED. **Katrina Dodyk**, Elaine Chu, Christine Gjerde, Alan Miller.

629-Pos BOARD #B510
CONFORMATIONAL FLEXIBILITY OF THE HERG K⁺ CHANNEL PORE DOMAIN. **Anna Weinzinger**, Kirsten Knape, Sören J. Wacker, Lars Boukharta, Bert L. de Groot.

630-Pos BOARD #B511
SUBSTITUTION SCAN OF THE S4-S5 LINKER REGION IN KCNQ1 CHANNEL: STRUCTURAL SCAFFOLD FOR CRITICAL PROTEIN INTERACTIONS. **Alain J. Labro**, Inge R. Boulet, Adam L. Raes, Dirk J. Snyders.

631-Pos BOARD #B512
ESTIMATING CONFORMATIONAL CHANGES OF KCNQ1 CHANNELS DURING GATING USING MOLECULAR DYNAMICS SIMULATIONS. **Ali Nekouzadeh**, Yoram Rudy.

632-Pos BOARD #B513
NEIGHBORING ALPHA-SUBUNIT (KCNQ1) MUTATIONS WITH A GAIN-OF-FUNCTION IKS PHENOTYPE SHOW DIFFERENTIAL DEPENDENCE ON PRESENCE OF BETA-SUBUNIT (KCNE1). **Priscilla Chan**, Jeremiah D. Osteen, Darshan Doshi, Steven O. Marx, Arthur Karlin, Robert S. Kass.

633-Pos BOARD #B514
PHYSICAL AND FUNCTIONAL INTERACTIONS BETWEEN THE KCNQ1 AND KCNE1 C-TERMINAL DOMAINS. **Jerri Chen**, Renjian Zheng, Bret W. A. Negro, Thomas V. McDonald.

634-Pos BOARD #B515
PARTIAL RESTORATION OF THE CARDIAC KCNQ1 MUTANT A341V BY THE KCNE1 AUXILIARY SUBUNIT. **Ikuomi Mikuni**, Martín Bienengraeber, Carlos Torres, Wai-Meng Kwok.

635-Pos BOARD #B516
DIFFERENTIAL MOLECULAR MOTIONS OF KCNE SUBUNITS IN THE I_{Ks} CHANNEL COMPLEX DETECTED BY SUBSTITUTED CYSTEINE-ACCESSIBILITY TEST AND DISULFIDE-TRAPPING EXPERIMENTS. **Yuhong Wang**, Min Jiang, Mei Zhang, Xulin Xu, Kai-Ling Hsu, Gea-Ny Tseng.

636-Pos BOARD #B517
ETHER À GO-GO POTASSIUM CHANNELS KCNH1 AND KCNH5 HAVE FOUR FUNCTIONAL ORTHOLOGS IN DANIO RERIO. **Rayk Stengel**, Nirakar Sahoo, Christoph Englert, Stefan H. Heinemann, Roland Schoenherr.

637-Pos BOARD #B518
S4 ARGININES MAKE UNIQUE CONTRIBUTIONS TO VOLTAGE DEPENDENT GATING DUE TO ELECTROSTATIC INTERACTIONS AND THE MEMBRANE POTENTIAL. **Dick Wu**, Kelli Delaloye, Mark Zaydman, Jianmin Cui.

638-Pos BOARD #B519
NON-TOXIN GATING MODIFIERS REVEAL THE PROMISCUOUS NATURE OF THE VOLTAGE SENSOR OF KV7.2 AND TRPV1 CHANNELS. **Polina Kornilov**, Asher Peretz, Yana Gofman, Nir Ben-Tal, Bernard Attali.

639-Pos BOARD #B520
MOLECULAR MECHANISM OF SLOW KV7.1 INACTIVATION. **Guiscard Seeböhm**, Michael Pusch, Nathalie Strutz.

640-Pos BOARD #B521
NON-OBLIGATORY GATING OF KV7.1 POTASSIUM CHANNEL. **Vitya Vardanyan**.

641-Pos BOARD #B522
DICLOFENAC ACTIVATES KV7.4 AND INHIBITS KV7.5 POTASSIUM CHANNELS HETEROLOGOUSLY EXPRESSED IN A7R5 VASCULAR SMOOTH MUSCLE CELLS. **Lyubov I. Brueggemann**, Kenneth L. Byron.

Ca-Activated Channels (Boards #B523-#B548)

642-Pos BOARD #B523
CHOLESTEROL DEPLETION ALTERS AMPLITUDE AND PHARMACOLOGY OF VASCULAR CALCIUM-ACTIVATED CHLORIDE CHANNELS. **William R. Sones**, Alison J. Davis, Normand Leblanc, Iain A. Greenwood.

643-Pos BOARD #B524
CA²⁺-ACTIVATED CL⁻ CURRENTS OF PULMONARY ARTERY SMOOTH MUSCLE CELLS ARE ENHANCED IN MONOCROTALINE-INDUCED PULMONARY ARTERIAL HYPERTENSION IN THE RAT. **Abigail S. Forrest**, Marissa L. Huebner, Yasamin Omoomian, Ramon J. Ayon, Normand Leblanc, Iain A. Greenwood.

644-Pos BOARD #B525
THE INTERACTION OF ANTRHACENE-9-CARBOXYLIC ACID WITH CALCIUM-ACTIVATED CHLORIDE CHANNELS IS INFLUENCED BY THE STATE OF GLOBAL PHOSPHORYLATION IN PULMONARY ARTERY SMOOTH MUSCLE CELLS. **Michael Wiwchar**, Marissa Huebner, Michelle Van Epps, Ian A. Greenwood, Normand Leblanc.

645-Pos BOARD #B526
F233A MUTATION IN AT₁R INTERRUPTED CAVEOLAE TARGETING AND ABOLISHED REGULATION OF HSLO CHANNEL BY ANGIOTENSIN II. **Tong Lu**, Hon-Chi Lee.

646-Pos BOARD #B527
ANGIOTENSIN II EFFECTS ON BK CHANNEL IN MESENTERIC ARTERIAL SMOOTH MUSCLE CELLS OF SS, BN, AND CONGENIC RENIN⁺ AND RENIN⁻ RATS. **Anna Stadnicka**, Stephen J. Contney, Carol Moreno, Richard J. Roman, Thomas A. Stekiel.

647-Pos BOARD #B528
MAXIK CHANNEL BETA1 SUBUNIT INTERACTS AND REGULATES THROMBOXANE A₂ RECEPTOR FUNCTION. **Min Li**, Huilin Koh, Enrico Stefani, Ligia Toro.

648-Pos BOARD #B529
KCA3.1 BLOCKERS AS POTENTIAL NEW DRUGS FOR THE PREVENTION OF RENAL FIBROSIS AND CHRONIC ALLOGRAFT REJECTION. **Heike Wulff**, Yi-Je Chen, Sonja Schrepfer, Ralf Köhler.

649-Pos BOARD #B530
DIVERSE EFFECTS OF A BENZOFUROINDOLE ON DIFFERENT K⁺ CHANNELS AND LOCALIZATION OF ITS RECEPTOR ON BK_{CA} CHANNEL. **Byoung-Cheol Lee**, Hyun-Ho Lim, Hyun-Ju Kim, Yong-Chul Kim, Chul-Seung Park.

- 650-Pos BOARD #B531**
NS8593-MEDIATED NEGATIVE GATING MODULATION DEPENDS ON RESIDUES IN THE INNER PORE VESTIBULE OF KCA2 CHANNELS. **David P. Jenkins**, Charlotte Hougaard, Marianne L. Jensen, Rene Hummel, Ulrik Sørensen, Heike Wulff, Palle Christophersen, Dorte Strøbæk.
- 651-Pos BOARD #B532**
STRUCTURAL DETERMINANT OF ALTERED CURRENT EXPRESSION, ACTIVATION KINETICS AND BETA-SUBUNIT INTERACTION OF THE NEURONAL X1 SPLICE VARIANT OF THE RAT BK CHANNEL. **Asser N. Poulsen**, Inger Jansen-Olesen, Jes Olesen, Dan Klaerke.
- 652-Pos BOARD #B533**
ACCELERATION OF CUTANEOUS WOUND HEALING BY SUPPRESSION OF LARGE CONDUCTANCE Ca^{2+} -ACTIVATED K^{+} CHANNELS. **Dawon Kang**, Chang-Rok Choi, Yun-Ja Mun, Eun-Jin Kim, Gyu-Tae Kim, Jaehee Han.
- 653-Pos BOARD #B534**
AN UNCONVENTIONAL ROLE IN STORE-INDEPENDENT CONSTITUTIVE CALCIUM SIGNALING BY THE SECRETORY PATHWAY CALCIUM - ATPASES IN MAMMARY TUMORS. **Mingye Feng**, Desma Grice, Helen Faddy, Nguyen Nguyen, Sharon Leitch, Sabina Muend, Parac Kenny, Sara Sukumar, Sarah Roberts-Thomson, Gregory Monteith, Rajini Rao.
- 654-Pos BOARD #B535**
ROLE OF Ca^{2+} -ACTIVATED K^{+} CHANNEL IN THE NEUROGENIC CONTRACTIONS INDUCED BY ELECTRICAL FIELD STIMULATION IN DETRUSOR SMOOTH MUSCLE ISOLATED FROM RATS AND GUINEA PIGS. **Whitney F. Kellett**, Georgi V. Petkov.
- 655-Pos BOARD #B536**
THE PUTATIVE Ca^{2+} -ACTING SITE IN ANO1. **Uhtack Oh**, Min Ho Tak, Yung Duk Yang.
- 656-Pos BOARD #B537**
HEME-DRIVEN CONFORMATIONAL CHANGES IN THE HUMAN SLO1 BK_{CA} CHANNEL GATING RING. **Taleh Yusifov**, Anoosh Javaherian, Chris Gandhi, Shangwei Hou, Stefan H. Heinemann, Toshinori Hoshi, Riccardo Olcese.
- 657-Pos BOARD #B538**
MTHK GATING EXPLORED WITH A HIGH AFFINITY QUATERNARY-AMMONIUM BLOCKER. **David J. Posson**, Crina M. Nimigeon.
- 658-Pos BOARD #B539**
MECHANISM UNDERLYING PH-MODULATION OF Ca^{2+} -DEPENDENT GATING IN THE MTHK CHANNEL. **Victor P. T. Pau**, Karin Abarca-Heidemann, Brad S. Rothberg.
- 659-Pos BOARD #B540**
IDENTIFICATION OF DIVALENT CATION COORDINATING RESIDUES IN A K^{+} CHANNEL RCK DOMAIN BY NMR SPECTROSCOPY. **Karin Abarca-Heidemann**, Jens Woehnert, Brad S. Rothberg.
- 660-Pos BOARD #B541**
VOLTAGE-DEPENDENT MOTIONS REPORTED FROM THE N-TERMINAL REGION IN HUMAN SLO1 BK_{CA} CHANNELS: S0 AND VOLTAGE SENSOR OPERATION. **Antonios Pantazis**, Azadeh Kohanteb, Riccardo Olcese.
- 661-Pos BOARD #B542**
CHARGE SUBSTITUTION OF A DEEP-PORE RESIDUE SUGGESTS STRUCTURAL REARRANGEMENTS DURING BK CHANNEL ACTIVATION. **Xixi Chen**, Richard W. Aldrich.
- 662-Pos BOARD #B543**
CONTRIBUTION OF S3-S4 EXTRACELLULAR LOOP RESIDUES TO BLOCK OF KCA2 CHANNELS BY APAMIN. **Kate Weatherall**, Neil V. Marrion.
- 663-Pos BOARD #B544**
A MOLECULAR MODEL FOR THE BKCA CHANNEL AND THE LOCATION OF B1 IN THE B1/A SUBUNIT COMPLEX. **Cristian A. Zaelzer**, Clark Hyde, Ariela Vergara, Horacio Poblete, David Aguayo, Walter Sandtner, Fernando D. Gonzalez-Nilo, Francisco Bezanilla, Ramon Latorre.

- 664-Pos BOARD #B545**
STABILIZING THE INTERACTIONS BETWEEN THE CALMODULIN N-LOBE AND KCA3.1 IN C-TERMINUS INCREASES CHANNEL ACTIVITY. **Patricia Morales**, Line Garneau, Hélène Klein, Lucie Parent, Rémy Sauvé.
- 665-Pos BOARD #B546**
BETA SUBUNITS BRIDGE TWO ALPHA SUBUNITS WITHIN THE BK CHANNEL TETRAMER. **Guoxia Liu**, Roland Wu, Xin Jin, Xiaowei Niu, Neelesh Chudasama, Yongneng Yao, Richard Weinberg, Arthur Karlin, Steven Marx.
- 666-Pos BOARD #B547**
A NOVEL AUXILIARY PROTEIN ALLOWS BK POTASSIUM CHANNEL ACTIVATION AT RESTING VOLTAGE WITHOUT CALCIUM. **Jiusheng Yan**, Richard Aldrich.
- 667-Pos BOARD #B548**
CONTROL OF STREX BK-CHANNEL PALMITOYLATION VIA A POLYBASIC DOMAIN. **Owen Jeffries**.

Acetylcholine Receptors (Boards #B549-#B575)

- 668-Pos BOARD #B549**
THE HUMAN NEURONAL NICOTINIC $\alpha 4\beta 2$ RECEPTOR HAS A HIGH MAXIMAL PROBABILITY OF BEING OPEN. **Joe Henry Steinbach**, Ping Li.
- 669-Pos BOARD #B550**
LENGTH AND COMPOSITION OF THE 5HT3A RECEPTOR M3M4 LOOP EFFECTS CHANNEL EXPRESSION AND DESENSITIZATION. **Nicole McKinnon**, Moez Bali, Myles H. Akabas.
- 670-Pos BOARD #B551**
A DEEP NON-CONDUCTING STATE IN THE NICOTINIC ACETYLCHOLINE RECEPTOR. **Giovanni Gonzalez-Gutierrez**, Claudio Grosman.
- 671-Pos BOARD #B552**
SINGLE-CHANNEL RECORDING OF MUSCLE AND NEURONAL NICOTINIC ACETYLCHOLINE RECEPTORS: IMPLICATIONS FOR ALLOSTERIC TRANSITIONS. **Jai A. P. Shanata**, Henry A. Lester, Dennis A. Dougherty.
- 672-Pos BOARD #B553**
CALCINEURIN SUPPRESSION OF ALPHA₇ NACHR CURRENTS IN *XENOPUS* OOCYTES. **Joseph Farley**, Brent Hallahan, Jordan Raynor, Krystina Neuman, Joseph Rumers, Minesh Rajkotia, Jed Rose.
- 673-Pos BOARD #B554**
HIGHLY MOBILE CHANNEL LINING TRANSMEMBRANE SEGMENTS IN MUSCLE NICOTINIC ACETYLCHOLINE RECEPTORS? **Gautham Brahmamudi**, Dane Langsjoen, Ruth M. D' Cunha, Michaela Jansen.
- 674-Pos BOARD #B555**
CONTRIBUTION OF PHOSPHORYLATION RESIDUES IN THE $\alpha 4$ SUBUNIT TO THE $\alpha 4\beta 2$ NEURONAL NACHR FUNCTION AND EXPRESSION. **Nilza M. Biaggi-Labiosa**, Jose A. Lasalde-Dominicci, PhD.
- 675-Pos BOARD #B556**
M2 SEGMENT ACCESSIBILITY IN THE PROKARYOTIC PROTON-GATED CYS-LOOP RECEPTOR CHANNEL FROM GLOEOBACTER VIOLACEUS IN CLOSED AND OPEN STATES. **Rishi B. Parikh**, Moez Bali, Myles H. Akabas.
- 676-Pos BOARD #B557**
ESTIMATION OF PHI-VALUES FOR THE AM1 DOMAIN OF NEUROMUSCULAR ACETYLCHOLINE RECEPTORS. **Prasad Purohit**, David Cadugan, Anthony Auerbach.
- 677-Pos BOARD #B558**
PHOTOAFFINITY LABELING THE AGONIST BINDING SITES OF *TORPEDO* AND $\alpha 4\beta 2$ NICOTINIC ACETYLCHOLINE RECEPTORS AND ACETYLCHOLINE BINDING PROTEINS (ACHBPS) WITH [³H]CYTISINE. **Shouryadeep Srivastava**, Ayman K. Hamouda, Todd T. Talley, Akash Pandhare, Phaneendra K. Duddempudi, Heidi Hsiao, Palmer Taylor, Jonathan B. Cohen, Michael P. Blanton.

678-Pos BOARD #B559
MUTATIONS AT AG153 IN NICOTINIC ACETYLCHOLINE RECEPTORS INCREASE THE UN-LIGANDED GATING EQUILIBRIUM CONSTANT. **Prasad Purohit**, Anthony Auerbach.

679-Pos BOARD #B560
A TRANSMEMBRANE BINDING SITE AT A SUBUNIT INTERFACE FOR *TORPEDO* NICOTINIC ACETYLCHOLINE RECEPTOR POTENTIATORS AND INHIBITORS. **Ayman K. Hamouda**, Deidre Stewart, S. Shaikat Husain, Jonathan B. Cohen.

680-Pos BOARD #B561
DYNAMICS OF ACETYLCHOLINE RECEPTOR-CHANNEL GATING: PRE-M1 OF THE EPSILON SUBUNIT. **Iva Bruhova**, Archana Jha, Anthony Auerbach.

681-Pos BOARD #B562
POTENTIAL IMPLICATIONS OF CHOLESTEROL AND PHOSPHATIDYLINOSITOL 4,5-BISPHOSPHATE (PIP₂) INTERACTIONS WITH THE CHOLESTEROL-SENSITIVE α C418W ACETYLCHOLINE RECEPTOR MUTATION AT LIPID RAFTS.

Jessica Oyola-Cintrón, Daniel Caballero-Rivera, Leomar Ballester, Leonardo Martínez, Carlos J. Noguera, Ramón Y. Ríos-Morales, Orestes Quesada, José A. Lasalde-Dominicci.

682-Pos BOARD #B563
THE N TERMINAL M2 CAP OF NICOTINIC ACETYLCHOLINE RECEPTORS. **Shaweta Gupta**, Snehal Jadey, Prasad Purohit, Anthony Auerbach.

683-Pos BOARD #B564
FOURIER TRANSFORM COUPLED TRYPTOPHAN SCANNING MUTAGENESIS OF THE LIPID EXPOSED δ M3 AND δ M4 TRANSMEMBRANE DOMAINS OF THE TORPEDO CALIFORNICA ACETYLCHOLINE RECEPTOR. **Daniel Caballero-Rivera**, Omar A. Cruz-Nieves, Jessica Oyola-Cintrón, José D. Otero-Cruz, David A. Torres-Núñez, Desiree Rodríguez-Espada, Natalie Del Hoyo-Rivera, José A. Lasalde-Dominicci.

684-Pos BOARD #B565
THE NICOTINIC PHARMACOPHORE - BINDING INTERACTIONS IN THE NEURONAL α 4 β 2 RECEPTOR. **Angela P. Blum**, Nyssa L. Puskar, Ximena Da Silva Tavares, Darren T. Nakamura, Xinan Xiu, Henry A. Lester, Dennis A. Dougherty.

685-Pos BOARD #B566
ENERGY CHANGES FOR SMALL MOLECULES AT THE ACETYLCHOLINE RECEPTOR-CHANNEL TRANSMITTER BINDING SITE. **Snehal V. Jadey**, Prasad Purohit, Timothy Gregg, Anthony Auerbach.

686-Pos BOARD #B567
THINKING OUTSIDE THE BOX: RESIDUES THAT SHAPE THE AGONIST BINDING SITE OF NICOTINIC ACETYLCHOLINE RECEPTORS. **Nyssa L. Puskar**, Xinan Xiu, Henry A. Lester, Dennis A. Dougherty.

687-Pos BOARD #B568
EFFICIENT ISOLATION AND CHARACTERIZATION OF NICOTINIC ACETYLCHOLINE RECEPTOR FROM *TORPEDO CALIFORNICA* USING LIPID ANALOG DETERGENTS. **Luis F. Padilla-Morales**, Claudio L. Morales-Perez, Pamela De La Cruz-Rivera, Luis Manuel Lopez-Cruz, Guillermo Asmar-Rovira, Raymond Stevens, Orestes Quesada, Jose A. Lasalde-Dominicci.

688-Pos BOARD #B569
OLIGOMERIC SIZE AND CONFIGURATION OF THE M² MUSCARINIC AND β 2 ADRENERGIC RECEPTORS IN LIVE CELLS AS DETERMINED BY PIXEL-LEVEL FRET. **Luca F. Pisterzi**, Michael R. Stoneman, Fei Huang, James W. Wells, Valerica Raicu.

689-Pos BOARD #B570
ANESTHETIC BINDING SITES IN THE NEURONAL N-ACETYLCHOLINE RECEPTOR TRANSMEMBRANE DOMAIN. **Vasyl Bondarenko**, Tommy Tillman, Yan Xu, Pei Tang.

690-Pos BOARD #B571
EFFECTS OF ISOFLURANE BINDING IN THE PORE OF A LIGAND-GATED ION CHANNEL. **David N. LeBard**, Grace Brannigan, Jerome Hénin, Roderic Eckenhoff, Michael L. Klein.

691-Pos BOARD #B572
MOLECULAR DYNAMICS SIMULATION REVEALS A POSSIBLE MECHANISM OF ACTIVATION OF THE PROKARYOTIC PROTON ACTIVATED CHANNEL GLIC. **Hai-Long Wang**, Steven M. Sine.

692-Pos BOARD #B573
THE EFFECT OF A HYDRATION POCKET ON THE FUNCTION OF NACHR STUDIED BY COMPUTATIONAL APPROACH. **Anna Rychkova**.

693-Pos BOARD #B574
MULTIPLE MODES OF INTERACTION BETWEEN THE NICOTINIC ACETYLCHOLINE RECEPTOR AND ISOFLURANE OBSERVED THROUGH LONG TIME SIMULATIONS. **Grace Brannigan**, David Lebard, Jerome Henin, Roderic Eckenhoff, Michael L. Klein.

694-Pos BOARD #B575
NMR OF TRANSMEMBRANE AND INTRACELLULAR DOMAINS OF HUMAN NICOTINE ACETYLCHOLINE RECEPTOR α 7 SUBUNIT. **Tanxing Cui**, Pei Tang, Yan Xu*.

Channel Regulation & Modulation I (Boards #B576-#B594)

695-Pos BOARD #B576
CA²⁺ TRANSIENTS IN PIM-1 TRANSFECTED CARDIAC STEM CELLS CO-CULTURED WITH RAT NEONATAL CARDIOMYOCYTES. **Hale Tufan**, Lars Cleemann, Mark Sussman, Martin Morad.

696-Pos BOARD #B577
CALMODULIN-LIKE REGION OF CA_v1.3 HARBORS NOVEL STRUCTURAL DETERMINANTS UNDERLYING CAM-MEDIATED CHANNEL REGULATION. **Philemon S. Yang**, Manu B. Johny, David T. Yue.

697-Pos BOARD #B578
APOCYNIN REVERSIBLY INHIBITS L-TYPE CA²⁺ CHANNEL CURRENT. INVOLVEMENT OF REACTIVE OXYGEN SPECIES. **Rikuo Ochi**, Rakhee S. Gupte, Takeshi Murayama, Nagomi Kurebayashi, Sachin A. Gupte.

698-Pos BOARD #B579
CAVEOLIN-3 DIRECTLY INTERACTS AND REGULATES THE FUNCTION OF CARDIAC CA_v3.2 (α 1H) T-TYPE CA²⁺ CHANNELS. **Yogananda S. Markandeya**, Jonathon M. Fahey, Florentina Pluteanu, Leanne L. Cribbs, Ravi C. Balijepalli.

699-Pos BOARD #B580
MODULATION OF THE CARDIAC TRANSIENT OUTWARD POTASSIUM CURRENT BY CAMKII IS DEPENDENT ON LIPID RAFTS INTEGRITY. **Aintzane Alday**, Janire Urrutia, Rosa M. Arin, Monica Gallego, Oscar Casis.

700-Pos BOARD #B581
RESCUE OF A TRAFFICKING DEFECTIVE HUMAN PACEMAKER CHANNEL VIA A NOVEL MECHANISM: ROLES OF SRC, FYN, YES TYROSINE KINASES. **Yen-Chang Lin**, Jianying Huang, Hong Kan, Jefferson C. Frisbee, Han-Gang Yu.

701-Pos BOARD #B582
HERG1 CHANNELS IN CANCER CELLS: PHYSICAL AND FUNCTIONAL INTERACTION WITH INTEGRIN RECEPTORS. **Annarosa Arcangeli**.

702-Pos BOARD #B583
SUBSTANCE P AND BRADYKININ ACTIVATE ALTERNATIVE GQ/11-COUPLED SIGNALLING CASCADES AND IMPOSE OPPOSITE EFFECTS ON M CURRENT IN DRG NEURONS. **John E. Linley**, Boyi Liu, Lezanne Ooi, Hailin Zhang, Nikita Gamper.

703-Pos BOARD #B584
ADRENERGIC REGULATION OF THE HERG POTASSIUM CHANNEL BIOSYNTHESIS AND FUNCTION. **Yamini Krishnan**, Jian Chen, Thomas V. McDonald.

704-Pos BOARD #B585
EXTRACELLULAR K⁺ REMOVAL LEADS TO A COMPLETE CONDUCTANCE LOSS THAT TRIGGERS INTERNALIZATION OF THE CELL SURFACE HERG CHANNELS. **Hamid Massacli**, Jun Guo, Jianmin Xu, Shetuan Zhang.

705-Pos BOARD #B586
REGULATION OF THE I_{Ks} CHANNEL BY S-NITROSYLATION AT CARBOXYL-TERMINUS OF KCNQ1. **Junko Kurokawa**, Ken Asada, Tetsushi Furukawa.

706-Pos BOARD #B587
KCNE2 EXPRESSION IS REGULATED BOTH BY ESTROGEN AND CARDIAC STRESS IN THE ADULT MALE MOUSE HEART. **Jingyuan Li**, Andrea Ciobotaru, Soban Umar, Shuxun Ren, Mansoureh Eghbali.

707-Pos BOARD #B588
STOICHIOMETRY OF KCNQ1-KCNE1 ION CHANNEL COMPLEX IS FLEXIBLE AND DENSITY-DEPENDENT. **Koichi Nakajo**, Maximilian H. Ulbrich, Yoshihiro Kubo, Ehud Y. Isacoff.

708-Pos BOARD #B589
STRUCTURAL UNDERPINNINGS FOR MODULATION OF THE VOLTAGE-GATED POTASSIUM CHANNEL KCNQ1 BY THE KCNE FAMILY OF PROTEINS. **Wade D. Van Horn**, Congbao Kang, Carlos G. Vanoye, Richard C. Welch, Alfred L. George, Charles R. Sanders.

709-Pos BOARD #B590
KCNE4 JUXTAMEMBRANE REGION INTERACTS WITH CALMODULIN AND IS NECESSARY FOR KCNQ1 MODULATION. **Erin J. Ciampa**, Carlos G. Vanoye, Alfred L. George, Jr.

710-Pos BOARD #B591
MOLECULAR MECHANISMS UNDERLYING MEMBRANE POTENTIAL-MEDIATED REGULATION OF NEURONAL K_{2P2.1} CHANNELS. **Yifat Segal-Hayoun**, Asi Cohen, Noam Zilberberg.

711-Pos BOARD #B592
K⁺ CHANNEL INTERACTING PROTEINS 2, 3 AND 4 ARE CRITICAL COMPONENTS OF KV4 CHANNEL COMPLEXES IN CORTICAL PYRAMIDAL NEURONS. **Aaron J. Norris**, Nicholas C. Foeger, Jeanne M. Nebonne.

712-Pos BOARD #B593
HMR 1098 IS NOT AN SUR ISOTYPE SPECIFIC INHIBITOR OF SARCOLEMMA OR HETEROLOGOUS K_{ATP} CHANNELS. **Haixia Zhang**, Alejandro Akrouh, Harley T. Kurata, Maria Sara Remedi, Colin G. Nichols.

713-Pos BOARD #B594
EPAC-MEDIATED MOBILIZATION OF INTRACELLULAR CALCIUM IN VASCULAR MYOCYTES AND THE DOWNSTREAM EFFECTS ON ARTERIAL K_{ATP} CHANNELS. **Gregor I. Purves**, Tomoko Kamishima, Lowri M. Davies, John M. Quayle, Caroline Dart.

Neuronal Systems & Modeling (Boards #B595-#B617)

714-Pos BOARD #B595
MEMBRANE POTENTIAL IMAGING IN NEURONS USING FLUORINATED VOLTAGE-SENSITIVE DYES AND A CUSTOM MULTIPHOTON BRAIN SLICE MICROSCOPE. **Corey D. Acker**, Leslie M. Loew.

715-Pos BOARD #B596
TWO-PHOTON OPTOGENETIC CONTROL OF NEURONAL ACTIVITY WITH SINGLE SYNAPSE PRECISION BY SCULPTED LIGHT. **Alipasha Vaziri**.

716-Pos BOARD #B597
COMBINING OPTICAL TWEEZERS, LASER MICRODISSECTORS AND MULTICHANNEL ELECTROPHYSIOLOGY FOR THE NON-INVASIVE TRACING AND MANIPULATION OF NEURAL ACTIVITY ON SINGLE CELL AND NETWORK LEVEL. **Francesco Difato**, Emanuele Marconi, Alessandro Maccione, Luca Berdondini, Evelina Chierregatti, Giuseppe Ronzitti, Fabio Benfenati, Axel Blau.

717-Pos BOARD #B598
ASTROCYTIC PROCESSES ENSHEATHING SYNAPTIC GLOMERULI CAUSE ANOMALOUS EXTRACELLULAR DIFFUSION. **Fanrong Xiao**, Sabina Hrabetova.

718-Pos BOARD #B599
A MODEL OF SPIKE-TIMING-DEPENDENT PLASTICITY. **Kristofor Carlson**, Nicholas J. Giordano.

719-Pos BOARD #B600
PLASTICITY OF CHLORIDE HOMEOSTASIS CAN CAUSE BISTABILITY AND A SWITCH IN NEURONAL SPIKING PATTERN. **Nicolas Doyon**, Steven Prescott, Yves De Koninck.

720-Pos BOARD #B601
INTEGRATION OF CELLULAR METABOLISM AND MEMBRANE EXCITABILITY IN CEREBELLAR PURKINJE NEURONS. **Sherry-Ann Brown**, Leslie M. Loew.

721-Pos BOARD #B602
THE ROLE OF PHOSPHORYLATION ON MOUSE NEUROFILAMENT MEDIUM PROTEIN (NF-M) SIDEARMS. **William Stevenson**, Rakwoo Chang, Yeshitla Gebremichael.

722-Pos BOARD #B603
STUDY OF BDNF-TRKB TRAFFICKING REGULATED BY NEURONAL ACTIVITY IN HIPPOCAMPAL NEURONS BY LIVE CELL IMAGING. **Wenjun Xie**, Bianxiao Cui.

723-Pos BOARD #B604
INCREASING THE POTASSIUM CHANNEL DENSITY IN REGULARLY SPIKING PYRAMIDAL CELLS CAN TURN THEM INTO FAST SPIKING. **Hugo Zeberg**, Peter Arhem.

724-Pos BOARD #B605
A COMPUTER MODEL STUDY OF TONIC SPIKING AND BURSTING IN THALAMIC RELAY NEURONS. **Jun Xu**.

725-Pos BOARD #B606
MODELS OF PARAVENTRICULAR NUCLEUS (PVN) SYMPATHETIC NEURONE MODULATION BY GLUCOSE AND HYPOGLYCAEMIA. **Rebecca Lewis**, Alexia Fitzmaurice Mills, Richard Barrett-Jolley.

726-Pos BOARD #B607
EFFECTS OF CELLULAR ADAPTATIONS TO PARTIAL DEMYELINATION ON SPIKE PATTERNS IN A MODEL AXON. **Jay S. Coggan**, Terrence J. Sejnowski.

727-Pos BOARD #B608
AN IMPROVED CURVILINEAR GRADIENT METHOD FOR PARAMETER ESTIMATION IN COMPLEX MODEL SYSTEMS: APPLICATION TO GATING OF A CARDIAC ION CHANNEL. **David Szekely**, Socrates Dokos, Jamie I. Vandenberg, Adam P. Hill.

728-Pos BOARD #B609
NEUROANALYSIS.ORG: INFORMATION-THEORETIC AND EXTENDED ANALYSES OF NEURAL CODING. **Michael A. Repucci**, David H. Goldberg, Eliza Chan, Ajit Jagdale, Jonathan D. Victor, Daniel Gardner.

729-Pos BOARD #B610
PHYSICAL CHANGES IN MACROMOLECULES OF ACTIVE ZONE MATERIAL THAT REGULATE THE DOCKING AND FUSION OF SYNAPTIC VESICLES ON THE PRESYNAPTIC MEMBRANE. **Jae Hoon Jung**, Joseph A. Szule, Robert M. Marshall, Uel J. McMahan.

730-Pos BOARD #B611
CONNECTIONS OF SYNAPTIC VESICLES TO ACTIVE ZONE MATERIAL BEFORE AND AFTER DOCKING ON THE PRESYNAPTIC. **Joseph Szule**, Jae Hoon Jung, Robert M. Marshall, Uel J. McMahan.

731-Pos BOARD #B612
ENDOGENOUS GABA REGULATES GABA_BR CONFORMATION AND RELEASE PROBABILITY AT SINGLE HIPPOCAMPAL SYNAPSES. **Tal Laviv**, Inbal Riven, Irena Vertkin, Iftach Dolev, Paul Slesinger, Inna Slutsky.

732-Pos BOARD #B613
FLUPIRTINE MODULATES BOTH KCNQ K⁺ CHANNELS AND GABA_A RECEPTORS IN HIPPOCAMPAL NEURONS. **Felicia Popovici**, Mario M. Dorostkar, Mark S. Shapiro, Stefan Boehm.

733-Pos BOARD #B614
INCONTINENT POOL OF PRIMED VESICLES IN SYNAPTOTAGMIN-1-DEFICIENT GABAERGIC SYNAPSES. **Silvia Willadt**, Jan C. Behrends.

734-Pos BOARD #B615
MODULATION OF THE EXCITATORY SYNAPTIC TRANSMISSION IN ISOLATED RAT HIPPOCAMPUS BY DIRECT CURRENT STIMULATION. **Anatoli Y. Kabakov**, Paul Muller, Francis E. Jensen, Alexander Rotenberg.

735-Pos BOARD #B616
HOW DOES SYNAPTIC DYNAMICS REGULATE NEURONAL ENCODING? **Jin H. Wang**.

736-Pos BOARD #B617
PH-SENSITIVE FLUORESCENT LIPIDS AS NOVEL PROBES TO MONITOR VESICLE RECYCLING. **Martin Kahms**, Cora Thiel, Jürgen Klingauf.

Muscle: Fiber & Molecular Mechanics & Structure I (Boards #B618-#B642)

737-Pos BOARD #B618
MYOSIN NUCLEOTIDE POCKET THERMODYNAMICS MEASURED BY EPR REVEAL HOW ENERGY PARTITIONING RELATES SPEED TO EFFICIENCY. **Thomas J. Purcell**, Nariman Naber, Kathleen Franks-Skiba, Ed Pate, Roger Cooke.

738-Pos BOARD #B619
STRUCTURAL BASIS FOR UNCOUPLING OF FORCE GENERATION IN THE F506A *DICTYOSTELIUM* MYOSIN REVEALED BY TIME-RESOLVED EPR AND FRET. **Roman V. Agafonov**, Igor V. Negrashov, Sarah E. Blakely, Margaret A. Titus, Yuri E. Nesmelov, David D. Thomas.

739-Pos BOARD #B620
SUBPOPULATION OF INTERMEDIATES IN ACTOMYOSIN CROSSBRIDGE-CYCLE DURING SLIDING. **Eisaku Katayama**, Yoshitaka Kimori, Norio Baba.

740-Pos BOARD #B621
ANALYSIS OF CONFORMATION OF THE SKELETAL MUSCLE MYOSIN MODIFIED BY F₂DNB USING FRET. **Masafumi D. Yamada**, Koichiro Ishiyama, Eisaku Katayama, Yoshitaka Kimori, Shinsaku Maruta.

741-Pos BOARD #B622
SWITCH-2 DEPENDENT MODULATION OF THE MYOSIN POWER STROKE. **Daniela Kathmann**, Ralph P. Diensthuber, Falk K. Hartmann, Roman Fedorov, Dietmar J. Manstein, Georgios Tsiavaliaris.

742-Pos BOARD #B623
A SINGLE AMINO ACID MUTATION IN THE DROSOPHILA MYOSIN SH1 DOMAIN SEVERELY AFFECTS MUSCLE FUNCTION, MYOFIBRIL STRUCTURE, MYOSIN ENZYMATIC ACTIVITY, AND ACTIN SLIDING VELOCITY. **Yang Wang**, William A. Kronert, Girish C. Melkani, Anju Melkani, Sanford I. Bernstein.

743-Pos BOARD #B624
FRET TO REVEAL CROSS-BRIDGE CONFORMATIONAL CHANGES. **Valentina Caorsi**, Delisa Ibanez Garcia, Dmitry Ushakov, Michael A. Ferenczi.

744-Pos BOARD #B625
ELECTRON MICROSCOPIC EVIDENCE FOR THE CROSS-BRIDGE LEVER ARM MECHANISM IN LIVING MUSCLE THICK FILAMENTS OBTAINED USING THE GAS ENVIRONMENTAL CHAMBER. **Haruo Sugi**.

745-Pos BOARD #B626
COMPARATIVE KINETICS OF THE ATPASE AND ACTIN SLIDING VELOCITY OF MYOSIN ISOFORMS. **Ernst G. M. Hoppenbrouwers**, Iryna Shovkivska, Mei Luo Zhang, Michael P. Walsh, Henk E. D. J. Ter Keurs.

746-Pos BOARD #B627
CORRELATION BETWEEN MYOFIBRILLAR BIOCHEMISTRY AND MUSCLE FIBER MECHANICS USING RABBIT PSOAS MUSCLE PREPARATIONS INDICATES THAT PHASE 2 OF STEP ANALYSIS REPRESENTS THE CROSS-BRIDGE DETACHMENT STEP. **Robin Candau**, Corinne Lionne, Tom Barman, Masataka Kawai.

747-Pos BOARD #B628
MYOSIN ATP TURNOVER RATE: A MECHANISM INVOLVED IN THERMOGENESIS IN RESTING SKELETAL MUSCLE FIBERS. **Melanie Stewart**, Kathleen Franks-Skiba, Roger Cooke.

748-Pos BOARD #B629
STRUCTURAL IMPACT OF MYOSIN METHIONINE OXIDATION. **Jennifer C. Klein**, Nicole Piechowski, Margaret A. Titus, David D. Thomas.

749-Pos BOARD #B630
NOVEL APPROACH APPLIED TO IVMA TO STUDY THE MODULATION OF THE ACTOMYOSIN INTERACTION BY MGATP IN FAST SKELETAL MUSCLE. **Monica Canepari**, Manuela Maffei, Emanuela Longa, Antonio Sabatini, Alberto Vacca, Roberto Bottinelli, Stefano Iotti.

750-Pos BOARD #B631
THE EFFECTS OF HEAD-HEAD INTERACTIONS ON MYOSIN-BASED ACTIN SLIDING VELOCITIES. **Del R. Jackson, Jr.**, Travis J. Stewart, Josh E. Baker.

751-Pos BOARD #B632
SINGLE MOLECULE STEPPING AND STRUCTURAL DYNAMICS OF MYOSIN X. **Yujie Sun**, Osamu Sato, Felix Ruhnnow, Mark E. Arsenault, Mitsuo Ikebe, Yale E. Goldman.

752-Pos BOARD #B633
INFLUENCE OF ACTIN MUTANT TO PROCESSIVE AND NON-PROCESSIVE MYOSIN MOTILITY. **Tomotaka Komori**, Hiroaki Takagi, Masatoshi Nishikawa, Atsuko H. Iwane, Toshio Yanagida.

753-Pos BOARD #B634
DIFFERENTIAL EFFECTS OF ALPHA VS BETA MYOSIN HEAVY CHAIN ON THE KINETICS AND MECHANICS OF FAMILIAL HYPERTROPHIC CARDIOMYOPATHY MUTATIONS IN THE MYOSIN REGULATORY LIGHT CHAIN. **Michael J. Greenberg**, James D. Watt, Katarzyna Kazmierczak, Michelle Jones, Danuta Szczesna-Cordary, Jeffrey R. Moore.

754-Pos BOARD #B635
TEMPERATURE DEPENDENCE OF MGATP AND MGADP AFFINITY OF FAST AND SLOW RAT MYOSIN ISOFORMS: AN IN VITRO MOTILITY ASSAY APPROACH. **Monica Canepari**, Manuela Maffei, Emanuela Longa, Mike Geeves, Roberto Bottinelli.

755-Pos BOARD #B636
HEAVY MEROMYOSIN HEAD-SURFACE DISTANCE AND GEOMETRICAL ARRANGEMENT ON A SILANIZED SURFACE. **Malin Persson**, Nuria Albet-Torres, Leonid Ionov, Mark Sundberg, Fredrik Hook, Stefan Diez, Alf Mansson, Martina Balaz.

756-Pos BOARD #B637
A SIMPLE MODEL TO EXPLORE HALF-SARCOMERE INHOMOGENEITY IN A MYOFIBRIL. **Steven L. Lehman**.

757-Pos BOARD #B638
THE ROLE OF SURFACE PHYSICS IN MOTILITY. **Alex Metherell**.

758-Pos BOARD #B639
MATHEMATICAL MODEL OF MULTIPLE MYOSIN SYSTEM WITH MEASUREMENT PROBES, FOCUSING ON ENERGY EFFICIENCY. **Hiroto Tanaka**.

759-Pos BOARD #B640
ACTOMYOSIN ADP-STATES, NON-HYPERBOLIC FORCE-VELOCITY RELATION AND PROCESSIVITY OF MYOSIN II IN FAST SKELETAL MUSCLE. **Alf Mansson**.

760-Pos BOARD #B641
INTERACTIONS BETWEEN CONNECTED HALF-SARCOMERES PRODUCE EMERGENT MECHANICAL BEHAVIOR IN A MATHEMATICAL MODEL OF MUSCLE. **Kenneth S. Campbell.**

761-Pos BOARD #B642
MICRO-MECHANICAL MODEL OF MUSCLE CONTRACTION. **Lorenzo Marcucci,** Tetsuya Shimokawa, Mitsuhiro Iwaki, Toshio Yanagida.

Muscle Regulation I (Boards #B643-#B672)

762-Pos BOARD #B643
COMPARISON OF THE BINDING OF THE SWITCH REGIONS OF CARDIAC TROPONIN-I AND SKELETAL TROPONIN-I TO THE FUNCTIONAL N-DOMAIN OF HUMAN CARDIAC TROPONIN-C. **Peter C. Holmes,** Ian M. Robertson, Monica X. Li, Brian D. Sykes.

763-Pos BOARD #B644
STRUCTURE AND DYNAMICS OF CARDIAC TROPONIN C USING PARAMAGNETIC RELAXATION ENHANCEMENT DERIVED DISTANCES. **Nicole M. Cordina,** Chu K. Liew, David A. Gell, James A. Cooke, Joel M. Mackay, Louise J. Brown.

764-Pos BOARD #B645
PROTEIN KINASE A PHOSPHORYLATION OF CARDIAC TROPONIN I PREVENTS CARDIAC HYPERTROPHY IN MICE. **Yingcai Wang,** Jose Renato Pinto, Raquel Sanchos-Solis, Jingsheng Liang, Zoraída Diaz-Perez, Keita Harada, Jeffery W. Walker, James D. Potter.

765-Pos BOARD #B646
STRUCTURE AND DYNAMICS OF THE MOBILE DOMAIN OF TROPONIN I BY SDS-L-EPR. **James A. Cooke,** Jean Chamoun, Michael W. Howell, Paul M. Curmi, Peter G. Fajer, Louise J. Brown.

766-Pos BOARD #B647
DESENSITIZING EFFECT OF N-TERMINAL TRUNCATED CTNI IN RCM MYOFIBRILS. **Yuejin Li,** Pierre-Yves Jean-Charles, Changlong Nan, José Renato Pinto, Yingcai Wang, J.S. Liang, J-P Jin, James D. Potter, Xupei Huang.

767-Pos BOARD #B648
EFFECTS OF PSEUDO-PHOSPHORYLATION OF CTNI BY P²¹ ACTIVATED KINASE-3 (PAK3) ON STRUCTURE AND KINETICS OF CA²⁺-INDUCED CARDIAC THIN FILAMENT REGULATION. **Jayant James Jayasundar,** Ranganath Mamidi, Yixin Ouyang, Murali Chandra, Wenji Dong.

768-Pos BOARD #B649
FAST-TO-SLOW FIBER TYPE SWITCH INCREASES FATIGUE RESISTANCE AS A COMPENSATORY ADAPTATION IN G α -DEFICIENT SOLEUS MUSCLE. **Hanzhong Feng,** Min Chen, Lee S. Weinstein, J.-P. Jin.

769-Pos BOARD #B650
STRONG CROSSBRIDGES ARE REQUIRED TO RECAPITULATE THE CA²⁺ AFFINITY CHANGES PRODUCED BY HCM-CTNC MUTANTS IN SKINNED FIBERS. **David Dweck,** José R. Pinto, Daniel P. Reynaldo, Michelle S. Parvatiyar, Michelle A. Jones, Jingsheng Liang, Martha M. Sorenson, James D. Potter.

770-Pos BOARD #B651
CHANGES IN THE CONFORMATION OF TROPONIN C ON ACTIVATION OF SKELETAL MUSCLE. **Andrea C. Knowles,** Malcolm Irving, Yin-Biao Sun.

771-Pos BOARD #B652
THE PERTURBATION OF THE OPEN-CLOSED TRANSITION OF TROPONIN C BY THE MUTATION L48Q LEADS TO AN ENHANCED TROPONIN I AFFINITY. **Ian M. Robertson,** Monica X. Li, Robert F. Boyko, Melissa L. Crane, Michael Regnier, Brian D. Sykes.

772-Pos BOARD #B653
EFFECTS OF CARDIAC TNC VARIANTS ON CTNC-CTNI INTERACTION; SOLUTION AND MOLECULAR DYNAMICS SIMULATION STUDIES. **Dan Wang,** Michelle E McCully, Zhixiong Luo, An-yue Tu, Valerie Daggett, Michael Regnier.

773-Pos BOARD #B654
STRUCTURE OF THE REGULATORY DOMAIN OF HUMAN CARDIAC TROPONIN C IN COMPLEX WITH THE SWITCH REGION OF CARDIAC TROPONIN I AND THE DRUG W7: THE BASIS OF W7 AS AN INHIBITOR OF CARDIAC MUSCLE CONTRACTION. **Marta Oleszczuk,** Ian M. Robertson, Monica X. Li, Brian D. Sykes.

774-Pos BOARD #B655
A SECOND LOOK AT THE TWO PHASES OF CA²⁺ BINDING TO FAST SKINNED FIBERS. **Philip W. Brandt,** Corrado Poggesi.

775-Pos BOARD #B656
EFFECT OF D145E MUTATION ON CALCIUM BINDING AND EXCHANGE WITH THE C-DOMAIN OF TROPONIN C. **Svetlana Tikunova,** Nicholas G. Swindle.

776-Pos BOARD #B657
EFFECT OF DOWN-REGULATION OF A STRETCH-ACTIVATED TNC ISOFORM ON FLIGHT OF DROSOPHILA. **Anja Katzemich,** Friederika Thiele, Belinda Bullard.

777-Pos BOARD #B658
THE EFFECT OF GLUTATHIONE ON SKELETAL MUSCLE CALCIUM SENSITIVITY AND MYOFILAMENT SULFHYDRYL GROUPS. **Sean Gross,** Steven Lehman.

778-Pos BOARD #B659
THE SMALL MOLECULE SKELETAL SARCOMERE ACTIVATOR, CK-2017357, IS A CALCIUM SENSITIZER THAT BINDS SELECTIVELY TO THE FAST SKELETAL TROPONIN COMPLEX. **Raja Kawas,** Alan Russell, Alex Muci, Bradley Morgan, Fady Malik, Jim Hartman.

779-Pos BOARD #B660
EFFECT OF TEMPERATURE ON THE RATES OF CALCIUM DISSOCIATION AND CROSS-BRIDGE DETACHMENT IN CARDIAC MYOFIBRILS REPORTED BY TROPONIN C. **Sean C. Little,** Kristopher Kline, Bin Liu, Jonathan P. Davis.

780-Pos BOARD #B661
THE EFFECT OF RIGOR MYOSIN UPON THE PCA OF CALCIUM BINDING TO NATIVE CARDIAC THIN FILAMENTS. **Ahmed Houmedia,** David Heeley, Howard D. White.

781-Pos BOARD #B662
MODEL FOR TRANSIENT ACTIVATION OF ISOMETRIC FORCE BY CALCIUM. **Henry G. Zot,** Javier E. Hasbun, Nguyen V. Minh.

782-Pos BOARD #B663
EQUILIBRIUM MODEL FOR COOPERATIVE ACTIVATION OF MUSCLE BY CALCIUM. **Henry G. Zot,** Javier E. Hasbun, Nguyen V. Minh.

783-Pos BOARD #B664
DETERMINANTS OF LOADED SHORTENING IN CARDIAC MYOCYTES. **Laurin M. Hanft,** Kerry S. McDonald.

784-Pos BOARD #B665
THE ROLE OF STORE-OPERATED CALCIUM ENTRY IN STORE REPLETION DURING REPETITIVE HIGH FREQUENCY TETANIC STIMULATION OF SINGLE SKELETAL MUSCLE FIBERS. **Lan Wei,** Alla D. Lyfenko, Robert T. Dirksen.

785-Pos BOARD #B666
DISRUPTION OF CIRCADIAN GENE EXPRESSION IN SKELETAL MUSCLE BUT NOT LIVER IN PRE-HYPERTENSIVE SHR VS. WKY RATS. **Mitsunori Miyazaki,** Dawson F. Dean, Stephanie E. Edelmann, C. William Balke, Karyn A. Esser.

786-Pos BOARD #B667
EFFECT OF CANNABINOIDS ON CHOLINE INDUCED CONTRACTURES IN SLOW SKELETAL MUSCLE FIBERS OF THE FROG. **Enrique Alejandro Sanchez-Pastor,** Miguel Huerta-Viera, Adriana Valle-Chávez, Maria Felipa Andrade-Urzuá, Xochitl Trujillo.

787-Pos BOARD #B668
THE ALTERATIONS OF STORE-OPERATED CALCIUM ENTRY IN TRPC1-OVEREXPRESSING C2C12 MYOTUBES. **Tamás Oláh,** János Fodor, Olga Ruznavszky, Celine Berbey, Bruno Allard, László Csernoch.

788-Pos BOARD #B669
LEUCINE-ZIPPER MEDIATED INTERMOLECULAR INTERACTION BETWEEN MG53 IS ESSENTIAL FOR CELLULAR MEMBRANE REPAIR. **Moonsun Hwang**, Jae-Kyun Ko, Chuanxi Cai, Peihui Lin, Zui Pan, Noah Weisleder, Miyuki Nishi, Hiroshi Takeshima, Jianjie Ma.

789-Pos BOARD #B670
FATIGUE IN MOUSE MUSCLE FIBERS: ROLE OF MITOCHONDRIAL ATP-SENSITIVE POTASSIUM CHANNELS. **Maria C. Garcia**, Ascencion Hernández, Jorge A. Sanchez.

790-Pos BOARD #B671
INDUCIBLE ACTIVATION OF AKT INCREASES SKELETAL MUSCLE MASS AND FORCE WITHOUT SATELLITE CELL ACTIVATION. **Bert Blaauw**, Canato Marta, Lisa Agatea, Luana Toniolo, Cristina Mammucari, Eva Masiero, Reimar Abraham, Marco Sandri, Stefano Schiaffino, Carlo Reggiani.

791-Pos BOARD #B672
HEAT-SHOCK TREATMENT INDUCES HYPERTROPHY IN C2C12 MUSCLE CELLS. **Todd Hall**, Chad Touchberry, Robin Craig, Leticia Brotto, Michael Loghry, Michael Loghry, Jon Andresen, Michael Wacker, Marco Brotto.

Actin & Actin-binding Proteins (Boards #B673-#B701)

792-Pos BOARD #B673
A COMPARISON OF ACTIN FILAMENT MODELS BY MOLECULAR DYNAMICS SIMULATION. **Thomas Spletstoesser**, Kenneth C. Holmes, Frank Noé, Jeremy C. Smith.

793-Pos BOARD #B674
MULTIPLE STRUCTURAL FORMS OF ACTIN IN THE FILAMENTOUS STATE. **Masatoshi Morimatsu**, Yuichi Togashi, So Nishikawa, Mitsuhiro Sugawa, Atsuko H. Iwane, Toshio Yanagida.

794-Pos BOARD #B675
TERTIARY STRUCTURE MODEL OF WILD-TYPE AND MUTATED ACTIN USING A NOVEL COARSE GRAINING TECHNIQUE TO STUDY AORTIC ANEURYSMS. **Joel D. Marquez**, Steven Kreuzer, Jun Zhou, Chia-Cheng Liu, Esfandiar A. Khatiblou, Tess J. Moon.

795-Pos BOARD #B676
THERMODYNAMIC MODEL STUDY ON THE MODULATION OF BINDING AFFINITY BETWEEN ACTIN FILAMENT AND ITS REGULATORY PROTEINS IN RESPONSE TO MECHANICAL STRESSES. **Yasuhiro Inoue**, Taiji Adachi, Masaki Hojo.

796-Pos BOARD #B677
EFFECTS OF MOLECULAR CROWDING IN ACTIN POLYMERIZATION. **Elena G. Yarmola**, Patrick Taus, Danila Korytov, Michael Bubb.

797-Pos BOARD #B678
A SINGLE ACTIN FILAMENT WORKS AS A MECHANOSENSOR. **Kmihide Hayakawa**, Kimihide Hayakawa.

798-Pos BOARD #B679
THE KINETICS OF COOPERATIVE COFILIN BINDING TO ACTIN FILAMENTS. **Enrique M. De La Cruz**, David Sept.

799-Pos BOARD #B680
MOLECULAR INTERACTION OF COFILIN WITH F-ACTIN AND IMPLICATIONS FOR FILAMENT SEVERING. **Diana Y. Wong**, David Sept.

800-Pos BOARD #B681
SINGLE-MOLECULE STUDY OF ACTIN FILAMENT SEVERING BY GELSOLIN USING TOTAL INTERNAL REFLECTION FLUORESCENCE MICROSCOPY. **Balakrishnan Kannan**, Wei Lin Lee, Robert C. Robinson.

801-Pos BOARD #B682
MEASUREMENT OF FILAMIN A TORSION IN-SINGULO. **Theodore C. Feldman**, Hyungsuk Lee, Roger D. Kamm, Matthew J. Lang.

802-Pos BOARD #B683 STUDENT TRAVEL AWARDEE
ACTIN CROSSLINKING PROTEINS RECOGNIZE DISTINCT ARRANGEMENTS OF ACTIN FILAMENTS. **David S. Courson**, Ronald S. Rock.

803-Pos BOARD #B684
A STRUCTURAL AND BIOCHEMICAL STUDY OF THE INTERACTION BETWEEN ACTIN AND THE MAMMALIAN FORMIN FRL2. **Morgan E. Thompson**, Henry N. Higgs, F. Jon Kull.

804-Pos BOARD #B685 INTERNATIONAL TRAVEL AWARDEE
THE EFFECT OF HEAVY MEROMYOSIN ON THE FLEXIBILITY OF FORMIN-BOUND ACTIN FILAMENTS. **Zoltan Ujfalusi**, Miklos Nyitrai, Gabor Hild.

805-Pos BOARD #B686
THE CALPONIN REGULATORY REGION IS INTRINSICALLY UNSTRUCTURED: NOVEL INSIGHT INTO ACTIN-CALPONIN AND CALMODULIN-CALPONIN INTERFACES USING NMR SPECTROSCOPY. **Mohammed EL-Mezgueldi**.

806-Pos BOARD #B687
EVIDENCE FROM THE LASER TRAP FOR TWO CLOSED STATES OF TROPOMYOSIN. **Amy M. Clobes**, Vijay S. Rao, William H. Guilford.

807-Pos BOARD #B688
PRECISE MODULATION OF TROPOMYOSIN POLYMER LENGTH IS CRUCIAL FOR ITS ASSOCIATION WITH ACTIN AND ABILITY TO REGULATE MYOSIN FUNCTION. **Dan East**, Duncan Sousa, William Lehman, Daniel P. Mulvihill.

808-Pos BOARD #B689
LRR DOMAIN OF TROPOMODULIN IS RESPONSIBLE FOR TARGETING IT TO THE POINTED END OF THE ACTIN FILAMENT. **Takehiro Tsukada**, Lucy Kodyanskaya, Carol C. Gregorio, Alla S. Kostyukova.

809-Pos BOARD #B690
ORGANIZATION OF F-ACTIN BY AVIAN SMOOTH MUSCLE SYNAPTOPODIN 2 (FESSELIN). **Mechthild M. Schroeter**, Albina Orlova, Brent Beall, Ed H. Egelman, Joseph M. Chalovich.

810-Pos BOARD #B691
GENERATION OF A DE NOVO ACTIN POINTED-END BINDING PROTEIN. **Crista M. Brawley**, Serdar Uysal, Shahir Rizk, Anna Luchniak, Anthony Kossiakoff, Ronald S. Rock.

811-Pos BOARD #B692
BINDING OF N-TERMINUS FRAGMENTS OF CARDIAC MYOSIN-BINDING C-PROTEIN TO ACTIN. **Albina Orlova**, Vitold E. Galkin, Cy M. Jeffries, Jill Trewhella, Edward H. Egelman.

812-Pos BOARD #B693
MECHANISMS OF FILAMENT TWIRLING IN GLIDING ASSAYS. **Andrej Vilfan**.

813-Pos BOARD #B694
STRESS GENERATION BY ACTIN MYOSIN NETWORKS. **Nilushi L. Dasanayake**, Anders E. Carlsson.

814-Pos BOARD #B695
G146V MUTANT ACTIN IS DEFECTIVE IN CONFORMATIONAL CHANGES, ACCOMPANIED BY IMPAIRED MOTILITY WITH SKELETAL MYOSIN. **Taro Q. P. Noguchi**, Masatoshi Morimatsu, Tomotaka Komori, Atsuko H. Iwane, Toshio Yanagida, Taro Q. P. Uyeda.

815-Pos BOARD #B696
SIMULTANEOUS MEASUREMENT OF ACTIN SLIDING VELOCITIES AND ACTIN-MYOSIN DISSOCIATION KINETICS. **Michael S. Carter**, Josh E. Baker.

816-Pos BOARD #B697
THE COMBINED EFFECTS OF ADP, ATP, AND MYOSIN DENSITY ON COOPERATIVE ACTIVATION OF THIN FILAMENTS. **Timothy J. O'Donnell**, Jonathan E. Baker.

817-Pos BOARD #B698
EFFECT OF PHOSPHOMIMETIC MUTATION OF CALDESMON ON THE MIGRATION ACTIVITY OF VASCULAR SMOOTH MUSCLE CELLS. **Qifeng Jiang**, Renjian Huang, Chih-Lueh A. Wang.

818-Pos BOARD #B699
FUNCTIONAL CHANGES OF ACTIN-BINDING PROTEINS FOR HUMAN UMBILICAL CD-105 POSITIVE STROMAL CELL PROLIFERATION AND DIFFERENTIATION. **Ying-Ming Liou**, Kang-Wei Peng, Yuan-Chang Hsu.

819-Pos BOARD #B700
ANALYSIS OF DE NOVO CELL CORTEX ASSEMBLY IN BLEBS AS A NOVEL ASSAY FOR PROBING CORTICAL DYNAMICS AND REGULATION. **Maté Biro**, Sonja Kroschwald, Ewa Paluch.

820-Pos BOARD #B701
THE ACTIN CYTOSKELETON DYNAMICALLY ASSOCIATES WITH T-CELL RECEPTOR CLUSTERS. **Alex Smoligovets**, Adam Smith, Hung-Jen Wu, Rebecca Petit, Jay Groves.

Cell & Bacterial Mechanics & Motility I (Boards #B702-#B726)

821-Pos BOARD #B702
RESPONSE OF THE BACTERIAL FLAGELLAR MOTOR TO CONTROLLED TEMPERATURE CHANGE. **Matthew A. Baker**, Yuichi Inoue, Chien-Jung Lo, Akihiko Ishijima, Richard Berry.

822-Pos BOARD #B703
CONCEPTUAL MODEL FOR A SYNTHETIC BIPEDAL STEPPING MOTOR. **Martin J. Zuckermann**, Sara Sadeghi.

823-Pos BOARD #B704
TUG OF WAR: DYNAMICS OF BACTERIAL FLAGELLAR MOTOR WITH MULTIPLE STATORS. **Yuhai Tu**.

824-Pos BOARD #B705
UNDERSTANDING KINK PROPAGATION IN SPIROPLASMA. **Martin Lindén**, Charles Wolgemuth, George Oster.

825-Pos BOARD #B706
SWIMMING HYDRODYNAMICS OF A RUN-AND-TUMBLE BACTERIUM WITH HELICAL FLAGELLA. **Nobuhiko Watari**, Ronald G. Larson.

826-Pos BOARD #B707
SWIMMING MICROORGANISMS IN GELS. **Henry C. Fu**, Vivek Shenoy, Charles Wolgemuth, Thomas R. Powers.

827-Pos BOARD #B708
A TUG-OF-WAR MECHANISM FOR BACTERIAL SURFACE MOVEMENT. **Claudia B. Holz**, Dirk Opitz, Jan Mehlich, Lilo Greune, M. Alexander Schmidt, Bart Jan Ravoo, Berenike Maier.

828-Pos BOARD #B709
EXAMPLES OF X-RAY SCATTERING STUDIES OF BIOLOGICAL SYSTEMS UNDER EXTREME CONDITIONS. **Xiangyun Qiu**, Peter Setlow, Donald C. Rau, V. Adrian Parsegian.

829-Pos BOARD #B710
REDUNDANT MECHANISMS FOR STABLE CELL LOCOMOTION REVEALED BY MINIMAL MODELS. **Charles W. Wolgemuth**, Jelena Stajic, Alex Mogilner.

830-Pos BOARD #B711
CROWDING EFFECTS ON ASSOCIATION REACTIONS AT MEMBRANES. **Jun Soo Kim**, Arun Yethiraj.

831-Pos BOARD #B712
THE EQUILIBRIUM AND NONEQUILIBRIUM MECHANICS OF CYTOSKELETAL NETWORKS. **Andrew R. Missel**, Mo Bai, William S. Klug, Alex J. Levine.

832-Pos BOARD #B713
FIBER NETWORK ELASTICITY AS FUNCTION OF CROSSLINKER DENSITY. **Susan Sporer**, Sebastian Kapfer, Christoph Arns, Klaus Mecke, Gerd E. Schröder-Turk.

833-Pos BOARD #B714
HETEROGENEITY AND FLOW IN BIOLOGICAL NETWORKS AND IMPLICATIONS FOR CARGO TRANSPORT. **Eliza Morris**, David Nelson, David Weitz.

834-Pos BOARD #B715
REGULATION OF NONMUSCLE MYOSIN IIA ASSEMBLY. **K. Ilker Sen**, Wendy Zencheck, Michael D. Brenowitz, Steven C. Almo, Anne R. Bresnick.

835-Pos BOARD #B716
MYOSIN II IS AN ACTIVE STRESS SENSOR AT THE CORE OF A CELL DIVISION CONTROL SYSTEM. **Yee Seir Kee**, Richard Firtel, Pablo Iglesias, Douglas Robinson.

836-Pos BOARD #B717 WITHDRAWN

837-Pos BOARD #B718
IN SILICO STUDY OF FORMATION AND COLLAPSE OF T-KILLER CELL SYNAPSE MEDIATED BY RECEPTOR RECYCLING AND ACTIN NETWORK. **Munju Kim**, Ivan V. Maly.

838-Pos BOARD #B719
INTIMACY BETWEEN ACTIN NETWORK FLOW AND TURNOVER IN THE LAMELLA OF CRAWLING FRAGMENTS. **Kennedy Omondi Okeyo**, Taiji Adachi, Masaki Hojo.

839-Pos BOARD #B720
QUANTITATIVE ANALYSIS OF CELL EDGE DYNAMICS AND CELL SHAPE IN NON-POLARIZED FISH EPIDERMAL KERATOCYTES. **Hiromi Miyoshi**, Taiji Adachi.

840-Pos BOARD #B721
MECHANISMS UNDERLYING PROTRUSION-RETRACTION WAVES AT THE LEADING EDGE OF MIGRATING AND SPREADING CELLS. **Matthew R. Stachowiak**, Giovanni Meacci, Ben O'Shaughnessy, Michael P. Sheetz.

841-Pos BOARD #B722
FORCE TRANSMISSION IN MIGRATING CELLS: GRIPPING AT THE FRONT, SLIPPING AT THE BACK. **Maxime F. Fournier**, Roger Sauser, Davide Ambrosi, Jean-Jacques Meister, Alexander B. Verkhovskiy.

842-Pos BOARD #B723 WITHDRAWN

843-Pos BOARD #B724
CONTINUUM ELASTIC MODEL OF EPITHELIAL SHEET MIGRATION. **David Swigon**, Julia Arciero, Qi Mi, David Hackam.

844-Pos BOARD #B725
BIOPHYSICAL REGULATION OF ASTROCYTOMA CELL PHYSIOLOGY IN 2D AND 3D CULTURE. **Theresa A. Ulrich**, Sanjay Kumar.

845-Pos BOARD #B726
NUMERICAL SIMULATION OF MYOSIN-TRIGGERED SWITCH IN MOTILE CELLS. **Kun-Chun Lee**, Alexander Mogilner.

Microtubule Motors-Kinesin-related Proteins (Boards #B727-#B748)

846-Pos BOARD #B727
SPINDLE AND POLE MECHANISMS IN BIPOLARITY AND PROPHASE CONTROL OF SPINDLE ELONGATION. **Katelyn Kenny**, Lan Seo, Roland Zhou, Janet L. Paluh.

847-Pos BOARD #B728 STUDENT TRAVEL AWARDEE
MECHANISTIC ANALYSIS OF KAR3CIK1 FOR MITOTIC FUNCTION. **Chun Ju Chen**, Susan Gilbert.

848-Pos BOARD #B729
PROBING THE REGULATORY MECHANISMS OF KCBP USING EPR SPECTROSCOPY. **Maia V. Vinogradova**, Nariman I. Naber, Robert J. Fletterick, Roger Cooke.

849-Pos BOARD #B730
ATPASE CYCLE OF THE NONMOTILE KINESIN NOD ALLOWS MICROTUBULE END TRACKING AND DRIVES CHROMOSOME MOVEMENT. **Jared C. Cochran**, Charles V. Sindelar, Natasha K. Mulko, Kimberly A. Collins, Stephanie E. Kong, R. Scott Hawley, F. Jon Kull.

850-Pos BOARD #B731
ANALYSIS OF THE ROLE OF UNIQUE LOOP L5 IN RICE KINESIN K16 MOTOR DOMAIN. **Kumiko Ishikawa**, Keiko Tanaka, Shinsaku Maruta.

851-Pos BOARD #B732
INTERACTION OF THE EG5 LOOP 5 WITH THE NUCLEOTIDE BINDING SITE. **David Hyatt**, Adam Larson, Nariman Naber, Roger Cooke, Sarah Rice, Edward Pate.

852-Pos BOARD #B733
MULTIVARIATE DATA ANALYSES FOR CLASSIFYING ALLOSTERIC INHIBITION IN HUMAN EG5 KINESIN. **Elizabeth D. Kim**, Rebecca Buckley, Jessica Richard, Sarah Learman, Edward J. Wojcik, Richard Walker, Sunyoung Kim.

853-Pos BOARD #B734
STRUCTURE-FUNCTION STUDIES OF LOOP L5 IN THE MITOTIC KINESIN EG5. **Steven S. Rosenfeld**, William M. Behnke-Parks.

854-Pos BOARD #B735
A CONSERVED ELEMENT IN KINESIN-5 MOTORS COUPLES ADP RELEASE TO A FORWARD STEP. **Adam Larson**, Nariman Naber, Roger Cooke, Edward Pate, Sarah Rice.

855-Pos BOARD #B736
SINGLE MOLECULE ANALYSIS OF THE MITOTIC KINESIN EG5. **Joshua S. Weinger**, Tarun M. Kapoor.

856-Pos BOARD #B737
TETRAMERIC CHIMERA DK4MER IS A TOOL TO STUDY MECHANISMS OF KINESIN-5 REGULATION. A TETRAMERIC CHIMERA OF A KINESIN 1 AND A KINESIN 5 IS A FAST MICROTUBULE SLIDING MOTOR. **Christina Thiede***, Stefan Lakämper *, Alok D. Weßel, Stefanie Reiter, Christoph F. Schmidt.

857-Pos BOARD #B738
ANALYSIS OF CONFORMATIONAL CHANGE OF CONVENTIONAL KINESIN CHIMERIC PROTEIN FUSED WITH GFP USING SMALL ANGLE X-RAY SOLUTION SCATTERING. **Keiko Tanaka**, Yasunobu Sugimoto, Katsuzo Wakabayashi, Shinsaku Maruta.

858-Pos BOARD #B739 **MINORITY BIOPHYSICISTS TRAVEL AWARDEE**
THE EFFECTS OF REMOVAL OF C-TERMINI OF TUBULIN FOR MITOTIC KINESIN CENP-E MICROTUBULE INTERACTIONS. **Karen Cedeno**, Susan P. Gilbert.

859-Pos BOARD #B740
DIMERIC CENTROMERE PROTEIN E (CENP-E) PROMOTES MICROTUBULE-ELONGATION AT THE PLUS-ENDS OF MICROTUBULES. **Harjinder S. Sardar**, Susan P. Gilbert.

860-Pos BOARD #B741
THE MOLECULAR MECHANISM OF THE MULTI-TASKING KINESIN-8 MOTOR. **Carsten Peters**, Katjuša Brejc, Lisa Belmont, Andrew Bodey, Yan Lee, Ming Yu, Shyam Ramchandani, Jun Guo, Serge Lichtsteiner, Kenneth Wood, Roman Sakowicz, Jim Hartman, Carolyn Moores.

861-Pos BOARD #B742
DISINTEGRATION OF MICROTUBULES INTO PROTOFILAMENTS AND RING-SHAPED STRUCTURE FORMATION INDUCED BY KIF2C NECK REGION PEPTIDE. **Youské Shimizu**, Takashi Shimizu, Mahito Kikumoto, Hiroaki Kojima, Hisayuki Morii.

862-Pos BOARD #B743
MCAK (KINESIN-13) HAS AN UNCONVENTIONAL ATP HYDROLYSIS CYCLE ADAPTED FOR MICROTUBULE DEPOLYMERIZATION. **Claire T. Friel**, Jonathon Howard.

863-Pos BOARD #B744
THREE-STATE MODEL FOR ONE-DIMENSIONAL BROWNIAN MOTION OF CHARGED NANOPARTICLES ALONG MICROTUBULES. **Itsushi Minoura**, Eisaku Katayama, Ken Sekimoto, Seiichi Uchimura, Masashi Degawa, Etsuko Muto.

864-Pos BOARD #B745
MECHANISM OF UNIDIRECTIONAL MOVE OF KIF1A MOTOR STUDIED BY COARSE-GRAINED SIMULATIONS. **Ryo Kanada**, Takeshi Kuwata, Hiroo Kenzaki, Shoji Takada.

865-Pos BOARD #B746
PROTEIN MOTORS INDUCED ENHANCED DIFFUSION IN INTRACELLULAR TRANSPORT. **Ivan Santamaria-Holek**.

866-Pos BOARD #B747
SYNTHESIS OF PHOTOCROMIC ATP ANALOGUE AND ITS INTERACTION WITH MOTOR PROTEINS. **Kazuya Aritomi**, Taro Kimura, Shinsaku Maruta.

867-Pos BOARD #B748
SYNTHESIS OF NOVEL FLUORESCENT ATP ANALOGUE AND ITS INTERACTION WITH NUCLEOTIDE DEPENDENT MOTOR PROTEINS. **Taro Kimura**, Masafumi Yamada, Masato Ito, Shinsaku Maruta.

Ion Motive ATPases (Boards #B749-#B767)

868-Pos BOARD #B749
NONEQUILIBRIUM ENERGETICS OF A SINGLE F1-ATPASE MOLECULE. **Shoichi Toyabe**, Takahiro Watanabe-Nakayama, Tetsuaki Okamoto, Seishi Kudo, Eiro Muneyuki.

869-Pos BOARD #B750
SPATIAL DISTRIBUTION OF ELASTICITY IN THE F1 MOTOR OF ATP SYNTHASE REVEALS THE MICROSCOPIC NATURE OF THE COUPLING BETWEEN THE CENTRAL SHAFT AND THE CATALYTIC SUBUNIT. **Jacek Czub**, Helmut Grubmueller.

870-Pos BOARD #B751
STRUCTURE OF COPA FROM ARCHAEoglobus fulgidus BY CRYOELECTRON MICROSCOPY. **Chen-Chou Wu**, Gregory S. Allen, David L. Stokes.

871-Pos BOARD #B752
SODIUM PUMP $\alpha 1$ AND $\alpha 3$ SUBUNIT ISOFORMS MEDIATE DISTINCT RESPONSES TO OUABAIN AND ARE BOTH ESSENTIAL FOR HUMAN NEUROBLASTOMA. **Larisa Karpova**, Alexander Eva, Ulrike Kirch, Alexander Boldyrev, Georgios Scheiner-Bobis.

872-Pos BOARD #B753
ION-SELECTIVITY OF EXTERNALLY FACING Na^+ -EXCLUSIVE AND Na^+/K^+ -SHARED SITES IN THE Na^+/K^+ -PUMP. **Gail Virgin**, Ian Ratheal, Siddhartha Yaratupalli, Haibo Yu, Benoit Roux, Craig Gatto, Pablo Artigas.

873-Pos BOARD #B754
THE ROUTE AND MECHANISM OF UNCOUPLED CURRENT FLOW THROUGH Na^+/K^+ -ATPASE PUMPS LACKING THE TWO COOH-TERMINAL TYROSINES. **Natascia Vedovato**, Mauro Caffarelli, David C. Gadsby.

874-Pos BOARD #B755
INTRACELLULAR PROTON BINDING IS VOLTAGE-DEPENDENT AND RATE-LIMITING FOR THE GASTRIC H^+/K^+ -ATPASE UNDER IN VIVO CONDITIONS. **Katharina L. Duerr**, Neslihan N. Tavrız, Thomas Friedrich.

875-Pos BOARD #B756
CONFORMATIONAL DYNAMICS OF A FLUORESCENT PROBE ATTACHED TO THE SARCOPLASMIC RETICULUM Ca^{2+} -ATPASE (SERCA) STUDIED BY MOLECULAR SIMULATIONS. **Bengt Svensson**, Elizabeth L. Lockamy, Howard S. Young, David D. Thomas.

876-Pos BOARD #B757
MEASURING THE DISSOCIATION CONSTANTS OF LIGANDS FROM PMCA COMPLEXES BY A PHOTOACTIVATABLE PHOSPHATIDYLCHOLINE MEMBRANE DOMAIN PROBE. **Irene C. Mangalavori**, Mariela S. Ferreira Gomes, Maria F. Pignataro, Ana M. Villamil, Ariel J. Caride, Emanuel E. Strehler, Juan Pablo F. Rossi.

877-Pos BOARD #B758
A PHOSPHOLAMBAN-CARDIAC Ca^{2+} PUMP FUSION PROTEIN RETAINS FULL FUNCTIONAL REGULATION. **Zhenhui Chen**.

878-Pos BOARD #B759
DETECTION OF SARCOLIPIN DIMERIZATION AND SERCA BINDING USING FRET MICROSCOPY. **Joseph M. Autry**, John E. Rubin, Deborah L. Winters, Seth L. Robia, David D. Thomas.

879-Pos BOARD #B760
IMPAIRMENT OF PMCA ACTIVITY BY AMYLOID β -PEPTIDE IN MEMBRANES FROM ALZHEIMER'S DISEASE-AFFECTED BRAIN AND FROM OTHER MODEL SYSTEMS. **Ana M. Mata**, María Berrocal, Daniel Marcos, M. Rosario Sepúlveda.

880-Pos BOARD #B761
HNO UNCOUPLES PLN FROM SERCA2A ENHANCING PUMP ACTIVITY. **Vidhya Sivakumaran**, Chevon Thorpe, Gizem Kececi, John P. Toscano, Carlo Toccetti, Nazareno Paolucci, James E. Mahaney.

881-Pos BOARD #B762 STUDENT TRAVEL AWARDEE
OLIGOMERIC INTERACTIONS IN CARDIAC CALCIUM
REGULATION. **Ji Li**, Christine Karim, Trinh Nguyen, David D. Thomas.

882-Pos BOARD #B763
PROBING THE MECHANISM OF SERCA-PLB REGULATION BY
TIME-RESOLVED FRET. **Elizabeth L. Lockamy**, Razvan L. Cornea,
Christine B. Karim, David D. Thomas.

883-Pos BOARD #B764
STRUCTURE AND DYNAMICS OF THE PHOSPHOLAMBAN-
SERCA COMPLEX PROBED BY SITE-DIRECTED EPR
SPECTROSCOPY. **Zachary M. James**, Kurt D. Torgersen, Christine Karim,
David D. Thomas.

884-Pos BOARD #B765
FRET DETECTED INTERACTIONS OF CARDIAC MEMBRANE
PROTEINS IN LIVING CELLS. **Suzanne M. Haydon**, Deborah Winters,
J. Michael Autry, Ji Li, Seth L. Robia, David D. Thomas.

885-Pos BOARD #B766
PHOSPHOMIMETIC MUTATIONS INCREASE FXVD1
OLIGOMERIZATION, BUT DOES NOT ALTER ITS QUATERNARY
CONFORMATION. **Qiuqing Song**, Julie Bossuyt, Kiranpreet Kaur,
Donald M. Bers, Seth L. Robia.

886-Pos BOARD #B767
PHOSPHOLEMMAN RECRUITS PEROXIREDOXIN 6 TO THE
CARDIAC SODIUM PUMP. **Jacqueline Howie**, Michael J. Shattock,
William Fuller.

Photosynthesis & Photoreceptors (Boards #B768-#B784)

887-Pos BOARD #B768
IDENTIFYING THE QUENCHER OF EXCITED STATE ENERGY IN
PHOTOSYNTHETIC ANTENNAE. **Roberta Croce**, Patricia Dijkman,
Milena Mozzo, Francesca Passarini, Rob B. M. Koehorst,
Herbert van Amerongen.

888-Pos BOARD #B769
EFFECT OF ANTENNA-DEPLETION IN PHOTOSYSTEM II ON
EXCITATION ENERGY TRANSFER IN *ARABIDOPSIS THALIANA*.
Herbert van Amerongen, Bart van Oort, Marieke Alberts, Silvia de Bianchi,
Luca Dall'Osto, Roberto Bassi, Gediminas Trinkunas, Roberta Croce.

889-Pos BOARD #B770
SPECTROSCOPIC DETERMINATION OF HOMO AND LUMO
ENERGIES OF RETINAL IN BACTERIORHODOPSIN FOR SOLAR
CELL APPLICATIONS. **Gau Xingyu**, Surya N. Viswanathan,
Chih-Wei Chang, Bernardo Barbiellini, David E. Budil,
Venkatesan Renugopalakrishnan.

890-Pos BOARD #B771
(Presented during the Bioenergetics Subgroup Session)

891-Pos BOARD #B772
INVESTIGATING THE CP29 PHOTOSYNTHETIC LIGHT
HARVESTING COMPLEX WITH 2D ELECTRONIC
SPECTROSCOPY. **Naomi S. Ginsberg**, Jeffrey A. Davis, Matteo Ballottari,
Yuan-Chung Cheng, Roberto Bassi, Graham R. Fleming.

892-Pos BOARD #B773
THE LIGAND ENVIRONMENT OF THE S² STATE OF
PHOTOSYSTEM II: A STUDY OF THE HYPERFINE INTERACTIONS
OF THE TETRANUCLEAR MANGANESE CLUSTER BY 2D
HYSCORE SPECTROSCOPY. **K. V. Lakshmi**, Sergey Milikisiyants,
Ruchira Chatterjee, Amanda M. Weyers, Ashley Meenaghan,
Andrew Schwendeman, Christopher Coates.

893-Pos BOARD #B774
BIOCHEMICAL AND SPECTROSCOPIC ANALYSIS OF SOME
SPECIFIC CYANOBACTERIAL SPECIES UNDER SOME
ENVIRONMENTAL STRESS. **Ashutosh Tripathi**, Shanthi Sundaram,
B. C. Tripathy.

894-Pos BOARD #B775
EXCITATION DYNAMICS OF LIGHT HARVESTING COMPLEX 2
B850 RING. **Johan Strumpf**, Klaus Schulten.

895-Pos BOARD #B776
CALCULATION OF OPTICAL PROPERTIES FROM MOLECULAR-
DYNAMICS SIMULATIONS OF LIGHT-HARVESTING SYSTEMS.
Carsten Olbrich, Jörg Liebers, Ulrich Kleinekathöfer.

896-Pos BOARD #B777
CHANGES IN ENTHALPY OF THE JOLIOT-KOK FOUR STEP
CYCLE TO PRODUCE OXYGEN IN PHOTOSYNTHESIS.
David Mauzerall.

897-Pos BOARD #B778
ENDOR SPECTRUM OF THE PROTONATED
RHODOSEMIQUINONE IN BACTERIAL REACTION CENTERS.
Marco Flores, Roger Isaacson, Jennifer Shepherd, Mark Paddock,
Melvin Okamura.

898-Pos BOARD #B779
NOVEL PHOTOSYNTHETIC REACTION CENTER
CHROMOPHORE CONFIGURATION. **Brett Carter**, Steven G. Boxer.

899-Pos BOARD #B780
SIMULATED SELF-ASSEMBLY OF PHOTOSYNTHESIS PROTEINS
IN STACKED THYLAKOID MEMBRANES. **Anna R. Schneider**,
Phillip L. Geissler.

900-Pos BOARD #B781
SPECIFIC CHROMOPHORE-PROTEIN INTERACTIONS IN
BACTERIOPHYTOCHROMES RPBHP2 AND RPBHP3 FROM
RHODOPSEUDOMONAS PALUSTRIS. **Mark J. Banks**, Anna W. Baker,
Christian E. Meissner, Maria V. Yebra, John T. M. Kennis, Keith Moffat,
Emina A. Stojkovic.

901-Pos BOARD #B782
(Presented during the Bioenergetics Subgroup Session)

902-Pos BOARD #B783
CITRATE-BINDING SITE IN PROTEORHODOPSIN INVOLVES
TWO LYSINES IN THE FIRST CYTOPLASMIC LOOP.
Farhana F. Syed, Jonathan Y. Kim, Kai Y. Ha, Mark S. Braiman.

903-Pos BOARD #B784
PREDICTING THE REACTION COORDINATES OF MILLISECOND
LIGHT-INDUCED CONFORMATIONAL CHANGES IN
PHOTOACTIVE YELLOW PROTEIN. **Jocelyne Vreede**, Jarek Juraszek,
Peter G. Bolhuis.

Biomolecular NMR Spectroscopy (Boards #B785-#B794)

904-Pos BOARD #B785
CHARACTERIZATION AND OPTIMIZATION OF NONUNIFORM
SAMPLING FOR MULTIDIMENSIONAL NMR EXPERIMENTS.
Adam D. Schuyler, Jeffrey C. Hoch.

905-Pos BOARD #B786
ENABLING SITE-RESOLVED MEASUREMENT OF HYDRATION
WATER-PROTEIN INTERACTIONS BY SOLUTION NMR.
Nathaniel V. Nucci, Maxim Pometun, A. Joshua Wand.

906-Pos BOARD #B787
DYNAMICS OF RETINAL STUDIED BY ²H NMR RELAXATION
UNDERLIE MULTISCALE CONFORMATIONAL CHANGES IN
RHODOPSIN ACTIVATION. **Andrey V. Struts**, Gilmar F. J. Salgado,
Karina Martínez-Mayorga, Michael F. Brown.

907-Pos BOARD #B788
THE INFLUENCE OF ZN²⁺ ON THE GLOBAL STRUCTURE OF
THE PRION PROTEIN. **Ann R. Spevacek**, Audrian Howard,
Glenn L. Millhauser.

908-Pos BOARD #B789
MECHANISMS OF MOLECULAR RECOGNITION BY THE
TRANSCRIPTION FACTOR LMO7. **Justin C. Baker**, Jun Li,
Shannon C. Banning, Pradeep R. Rajasekaran, Fernando F. Cuadrado,
Janelle Owens, Yuanxiufu Cao, Natasha R. Harpalani,
Gabriela C. Perez-Alvarado.

909-Pos BOARD #B790
SEPARATED LOCAL FIELD ¹³C NMR SPECTROSCOPY REVEALS
LIPID ORDER FLUCTUATIONS. **Avigdor Leftin**, Constantin Job,
Michael F. Brown.

910-Pos BOARD #B791
SOLID-STATE NMR INVESTIGATION OF MEMBRANE-ASSOCIATED PEPTIDES AND PROTEINS. **Christopher Aisenbrey**, Jarbas M. Resende, Victor H. O. Munoz, Dorila Piló-Veloso, Burkhard Bechinger.

911-Pos BOARD #B792
TIME-RESOLVED DEHYDRATION-INDUCED STRUCTURAL CHANGES IN AN INTACT BOVINE CORTICAL BONE REVEALED BY SOLID-STATE NMR SPECTROSCOPY. **Peizhi Zhu**, Jiadi Xu, Nadder Sahar, Michael D. Morris, David H. Kohn, Ayyalusamy Ramamoorthy.

912-Pos BOARD #B793
SOLID-STATE NMR STRUCTURAL STUDIES OF ALZHEIMER'S DISEASE A β (1-42) AND A β (1-40) IN PHOSPHOLIPID BILAYERS. **John D. Gehman**, Raffaello Verardi, Anil K. Mehta, Gianluigi Veglia, Frances Separovic.

913-Pos BOARD #B794
STRUCTURAL STUDIES OF A NOVEL ZINC FINGER DOMAIN REQUIRED FOR RECOGNITION OF THE CYTOPLASMIC POLYADENYLATION ELEMENT WITHIN THE 3' UTR OF MRNA. **Daniel Merkel**, Brian Lee.

X-ray Diffraction (Boards #B795-#B798)

914-Pos BOARD #B795
SMALL-ANGLE X-RAY SCATTERING AND COMPUTATIONAL MODELING REVEAL THE MULTI-DOMAIN ASSEMBLY STATES OF HCK IN SOLUTION. **Sichun Yang**, Lydia Blachowicz, Lee Makowski, Benoit Roux.

915-Pos BOARD #B796
X-RAY STRUCTURE OF AN AMYLOID-OLIGOMER-SPECIFIC MONOCLONAL ANTIBODY FAB. **Hiroimi Arai**, Hartmut Luecke, Charles Glabe.

916-Pos BOARD #B797
X-RAY CRYSTALLOGRAPHY REFINEMENT AS EWALD INTENDED: FROM DRUG DESIGN TO RIBOSOME CRYSTALS. **Michael J. Schnieders**, Timothy D. Fenn, Vijay S. Pande, Axel T. Brunger.

917-Pos BOARD #B798
PAIR-DISTANCE DISTRIBUTION FUNCTION P(R) OF PROTEIN SOLUTION AT CRYSTALLOGRAPHIC RESOLUTION. **Xinguo Hong**.

Imaging & Optical Microscopy I (Boards #B799-#B828)

918-Pos BOARD #B799
AROUND-THE-OBJECTIVE TOTAL INTERNAL REFLECTION FLUORESCENCE MICROSCOPY. **Thomas P. Burghardt**, Andrew D. Hipp, Katalin Ajtai.

919-Pos BOARD #B800
MICROSCOPE OBJECTIVE BASED SURFACE PLASMON RESONANCE IMAGING OF CELL-SUBSTRATE CONTACTS. **Alexander W. Peterson**, Michael Halter, Alessandro Tona, Kiran Bhadriraju, Anne L. Plant.

920-Pos BOARD #B801
A COMPARISON OF OBJECTIVE LENSES FOR MULTIPHOTON MICROSCOPY: IMPROVED EPIFLUORESCENCE COLLECTION FROM TURBID SAMPLES. **Avtar Singh**, Jesse D. McMullen, Warren R. Zipfel.

921-Pos BOARD #B802
PIXEL MULTIPLEXING FOR SIMULTANEOUS HIGH RESOLUTION HIGH SPEED IMAGE CAPTURE. **Gil Bub**, Matthias Tecza, Michiel Helmes, Peter Lee, Peter Kohl.

922-Pos BOARD #B803
A MULTIFOCAL TWO-PHOTON MICROSCOPY SETUP FOR PARALLEL 3D TRACKING OF GOLD NANORODS. **Bram van den Broek**, Tjerk H. Oosterkamp, John van Noort.

923-Pos BOARD #B804
3D CONFOCAL MICROSCOPE IMAGE ENHANCEMENT BY RICHARDSON-LUCY DECONVOLUTION ALGORITHM WITH TOTAL VARIATION REGULARIZATION: PARAMETERS ESTIMATION. **Martin Laasmaa**, Marko Vendelin, Pearu Peterson.

924-Pos BOARD #B805
A GENERATION-3 PROGRAMMABLE ARRAY MICROSCOPE WITH DIGITAL MICRO-MIRROR DEVICE. **Pieter A. A. De Beule**, Anthony H. B. de Vries, Wouter Caarls, Donna J. Arndt-Jovin, Thomas M. Jovin.

925-Pos BOARD #B806
NOVEL VISUALISATION TECHNIQUES FOR LOCALISATION MICROSCOPY. **David Baddeley**, Isuru D. Jayasinghe, Sabrina Rofßberger, Mark B. Cannell, Christian Soeller.

926-Pos BOARD #B807
NANOMETER-SCALE IMAGING OF COLLAGEN FIBERS USING GOLD BEADS. **B. Chen**, Enrico Gratton.

927-Pos BOARD #B808
OPTIMIZING IMAGE ANALYSIS FOR SUBWAVELENGTH FLUORESCENCE MICROSCOPY WITH PALM AND STORM. **Forrest M. Hippensteel**, Alexander R. Small.

928-Pos BOARD #B809
MEASURING THE EVANESCENT FIELD IN TIRF MICROSCOPY USING TILTED FLUORESCENT MICROTUBULES. **Christopher Gell**, Michael Berndt, Joerg Enderlein, Stefan Diez.

929-Pos BOARD #B810
MODULATION PARTICLE TRACKING. **Peter T. Fwu**, Luca Lanzano', Enrico Gratton.

930-Pos BOARD #B811
FAST LINE SCAN CONFOCAL MICROSCOPE WITH MINIMAL PHOTOBLEACHING. **Zhaonian Zhang**, Yong Wu, Pedro Felipe Gardeazábal Rodríguez, Hui Zhao, Ligia Toro, Enrico Stefani.

931-Pos BOARD #B812
HIGH THROUGHPUT HIGH SENSITIVITY DEPTH RESOLVED WIDE FIELD MICROSCOPY. **Daekeun Kim**, Hyungsuk Lee, Yongdae Shin, Peter T. C. So.

932-Pos BOARD #B813
OPTIMIZING MULTI-PHOTON FLUORESCENCE MICROSCOPY LIGHT COLLECTION FROM LIVING TISSUE BY NON-CONTACT TOTAL EMISSION DETECTION (TEDII). **Christian A. Combs**, Aleksandr Smirnov, David Chess, Dorian McGavern, Merav Luger-Hammer, Jay R. Knutson, Robert S. Balaban.

933-Pos BOARD #B814
SUB-DIFFRACTION LIMITED WIDE FIELD IMAGING AND MICROFABRICATION BASED ON SURFACE PLASMONS. **Yang-Hyo Kim**, Euiheon Chung, Xihua Wang, Shyamsunder Erramilli, Peter T. C. So.

934-Pos BOARD #B815
HIGH RESOLUTION WIDE FIELD STIMULATED RAMAN SCATTERING MICROSCOPY. **Yang-Hyo Kim**, Daekeun Kim, Shyamsunder Erramilli, Peter T. C. So.

935-Pos BOARD #B816
SINGLE POINT FCS ON A COMMERCIAL CONFOCAL LASER SCANNING MICROSCOPE WITH ANALOG DETECTORS. **Iyri L. Salvemini**, Enrico Gratton, Pierre D. J. Moens.

936-Pos BOARD #B817
COMPUTATIONAL AND STATISTICAL LIMITS TO PALM, STORM, AND RELATED SUB-DIFFRACTION FLUORESCENCE MICROSCOPY TECHNIQUES. **Alexander R. Small**, Forrest Hippensteel, Edward Shore.

937-Pos BOARD #B818
IMAGING TOTAL INTERNAL REFLECTION FLUORESCENCE CROSS-CORRELATION SPECTROSCOPY (ITIR-FCCS). **Jagadish Sankaran**, Manoj Manna, Lin Guo, Rachel Kraut, Thorsten Wohland.

938-Pos BOARD #B819

OPTICAL NANOSCOPY FAR-FIELD APPROACHES TO CELLULAR AND MOLECULAR BIOPHYSICS. **Alberto Diaspro**, Paolo Bianchini, Francesca Cella, Emiliano Ronzitti, Silvia Galiani, Mattia Pesce, Zeno Lavagnino, Gaser Abdelrasoul.

939-Pos BOARD #B820

RECOGNITION OF PROTEIN BINDING EVENTS BY POLARITY-SENSITIVE PROBES. **Ranieri Bizzarri**, Giovanni Signore, Riccardo Nifosi, Lorenzo Albertazzi, Barbara Storti.

940-Pos BOARD #B821

SUPERRESOLUTION MICROSCOPY WITH CONVENTIONAL ORGANIC FLUOROPHORES. **Mike Heilemann**, Sebastian van de Linde, Ulrike Endesfelder, Anindita Mukherjee, Steve Wolter, Markus Sauer.

941-Pos BOARD #B822

OPTIMIZING SUPER RESOLUTION MICROSCOPY.

Kim I. Mortensen, L. Stirling Churchman, James A. Spudich, Henrik Flyvbjerg.

942-Pos BOARD #B823

FLUCTUATION ANALYSIS WITH THE SPINNING DISK CONFOCAL MICROSCOPE. **Francesco Cutrale**, Enrico Gratton.

943-Pos BOARD #B824

A SIMPLE SYSTEM FOR LONG-TERM 3D TRACKING OF QUANTUM DOT PROBES IN LIVE CELLS. **Brian R. Long**, Tania Q. Vu.

944-Pos BOARD #B825

HIGH-PRESSURE MICROSCOPY FOR MODULATING THE STRUCTURE AND FUNCTION OF BIOMOLECULES.

Masayoshi Nishiyama, Yoshifumi Kimura, Masahide Terazima.

945-Pos BOARD #B826

PARTICLE IMAGE CROSS CORRELATION SPECTROSCOPY (PICCS). **Stefan Semrau**, Laurent Holtzer, Marcos Gonzalez-Gaitan, Thomas Schmidt.

946-Pos BOARD #B827

SUPERRESOLUTION IMAGING USING FLUOROGEN ACTIVATING PROTEINS BY STED NANOSCOPY AND EQUILIBRIUM LOCALIZATION MICROSCOPY. **Qi Yan**, Suvrajit Maji, James A. J. Fitzpatrick, Keith A. Lidke, Marcel P. Bruchez.

947-Pos BOARD #B828

THE USE OF QUANTUM DOT BLINKING TO OPTIMIZE OF 3D NANOSCOPY. **Shingo Fukui**, Takashi Jin, Keiko Yoshizawa, Tomonobu Watanabe, Toshio Yanagida.

Emerging Single Molecule Techniques I (Boards #B829-#B858)

948-Pos BOARD #B829

ROTATING MAGNETIC PARTICLES PROBE: A NEW TECHNIQUE TO MEASURE INTERACTIONS BETWEEN PROTEIN-COATED PARTICLES AND A SUBSTRATE. **Xander Janssen**, Alexander van Reenen, Joost van Noorloos, L. van IJzendoorn, Menno Prins.

949-Pos BOARD #B830

ON-CHIP SINGLE MOLECULE DETECTION OF UNLABELED DNA TARGETS. **Anders Gunnarsson**, Peter Sjövall, Peter Jönsson, Fredrik Höök.

950-Pos BOARD #B831

INTEGRATING A HIGH-FORCE OPTICAL TRAP WITH GOLD NANOPOSTS AND A ROBUST GOLD-DNA BOND. **Daniel H. Paik**, Yeonee Seol, Wayne Halsey, Thomas T. Perkins.

951-Pos BOARD #B832

MODEL FOR HARNESSING THE DEVICE STIFFNESS IN DYNAMIC SINGLE-MOLECULE FORCE SPECTROSCOPY.

Gaurav Arya, Arijit Maitra.

952-Pos BOARD #B833

EXTRACTING COMPLEX NETWORK AND EFFECTIVE FREE ENERGY LANDSCAPE OF PROTEIN FLUCTUATION FROM SINGLE-MOLECULE TIME SERIES. **Tamiki Komatsuzaki**, Chun-Biu Li, Akinori Baba.

953-Pos BOARD #B834

INFLUENCE OF THE EXPERIMENTAL SET-UP ON SINGLE MOLECULE DNA DYNAMICS WHEN ANALYZED BY TETHERED PARTICLE MOTION. **Catherine Tardin**, Manoel Manghi, Julien Baglio, Laurence Salome, Nicolas Destainville.

954-Pos BOARD #B835

DNA ORIGAMI AS A NANOSCOPIC RULER FOR SUPER-RESOLUTION MICROSCOPY. **Ralf Jungmann**, Christian Steinhauer, Thomas L. Sobey, Philip Tinnefeld, Friedrich C. Simmel.

955-Pos BOARD #B836

NEAR-FIELD FLUORESCENCE CORRELATION SPECTROSCOPY APPROACH TO THE STUDY OF LIVING CELL MEMBRANE DYNAMICS. **Carlo Manzo**, Thomas Van Zanten, Maria Garcia-Parajo.

956-Pos BOARD #B837

FLUORESCENCE CROSS-CORRELATION SPECTROSCOPY AS A UNIVERSAL METHOD FOR PROTEIN DETECTION WITH LOW FALSE POSITIVES. **Ted Laurence**, Abigail E. Miller, Christopher W. Hollars, Stephen M. Lane.

957-Pos BOARD #B838

DIRECT MEASUREMENT OF HEATING BY OPTICALLY TRAPPED GOLD NANOPARTICLES USING MOLECULAR SORTING IN A LIPID BILAYER. **Poul Martin Bendix**, S. Nader, S. Reihani, Lene Oddershede.

958-Pos BOARD #B839

COVALENT-BOND-BASED IMMOBILIZATION APPROACHES FOR SINGLE-MOLECULE FLUORESCENCE. **Elvin A. Aleman**, Heidi S. Pedini, David Rueda.

959-Pos BOARD #B840

COMBINED FLUORESCENCE AND FORCE MICROSCOPY TO STUDY LIPID TRANSFER FROM LIPOPROTEINS TO THE SUPPORTED LIPID BILAYERS. **Birgit Plochberger**, Herbert Stangl, Peter Hinterdorfer, Gerhard J. Schütz.

960-Pos BOARD #B841

UNRAVELING THE DYNAMICS OF TBP-NC2 WITH HIDDEN MARKOV MODELING. **Nawid Zarrabi**, Peter Schluesche, Michael Meisterernst, Michael Börsch, Don C. Lamb.

961-Pos BOARD #B842

(Presented during the Biological Fluorescence Subgroup Session.)

962-Pos BOARD #B843

WATCHING CONFORMATIONAL AND PHOTO-DYNAMICS OF SINGLE FLUORESCENT PROTEINS IN SOLUTION. **Randall H. Goldsmith**, W. E. Moerner.

963-Pos BOARD #B844

WHAT CAN WE LEARN FROM SINGLE-MOLECULE DIFFUSION. **Stefan Wieser**, Verena Ruprecht, Julian Weghuber, Markus Axmann, Gerhard J. Schütz.

964-Pos BOARD #B845

ELECTROSTATIC SWITCHING OF POLYSACCHARIDE CONFORMATION PROBED AT THE SINGLE MOLECULE LEVEL. **Sabyasachi Rakshit**, Sanjeevi Sivasankar.

965-Pos BOARD #B846

AN OPTICAL CONVEYOR FOR MOLECULES. **Franz M. Weinert**, Dieter Braun.

966-Pos BOARD #B847

RECOVERING ABSOLUTE FRET EFFICIENCY FROM SINGLE MOLECULES: COMPARING METHODS OF GAMMA CORRECTION. **James J. McCann**, Ucheor B. Choi, Liqiang Zheng, Keith Weninger, Mark E. Bowen.

967-Pos BOARD #B848

DIFFUSION OF MEMBRANE PROTEINS IN LIVING BACTERIA: QUANTIFYING COMPLEX DYNAMICS FROM SINGLE-MOLECULE TRACKING EXPERIMENTS. **Siet M. J. L. van den Wildenberg**, Yves J. M. Bollen, Erwin J. G. Peterman.

968-Pos BOARD #B849

QUANTIFYING SOURCES OF LOW-FREQUENCY DRIFT DURING SINGLE-MOLECULE EXPERIMENTS. **Fabian Czerwinski**, Ulrich F. Keyser, Lene B. Oddershede.

969-Pos BOARD #B850
SINGLE QUANTUM DOT IMAGING WITH 2-PHOTON EXCITATION UNDER AMBIENT CONDITIONS. **Ruobing Zhang**, Eli Rothenberg, Paul R. Selvin.

970-Pos BOARD #B851
THE ROLE OF PI-RELEASE AS THE MAIN TORQUE GENERATING STEP OF F₁-ATPASE. **Rikiya Watanabe**, Hiroshi Ueno, Ryota Iino, Hiroyuki Noji.

971-Pos BOARD #B852
POSITION DEPENDENT SITE-EXPOSURE NUCLEOSOME DYNAMICS BY FRET-FCS. **Kaushik Gurunathan**, Marcia Levitus.

972-Pos BOARD #B853
THE INTRA DYNAMICS OF GROUP II CHAPERONIN DETECTED BY DIFFRACTED X-RAY TRACKING METHOD. **Hiroshi Sekiguchi**, Ayumi Nakagawa, Taro Kanzaki, Masafumi Yohda, Yuji C. Sasaki.

973-Pos BOARD #B854
OPTIMAL ESTIMATION OF THE DIFFUSION COEFFICIENT FROM NOISY TIME-SERIES MEASUREMENTS. **Christian L. Vestergaard**, Paul Blainey, Xiaoliang Sunney Xie, Henrik Flyvbjerg.

974-Pos BOARD #B855
ADAPTIVE PLATFORM FOR HIGHLY PARALLEL LOW-NOISE RECORDINGS OF SINGLE MEMBRANE PROTEINS. **Gerhard Baaken**, Srujan Kumar Dondapati, Juergen Ruehe, Jan C. Behrends.

975-Pos BOARD #B856 STUDENT TRAVEL AWARDEE
A NEW CLOSED CELL, HORIZONTAL MAGNETIC TWEEZER. **Christopher P. McAndrew**.

976-Pos BOARD #B857
OPTICAL TRAPPING AND TWO-PHOTON EXCITATIONS OF QUANTUM DOTS. **Liselotte Jauffred**, Andrew C. Richardson, Lene B. Oddershede.

977-Pos BOARD #B858
OPTICAL TORQUE WRENCH FOR SINGLE MOLECULE STUDIES. **Francesco Pedaci**, Sven Klijnhout, Maarten van Oene, Jacob W. J. Kersemakers, Nynke H. Dekker.

978-Pos BOARD #B859
FISHING ON LIVING CELLS WITH AFM: NOVEL METHOD TO STUDY TOPOLOGY AND DYNAMICS OF COTRANSPORTER SGLT1 PROTEIN. **Theeraporn Puntheeranurak**, Rolf K. H. Kinne, Peter Hinterdorfer.

979-Pos BOARD #B860
SIMULTANEOUS TOPOGRAPHY AND RECOGNITION (TREC) OF PROTEINS IN THE PATHOLOGICAL DEPOSITS IN PSEUDOEXFOLIATION SYNDROME USING AFM. **Rhiannon Creasey**, Chris Gibson, Shiwani Sharma, Jamie Craig, Tom Becker, Peter Hinterdorfer, Nicolas Voelcker.

980-Pos BOARD #B861
DECIPHERING PODOSOME PHYSICAL PROPERTIES IN HUMAN MACROPHAGE BY ATOMIC FORCE MICROSCOPY. **Anna Labernadie**.

981-Pos BOARD #B862
GEOMETRIC INFLUENCES ON RADIAL INDENTATION OF MICROTUBULES. **Zachary J. Donhauser**, William B. Jobs, Edem C. Binka.

982-Pos BOARD #B863
ORGANIZATION OF RAG1/2 AND RSS DNA IN THE POST-CLEAVAGE COMPLEX. **Svetlana Kotova**, Gabriel J. Grundy, Santiago Ramon-Maiques, Emiliós K. Dimitriadis, J. Bernard Heymann, Alasdair C. Steven, Martin Gellert, Wei Yang.

983-Pos BOARD #B864
NANOSCALE TISSUE SCAFFOLD INVESTIGATIONS TO OPTIMIZE CENTRAL NERVOUS SYSTEM PROSTHETIC. **Volkan Mujdat Tiryaki**, Virginia M. Ayres, Adeel A. Khan, Roberto Delgado-Rivera, Ijaz Ahmed, Sally Meiners.

Atomic Force Spectroscopy (Boards #B859-#B880)

984-Pos BOARD #B865
MISFOLDING AND AGGREGATION OF AMYLOID BETA PEPTIDE: SINGLE MOLECULE AFM FORCE SPECTROSCOPY. **Bo-Hyun Kim**, Yuri L. Lyubchenko.

985-Pos BOARD #B866
NANOWIRES AS AFM CANTILEVERS: A DETECTION SCHEME TO GENTLY IMAGE SOFT BIOLOGICAL MATERIALS IN FLUIDS. **Babak Sanii**, Paul D. Ashby.

986-Pos BOARD #B867
NUCLEOSOME DYNAMICS : ATOMIC FORCE MICROSCOPY REVEALS ITS INTIMITY. **Pascale Milani**, Zofia Haftek-Terreau, Guillaume Chevereau, Philippe Bouvet, Françoise Argoul, Alain Arneodo.

987-Pos BOARD #B868
MECHANICALLY INDUCED CELL SIGNALING STIMULATES REAL-TIME CYTOSKELETON REMODELING. **Soon-Mi Lim**, Jerome Trzeciakowski, Andreea Trache.

988-Pos BOARD #B869
AFM AND SMFS OF CLATHRIN TRISKELIA UNDER FLUID. **Svetlana Kotova**, Eileen M. Lafer, Paul D. Smith, Ralph Nossal, Albert J. Jin.

989-Pos BOARD #B870
ELASTICITY MAPPING OF PORE SUSPENDING CELL MEMBRANES. **Andreas Janshoff**.

990-Pos BOARD #B871
DEVELOPMENT OF AFFINE SURFACES FOR SPECIFIC BINDING OF BACTERIAL FRAGMENTS FROM SOLUTIONS USING AFM. **Evgeniy V. Dubrovin**, Galina N. Fedjukina, Sergey V. Kraevsky, Tatyana E. Ignatyuk, Igor V. Yaminsky, Sergei G. Ignatov.

991-Pos BOARD #B872
FORCE MEASUREMENT AND INTRACELLULAR OPERATION USING CUSTOMIZED AFM CANTILEVER. **Shinichi Machida**, Takahiro W. Nakayama, Ichiro Harada, Rehana Afrin, Tomonobu Nakayama, Atsushi Ikai.

992-Pos BOARD #B873 INTERNATIONAL TRAVEL AWARDEE
BINDING KINETICS AND BINDING SITE LOCATIONS OF CYTOADHERENT MOLECULES ON THE SURFACE OF MALARIA INFECTED CELLS. **Ang Li**, Shyong Wei Tan, Chwee Teck Lim.

993-Pos BOARD #B874
THE MECHANICAL PROPERTIES OF DRY, ELECTROSPUN FIBRINOGEN FIBERS. **Justin L. Sigley**, Stephen Baker, Christine Carlisle, Joel Stitzel, Joel Berry, Keith Bonin, Martin Guthold.

994-Pos BOARD #B875
BEHAVIORAL THRESHOLDS FOR FORCE-SENSATION DETERMINED BY AN INTEGRATED VIDEO-TRACKING AND FORCE-CLAMP SYSTEM. **Sung Jin Park**, Bryan Petzold, Beth L. Pruitt, Miriam B. Goodman.

995-Pos BOARD #B876
ANALYSIS OF GOLD NANOPARTICLES EFFECT ON RSV USING AFM. **Seyhan Boyoglu**, Komal Vig, Adam Pfendt, Shreekumar Pillai, Gerold A. Willing, Shree R. Singh.

996-Pos BOARD #B877
TIP-FREE METHOD USED TO LOCATE SINGLE PURPLE MEMBRANE PATCHES FOR ATOMIC FORCE MICROSCOPY. **Allison B. Churnside**, Gavin M. King, Thomas T. Perkins.

997-Pos BOARD #B878 STUDENT TRAVEL AWARDEE
THE MECHANICAL PROPERTIES OF INDIVIDUAL CROSSLINKED AND UNCROSSLINKED FIBRIN FIBERS. **Christine R. Carlisle**, Wenhua Liu, Eric Sparks, Martin Guthold.

998-Pos BOARD #B879
THE CONTRIBUTION OF BODY WALL MUSCLES TO C. ELEGANS BODY MECHANICS DETERMINED USING PIEZORESISTIVE MICROCANTILEVERS. **Bryan C. Petzold**, Sung-Jin Park, Pierre Ponce, Miriam B. Goodman, Beth L. Pruitt.

999-Pos BOARD #B880
INHOMOGENEOUS MORPHOLOGY AND ELASTICITY OF MOUSE OOCYTE ZONA PELLUCIDA PRE- AND POST-FERTILIZATION. **Svetlana Kotova**, Maria Jimenez-Movilla, Emiliós K. Dimitriadis, Jurrien Dean.

Nano & Microfluidics, Biosensors (Boards #B881-#B896)

1000-Pos BOARD #B881

UNDERSTANDING THE STRETCHING OF DNA MOLECULES CONFINED IN NANOFUIDIC CHANNELS. **Kyubong Jo**, Yoori Kim, Gun-Young Jung.

1001-Pos BOARD #B882

CONTROLLED SYNTHESIS OF DNA NANOCOMPLEXES IN A MICROFLUIDIC DEVICE. **Yi-Ping Ho**, Yajun Duan, Feng Zhao, Kam W. Leong.

1002-Pos BOARD #B883

DESIGN OF BIOSENSORS BASED ON THE COVALENT ASSEMBLY OF G-PROTEIN COUPLED RECEPTORS AND POTASSIUM CHANNELS. **Lydia N. Caro**, Christophe J. Moreau, Jean Revilloud, Julien P. Dupuis, Michel Vivaudou.

1003-Pos BOARD #B884

BROADBAND DIELECTRIC SPECTROSCOPY OF BOVINE SERUM ALBUMIN AND INSULIN SOLUTIONS IN NANOLITER VOLUMES. **Nathan D. Orloff**, Jaclyn R. Dennis, Ichiro Takeuchi, James C. Booth.

1004-Pos BOARD #B885

CELL AND DROPLET SORTING WITH SURFACE ACOUSTIC WAVES IN MICROFLUIDICS. **Thomas Franke**, Achim Wixforth, David A. Weitz.

1005-Pos BOARD #B886

HIGH FREQUENCY CHEMICAL STIMULATION OF LIVING CELLS. **Jean-Christophe Galas**, Mathieu Morel, Vasyil Shynkar, Maxime Dahan, Vincent Studer.

1006-Pos BOARD #B887

IONFLUX: A MICROFLUIDIC APPROACH TO ENSEMBLE RECORDING AND BLOCK OF WHOLE-CELL CURRENT FROM VOLTAGE-GATED ION CHANNELS. **C. Ian Spencer**, Nianzhen Li, Juliette Johnson, Qin Chen, Cristian Ionescu-Zanetti.

1007-Pos BOARD #B888

NANOELECTRODES FOR NEURON RECORDING AND STIMULATION. **Chong Xie**, Lindsey Hanson, Yi Cui, Bianxiao Cui.

1008-Pos BOARD #B889

8-PARALLEL BIOPARTICLE SORTER WITH A MULTILAYER PDMS CHIP. **Hirokazu Sugino**, Kazuto Ozaki, Takahiro Arakawa, Yoshitaka Shirasaki, Yuki Nara, Shuichi Shoji, Takashi Funatsu.

1009-Pos BOARD #B890

CAPTURE & RELEASE OF SINGLE CELLS ON A MICROFLUIDIC CHIP VIA CONICAL NANOPORES. **Eric Hall**, Peng Guo, Charles Martin, Richard N. Zare.

1010-Pos BOARD #B891

MODELING OF DNA IN NANOCHANNELS USING LINEAR ELASTICITY THEORY. **Jonas N. Pedersen**, Morten B. L. Mikkelsen, Anders Kristensen, Henrik Flyvbjerg.

1011-Pos BOARD #B892

ULTRATHIN NANOPOROUS SILICON NITRIDE MEMBRANES FOR SEPARATIONS AND BIOSENSING. **Ivan Vlassioux**, Pavel Yu. Apel, Sergey N. Dmitriev, Matthew Davenport, Ken Healy, Zuzanna S. Siwy.

1012-Pos BOARD #B893

ELECTROCHEMICAL DETECTION OF SIGNALLING RESPONSES IN EXCITATORY AND NON EXCITATORY CELLS USING CHEMORECEPTIVE NEURON MOS TRANSISTORS (CÓMOS). **Krishna Jayant**, Amit Singhai, Joshua B. Phelps, Jon W. Erickson, Manfred Lindau, David A. Holowka, Barbara A. Baird, Edwin C. Kan.

1013-Pos BOARD #B894

GEOMETRIC SENSING IN CELLS - A MOLECULAR APPROACH. **Anurag Mathur**, Michael Sheetz, James Hone.

1014-Pos BOARD #B895

USE OF ARRAYS OF RELEASABLE MICROSTRUCTURES FOR SELECTION OF SINGLE CELLS AND COLONIES. **Christopher Sims**, Nancy Allbritton, Wei Xu, Yuli Wang, Hamed Shadpour, Jeng-Hao Pai, Rahul Dhopeshwarkar, Phillip Gach.

1015-Pos BOARD #B896

A PLATFORM FOR SUPRAMOLECULAR NANO-CHEMISTRY. **Jonas K. Hannestad**, Ilija Czolkos, Aldo Jesorka, Bo Albinsson, Owe Orwar.

Bioinformatics (Boards #B897-#B907)

1016-Pos BOARD #B897

VIRAL DISEASE NETWORKS. **Natali Gulbahce**, Han Yan, Marc Vidal, Albert-Laszlo Barabasi.

1017-Pos BOARD #B898

MAPPING THE STRUCTURAL LOCATIONS OF DISEASE-ASSOCIATED SNPS. **Michael Montesano**.

1018-Pos BOARD #B899

SYSTEM BIOLOGY PATHWAY EXCHANGE - BRIDGING PATHWAY DATA AND QUANTITATIVE MODELS. **Oliver Ruebenacker**, Michael L. Blinov, Ion I. Moraru.

1019-Pos BOARD #B900

DOCKING BY STRUCTURAL SIMILARITY AT PROTEIN-PROTEIN INTERFACES. **Petrus Kundrotas**, Rohita Sinha, Ilya A. Vakser.

1020-Pos BOARD #B901

SELECTION OF NEAR-NATIVE PROTEIN STRUCTURES BY MEANS OF MOLECULAR DYNAMICS SIMULATIONS. **Bogdan Barz**, Qingguo Wang, Jingfen Zhang, Zhiquan He, Dong Xu, Yi Shang, Ioan Kosztin.

1021-Pos BOARD #B902

THE PROTEIN CIRCULAR DICHOISM DATA BANK (PCDDDB) - FIRST RELEASE OF A NEW RESOURCE FOR SPECTROSCOPIC DATA SHARING. **Lee Whitmore**, Benjamin Woollett, Andrew J. Miles, Robert William Janes, B. A. Wallace.

1022-Pos BOARD #B903

ENTROPIC FRAGMENT BASED APPROACH FOR APTAMER DESIGN. **Chih-Yuan Tseng**, Jack Tuszynski.

1023-Pos BOARD #B904

TRANSCRIPTION FACTOR-TARGET GENE MAPPING ENHANCED BY INTEGRATING MOTIF SEARCH, FUNCTION ANNOTATION AND EXPRESSION DATA. **Yu Bai**.

1024-Pos BOARD #B905

PREDICTION OF FUNCTIONAL WXXF-LIKE PROTEIN MOTIF FROM SEQUENCE. **D. S. Dalafave**.

1025-Pos BOARD #B906

FUNCTIONAL CHARACTERIZATION OF TUBBY DOMAINS OF ARABIDOPSIS THALIANA USING COMPUTATIONAL METHODS. **Shaneen M. Singh**, Nataraj V. Dongre.

1026-Pos BOARD #B907

HAMDAM-1 AS A SEQUENCE-BASED SOFTWARE FOR STUDYING THE PHYSICAL PROPERTIES OF PROTEINS. **Hamid Hadi Alijanvand**, Maryam Rouhani, Ali A. Moosavi-Movahedi.

Student Research Achievement Award (SRAA) Poster Competition

These posters will be displayed for judging on Sunday, February 21, 6:00–9:00 PM, in the SRAA poster board area marked S1–99, in the Exhibit Hall. The posters will also be presented during the regular daily sessions as programmed below. (S board numbers before each title indicate where the posters will be assigned during the Sunday evening competition.)

Bioenergetics

Board S1

CONFORMATIONAL TRANSITIONS ASSOCIATED WITH ELECTROCHEMICALLY-INDUCED REDOX PROCESSES THROUGH THE CYTOCHROME C OXIDASE FOLLOWED BY TIME-RESOLVED 2D-SURFACE-ENHANCED INFRARED ABSORPTION SPECTROSCOPY (TR-2D-SEIRAS).

Christoph Nowak (124-Pos, B5)

Board S2

INVESTIGATION OF THE LIPID METABOLISM DURING *DROSOPHILA LARVA* DEVELOPMENT BY COHERENT ANTI-STOKES RAMAN SCATTERING (CARS) MICROSCOPY.

Cheng-Hao Chien (2051-Pos, B849)

Biological Fluorescence

Board S3

PYRENE FLUORESCENCE ANALYSIS OFFERS NEW INSIGHTS INTO THE CONFORMATION OF THE LIPOPROTEIN-BINDING DOMAIN OF HUMAN APOLIPOPROTEIN E.

Arti B. Patel (121-Pos, B2)

Board S4, WITHDRAWN

Board S5

MECHANISTIC STUDIES AT THE SINGLE MOLECULE LEVEL REVEAL THE DYNAMICS OF HCV POLYMERASE PROTEIN IN COMPLEX WITH RNA.

Pierre Karam (1399-Pos, B197)

Board S6

PROBING PROTEIN DIFFUSION AND DISSOCIATION MECHANISMS ON DNA USING FLUORESCENCE-FORCE SPECTROSCOPY.

Ruobo Zhou (1403-Pos, B201)

Board S7, WITHDRAWN

Board S8

AMYLOID- β AND α -SYNUCLEIN AGGREGATE IN LIVE CELLS AT CONCENTRATIONS FAR BELOW THEIR IN VITRO SOLUBILITY LIMITS.

Suman Nag (3388-Pos, B112)

Board S9

DETECTING AND CHARACTERIZING AMYLOID- β_{1-40} OLIGOMERS USING SINGLE MOLECULE FLUORESCENCE.

Priyanka Narayan (3391-Pos, B115)

Board S10, WITHDRAWN

52

Board S11

FGF21 AND PANCREATIC ISLET FATTY ACID METABOLISM.

Mark Y. Sun (3833-Pos, B557)

Exocytosis & Endocytosis

Board S12

FUSOGENIC ACTIVITY OF PLA2-IIA AND SMASE IN PEG-MEDIATED MEMBRANE FUSION.

Jose L. Alejo (3516-Pos, B240)

Board S13

SNARE COMPLEX ASSEMBLY IN RETINAL BIPOLAR NEURON EXOCYTOSIS.

Proleta Datta (3534-Pos, B258)

Board S14

DOPAMINE PRODUCTION IN THE PANCREATIC β -CELLS: A POSSIBLE AUTOCRINE REGULATORY MECHANISM FOR INSULIN SECRETION.

Alessandro Ustione (3549-Pos, B273)

Board S15

INTEGRATION OF ELECTRICAL STIMULATION TOGETHER WITH ELECTROCHEMICAL MEASUREMENT OF QUANTAL EXOCYTOSIS ON MICROCHIPS.

Jaya Ghosh (3551-Pos, B275)

(IDP) Intrinsically Disorderd Proteins

Board S16

EXPLORING THE BINDING DIVERSITY OF INTRINSICALLY DISORDERED PROTEINS.

Wei-Lun Hsu (1336-Pos, B134)

Board S17

ENERGY LANDSCAPE ANALYSIS REVEALS RESIDUAL ORDER IN HISTONE TAIL DYNAMICS.

Davit Potoyan (1337-Pos, B135)

Board S18

SINGLE-MOLECULE FRET REVEALS ALTERED BINDING-INDUCED FOLDING LANDSCAPE OF PD-RELATED MUTANT PROTEIN ALPHA-SYNUCLEIN.

Crystal R. Moran (1344-Pos, B142)

Board S19

MONITORING THE LIPID- BINDING PROPERTIES OF BETA- AND GAMMA- SYNUCLEIN USING FLUORESCENCE CORRELATION SPECTROSCOPY (FCS).

Vanessa C. Ducas (1350-Pos, B148)

Board S20

METRIC SCALING FOR DIMENSIONALITY REDUCTION OF DISORDERED PROTEIN DYNAMICS.

Joshua L. Phillips (3280-Pos, B4)

Membrane Biophysics

Board S21

TOWARDS IDENTIFYING THE STRUCTURAL BASIS FOR INHIBITION BY A NEWLY DISCOVERED CLASS OF CLC CHLORIDE-CHANNEL INHIBITORS.

Andrew E. Howery (187-Pos, B68)

Board S22

SIMULTANEOUS SINGLE-CHANNEL RECORDING AND FLUORESCENCE IMAGING OF CALCIUM FLUX REVEALS THE BEHAVIOUR OF INDIVIDUAL ANTIMICROBIAL PEPTIDE PORES.

Lydia M. Harriss (457-Pos, B338)

Board S23

CHARGED AND AROMATIC ANCHORING AMINO ACIDS AFFECT THE ORIENTATION OF TRANSMEMBRANE PEPTIDES: A DEUTERIUM NMR STUDY.

Vitaly V. Vostrikov (486-Pos, B367)

Board S24

EDEMA: A MISSING LINK IN THE CONDUCTION VELOCITY-GAP JUNCTION RELATIONSHIP.

Rengasayee Veeraraghavan (504-Pos, B385)

Board S25

GAP JUNCTION UNCOUPLING PARADOXICALLY INCREASE SYNCHRONIZATION OF SPONTANEOUS CALCIUM RELEASE IN THE INTACT HEART.

Bradley N. Plummer (545-Pos, B426)

Board S26

ROLE OF THE S4 CHARGES ON ACTIVATION GATING OF THE SODIUM CHANNEL.

Deborah Capes (583-Pos, B464)

Board S27

DISULFIDE LOCKING REVEALS A CLOSED STATE INTERACTION WITHIN THE VOLTAGE SENSOR OF NACHBAC.

Paul G. DeCaen (586-Pos, B467)

Board S28

MINK DICTATES THE ALPHA SUBUNIT COMPOSITION OF SURFACE-EXPRESSED N-TYPE POTASSIUM CHANNELS.

Vikram A. Kanda (621-Pos, B502)

Board S29

RESCUE OF GATING IN HERG1 POTASSIUM CHANNELS CONTAINING LQT2 MUTATIONS IN THE N-TERMINAL PAS DOMAIN.

Elena C. Gianulis (627-Pos, B508)

Board S30

TRPV1 ACTIVATION BY ALLYL ISOTHIOCYANATE.

Maarten Gees (1774-Pos, B572)

Board S31

SPECTROSCOPIC DESIGN OF PHOSPHOLAMBAN MUTANTS TO TREAT HEART FAILURE.

Simon J. Gruber (1282-Pos, B80)

Board S32

PERSISTENT CALCIUM SPARKLET ACTIVITY OF L-TYPE CALCIUM CHANNELS: LINK BETWEEN PKC AND C-SRC.

Jyoti Gulia (1531-Pos, B329)

Board S33

CHARACTERISTIC FREQUENCY ANALYSIS OF INWARD RECTIFIER KIR 2.1.

John Rigby (1726-Pos, B524)

Board S34

MODELLING THE MEMBRANE POTENTIAL DEPENDENCE ON NON-SPECIFIC CATION CHANNELS IN CANINE ARTICULAR CHONDROCYTES.

Rebecca Lewis (1764-Pos, B562)

Board S35

LIPID RAFT AND ARF6-GTPASE DEPENDENT ENDOCYTOSIS OF THE HERG POTASSIUM CHANNEL.

Rucha Karnik (1944-Pos, B742)

Board S36

HIGH THROUGHPUT GRAMICIDIN-BASED FLUORESCENCE ASSAY TO SCREEN FOR SMALL MOLECULES' BILAYER-PERTURBING POTENTIAL.

Helgi I. Ingolfsson (2484-Pos, B213)

Board S37

FUNCTIONAL INCORPORATION OF KcsA INTO TETHERED LIPID BILAYER MEMBRANES.

Haw-Zan Goh (2771-Pos, B500)

Board S38

METAMORPHIC RESPONSE OF CLIC1 CHLORIDE INTRACELLULAR ION CHANNEL UPON INTERACTION WITH THE MEMBRANE.

Sophia C. Goodchild (3367-Pos, B91)

Board S39

DESENSITIZATION CONTRIBUTES TO THE POSTSYNAPTIC RESPONSE OF IONOTROPIC RECEPTORS; A COMPARATIVE STUDY OF CYS-LOOP, PURINERGIC, AND GLUTAMATE RECEPTOR-CHANNELS.

David Papke (3651-Pos, B375)

Molecular Biophysics

Board S40

EXPLORATION OF FREE-ENERGY PROFILES WITH CONFORMATIONAL CHANGES OF PROTEINS.

Hiroko Kondo (137-Pos, B18)

Board S41

STRUCTURE, DYNAMICS AND TOPOLOGY OF THE N-TERMINUS AND FIRST TRANSMEMBRANE SEGMENT OF APJ.

David N. Langleaan (256-Pos, B137)

Board S42

THE EFFECT OF A HYDRATION POCKET ON THE FUNCTION OF NACHR STUDIED BY COMPUTATIONAL APPROACH.

Anna Rychkova (692-Pos, B573)

Board S43

THE EFFECT OF HEAVY MEROMYOSIN ON THE FLEXIBILITY OF FORMIN-BOUND ACTIN FILAMENTS.

Zoltan Ujfalusi (804-Pos, B685)

Board S44

THE MECHANICAL PROPERTIES OF INDIVIDUAL
CROSSLINKED AND UNCROSSLINKED FIBRIN FIBERS.

Christine R. Carlisle (997-Pos, B878)

Board S45

CHARACTERIZATION OF CONFORMATIONAL TRANSITIONS
IN SRC KINASE USING THE STRING METHOD WITH
SWARMS-OF-TRAJECTORIES AND MARKOVIAN MILESTONING.

Wenxun Gan (1205-Pos, B3)

Board S46

EXPLORING THE CONFORMATIONAL SPACE FOR THE
INTERACTIONS OF AROMATIC RESIDUE ANALOGS WITH
BIOLOGICALLY IMPORTANT SACCHARIDES.

Manju Kumari (1256-Pos, B54)

Board S47

HOW INSULIN-LIKE GROWTH FACTOR HORMONES, IGF1 AND
IGF2, ENGAGE THEIR COGNATE RECEPTOR.

Harish Vashisth (1266-Pos, B64)

Board S48

STRUCTURAL DIVERSITY OF G-QUADRUPLEXES :
POTASSIUM CONCENTRATION EFFECT.

Chang-Ting Lin (1382-Pos, B180)

Board S49

DOES THE UNFOLDING STATE OF THE HUMAN TELOMERE
EXIST UPON ION EXCHANGE?.

Jen-Fei Chu (1383-Pos, B181)

Board S50

SALT CONCENTRATION AND FORCE AFFECT HU-DNA
INTERACTION.

Botao Xiao (1392-Pos, B190)

Board S51

CALMODULIN REGULATION OF THE NEURONAL
VOLTAGE-DEPENDENT SODIUM CHANNEL.

Michael D. Feldkamp (1614-Pos, B412)

Board S52

PROTEIN AGGREGATION AS A PHASE TRANSITION PROCESS.

Travis A. Hoppe (2279-Pos, B8)

Board S53

DYNAMICS OF THE PKA C-SUBUNIT MAJOR
CONFORMATIONAL STATES USING REXAMD.

Mikolaj Fajer (2294-Pos, B23)

Board S54

MECHANISM OF DNA RECOGNITION BY ECORV.

Mai Zahran (2296-Pos, B25)

Board S55

NANOMECHANICS OF ANKYRIN-R REPEATS PROBED BY AFM
AND SMD SIMULATIONS.

Whasil Lee (2315-Pos, B44)

Board S56

PROTEIN-PROTEIN DOCKING USING A BROWNIAN DYNAMICS
SIMULATIONS APPROACH.

Xuan-Yu Meng (2355-Pos, B84)

Board S57

HEPATITIS C VIRUS (HCV) - 3'UTR : A KISSING COMPLEX DE-
PENDENT MOLECULAR SWITCH ?

Sumangala S. Shetty (2447-Pos, B176)

Board S58

DNA LOOP FORMATION IN NUCLEOSOMES.

Mithun Biswas (2468-Pos, B197)

Board S59

DOUBLE END-GRAFTED DNA AS FORCE SENSORS FOR
BIO-ADHESION SPREADING.

Yuting Sun (2483-Pos, B212)

Board S60

FRICTION AND ADHESION IN THE HAIR BUNDLE'S
GLYCOCALYX.

Adria C. LeBoeuf (2629-Pos, B358)

Board S61

MOLECULAR DYNAMICS STUDIES OF THE
ERK2 TYROSINE KINASE.

Daniel Barr (2931-Pos, B660)

Board S62

SOLVENT EFFECT ON THE UNFOLDING FORCE OF A SINGLE
HYDROPHOBIC POLYMER.

Isaac T.S. Li (3066-Pos, B795)

Board S63

SINGLE-MOLECULE ATOMIC-FORCE SPECTROSCOPY
CAPTURES A NOVEL CLASS OF MOLECULAR NANOSPRINGS
WITH ROBUST STEPWISE REFOLDING PROPERTIES.

Minkyu Kim (3076-Pos, B805)

Board S64

AFFINITY BAITS AND THE INTERIOR ENVIRONMENT OF
HYDROGEL PARTICLES.

Mrinalini Ramanan (3138-Pos, B867)

Board S65

DESIGN CONCEPTS FOR A BIOCUSHION TO COMFORT LIPID
MEMBRANES.

Malgorzata Maria Hermanowska (3150-Pos, B879)

Board S66

NON-COVALENT INTERACTIONS INVOLVING AROMATIC
RESIDUES IN PROTEIN STRUCTURES: STABILITY AND DYNAM-
ICS IN MEMBRANE AND GLOBULAR PROTEINS USING
MOLECULAR DYNAMICS SIMULATIONS.

Alok Jain (3303-Pos, B27)

Board S67

INVESTIGATIONS INTO ALPHA-HELIX TO BETA-SHEET PHASE
TRANSITIONS.

John S. Schreck (3305-Pos, B29)

Board S68

FUNCTIONAL ANALYSIS OF A CONSERVED HISTIDINE
RESIDUE OF THE EXTRACELLULAR LOOP OF ACID-SENSING-
ION-CHANNEL-1A.

Benoite Bargeton (3365-Pos, B89)

Board S69

POSSIBLE PATHWAY BETWEEN ALPHA HELICAL AND BETA HELICAL STRUCTURES OF THE C-TERMINAL IN THE MAMMALIAN PRION PROTEIN.

Shan Dai (3375-Pos, B99)

Motility**Board S70**

THE EFFECTS OF HEAD-HEAD INTERACTIONS ON MYOSIN-BASED ACTIN SLIDING VELOCITIES.

Del R. Jackson, Jr. (750-Pos, B631)

Board S71

STRUCTURE AND DYNAMICS OF THE MOBILE DOMAIN OF TROPONIN I BY SDSL-EPR.

James A. Cooke (765-Pos, B646)

Board S72

MEASUREMENT OF FILAMIN A TORSION IN-SINGULO.

Theodore C. Feldman (801-Pos, B682)

Board S73

MYOSIN CROSSLINKING AND EPR CAPTURE THE START OF FORCE GENERATION IN MUSCLE FIBERS.

Ryan N. Mello (1800-Pos, B598)

Board S74

PROBING THE MECHANISM OF KINESIN-1 MOTION IN THREE DIMENSIONS USING THE PHOTONIC FORCE MICROSCOPE.

George M. Jeppesen (1923-Pos, B721)

Board S75

AUTOMATED IMAGE ANALYSIS OF ELECTRON MICROGRAPHS OF STRUCTURALLY COMPROMISED STRIATED MUSCLE.

Jessica I. Houtz (2807-Pos, B536)

(MSAS) Membrane Structure & Assembly**Board S76**

CHARACTERIZATION OF INDOLICIDIN-MEMBRANE INTERACTIONS BY SIMULTANEOUS ATTENUATED TOTAL REFLECTION FOURIER-TRANSFORM INFRARED SPECTROSCOPY-ATOMIC FORCE MICROSCOPY.

Michelle A. Edwards (450-Pos, B331)

Board S77

INFLUENCE OF WALP PEPTIDES ON PHASE BEHAVIOR OF CHOLESTEROL CONTAINING TERNARY LIPID MIXTURES.

Johanna M. Froyd-Rankenber (487-Pos, B368)

Board S78

OLIGOMERIC SIZE AND CONFIGURATION OF THE M₂ MUSCARINIC AND β₂ ADRENERGIC RECEPTORS IN LIVE CELLS AS DETERMINED BY PIXEL-LEVEL FRET.

Luca F. Pisterzi (688-Pos, B569)

Board S79

QUANTITATIVE MEASUREMENTS OF RECEPTOR INTERACTIONS IN MAMMALIAN CELLS: IMPLICATIONS FOR HUMAN PATHOLOGIES.

Sarvenaz Sarabipour (1280-Pos, B78)

Board S80

MEASUREMENT OF THE DURATION AND CRITICAL EXPONENT OF CONCENTRATION FLUCTUATIONS IN LIPID BILAYERS NEAR THE CRITICAL POINT.

Aurelia R. Honerkamp-Smith (1425-Pos, B223)

Board S81

EFFECT OF L- TO D-PEPTIDE ISOMERISATION ON THE ACTIVITY OF ANTIMICROBIAL PEPTIDE ANOPLIN.

Amy Won (1446-Pos, B244)

Board S82

SINGLE-MOLECULE STUDY OF THE DYNAMICS OF LIPID-LIKE MOLECULES IN THE E. COLI OUTER MEMBRANE.

Alyssa J.C. Garrelts (1590-Pos, B388)

Board S83

FCS STUDIES OF THE PORE FORMATION BY PROTEIN BAX IN LIPID MEMBRANES.

Olena Ivashyna (2398-Pos, B127)

Board S84

THERMAL FLUCTUATIONS OF LIPID BILAYERS INVOLVING DILATION, SPLAY, TILT AND TWIST.

Max C. Watson (2496-Pos, B225)

Board S85

DO CATION-PI INTERACTIONS OCCUR IN LIPID BILAYERS BETWEEN PHOSPHATIDYLCHOLINE HEADGROUPS AND INTERFACIALLY LOCALIZED TRYPTOPHANS?

Jacques P.F. Doux (2516-Pos, B245)

Board S86

ASSEMBLY OF LIPID BILAYERS IN LARGE SCAFFOLD ARRAYS.

Jesper S. Hansen (2533-Pos, B262)

Board S87

DYNAMICS OF SEDIMENTATION AND DEFORMATION OF GUVS UNDER DIFFERENT TONICITY CONDITIONS.

Ivan A. Rey Suarez (2547-Pos, B276)

Board S88

MISCIBILITY PHASE BEHAVIOR OF GUV MEMBRANES CONTAINING CHARGE: TERNARY MIXTURES OF CHOLESTEROL, PC-LIPIDS, AND PG-LIPIDS.

Matthew C. Blosser (2549-Pos, B278)

Board S89

COMBINATORIAL LIVE CELL HOMO- AND HETERO-FRET MICROSCOPY OF MEMBRANE PROTEINS.

Jocelyn R. Lo (2564-Pos, B293)

Board S90

CHARACTERIZATION OF ELECTRON DENSITY PROFILES AND AREA PER LIPID FROM MD SIMULATION OF LARGE UNDULATING BILAYERS.

Anthony R. Braun (2938-Pos, B667)

Board S91

HYDROGEL FOR *IN SITU* ENCAPSULATION OF MULTIPLE BLACK LIPID MEMBRANES.

Sania N. Ibragimova (3136-Pos, B865)

Board S92

COMPARISON OF LIPID MONOLAYERS AND BILAYERS BY COMPARATIVE MOLECULAR DYNAMICS SIMULATIONS OF A LIPID-LIKE DYE MOLECULE.

Kevin C. Song (3471-Pos, B195)

Board S93

MOLECULAR HYDRATION INVESTIGATED USING EXTENDED MEMBRANE SURFACES.

Adriana L. Rogoza (3590-Pos, B314)

Permeation & Transport**Board S94**

[K⁺] INDUCED CONFORMATIONAL DYNAMICS OF THE SELECTIVITY FILTER OF KCSA MONITORED BY SOLID-STATE NMR.

Manasi Bhate (1724-Pos, B522)

Board S95

PROTEIN TRANSPORT THROUGH THE ANTHRAX TOXIN CHANNEL: MOLECULAR MECHANISMS.

Daniel Basilio (1936-Pos, B734)

Board S96

THEORETICAL DESIGN OF MODEL NANOPARTICLES FOR TARGETED CELL-SURFACE BINDING.

Nicholas Cordella (2494-Pos, B223)

Board S97

MONTE CARLO SIMULATION OF FREE ENERGY COMPONENTS: ENERGETICS OF SELECTIVE BINDING IN A REDUCED MODEL OF L-TYPE CA CHANNELS.

Janhavi Giri (2665-Pos, B394)

Board S98

SINGLE NUCLEOTIDE DISCRIMINATION IN SINGLE STRANDED DNA IMMOBILIZED WITHIN BIOLOGICAL NANOPORE MSPA.

Elizabeth A. Manrao (3112-Pos, B841)

Board S99

STRUCTURAL ANALYSIS OF HEPTAMERIC ALPHA-HEMOLYSIN UNDER EXTREME CONDITIONS THAT FACILITATE NUCLEIC ACID TRANSLOCATION.

Marsiyana M. Henricus (3368-Pos, B92)