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Keller Named 2005 Dayhoff Awardee



Sarah L. Keller

Sarah L. Keller, Adjunct Assistant Professor of Physics and Assistant Professor of Chemistry at the University of Washington, will receive the 2005 Margaret Oakley Dayhoff Award.

The award recognizes a junior woman scientist of very high promise. The award includes honoraria and travel to the Biophysical Society Meeting in Long Beach, California. Keller will speak at the Awards Symposium on Tuesday, February 15, 2005.

Important Dates

Early Registration
December 10

**General Housing
Reservation**
January 3, 2005

Late Abstracts Deadline
January 3, 2005

For updates visit:
<http://www.biophysics.org>

2004 Discussions on the Web

Probing Membrane Microdomains

The 2004 Discussions meeting, held in Asilomar, California, October 27-31, featured five sessions held during the three-day meeting. All presentations and discussions may be viewed online at <http://www.biophysics.org>

Correction

In the September/October Newsletter Biophysicist in Profile, the name of Kathy Giangiacomo's husband was incorrect. Giangiacomo's husband's name is Ted. The corrected version can be found online at

<http://www.biophysics.org/publications/sept04.pdf>

Annual Meeting Onsite Child Care

The Biophysical Society has this year contracted with KiddieCorp to provide onsite childcare during the Annual Meeting, in Long Beach, California.

Pre-registration is required. Time slots will be filled on a first-come, first-served basis. Registration closes January 10. Parents are encouraged to register by December 10, as popular times slots fill quickly.

Childcare fees (three-hour minimum is required):

- Regular attendees:
\$10.00/hour per child
- Postdoc attendees:
\$7.00/hour per child
- Student attendees:
\$5.00/hour per child

Registration forms and information can be found at <https://bpskids.org>



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Biophysicist in Profile



Bernard Chasan

Described as a "romantic" by friends and colleagues, *Bernard Chasan* is also known for seamlessly blending apparently divergent interests and for always being ready to learn something new. "We may be running an AFM session and something will come up that relates to a famous painting," colleague *Horacio Cantiello* explains. "He is a romantic (and) always has an open mind." Chasan does move among a wide array of areas from painting, to music, to baseball, to teaching physics, to learning about biology. This ability is best expressed through his own recent posting on *ArtsJournal.com*, where Chasan states: "Why is classical music so important? My answer: there is nothing else in my experience which so allows the expression of the deepest emotions within a framework of almost mathematical logic. The combination is a very powerful one."

Born in Brooklyn, New York, in 1934 to parents *Louis*, a teacher in the field of engineering, and *Sarah*, who managed the household and raised Chasan and an older sister, now deceased,

Chasan's environment was rich in diversity. His mother's interest in classical music resulted in "classical music always playing in the house," recounts Chasan, "but (I) never really appreciated it until suddenly, in my mid-teens, my ears opened up and I said, 'My God, what is that stuff?'" Perhaps because of his father's engineering background – or because of his tropical fish tank and a homemade reflecting microscope – Chasan was enamored with science by the time he hit elementary school.

Growing up in Brooklyn and later Queens, it was inevitable that Chasan also grew up loving baseball. "It was a good time to be a Dodgers fan," he recalls, "spending hours at Ebbets Field and watching Jackie Robinson play with the Brooklyn Dodgers."

While living in Brooklyn, Chasan commuted daily by subway into Manhattan to attend Stuyvesant High School, a science-oriented high school. In 1947, the school, known for its stringent entrance requirements and 5% acceptance rate, was a boys-only academy. Chasan still keeps in touch with friends he made there, and he credits the school with reinforcing his direction towards science. He admits, however, that he didn't

"suddenly, in my mid-teens, my ears opened up and I said, 'My God, what is that stuff?'"

have a strong sense of what scientists did, "just a general sense that it was an interesting field."

After graduating from high school, Chasan applied and was accepted to Columbia University, an obvious choice since it was "in the city, my family wasn't rich, and it was a good school." The transition to college was easy, made easier still by the New York State Regents Scholarship, which nearly covered his tuition, then only \$600 per year. In those days, Chasan explains, "undergraduate

research was not the important component of science education that it is today." He did, however, spend a summer at the Columbia Nevis Cyclotron, which set his bias toward particle physics.

After completing his studies at Columbia, Chasan moved to

"...care, devotion to the common good, and the decency and fairness...the characteristics of who Bernie Chasan is."

Cornell for graduate work. There, he worked on experimental high energy physics for *Giuseppe Cocconi*. After completing his graduate degree, Chasan moved to Harpur College of Arts and Sciences in Binghamton, New York, to teach physics. That decision, rather than moving into the traditional postdoc role was, he now says, a bad mistake. "They (the Physics Department) had plans for the future, but it looked like the future was maybe a decade away," he remembers. "It was a small department, and it didn't look like there was an emphasis on doing any kind of research." After three semesters at Harpur, Chasan took a job in the Physics Department at Boston University (BU), where remained for over forty years. He credits his senior colleague at BU, *Ed Booth*, with serving as a research mentor in his first few years there.

While at BU, Chasan became Interim Chair of the Physics Department at a very sensitive time during the 1980s. A prominent theorist joined the department with a group of five others, creating tension within the department. The strain, Chasan remembers, was because that group "had grant support during the year, smaller teaching loads than the rest of us, yet there was a need for them to be melded into the department. Several people were coming up for tenure, a couple from their group and a couple from outside their group. My job was to make sure that they all got tenure, and they all

did." Chasan is proud of his efforts. "They wanted to be integrated – I didn't have to grab them by the shoulders and beat them over the head!" He is generally credited with having presided over the department's peak growth in a relatively harmonious way. Chasan's colleague,

William Klein, remembers that "despite the fact that he knew the position was only for a short time, he put a tremendous amount of effort and energy into managing the department. He pressed the administration to increase support for research and to recognize the accomplishments of the faculty." Klein cites Chasan's "care, devotion to the common good, and the decency and fairness with which he led the physics department," as the characteristics of who Bernie Chasan is.

That's not to say Chasan doesn't have an opinionated side. Klein humorously recalls a debate with Chasan and friends. "The four of us were discussing the thesis put forth in *The Clash of Civilizations*. (We) thought that the book had a lot of merit. Bernie, however, rather vigorously criticized the thesis stating without reservation that it had little value and had too many exceptions to be generally correct. As he talked, however, it became clear, as he later admitted, that he never read the book. That did not keep him from having a strong opinion."

Chasan's interest in biophysics came later in life. He started first in high energy, then worked in nuclear and intermediate energy physics, moving into biophysics only in the mid-seven-

ties. He explains that in 1978 he switched fields to pursue an interest in biological matters. "This switch was motivated, as I remember," he says, "by reading Salvador Luria's *Thirty-Six Lectures in Biology*, a very biophysics-oriented book." Chasan then spent a year on sabbatical in *A.K. Solomon's* laboratory at the Harvard Medical School, studying red cell permeability by light scattering, continuing the study after the sabbatical ended.

Asked to name his greatest achievement, Chasan, rather than referring to his scientific research, warmly confides, "I am tempted to say being a father, but I will resist," referring to his two grown daughters, *Rebecca*, who has a doctorate in Molecular Biology from Berkeley and is presently the Executive Editor of the *Journal of the National Cancer Institute*, and *Holly*, who recently returned to



Portrait of Rhododendron Bud by *Bernie Chasan*, using acrylics and oil sticks.

(Continued on page 16.)

Annual Meeting Symposia, Workshop, and Subgroup Schedule

Symposia

Sunday, February 13

8:15 AM–10:15 AM

TRP Channels: What a Sensation

TRP Channels as Cellular Sensors.
David E. Clapham, Harvard Medical School, Chair

TRP Channels in Nociception and Thermosensation.
David Julius, University of California, San Francisco

Biophysics of TRP Channel Gating.
Thomas Voets, University of Leuven

TRP Channels in *C. elegans*.
Cori Bargmann, University of California, San Francisco

8:15 AM–10:15 AM

Molecular Machines that Organize DNA Structure

James Kadonaga, University of California, San Diego, Chair

Molecular Mechanism of SMC Protein-containing Complexes.
Jan Lowe, MRC Laboratory of Molecular Biology

Muk BEF, a Bacterial Condensin, Organizes DNA into a Compact, Repetitive, Stable Structure in an ATP-dependent Manner.
Carlos Bustamante, University of California, Berkeley

Mechanism and Targeting of an Essential Chromatin Remodeling Complex.
Brad Cairns, University of Utah

Assembly of Chromatin by ATP-dependent Molecular Motors.
James Kadonaga, University of California, San Diego

10:45 AM–12:45 PM

Glycobiology: Synthesis, Multivalency and Glycochaperones

Automated Solid Phase Oligosaccharide Synthesis.

Peter H. Seeberger, Swiss Federal Institute of Technology, Chair

Proteomics and the discovery of biocatalysts for glycobiology
Nicola Pohl, Iowa State University

Carbohydrate Cluster Effect and Multivalency of Carbohydrate-Protein Interactions.
Eric J. Toone, Duke University

Structure and Function of Glycochaperones in the ER.
David Y. Thomas, McGill University

10:45 AM–12:45 PM

Control and Regulation of Calcium Signaling in E-C Coupling

Clara Franzini-Armstrong, University of Pennsylvania, *W. Jonathan Lederer*, University of Maryland, Chairs

Introduction: New Views in Calcium Signaling and E-C Coupling.
Clara Franzini-Armstrong, University of Pennsylvania

Regulation of the Calcium Pump by Phospholamban and Sarcoplipin.
David MacLennan, University of Toronto

Conformational Coupling of DHPRs and RyRs: Probing the Topological Interrelationship of these Two Proteins in Skeletal Muscle.
Kurt Beam, Colorado State University

Ca²⁺ Release Regulation from Within the Sarcoplasmic Reticulum in Skeletal Muscle.
Eduardo Rios, Rush University

Ca²⁺ Spark Regulation in Heart.
W. Jonathan Lederer, University of Maryland

Ca²⁺ Blinks in Heart.
Heping Cheng, National Institutes of Health

4:00 PM–6:00 PM

Cooperative Mechanisms in Molecular Motors

Yale E. Goldman, University of Pennsylvania, Chair

When Myosin Heads Communicate They Perform Well.
David Warshaw, University of Vermont

The Gating/Flexibility Paradox in Myosin VI.
H. Lee Sweeney, University of Pennsylvania

How Kinesin Keeps Its Grip.
Jeff Gelles, Brandeis University

Stretching the Hand-Over-Hand Model: How Kinesin Uses Internal Strain to Walk Processively.
Steven Rosenfeld, University of Alabama at Birmingham

4:00 PM–6:00 PM

Moonlighting Proteins: Old Proteins Learning New Tricks

Moonlighting Proteins: Examples of Gene Sharing.
Constance Jeffery, University of Illinois at Chicago, Chair

DNA Cleavage and RNA Splicing by a Bifunctional Intron-encoded Protein.
Barry Stoddard, Fred Hutchinson Cancer Research Center

Unraveling the Multifunctional Proline Utilization (PutA) Flavoenzyme.
Donald Becker, University of Nebraska

Regenerating Arginosuccinate Lyase Activity in Its Eye Lens Homologue $\delta 1$ Crystallin.
Lynne Howell, Hospital for Sick Children, Toronto

Monday, February 14

8:15 AM–10:15 AM

Membrane Biophysics: Synaptotagmins, SNAREs and Vesicle Biogenesis

Molecular Analysis of Exocytotic Fusion Pores.
Edwin Chapman, University of Wisconsin, Chair

The Neuronal SNARE Complex: Is it Involved in Vesicle Priming or Ca²⁺-dependent Fusion?
Jakob Sorensen, Max Planck Institute for Biophysical Chemistry

Detecting and Dissecting Vesicle Biogenesis with Light.
Graeme Davis, University of California, San Francisco

Membrane Bending and Curvature Sensing in Clathrin-mediated Endocytosis.
Harvey McMahon, MRC Laboratory of Molecular Biology

8:15 AM–10:15 AM

Biophysical Approaches to DNA Replication and Repair

Structure and Mechanism of Translesion DNA Synthesis.

Wei Yang, National Institutes of Health, Chair

DNA Unwinding and Translocation by SF1 DNA Helicases.

Timothy Lohman, Washington University

Characterizing Dynamic Molecular Assemblies in DNA Damage Recognition and Repair.

John Tainer, Scripps Research Institute

Insights into the Progression of DNA Processing Assemblies.

Walter Chazin, Vanderbilt University

10:45 AM–12:45 PM

Structural and Biophysical Dissection of Nucleocytoplasmic Transport

The Nuclear Pore Complex and Nucleocytoplasmic Transport: Who is Doing What?

Ueli Aebi, Biozentrum, Chair

Karyopherins: A Structural View by X-ray Crystallography and Small Angle Scattering.

Elena Conti, European Molecular Biology Laboratory

Structural Basis for the Function of Nucleoporins in Import Complex Disassembly and Importin Recycling.

Murray Stewart, MRC Laboratory of Molecular Biology

Nuclear Pore Complex: The Hole Picture?

Michael P. Rout, Rockefeller University

10:45 AM–12:45 PM

Protein Folding: Theory, Experiment and Design

Protein Folding/Unfolding at Atomic Resolution.

Valerie Daggett, University of Washington, Chair

Folding of Repeat Proteins.

Lynne Regan, Yale University

Protein Folding Dynamics.

William Eaton, National Institutes of Health

The Energy Landscape for Protein Folding and Function.

Jose Onuchic, University of California, San Diego

4:00 PM–6:00 PM

Rho-GTPase Family Signaling: Intracellular & Structural Mechanisms*Avril Somlyo*, University of Virginia, Chair

Rho Signaling: Molecular Mechanisms to in vivo Roles.

S. Narumiya, Kyoto University

G-Protein Coupled Receptor Repertoires Defined by Rho Activation.

Joan Heller-Brown, University of California, San Diego

The RHOad from the Membrane to the Nucleus.

J. Silvio Gutkind, National Institutes of Health

Crystallographic Studies of Human RhoA and Its Regulatory Mechanisms.

Zygmunt Derewenda, University of Virginia School of Medicine

4:00 PM–6:00 PM

Nucleic Acid Packaging in Virus Particles*John E. Johnson*, Scripps Research Institute, Chair

Physical Aspects of Viral Self-Assembly and Genome Packaging.

William Gelbart, University of California, Los Angeles

Atomic Resolution Studies of Molecular Switching Mediated by RNA in Icosahedral Viruses.

John E. Johnson, Scripps Research Institute

Examining the Packaging of Viral Genomes with Molecular Simulations.

Stephen C. Harvey, Georgia Institute of Technology

The Ordering of RNA in Viruses from X-ray Crystallography and Atomic Force Microscopy.

Alex McPherson, University of California, Riverside

Tuesday, February 15

8:15 AM–10:15 AM

Molecular Mechanisms of Translation

Structural and Functional Dynamics of the Ribosome.

Wolfgang Wintermeyer, University of Witten/Herdecke, Chair

FRET-detected Nascent Chain Folding Inside the Ribosome.

Arthur Johnson, Texas A&M University

Mutational Analysis of the Ribosome as a Tool to Probe Discrete Steps in Elongation.

Rachel Green, Johns Hopkins University

The Overture of Protein Targeting: When SRP Meets the Ribosome.

Roland Beckmann, Humboldt University

8:15 AM–10:15 AM

Theoretical Models of Dynamical Systems

Dynamic Fluctuations in Biological and Physical Systems.

Ken Dill, University of California, San Francisco, Chair

Computational Characterization of the Functional Dynamics of Supramolecular Assemblies Using Elastic Network Models.

Ivet Bahar, University of Pittsburgh

Engineering Principles Applied to Biology.

John Doyle, California Institute of Technology

Dynamic Behavior in Autocrine Cell Signaling Circuits.

Douglas Lauffenburger, Massachusetts Institute of Technology

10:45 AM–12:45 PM

Awards Symposium*Stephen C. Harvey*, Georgia Institute of Technology, Society President, Chair

4:00 PM–6:00 PM

New and Notable*David Millar*, Scripps Research Institute and *David Giedroc*, Texas A&M University, Organizers

Program information to be announced.

(Continued on page 6.)

(Continued from page 5.)

4:00 PM–6:00 PM

Allosteric Pathways Uncovered

Rama Ranganathan, University of Texas Southwestern Medical Center, Chair

Genetic Control by Allosteric Riboswitches and Ribozymes.

Ronald Breaker, Yale University

Switches and Scaffolds: The Logic of Modular Signaling Proteins.

Wendell Lim, University of California, San Francisco

Disentangling the Web of Allosteric Interactions in an Oligomer.

Greg Reinhart, Texas A&M University

Evolutionary Rules Underlying Protein Folding and Function.

Rama Ranganathan, University of Texas Southwestern Medical Center

Wednesday, February 16

8:15 AM–10:15 AM

Mitochondrial Ion Channels: Gatekeepers of Life and Death

ROS-activated Anion Channels Underlying Mitochondrial Communication.

Brian O'Rourke, Johns Hopkins University, Chair

ADP/ATP Transporter and Permeability Transition Pore.

Douglas C. Wallace, University of California, Irvine

Regulation of Cytochrome c Permeability through the Mitochondrial Apoptosis-induced Channel, MAC.

Kathleen Kinnally, New York University

Intracellular Patch Clamping of Mitochondrial Ion Channels and Their Regulation by BCL-2 Proteins.

Elizabeth Jonas, Yale University

8:15 AM–10:15 AM

Molecular Motors: Biophysical Mechanisms in Cell Biology

Unconventional Myosins, Role in Cell Adhesion and Motility.

Margaret A. Titus, University of Minnesota, Chair

Coordinated Motor Activity Drives Organelle Motility.

Steven Gross, University of California, Irvine

Linking Molecular Motors to Signaling and Neurodegenerative Disease.

Lawrence Goldstein, University of California, San Diego

Morphogenesis: Biophysics and Genetics of Dorsal Closure

Dan Kiehart, Duke University

10:45AM–12:45 PM

Exploring Molecular Motions of Channels & Transporters

Eitan Reuveny, Weizmann Institute, Chair

Molecular Dynamics Study of Membrane Channel Gating.

Klaus Schulten, University of Illinois, Urbana-Champaign

FRET Analysis of GIRK Channel Gating.

Eitan Reuveny, Weizmann Institute

Phenotype Screening and Homology Modeling Approaches to Define Ion Selectivity and Transport in Ion Pumps.

Rajini Rao, Johns Hopkins University

Solid-state NMR Approaches for Probing Structure and Dynamics of Membrane Proteins.

Steven Smith, State University New York, Stony Brook

Workshops

All workshops will be held from 7:30–9:30 PM on Sunday, February 13, and Tuesday, February 15.

Sunday, February 13

RNA as a Therapeutic Drug Target: Progress and Challenges

Richard Roberts, California Institute of Technology, Chair

Advancing RNA as Drug Target.

Yizhak Tor, University of California, San Diego

Targeting Functional RNA with mRNA Display.

Richard Roberts, California Institute of Technology

Antibiotic Recognition of Ribosomal RNA.

Daniel Pilch, Rutgers University

The Role of Electrostatic Forces in RNA Ligand Binding and Catalysis.

Thorsten Diekmann, University of

California, Davis

Targeting Peptides to RNAs.

Alan Frankel, University of California, San Francisco

Advances in High-Resolution Cellular Electron Tomography

Mark Ellisman, University of California,

San Diego, *Niels Volkman*, Burnham Institute & University of California, San Diego, Chairs

Advanced Computational Tools for Electron Tomography.

Niels Volkman, Burnham Institute & University of California, San Diego

3D Structure Studies of Insulin-Secreting Pancreatic beta Cells by High Resolution EM Tomography.

Brad Marsh, University of Queensland

Use of Biarsenical Ligands as a Tool for Investigating Structure and Dynamics of Gap Junctions.

Gina Sosinsky, University of California, San Diego

Electron Tomography of Actin Assemblies at the Leading Edge of Motile Cells.

Delaver Anjum, Burnham Institute

Mapping the Cellular Proteome by Cryo-Electron Tomography.

Stephan Nickell, Max Planck Institute for Biochemistry

Multivariate Statistical Analysis of Three-dimensional Structural Motifs in Electron Tomograms.

Kenneth A. Taylor, Florida State University

Simulation Methodologies for Membrane Structure and Dynamics

H. Larry Scott, Illinois Institute of Technology, Chair

Choice of Algorithms and Simulation Parameters in Molecular Dynamics Simulations of Membranes.

Peter Tieleman, Calgary University

New Advanced Monte Carlo Methods for Simulation of Bilayers and Biomolecules.

Juan De Pablo, University of Wisconsin

Simulations of Lipid Bilayers on Mesoscopic Scales: Issues, Answers, Challenges.

Olle Edholm, Royal Institute of Technology,

Stockholm

Challenges and Opportunities in Simulation and Modeling of Chemically Heterogeneous Membranes.

Eric Jakobsson, University of Illinois & National Institute of General Medical Sciences

Discussants:

John Nagle, Carnegie Mellon University

H. Larry Scott, Illinois Institute of Technology

Thomas B. Woolf, Johns Hopkins University

Tuesday, February 15

Advances in Single-Molecule and Single-Cell Detection and Manipulation

Steven M. Block, Stanford University, Chair

Bioconjugated Nanoparticle Probes for Single-Molecule Imaging and Detection.

Shuming Nie, Emory University

Multicolor Single-Molecule FRET Methods for Studying Biological Folding and Assembly.

Ashok Deniz, Scripps Research Institute

Force Spectroscopy Captures the Folding Reactions of a Single Protein.

Julio Fernandez, Columbia University

Putting It All Together: Combined Optical Trapping and Single Molecule Fluorescence.

Steven M. Block, Stanford University

Serial-Sectioning Scanning Electron Microscopy: Automatic Acquisition of 3D Tissue Nanostructure.

Winfried Denk, Max Planck Institute for Medical Research

New Technologies for Electrophysiology

PDMS Patch Electrodes and Microfluidics.

Kathryn Klemic, Yale University, Chair

Planar Glass Patch Electrodes.

Andrea Bruggemann, Nanion Technologies GmbH, Munich

Cells on Silicon Devices.

Peter Fromherz, Max Planck Institute for Biochemistry

Digital Patch Clamp.

Dan Brown, Bruxton Corporation

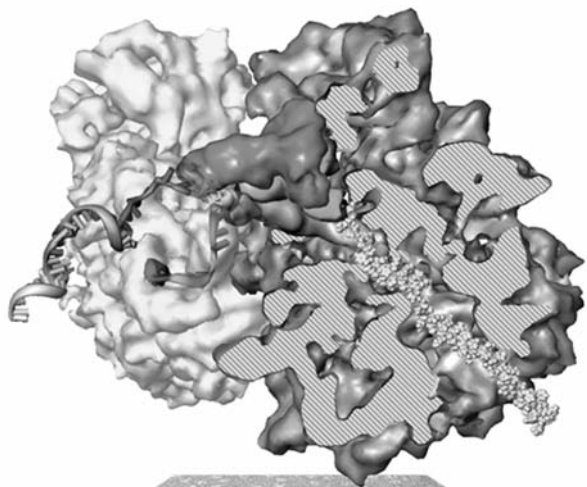
Inverted-Pipette Patch Clamping.

A. Schafer, Flyion GmbH, Tübingen

Patch Fluorometry.

Jie Zheng, University of California, Davis

(Continued on page 8.)



The ribosome visualized by cryo-electron microscopy and reconstructed from 130,000 particle images, at 7.8 Å resolution (C.M.T. Spahn, R.A. Grassucci, V. Marquez, J. Linde, H. Gao, W. Baxter, P.A. Penczek, K.H. Nierhaus, J. Frank, in preparation). Models of messenger RNA and the polypeptide chain have been inserted. Transfer RNAs are visible at the A (pink), P (green), and E (brown) sites. The large subunit (blue) has been cut in the plane of the polypeptide tunnel. The image at the bottom shows a typical micrograph with ribosome images. (Modeling and artwork by Kakoli Mitra and Michael Watters).

NEW MEETING FEATURES

Continuing Medical Education (CME)

This year, up to 29 CME credit hours in category 1 credit towards the AMA Physician's Recognition Award will be available to meeting attendees. CME application forms are available from the FASEB OSMC, 9650 Rockville Pike, Bethesda, MD, 20814-3998, 301-634-7010; email: mcgovern@faseb.org or from the Biophysical Society Office. There is a \$45 application fee, payable upon submission of the form. For complete information, visit

<http://www.biophysics.org>.

New Placement Charges

The online and onsite Employment Service is sponsored by the Biophysical Society. Please visit <http://www.biophysics.org> for placing an ad on the site. The fee is waived for member candidates and for employers who are also exhibitors at the 2005 Annual Meeting in Long Beach, California. All Placement Service ads and CVs remain online for six months before being removed. For further information email Dianne McGavin at dmcgavin@biophysics.org.

VISA Update

Scientists planning to attend the Annual Meeting are encouraged to visit the following websites for the latest VISA requirements and related information:

<http://www.biophysics.org>

<http://travel.state.gov/visa/index.html>

<http://national-academies.org/visas>

(Continued from page 7.)

Subgroups

All Subgroup Meetings will be held Saturday, February 12.

Bioenergetics

Marco Colombini, University of Maryland, College Park, Chair

Morning Symposium: Mitochondria in Diseases and Therapeutics

Shey-Shing Sheu, University of Rochester Medical Center & *John Lemasters*, University of North Carolina, Chapel Hill, Chairs

Ca²⁺, ATP, and ROS: A Mitochondrial Love/Hate Triangle.

Shey-Shing Sheu, University of Rochester Medical Center

Mitochondria in Cardiac Ischemia-Reperfusion (I-R) Injury.

Paul Brookes, University of Rochester

Mitochondrial Pathways to Apoptosis, Necrosis and Autophagy.

John Lemasters, University of North Carolina, Chapel Hill

Mitochondrial DNA Defect in Pathogenesis, Apoptosis, and Therapeutics.

Mei-Jie Jou, Chang Gung University, Taiwan

Mitochondrial Proteomics and Oxidative Stress.

Bradford Gibson, Buck Institute

Afternoon Symposium: Mitochondria in Cellular Dynamics

Mitochondrial Morphology.

Carmen Mannella, New York State Department of Health, Wadsworth Center, Co-Chair

Intermitochondrial Communication.

Gyorgy Hajnoczky, Thomas Jefferson University, Co-Chair

Mitochondrial Dynamics in Calcium Signaling.

Nicholas Demaurex, University of Geneva

Mitochondrial Dynamics during Cell Death.

Richard J. Youle, National Institutes of Health

Mitochondrial Biogenesis and Motility.

Speaker to be announced.

Biological Fluorescence

Joseph Beechem, Molecular Probes Inc., Chair

In vivo Brain Imaging Using One- and Two-Photon Fluorescence Microendoscopy.

Mark J. Schnitzer, Stanford University

Dynamic Imaging of Fluid Forces and Heart Motions in Developing Embryos.

Mary Dickinson, Caltech, Beckman Institute

Light Emission Tomography: Visualizing Bioluminescence in Whole Living Mice in 3D.

Ralph P. Mason, The University of Texas Southwestern Medical Center at Dallas

Imaging with Fluorescent Proteins *in vivo*, the New Cell Biology.

Robert M. Hoffman, University of California, San Diego

Functional Optical Imaging of Breast Cancer.

Bruce J. Tromberg, Beckman Laser Institute

Exocytosis/Endocytosis

Kevin Gillis, University of Missouri, Columbia and *Manfred Lindau*, Cornell University, Subgroup Chairs

Manfred Lindau, Cornell University, and *Meyer Jackson*, University of Wisconsin, Symposia Chairs

Program information to be announced.

Membrane Biophysics

Deborah Nelson, University of Chicago, Chair

Intracellular Ion Channels: Targeting and Function

David Clapham, Harvard Medical School
Sergio Grinstein, Hospital for Sick Children, Toronto

Terry Machen, University of California, Berkeley

Christine Bear, Hospital for Sick Children, Toronto

Victor Faundez, Emory University

Kevin Foskett, University of Pennsylvania

Additional speakers to be announced.

Membrane Structure & Assembly

Stephanie Tristram-Nagle, Carnegie Mellon University, Chair

Relevance of Lipid Bilayer Structure and Dynamics for Biological Function

Ceramide-rich Domain Formation in Membranes

Jenifer Thewalt and *Ya-Wei Hsueh*, Simon Frazier University

The Lipid Organization of the Skin Barrier

Joke Bouwstra, Leiden University

Hydrophobic Matching in Lipid Bilayers and Consequences

Huey Huang, Rice University

Membrane Protein Activity and the Lateral Pressure Profile

Robert Cantor, Dartmouth College

How Lateral Pressure Profiles Can Influence the Stability of Oligomeric Membrane Proteins

J. Antoinette Killian, University of Utrecht

Short Chain Alcohols Modulate Mechanical Properties and Area/Molecule of Lipid Bilayers in Agreement with Traube's Rule

Marjorie Longo and *Hung Ly*, University of California, Davis

A Flexible Surface Model for Lipid Protein Interactions

Michael F. Brown, University of Arizona, Tucson

Discussants:

Richard Epand, McMaster University
Olaf Anderson, Weill Medical College
Felix Goñi, University Basque Country
Stephanie Tristram-Nagle, Carnegie Mellon University

Molecular Biophysics

Thomas Schmidt, Leiden University, Chair

Single-Molecule Biophysics: From Molecules to Cells

Single-Molecule Dynamics of Novel DNA/RNA Structures and Their Enzymatic Processing.

Taekjip Ha, University of Illinois, Urbana-Champaign

Protein Folding Dynamics from Single-Molecule FRET.

Ben Schuler, ETH Zurich

Watching Proteins Work and Being Born.

X. Sunney Xie, Harvard University

Signaling Proteins in Action.

Thomas Schmidt, Leiden University, Chair

Visualizing Cellular Entry of Individual Viruses and Gene Delivery Vectors.

Xiaowei Zhuang, Harvard University

Permeation/Transport

David Busath, Brigham Young University, Chair

Program information to be announced.

Motility

Steven Rosenfeld, University of Alabama at Birmingham, and *Kazuhiro Oiwa*, Kansai

Advanced Research Center, National Institute of Information and Communications Technology, Co-Chairs

A Panoply of Motors

Exploring the Multiple Kinetic Pathways for Myosin V Processivity.

Josh E. Baker, University of Vermont

Listening to Myosin I.

Lynne M. Coluccio, Boston Biomedical Research Institute

Mitotic Kinesin Eg5 Mechanochemistry.

Susan P. Gilbert, University of Pittsburgh

Mechanochemistry of Kinesin Motility.

Shin-Ichi Ishiwata, Waseda University

Coupling of ATP Hydrolysis and Force Generation by the Recombinant Dynein.

Kazuo Sutoh, University of Tokyo

New Forms of FIONA Applied to Myosin V & VI.

Paul Selvin, University of Illinois

Functional Diversity of Non-Muscle Myosin II Isoforms.

Mihaly Kovacs, National Institutes of Health

Evening Talk

John Kendrick-Jones, MRC Laboratory of Molecular Biology

LONG BEACH ATTRACTIONS

Aquarium of the Pacific

The Aquarium features more than 12,000 marine animals from over 550 species. Marine life is displayed in the Southern California/Baja Gallery, Northern Pacific Gallery, and Tropical Pacific Gallery. You can transport yourself to the coastal lowlands of Australia in the new Lorikeet Forest. The Aquarium's newest exhibit, Shark Lagoon, will allow you to get up close with more than 150 sharks. Admission: Adults \$18.75, Seniors 60+ \$14.95, Children ages 3-11 \$9.95. For more information, please visit: <http://www.aquariumofpacific.org>

Queen Mary

"The grandest ocean liner ever built" was hostess to the rich and famous during the 1930s. There has also been paranormal activity on the Queen Mary, which has been studied for years. Admission: \$28, senior/military \$25, children ages 5-11 \$17. For more information, please visit: <http://www.queenmary.com>

Disneyland Parks

"The Happiest Place on Earth" features two theme parks, Disneyland and Disney's California Adventure. You will also find an entertainment district and three hotels. The Parks are located approximately 30 minutes from Long Beach and offer one day or multiple day passes. For more information, please visit: <http://www.disneyland.com>

For more information on other area attractions, please visit:

Long Beach Convention and Visitors Bureau: <http://www.visitlongbeach.com/>

Long Beach Museum of Art: <http://www.lbma.org>

Catalina Island: <http://www.catalina.com>

Special Annual Meeting Travel Rates

The Biophysical Society has made special arrangements with USAir, United Airlines, and Hertz Car Rental for special rates to meeting attendees. When making reservations, refer to the respective meeting ID number for extra savings.



800-521-4041

Meeting ID Number: 515SE



800-654-2240

MeetingNumber: (CV)033S0001



877-874-7687

Gold File Number: 36133166

Membrane Biophysics Subgroup

2005 Cole Award and Dinner will be held Saturday evening, February 12 (location to be announced). Anyone wishing to attend the dinner who did not prepay with their dues can reserve a ticket directly from Bill Wonderlin, at wonder@wvu.edu. To encourage participation in the subgroup, any student member of the Biophysical Society entering the student poster competition will receive a free ticket to the Cole dinner. Additional free tickets will be available on a lottery basis to student members who do not enter the poster competition. The deadline for students to request tickets is January 28, 2005.

INTERNATIONAL BIOPHYSICS CONGRESS MONTPELLIER FRANCE AUGUST 27-SEPT 1 2005

This year's International Biophysics Congress will be held in beautiful Montpellier, France, close to the Mediterranean Sea and home to one of Europe's oldest functioning medical schools. The Congress is jointly sponsored by IUPAB (the International Union of Pure and Applied Biophysics) EBSA (the European Biophysical Societies Association) and SFB (the French Biophysical Society). The theme of this International Congress will be: *From the molecular level up to integrated systems and organisms. The end of simplicity?* Symposia have been organized with this global viewpoint in mind.

Already over 75 speakers have accepted the invitation to participate in the meeting and the list of Plenary Lecturers is complete:

Barber J. (GB)
Baumeister W. (D)
De Gennes P.-G. (Nobel Laureate, F)
Rey F. (F)
Schwille P. (D)
Wüthrich K. (Nobel Laureate, CH).

In addition to plenary lectures, invited presentations and posters, each symposium will feature presentations from selected abstracts. All of the updated information about the meeting, including updated speaker list, symposium lists, registration and travel and lodging information, as well as tourist information about the region around Montpellier can be found at the Congress website <http://worldbiophysics2005.sfbio.org>

Satellite Meeting

Drug Discovery for Ion Channels V

Friday, February 11

Ian Herzberg, ALA Scientific Instruments
and *Chris Mathes*, Axon Instruments, Co-Chairs

Opening Remarks

Ian Herzberg

HERG-Lite, a High throughput Screen for Drug-induced hERG Liability Due to Direct Block and Inhibition of Trafficking.

Arthur M. "Buzz" Brown, ChanTest, Inc.

Title to be Announced.

Elke Guenther, NMI, Reutlingen

Pharmacological Screening Using Nanion's Technology.

Bela Kelety, Iongate Biosciences

Title to be announced.

Mads P.G. Korsgaard, NeuroSearch A/S

Title to be announced.

Charles Luetje, University of Miami

High-Throughput Screening and High-content Follow-up for Small Molecule Blockers of Voltage-gated T-type Ca²⁺ Channels.

Joe McGivern, Amgen

Drug Discovery in Academia: CFTR Chloride Channel Activators and Inhibitors.

Alan Verkman, University of California, San Francisco

Closing Remarks

Alan Finkel, Molecular Devices

Titles and additional speakers to be announced.

Undergraduate Student Symposium Registration

SUNDAY, FEBRUARY 13, 10:00 AM–2:00 PM

Local undergraduate students within a 50-mile radius of the Long Beach Convention Center may register for this symposium and gain access to the entire 2005 Annual Meeting, on Sunday, February 13, 2005.

REGISTRATION DEADLINE: FEBRUARY 4, 2005

To register, fill out the form below and fax it to the Biophysical Society office at 301-634-7133
or e-mail: society@biophysics.org.

Last Name: _____

First Name: _____

Address: _____

University: _____

Phone Number: _____

Fax Number: _____

E-mail: _____

Planning to Present a Poster? Yes No

Title of Abstract: _____

This program, sponsored by the Education Committee, aims to introduce college and university undergraduates to research and career opportunities in biophysics. The symposium includes a seminar on emerging topics on biophysics, the Emily M. Gray Award Lecture, and a special poster session highlighting undergraduate research.

Primarily Undergraduate Institutions Meeting

The faculty from primarily undergraduate institutions (PUI) meeting, organized by Sean Decatur, will be held at the Biophysical Society's 2005 Annual Meeting. The meeting will be held to discuss ideas and strategies on performing interdisciplinary research with undergraduates, concerns unique to these institutions, and future activities involving the Society. This meeting will be held as a luncheon session and registration will be required. For more information regarding date, time, and cost of the event, please visit the Annual Meeting page of the Society's website at <http://www.biophysics.org>

Public Affairs

FY 2005 Federal Budget Update

With the start of the 2005 fiscal year on October 1, the federal government is again operating under a continuing resolution. The Defense Department Bill is the only FY05 appropriations bill signed into law prior to Congress breaking on October 8. The continuing resolution, which allows government agencies to operate at fiscal year 2004 levels, was set to expire on November 20, with Congress scheduled to reconvene on November 16 for a lame duck session.

With that said, the Senate did make

progress on several appropriations bills during the month of September. The Senate Appropriations Committee approved an FY 2005 VA, HUD and Independent Agencies Appropriations bill that would increase the budget for the National Science Foundation by 3.0% next year. Under this bill, S. 2825, NSF's budget would increase from \$5,577.9 million to \$5,744.7 million, which is the same amount the President requested for the agency. The House version of this bill recommended a cut of 2.0% in NSF's budget to \$5,467.0 million. Once the full Senate votes on the bill, the House and Senate will agree on a final budget number in conference.

In the report accompanying the bill, the Committee expressed its continued support for the National Science Foundation Authorization Act of 2002 (Public Law 107-368) and the pursuit of a doubling path for NSF funding, but stated that current funding restraints make pursuing such funding at this time impossible.

The Senate Appropriations Committee also passed bills that would: 1) increase the NIST budget by 26.3% over FY04 funding, and 2) increase NASA funding by 1.3%.

Also in September, both the full House and the Senate Appropriations Committee passed Labor-HHS-Education bills, which include funding for the National Institute of Health's Institute of Biomedical Imaging and Bioengineering (NIBIB). The House bill would increase NIBIB funding by 3.7%, while the Senate bill would increase it by 4.8%.

The Senate numbers are more generous to science in general, but could be lowered in conference with the House.

Bement Nominated to be Next Director of NSF

On September 15, President Bush nominated *Arden Bement, Jr.*, to be the next Director of the NSF. Bement has served as acting director of that agency since *Rita Colwell* stepped down last winter. Prior to coming to the National Science Foundation, Bement served as director of the National Institute of Standards and Technology (NIST). Prior to his appointment as NIST director, Bement served as the David A. Ross Distinguished Professor of Nuclear Engineering and head of the School of Nuclear Engineering at Purdue University. He has held appointments at Purdue University in the schools of Nuclear Engineering, Materials Engineering, and Electrical and Computer Engineering, as well as a courtesy appointment in the Krannert School of Management. He was director of the Midwest Superconductivity Consortium and the Consortium for the Intelligent Management of the Electrical Power Grid.

Acting quickly on the nomination, the Senate Committee on Health, Education, Labor, and Pensions has already approved Arden Bement as Director of the NSF. The next step in the process is approval by the full Senate.

President Announces Nominations to the National Science Board

President Bush announced his nominees to the National Science Board and

(Continued on page 14.)

(Continued from page 13.)

sent the names to the Senate for confirmation. The nominees are: *Dan Arvizu*, of the University of Chicago; *Steven C. Beerling*, of Purdue University; *Gerald Wayne Clough*, of the Georgia Institute of Technology; *Kelvin Kay Droegemeier*, of the University of Oklahoma; *Louis J. Lanzerotti*, of the New Jersey Institute of Technology; *Alan I. Leshner*, of the American Association for the Advancement of Science; *Jon C. Strauss*, of Harvey Mudd College; and *Kathryn D. Sullivan*, of the Center for Science and Industry.

The National Science Board is an independent policy body established by Congress in 1950 with dual responsibilities to:

- Oversee and guide the activities of, and establish policies for, the National Science Foundation; and
- Serve as an independent national science policy body that provides advice to the President and the Congress on policy issues related to science and engineering that have been identified by the President, Congress, or the Board itself.

The Board has 24 members appointed by the President and confirmed by the Senate, plus the NSF Director as an *ex officio* member.

Roundup

Ethics at NIH: In a dramatic turn, *Elias Zerhouni* has announced a new policy putting a one-year moratorium on NIH

scientists collaborating with pharmaceutical and biotechnology companies. Previously, Zerhouni had announced that such arrangement would have limits and would need the approval of an NIH ethics panel. Thus, this announcement came as a surprise to the science community.

NIH Roadmap: To mark the one year anniversary of the launch of the NIH Roadmap for Biomedical Research, the Agency held a meeting on October 14 to highlight what has been accomplished thus far and what lies ahead. The one-and-half-hour meeting, held at the NIH and accessible via webcast, provided attendees with a look at the grants awarded as part of the Roadmap, and upcoming funding opportunities. The details can be found at: <http://nihroadmap.nih.gov/oneyearlater/>.

Department of Homeland Security: Starting on October 1, foreign visitors from 27 more countries are being fingerprinted upon entry into the United States. Prior to October 1, citizens of 22 European countries did not have to undergo the stepped-up screening since they could travel to the U.S. without a VISA. The Department of Homeland Security estimates that the new requirement will effect 33,000 visitors to the United States daily.

In a related measure, the Department of Homeland Security has proposed extending the validity of security clearances for foreign students and scientists beyond the current one-year duration. Under the proposed policy, a clearance could be valid for the length of the

study or academic appointment. The Department claims that the changes are possible because of their increased ability to monitor students and scholars through the Student and Exchange Visitor Information System.

NIH announces plan to increase public access to scientific literature

At the beginning of September, NIH released a report on open access publishing, calling for authors to submit transcripts to PubMed six months after publication, but not requiring for immediate submission. The notice of NIH's intent to provide public access to information from research funded by the agency and to seek comment on its decision appeared in the September 3 NIH Guide to Grants and Contracts and the September 17 Federal Register.

The proposed rules would require NIH grantees to submit to PubMed Central manuscripts accepted for submission by a journal. Those manuscripts would then be made available for free six months after publication on the PubMed Central website.

In response to the Federal Register Notice, the Biophysical Society Executive Board has approved a statement addressing the Society's concerns with the proposal. The statement appears on the next page.

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November 5, 2004

Dr. Elias Zerhouni

Director

National Institutes of Health

Bethesda, Maryland

Email: PublicAccess@nih.gov

Re: Federal Register Notice of September 17, 2004: Enhanced Public Access to National Institutes of Health (NIH) Research Information

Dear Dr. Zerhouni:

The Biophysical Society welcomes this opportunity to express our full support for the concept that scientific research information should be made freely accessible to the public in a timely manner. As publisher of the non-profit Biophysical Journal, we already immediately make accessible online all manuscripts approved for publication, with the final redacted version available online freely after one year. We also have provided back issues of the Journal to PubMed Central for posting. While we agree with the principles outlined in the proposed rules, we have concerns about some details of the policy because of the issues outlined below.

While a six month delay in releasing the authors' unredacted manuscripts for public access is acceptable for our journal, since we already make them freely available with no delay, we feel that the primary reference to the work by other authors must be to our journal, whether it is the authors' final manuscript or the published redacted article. We believe that it is extremely important that there be a single organization assuring the integrity of the published work, and that this responsibility remain with the Biophysical Society for articles appearing in our journal. Moreover, we believe that there will be real costs associated with implementing the proposed guidelines and that those costs have not yet been accurately evaluated. Whatever the ultimate costs are, however, we would be unable to undertake any part of the burden of depositing researchers' manuscripts or data in a central depository, and believe that this responsibility should reside with the individual grantees. It would be highly inappropriate for the Biophysical Society to act as intermediary between the grantees and the NIH.

Initiation of this centralized depository raises many other as yet unanswered issues important for a basic science journal, such as ours, related to assuring and monitoring the quality and integrity of our journal. How useful is an archive of unedited manuscripts for the public? How will readers learn of addenda or corrections to articles? How will the proposed model be funded? At what cost? Why is simply linking to publishers' web sites, rather than mandatory deposition at PubMed Central, not acceptable? It would certainly be a more efficient, less costly way to achieve the desired increased access.

The Biophysical Society has the same objective as the NIH - to make peer-reviewed scientific information as widely available as possible. We are confident that issues involved in creating better public access to the scientific literature can be resolved best by working openly together to develop a plan acceptable to all, without damaging the successful individual publishing enterprises. The proposed plan has serious faults and requires improvements before it is enacted. We welcome the opportunity to work collaboratively with the NIH to develop a truly viable plan.

Sincerely,

Stephen C. Harvey

President

(Continued from page 3.)

school and is working toward a degree in design at Virginia Commonwealth University. Chasan modestly states that he does "not have a record of high achievement in research," but his current atomic force microscopy (AFM) work, as well as earlier intermediate physics research stand out as highlights of his career. "About fifteen years ago, a student and I figured out how to incorporate bacteriorhodopsin in an artificial planar membrane (and) I am not sure that anyone else has

"As he talked, however, it became clear, as he later admitted, that he never read the book. That did not keep him from having a strong opinion."

done this. Somehow or other it never got published." His current AFM projects include a collaboration with both the Gastroenterology Department at Beth Israel Hospital, and *Rama Bansil* of the Boston University Physics Department, involving gastric mucin and its aggregation states as a function of pH, which is "important given the low pH at which it must function." He is working on a second project, involving channels, with *Horatio Cantiello* and *Wolfgang Goldmann* of Massachusetts General Hospital. "AFM and patch clamping are both used, although not simultaneously," Chasan explains. "I would not claim expertise, but imaging with AFM in fluids is not a walk in the park."

Chasan is proud of the forty years he spent at BU teaching elementary physics, advanced undergraduate, and graduate courses. He considers a recent undergraduate course he taught in biophysics a rehearsal for the pilot course offered this past summer at Hampton University, which was supported by the Biophysical Society and MARC funding. The three

week mini-course was run jointly by Chasan, *Barry Lentz*, Chair of the Biophysical Society Minority Affairs Committee, and *Al McQueen*, of Hampton University. "Lentz is very passionate about helping underrepresented groups get opportunities in biophysics," Chasan explains, "so he was the engine behind it." Chasan taught the course, which was attended by eight "very bright kids." During the course, the students were given a project, which they worked on in groups. The course included six guest lecturers who "not only gave lectures, but they would talk with the students,

and that was very successful." Chasan would like to see future courses expand to five weeks, and hopes the course can circulate among universities that are historically minority schools, eventually ending up back at Hampton University. "I'm hoping that we get the money so we can try it here (at BU) next year. We have a good infrastructure at Boston, and it's a research oriented university." After teaching the course at BU, Chasan hopes to

"Chasan is pleased that undergraduate education is becoming an increasingly prominent part of the Society's activities, and feels satisfaction that he has had an influence in that happening."

turn his seat over to *Mark Jack*, a faculty member at Florida A&M. "I'd be over seventy-one, and then the next year Mark would take it over to A&M, after co-teaching it with me"

Undergraduate education has always been a top priority for Chasan, and over the years he has been a member and often chair of the Department Undergraduate Affairs Committee. Some of his innova-

tive courses for non-majors have included titles like "Energy and the Environment" and "Does God Play Dice?"

Chasan was also honored as a Sigma Xi Distinguished Lecturer for the years 2000-2001. In fact, it was one of the lectures he gave, entitled "Life and Entropy: A Strange Partnership," which gave him the idea for the Hampton course. "I was thinking hard about this whole business of entropy, which is nothing new, but I was thinking hard about it, and I think it helped me clarify my ideas that were very applicable, at least for the beginning of the course. Biophysics is very much a kind of bench subject — let's look at this protein, let's look at that membrane. But of course, there are wider horizons and one of my jobs in the course was to start off by giving people a sense of these horizons."

Surprisingly, Chasan became active in the Biophysical Society late in life, as an emeritus member. His active interest in education in general and undergraduate education in particular prompted him to become involved. Chasan commends people like *Rick Ludescher* (Education Committee Co-Chair) for doing heroic work "I felt that biophysics as a subject in the undergraduate curriculum for physics majors and other majors didn't exist," he explains, "and

maybe I could have a positive influence." Chasan thinks that "physicists, and maybe engineers and other people who are in the hard sciences, need to be introduced to biophysics earlier than traditionally.... to open up opportunities and horizons they might not be aware of at all."

When asked what he feels has been his major accomplishment on the

Education Committee, Chasan says that "the Hampton course, with all its limitations (was) very fulfilling. It may be considered to be mainly a production of the Minority Affairs Committee, yet I participated as Co-Chair of the Education Committee, so I think of it as a joint production, spiritually if not legalistically."

Chasan is pleased that undergraduate education is becoming an increasingly prominent part of the Society's activities, and feels satisfaction that he has had an influence in that happening. He is also gratified that his committee has been able to work with other Society committees, including the Minority Affairs Committee (MAC), to influence the Society's direction in undergraduate education. "I was very happy that this Society was so open to this nutty old physics professor, knocking at their door," he quips, "and it's a funny Society, made up of all sorts of disciplines." "It's really great to see Bernie continue to work on the

Education Committee and help develop the summer course in biophysics," says Ludescher, "even now that he has retired. I think most of us would be a little more selfish in the same situation."

Chasan remains as passionate about his other interests as he is about his science and his efforts in the Society. His music devotion is divided among Bach, Beethoven, Mahler, Sibelius, and Bartok, and he loves to spend time hearing their music performed live. He still speaks of a recent memorable performance of Beethoven by the Borromeo Quartet, played in Cape Cod church, and of a wonderful song cycle by the American composer *Andy Vores*, played by the Modern Orchestra Project. "And," he says excitedly, "next week, the

"I was very happy that this Society was so open to this nutty old physics professor, knocking at their door"

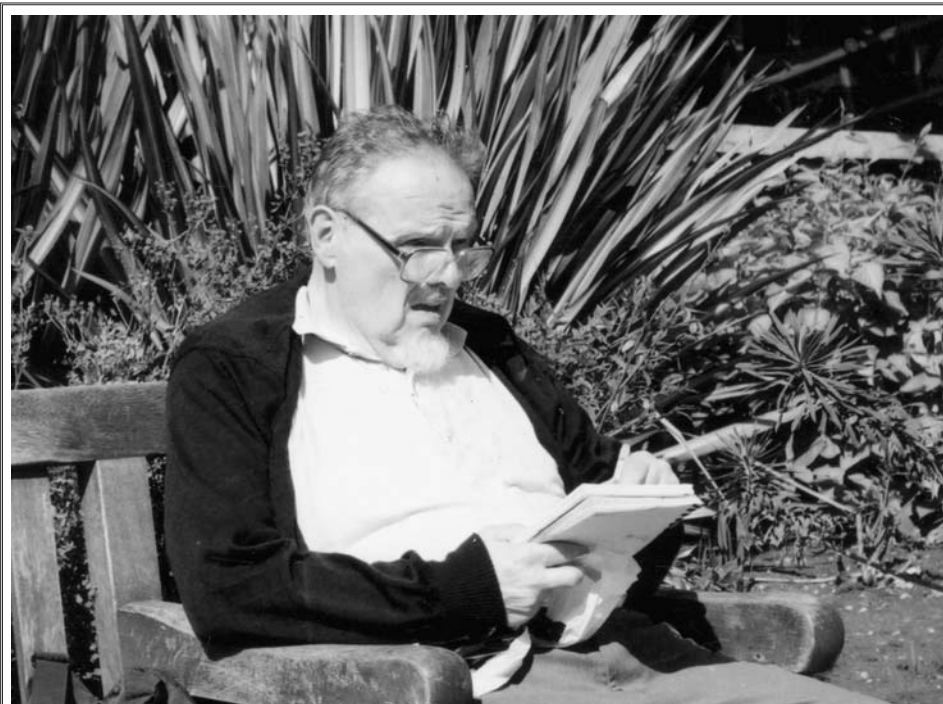
great lieder singer *Mitsuko Shirai* is coming to Cambridge!" Shirai, he adds, "is a favorite artist."

Six years ago, Chasan took up what has now become his "most active spare-time interest"... painting in acrylics and oil. "This late interest is a surprise to me," he explains. "I would never have predicted it five years ago. I've put a lot of money and effort into this."

Despite his interests in science, education, music, and art, Chasan describes himself as "pretty dull." He considers himself "a big Red Sox fan," and enjoys reading "contemporary novels of some literary merit." "*Jonathan Letherm's Motherless Brooklyn*, he explains, "is a fantastic novel with a funny title." "Now that I am emeritus, it is not clear what is spare time and what is unspare time. Perhaps the biophysics interests I still pursue are spare time."

The advice he gives to those starting out is to "read a lot in your field and not quite in your field. Attend seminars not precisely in your specialty. Don't be entirely technique – bound, as it were, although the pressures to go down this path are considerable. And whatever you do, learn more than a little molecular biology – you will need it sooner or later."

His colleague, Bansil, sums up Chasan's philosophy well when he recalls a discussion he and Chasan had regarding a 1300 page novel Chasan had just finished reading. "Bernie announced that when he got to the end, he was 'ready for more', a quote which I think characterizes Bernie Chasan himself. When he got to the end (retirement after a long career), he was ready for more!"



Bernie Chasan sketches while on a visit to London with his daughter Becky.

Members in the News

Three Society members were recently awarded the National Institutes of Health Director's Pioneer Award.



Robert Phillips, of the California Institute of Technology, Society member since 2004.



Sunney Xie, of Harvard University, Society member since 1992.



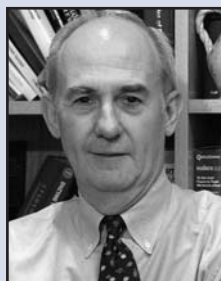
Homme Hellinga, of Duke University Medical Center, Society member since 1999.



Klaus Schulten and *Emad Tajkhorshid*, of the Theoretical and Computational Biophysics Group of the University of Illinois at Urbana-Champaign, have won first place in the NSF, AAAS 2004 Visualization Contest in Illustration, for *Water Permeation Through Aquaporins*. Schulten has been a Society member since 1996, and Tajkhorshid since 2000.



Stuart Forman, of Massachusetts General Hospital, and a Society member since 1980, received the 2003 Presidential Early Career Award for Scientists and Engineers.



Philip Stabl, of Washington University, and a Society member since 1984, received the Washington University's 2004 Carl and Gerty Cori Faculty Achievement Award.



Andrew R. Marks, of Columbia University College of Physicians and Surgeons, and a Society member since 1990, has been elected a new member of the Institute of Medicine.



Julie Theriot, of Stanford University, and a Society member since 2003, received a MacArthur Fellowship for 2004.

Introducing *BioFAST*

In order to make new research readily available to readers throughout the world, *BioFAST* republishes papers accepted for publication in *Biophysical Journal (BJ)*. Those papers appear in manuscript format within one week of acceptance and are available at no cost to readers. Papers appearing in *BioFAST* have undergone full scientific review but no editing, such as copy-editing, typesetting, or proofreading. These papers appear later in final, edited format in the print version of *BJ* and in *BJ Online*. For more information, visit <http://www.biophysics.org>.

FACULTY POSITION ANNOUNCEMENT Institute for Physical Science and Technology, University of Maryland

TITLE: Assistant, Associate or Full Professor - Experimental Biophysics
The Institute for Physical Science and Technology at the University of Maryland invites applications for a tenured or tenure-track faculty position in experimental biophysics. The successful candidate will complement our group's existing interests and strengths in statistical mechanics and non-linear dynamics. The successful candidate will also play a leading role in developing strong research directions in areas that may include, but are not limited to: protein and molecular dynamics of complex systems, biophysical interfaces, single molecule biophysics, biological nanostructures, biological signaling, biological networks, or nanofabricated biological systems. The appointment will be joint between the Institute and the Department of Physics, with an additional affiliation possible with Chemistry, Biology, Materials or other appropriate department. The level of the appointment will be based on the candidate's prior experience and qualifications.

QUALIFICATIONS:

Ph.D. in Biophysics or other Physical Sciences with strong background in Physics. Strong teaching skills and potential are necessary.

SALARY: Commensurate with position and experience.

POSITION AVAILABLE: Fall 2005

APPLICATIONS:

Applications including a curriculum vitae, statement of research interests and plans and a list of a minimum of four references should be sent directly to: *Chair of Bioscience Search, Rm. 4211 Computer and Space Science Building, University of Maryland, College Park, Maryland 20742*. For best consideration, applications should be received by December 31, 2004.

THE UNIVERSITY OF MARYLAND IS AN EQUAL OPPORTUNITY, AFFIRMATIVE ACTION EMPLOYER.

2006 Biophysical Discussions Call for Topics

The Discussions Committee is soliciting proposals for the 2006 Biophysical Discussions.

Deadline: December 31, 2004.

Submit proposals by email to:
discussions@biophysics.org

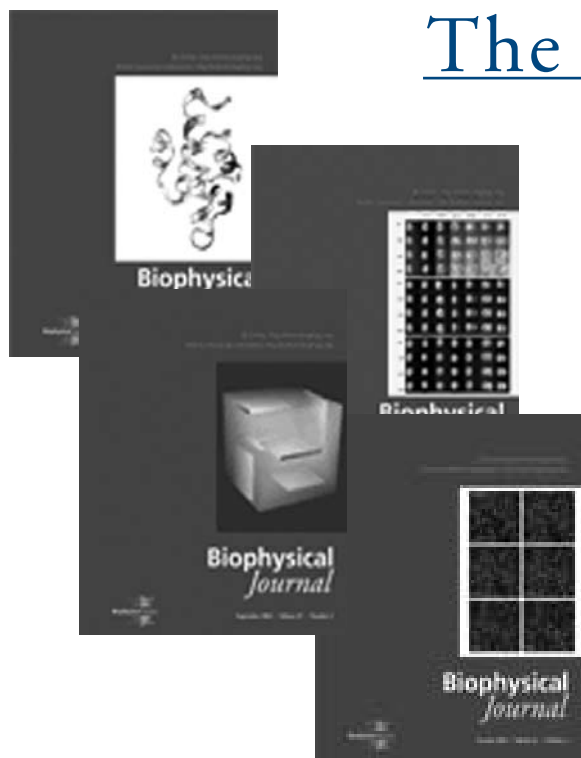
What Are Discussions? The Discussions are small meetings that focus on a cutting-edge or emerging topic in biophysics; topics that benefit from intense discussions. The meetings are patterned after the Farraday Society and have a unique format that stresses discussion over formal presentations. Plenary sessions consist of five-minute presentations by speakers, followed by a lengthy discussion. In addition there are poster sessions. This format allows for greater, less-inhibited participation by participants. The meetings are limited to 200 participants and last for approximately three days. The 2004 Discussions will be the eighth such meeting organized by the Biophysical Society. Suggestions for possible 2006 Discussion sites are also welcome.

- A proposal should contain names of the organizer(s), who must agree to do so, a title/theme, a short paragraph telling why this is an important topic, and a list of possible presentations and presenters.
- Preference will be given to topics that bring together scientists from diverse disciplines.
- The meeting takes place over a three-day period, with talks in the morning and evening, and the afternoons set aside for informal interactions.
- Additional details can be found at: <http://www.biophysics.org>.

The Biophysical Society Discussions Committee

David DeRosier, Brandeis University Rosenstiel Center, Chair
Steven M. Block, Stanford University
David E. Eisenberg, University of California, Los Angeles
Joseph J. Falke, University of Colorado
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Associate Editors: Meyer B. Jackson
 Barry R. Lentz
 Herbert Levine (Newly Joined)
 Dagmar Ringe
 Anthony Watts

Current topics include:

Proteins	Electrical Signaling	Biological Systems
Multicellular Dynamics	Theory and Modeling	Imaging
Electrophysiology	Spectroscopy	Channels
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Manuscripts can now be submitted in the following categories:

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NEW - Biophysical Letters - for the rapid publication of unusually important and timely, short articles in diverse areas of biophysics. Submissions are on a formatted template. Visit <http://www.biophysics.org/publications/letters-instruct.pdf> for more information.

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Reviews - Covering topics of current interest in biophysics intended to provide an overview of recent research. Most reviews are solicited, but contributed reviews will also be considered.

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View instructions for online submission at <http://www.biophysics.org/authors.html>

View guidelines for authors and reviewers at <http://www.biophysics.org/publications/Guidelines.pdf>

All contributions should be submitted online at <http://www.submit.biophysj.org/>

Biophysical Society Volunteer Biographical Sketch

The Biophysical Society Committees are essential to the implementation of the Society's stated purpose to encourage development and dissemination of knowledge in biophysics. Committee members and chairs in all but two of the Society's fourteen committees serve three-year terms, renewable once. All new and continuing committee appointments are approved by Council when it meets each year at the Annual Meeting. Committee members must be current Society members at the time of their appointment. Society members who wish to be considered for a committee appointment are encouraged to submit this form.

Volunteer forms received prior to October 1, 2004, will be considered for appointment in 2005.

I wish to be considered for (indicate office): _____

I am interested in serving on the following committee(s): _____

Full name: _____

Highest degree: _____ Year received: _____

Discipline/Field: _____

Institution where degree was received: _____

Present title/department/institution: _____

Research interests and experience: _____

Previous Biophysical Society experience (Officer, Executive Board, Council, Editor, Committee Chair or member, Subgroup Chair, etc.):

My reason for running for this office or serving on this committee is: _____

Signature: _____ Date: _____

Mail or fax completed form to:
 Secretary
 Biophysical Society
 9650 Rockville Pike, Bethesda, MD 20814-3998
 301-634-7133

Ask Professor Sarah Bellum

Professor Sarah Bellum answers your questions on navigating the often-uncharted waters of early career development. Professor Bellum was inspired by Ms. Mentor, a column by *Emily Toth* appearing in *The Chronicle of Higher Education*, and is written by *Patricia L. Clark*, chair of the Early Careers Committee. Do you have a question for Professor Bellum? Send it to sarah_bellum@biophysics.org. Your privacy and anonymity are assured!

Babies and the Professoriate, Part II

Q: *I am seven months pregnant with my first child, and four years into my first tenure track job. Balancing work and family has never been an issue for me, but how am I going to balance work and family after this baby is born? I currently work 10-12 hours/day during the week, plus another 10-12 hours over the weekend. I love my job; I love talking with the students in my lab, I love working on challenging projects, and I even love teaching. I am not so naïve as to think that I will be able to resume my current schedule immediately after the baby is born, but is it reasonable to expect to be back to 100% after a month? Two months?*

- Pregnant at Penn State

A: The short answer to your question is: it depends. Every pregnancy/childbirth is different, every newborn is different, and every home situation is different. Has your pregnancy been trouble-free? Are you healthy and fit? Will you have full-time help – a nanny, a devoted new grandma – at home with the baby? Then perhaps your recovery will be briefer than most. The particulars of your situation will determine how fast you can bounce back to a normal schedule, but because there will still be plenty of unknowns before the birth itself, you would be wise to start to adopt an attitude of flexibility now. In other words, be prepared to cut yourself a whole lot of slack in the months to come, because you might need it.

But let's look more closely at that word 'normal' for a moment. The 'normal' you will be working towards after childbirth is not the same normal you have now. No matter how easy the

birth, no matter how mild-mannered the baby, no matter how much help you have at home, the normal after the baby is born is a 'new normal' that will reflect this new additional priority in your life. For example, you should expect to work differently from how you work now: much more efficiently, and with a greater appreciation of the importance of being organized. Leisurely lunches and chats over the coffee machine will become rare, treasured events. You might find it is no longer worth it to spend twice as long writing something in order to improve it by ten percent. You will probably find that you rely on a schedule and do far more planning than you ever have before, and you may leave the office each day at a set time, whether your 'to – do' list is completed or not.

“...the normal after the baby is born is a ‘new normal’ that will reflect this new additional priority to your life.”

Of course, many aspects of this search for the 'new normal' apply to new fathers as well as new mothers. Nevertheless, no matter how little (if at all) gender differences have factored into your life up till this point, childbirth will most likely change that. Consider untenured Elsa, who was six months pregnant when the wife of

one of her colleagues gave birth. The day after the birth, Elsa ran into her colleague in the department office; he had come in to teach his class and pick up his mail. A situation like this can be a watershed for a pregnant assistant professor or new mother: even under the best childbirth circumstances, Elsa could not imagine dropping by the department office (much less teaching!) the day after giving birth.

Professor Bellum is a big believer in

letting everyone do their own thing, but your eagerness to resume your current schedule does ring one alarm bell: please keep in mind that it is fantastically easy to overestimate your capacity to get non-baby-related work done in the first two or three months after the baby is born. Professor Bellum would rest much easier if she heard that you will consider using those

“...expect that one month of immediate post-partum work will be roughly equivalent to one day of your normal (pre-baby) work productivity.”

first 2-3 months to completely immerse yourself in the absolute amazement of your new baby and getting used to your new life. Having a baby might be the biggest, most dramatic change you ever make in your life, and you should plan on it taking a while to get used to it. And at first, the baby is going to be changing and developing on an almost daily basis, and it would be tragic to miss that metamorphosis. This is not to suggest that you isolate yourself from work (heaven forbid!); by all means, talk with your students, keep up with your email, skim journals, even teach a class you have taught many times before, but think twice about plans to (i) revise a manuscript, (ii) draft a grant proposal, (iii) develop a new course syllabus during this time. Don't take this the wrong way: you will be capable of bigger projects like this and taking care of yourself and your baby during this time, but the smart money is betting you will be stunningly inefficient at it. Meaning: anything work-related you do accomplish during this 2-3 month period can easily be accomplished in 1/30th the time in later months. Please

read this next sentence twice: expect that one month of immediate post-partum work will be roughly equivalent to one day of your normal (pre-baby) work productivity.

On top of the inefficiency of immediate post-partum work, it is often also incredibly conflicting: you want to work on the manuscript/proposal/syllabus, but you also really want to play

with the baby/watch the baby sleep/make a sandwich/reduce the chaos that surrounds you/nap. After 2-3 months, the baby will not be changing so fast, you will have (mostly) recovered physically, the baby will be sleeping better (meaning you too will be getting more sleep), everyday things like bathing the little creature will not be so much of a production, some new patterns/schedules (the first signs of the new normal!) will have emerged, and a tiny bit of the novelty will have worn off (though not much!).

A common concern, particularly for younger faculty (with younger labs), is losing touch with the experimental progress of the lab. A great way to address this is to re-establish regular lab meetings as soon as you feel up to it. Even better, if your lab has more than four graduate students, start scheduling regular meetings with individual members of your research group. It is especially important that each member of your lab feels that he/she is getting prop-

er mentoring and attention during your leave. And while it is very easy to pay attention to the projects that are working well, it is harder to pay attention to those projects that really need attention. The easiest way to address this is to establish a mechanism to spend equal time with each group member, either through regularly scheduled individual chats, or small weekly subgroup meetings to review weekly experimental progress. These mechanisms will ensure that, throughout the week, you will get a chance to interact with each person in the group, and their projects.

Another often-underrated aspect of recovery from childbirth is the large emotional adjustments you will experience. Don't be surprised if you start back to work and still find you are highly distracted. Eight weeks after giving birth, Margaret found herself on the elevator with her department chair. Usually a

“...re-establish regular lab meetings as soon as you feel up to it.”

natural conversationalist, Margaret realized she was suddenly unable to think of anything at all to say – her brain felt thick and woolly, and all she could think about was the first real smile her new daughter had bestowed on her just that morning. This distractibility can be very distressing, but rest assured it will lessen with time. Again, starting off with a flexible attitude and the capacity to cut yourself as much slack as needed will make every aspect of this transition as smooth as possible.

Upcoming Events*

December 13-16, 2004

First International Conference on Environmental, Industrial and Applied Microbiology: BioMicroWorld2004

Badajoz, Spain

<http://www.formatex.org/biomicroworld2004/index.htm>

March 31- April 5, 2005

35th International Congress of Physiological Sciences

San Diego, CA

<http://www.iups.org/>

April 2-6, 2005

Experimental Biology 2005 (joint meeting by AAI, AAA, APS, ASBMR, ASIP, ASNS, ASPET)

San Diego, CA

<http://www.aai.org/>

April 2-6, 2005

The American Association of Immunologists 2005 Annual Meeting

San Diego, CA

<http://www.icaac.org>

April 30-May 4

6th European Symposium of The Protein Society

Barcelona, Spain

<http://www.proteinsociety.org/>

*Please visit <http://www.biophysics.org/> for a complete list of upcoming events.



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