

Biophysical Society

Newsletter

September/October 2008 Issue

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2008 Election Results



Peter B. Moore

Peter B. Moore of Yale University was elected President-Elect of the Biophysical Society. He will assume that office at the 2009 Annual Meeting in Boston, Massachusetts. His term as President will begin at the 2010 Annual Meeting in San Francisco, California.



Linda Kenney

Linda Kenney of the University of Illinois, Chicago, was elected Treasurer. She will begin her four-year term on July 1, 2009.

Seven Society members were elected to Council; each will serve a three-year term beginning March 2009. Elected were *Ivet Bahar*, University of Pittsburgh School of Medicine; *Patricia Clark*, University of Notre Dame; *Marco Colombini*, University of Maryland, College Park; *Enrique M. De La Cruz*, Yale University; *Vasanthi Jayaraman*, University of Texas-Houston Medical School; *David Millar*, the Scripps Research Institute; and *Petra Schuille*, the Biotechnological Centre (BIOTEC) of the Technological University, Dresden.

Thirty-four percent of eligible Society members cast their ballots this year. The Society thanks all members who participated in the elections.



Ivet Bahar



Patricia Clark



Marco Colombini



*Enrique M.
De La Cruz*



Vasanthi Jayaraman



David Millar



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2009 Society Award Winners Announced

The 2009 Society awardees, listed below, will receive their respective awards during the Awards Ceremony at the Annual Meeting on March 2, 2009 in Boston, Massachusetts. Each awardee will present a lecture at the Awards Symposium on March 3, also during the Annual Meeting.



Robert Stroud Named Anatrache Awardee

Robert Stroud of the University of California, San Francisco, has been selected to receive the 2009 Anatrache Membrane Protein Award for his outstanding contributions to transmembrane biology, and pioneering new methods allowing membrane proteins to become tractable as structural methods.



Stephen White Named Avanti Awardee

Stephen H. White of the University of California, Irvine, has been selected to receive the 2009 Avanti Award in Lipids for his novel findings in the areas of membrane structure and protein insertion into membranes.

Three Members Share Dayhoff Award

This year, three candidates were selected to share the Margaret Oakley Dayhoff Award. They are: *Teresa Giraldez* (not pictured) of the Hospital Universitario Nuestra Señora de Candelaria, for her impressive accomplishments in the use of patch fluorometry to advance the understanding of ion channels; *Adrienne Fairhall* of the University of Washington, for her excellent work in the field of adaptation in neural codes and leadership in advancing training in computational neuroscience; and *Jin Zhang* of the Johns Hopkins University School of Medicine, for her outstanding contributions to the field of quantitative FRET and fluorescence imaging as applied to cell signaling.



Adrienne Fairhall



Jin Zhang



Founders Award Goes to Keiichi Namba

Keiichi Namba of Osaka University has been selected to receive the 2009 Biophysical Society Founders award for his multi-faceted biophysical achievements and innovative studies of the mechanisms of self-assembly, conformational switching, and movement of vital macromolecular complexes.



Gaudenz Danuser Receives Young Investigator Award

Gaudenz Danuser of the Scripps Research Institute, has been selected to receive the 2009 Michael & Kate Bárány Award for Young Investigators for his outstanding seminal contributions in diverse areas of cell biology, particularly to our understanding of cell cytoskeleton dynamics and function using speckle microscopy.



Julio Fernandez Named US Genomics Awardee

Julio Fernandez of Columbia University has been selected to receive the 2009 U.S. Genomics Award for Outstanding Investigator in the field of Single Molecule Biology for advancing the frontier of single molecule biology through the invention of force clamp spectroscopy, polyprotein ruler domains, and the measurement of forces affecting chemical reactions.

Call for Nominations

We invite you to nominate candidates for the 2010 Biophysical Society Awards. The Biophysical Society awards are presented annually in 9 different categories:

Anatrace membrane Protein Award

Avanti Award in Lipids

Michael and Kate Bárány Award for
Young Investigators

Distinguished Service Award

Fellow of the Biophysical Society Award

Founders Award

Emily M. Gray Award

Margaret Oakley Dayhoff Award

U.S. Genomics Award for Outstanding
Investigator in the field of Single

The nomination deadline is April 1, 2009.

Follow the link to the Awards site at www.biophysics.org for eligibility, selection process, and nomination procedures for each Award.

Questions about the Biophysical Society awards are welcome and should be directed to jwittig@biophysics.org.

Biophysicist in Profile



Dorothee Kern

It is often thought that sports enhance education. In the case of Dorothee Kern, Howard Hughes Medical Institute Investigator and Professor of Biochemistry at Brandeis University, sports enabled education and, together with science, have provided balance in her life. “The more balance in life that you have,” she explains, “the happier you are.”

Born on January 19, 1966, in Halle, formally East Germany, Kern was the middle child, sandwiched between two brothers. Both of her parents were biochemists who were opposed to Communism, which made for a difficult life. For political reasons, her father was denied promotion to professorship, while her mother was fired. Through this difficult time, the family remained close-knit and competitive.

It became apparent early in her life that Kern, born Huebner, had an aptitude for athletics, particularly swimming and basketball. Swimming was an Olympic sport in East Germany and the training was intensive. In addition, athletes were required to attend special sports schools and often were given steroids. Well aware

of these dangers, Kern’s father encouraged her to pursue basketball, which was an “amateur” discipline with no Olympic participation and, therefore, did not involve sports schools and steroid use.

When applying to high school (only 1% of the students were selected), Kern was initially denied access because her family “did not support the communistical system.” After her parents spent months fighting to get her into school, Kern was allowed to enter high school when her membership on the Junior National Basketball Team was deemed a help to the country. She continued playing basketball and captained the East Germany National team all through high school

and college. At the same time, she managed to graduate from high school as a straight “A” student.

option, and Kern took advantage of opportunities in the countries around her. Kern’s work brought her to study enzyme catalysis and dynamic NMR spectroscopy, when Professor Sture Forsen at Lund University in Sweden heard about Kern and invited her to his lab. Kern traveled for several years back and forth between Germany and Sweden, sleeping during the overnight seven-hour train ride and three-hour ferry ride. Thankfully, she laughs, she only requires “four hours of sleep!” In Sweden, Kern had access to better equipment and she could attend international biophysical conferences. It was at one of these conferences that she met her husband, Gunther Kern.

During this period of time, Kern also continued to pursue her love of sports. She played basketball with the professional league of United Germany, the Bundesliga, and was selected as the

Kern was allowed to enter high school when her membership on the Junior National Basketball Team was deemed a help to the country.

“I never had a disadvantage of being young, being a woman, a foreigner and having a family with children.”

only player from the East Germany team to join the National team of United Germany.

After finishing her PhD, Kern officially took

a year off to care for her infant daughter, but continued her research. Together with her father and husband, Kern studied the mechanism of vitamin B1 activation and soon published her results in *Science*. She also used the time to apply for a postdoctoral position in the United States. Both she and her husband received postdoctoral fellowships at the University of California, Berkeley.

“My advisor Davis Wemmer gave me a lot of freedom,” she states. At Berkeley, she worked on NMR spectroscopy in a signaling protein. Science in America was very inspiring to her. “It’s much faster paced,” she explains. Kern also appreciated the open-minded and tolerant environment she found in the US. Wemmer explains that Kern provided a great example for others. She demonstrated “determination, persistence, excellent intuition in scientific problems, and was fearless in undertaking new methods,” says Wemmer.

Originally, she and Gunther planned to complete their postdocs in the US and then move back to Germany.

However, after she gave a talk on vitamin B1 at an international conference, a representative from Brandeis University persuaded Kern to apply for a position at the University, which she did, and where she remains today. Professor of Biochemistry at Brandeis University, Christopher Miller, says that Kern possesses “tremendous creativity, energy and fearlessness in tak-

ing on new approaches and methods.” He notes that “it’s exhausting just to watch her in action.” Another

“I like the social component of science . . .”

of Kern’s colleagues, Ad Bax, Chief of the Section on Biophysical NMR, at the National Institute of Diabetes and Digestive and Kidney Diseases, NIH, states that Kern is “highly focused, motivated, and sees the big picture.”

The difference in science between Germany and America, Kern notes, is that, people in the US are evaluated



by their performance and not by factors like age, gender, or race. “The job opportunities that I got offered here (in the US),” she explains, “I would have not gotten in Germany as a young woman. I think it is important to acknowledge how much equal opportunity I have experienced here in America. I never had a disadvantage of being young, being a woman,

a foreigner and having a family with children. My experiences in Germany were very different. This is a

huge strength of science in America.”

Kern has come to love biophysics because of proteins. She is excited about learning and understanding how proteins work and how that could lead to a drug used to combat diseases like cancer and Alzheimer’s. She became a member of the Society when she realized that this is where her peers are. “I like the social component of science,” she adds, admitting she does not want to close herself off in a lab all day. The passion for people led her to become active in the Society. She was recently elected to serve on the Biophysical Society Council and was also named the 2009 National Lecturer.

Kern has two daughters, Nadja, 15, and Julia, 10. Both are following in their parents’ footsteps, enjoying science and sports. They also spend a significant portion of their summers in Germany, and Nadja has even worked in her grandfather’s lab for two weeks. Kern remains active in sports, including coaching her daughter’s teams and playing basketball in men’s leagues in America and with the Masters National team in Germany. She and Gunther, who works at Astra-Zeneca, share a passion for the outdoors. Enjoying the intellectual and geographical freedoms she once did not have, Kern has found the happy balance that science, sports, and family create.

Biophysical Society 53rd Annual Meeting Scientific Program

February 28 – March 4, 2009
Boston Convention and Exhibition Center
Boston, Massachusetts

For updates, visit www.biophysics.org

SYMPOSIA

Sunday, March 1

8:15 AM – 10:15 AM

Symposium 1: Protein Modularity and Flexibility in Signal Transduction

David Eliezer, Weill Medical College of Cornell University, Co-Chair
Richard Kriwacki, St. Jude Children's Research Hospital, Co-Chair
Mike Rosen, University of Texas Southwestern Medical Center at Dallas

Julie Forman-Kay, Hospital for Sick Children, University of Toronto, Canada

Ruth Nussinov, National Cancer Institute and Tel Aviv University, Israel

Wendell Lim, University of California, San Francisco

Symposium 2: Many Ways to Regulate a Molecular Motor

Samantha Harris, University of California, Davis, Chair

James Sellers, LMC, NHLB, NIH
Kenneth Taylor, Florida State University

Michael Ostap, University of Pennsylvania School of Medicine

10:45 AM – 12:45 PM

Symposium 3: The Biophysics of HIV

David Millar, Scripps Research Institute, Chair

Karin Musier-Forsyth, Ohio State University

Michael Summers, HHMI at UMBC
Wesley Sundquist, University of Utah

Symposium 4: Systems Biology

Ravi Iyengar, Mount Sinai School of Medicine, Chair

Alexander van Oudenaarden, Massachusetts Institute of Technology

Pamela Silver, Harvard Medical School

Uri Alon, Weizmann Institute of Science, Israel

4:00 PM – 6:00 PM

Symposium 5: How Proteins Move on DNA

Smita Patel, UMDNJ RWJ Medical School, Chair

Yann Chemla, University of Illinois at Urbana-Champaign

Eric Greene, Columbia University

Omar A. Saleh, University of California, Santa Barbara

Symposium 6: Store-operated Calcium Channels in the Molecular Age

Richard Lewis, Stanford University School of Medicine, Chair

Mitsu Ikura, Ontario Cancer Institute and University of Toronto, Canada

Stefan Feske, NYU Medical Center
Jen Liou, Stanford University

Monday, March 2

8:15 AM – 10:15 AM

Symposium 7: Cholesterol as a Regulator of Channel and Receptor Function

Irena Levitan, University of Illinois at Chicago, Chair

Indu Ambudkar, NIDCR, NIH
Gerald Gimpl, Johannes Gutenberg University of Mainz, Germany

Jens Lundbaek, Technical University of Denmark, Lyngby

Symposium 8: Monitoring RNAs: From Single Molecules to the Cell

Ignacio Tinoco, University of California, Berkeley, Chair

Xiaowei Zhuang, Harvard University
Robert Singer, Albert Einstein College of Medicine

Ido Golding, University of Illinois at Urbana-Champaign

10:45 AM – 12:45 PM

Symposium 9: Sensing the Membrane

William Dowhan, University of Texas Medical School at Houston, Chair

Diego de Mendoza, University of Rosario, Argentina

Paula Booth, University of Bristol, United Kingdom

Anthony Lee, University of Southampton, United Kingdom

Symposium 10: New Frontiers in Biophysics

Chair and speakers to be announced

4:00 PM – 6:00 PM

Symposium 11: Cargo Transport by Single Molecular Motors*Kristen Verhey*, University of Michigan, Chair*Kathleen Trybus*, University of Vermont*Vladimir Rodionov*, University of Connecticut Health Center*Hideo Higuchi*, University of Tokyo, Japan**Symposium 12: Regulated Intramembrane Proteolysis (RIP)***Yigong Shi*, Tsinghua University, Beijing, China, Chair*Iban Ubarretxena*, Mount Sinai School of Medicine*Michael S. Wolfe*, Brigham & Women's Hospital and Harvard Medical School*Eitan Bibi*, Weizmann Institute of Science, Israel**Tuesday, March 3**

8:15 AM – 10:15 AM

Symposium 13: G-Protein Coupled Receptor Structure and Regulation*Brian Kobilka*, Stanford University, Co-Chair*Jonathan A. Javitch*, Columbia University, Co-Chair*Friedrich Siebert*, University of Freiburg, Germany*Céline Galés*, INSERM U858, Toulouse, France**Symposium 14: RNA in Biology and Disease***Dinshaw Patel*, Memorial Sloan-Kettering Cancer Center, Chair*Christopher D. Lima*, Memorial Sloan-Kettering Cancer Center*Michael Sattler*, Helmholtz Zentrum München & Technische Universität München, Germany*Hashim Al-Hashimi*, University of Michigan

10:45 AM – 12:45 PM

Symposium 15: Awards Symposium

Awardees to be announced

4:00 PM– 6:00 PM

Symposium 16: Channels, Transporters, and Pores: Ways to Cross the Membrane*Susan Buchanan*, NIDDK, NIH, Chair*Isaiah Arkin*, Hebrew University of Jerusalem, Israel*Jacqui Gulbis*, Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia*Thomas Walz*, HHMI and Harvard Medical School**Symposium 17: The Dynamic Chromatin in Epigenetic Gene Control***Timothy J. Richmond*, ETH Zürich, Switzerland, Chair*Ronen Marmorstein*, The Wistar Institute*Andre Nussenzweig*, NCI, NIH*Tarjei Mikkelsen*, Broad Institute of MIT and Harvard**Wednesday, March 4**

8:15 AM – 10:15 AM

Symposium 18: DNA Processing in Genome Integrity and Maintenance*Michael O'Donnell*, Rockefeller University, Chair*James Berger*, University of California, Berkeley*Susan M. Gasser*, Friedrich Miescher Institute, Basel, Switzerland*Stephen Kowalczykowski*, University of California, Davis**Symposium 19: Muscle: A Model System for Emergent Molecular Motor Properties***Claudia Veigel*, National Institute for Medical Research, London, United

Kingdom, Chair

Josh Baker, University of Nevada, Reno*Dietmar Manstein*, Hannover Medical School, Germany*Sanford Bernstein*, San Diego State University

10:45 AM – 12:45 PM

Symposium 20: Membrane Trafficking*Barbara Baird*, Cornell University, Chair*Pietro De Camilli*, Yale University School of Medicine*Frederick Maxfield*, Weill Cornell Medical College*Wolfhard Almers*, Oregon Health & Science University**Symposium 21: Receptor-mediated Channel Activation***David Colquhoun*, UCL, United Kingdom, Chair*Lucia Sivilotti*, UCL, United Kingdom*Claudio Grosman*, University of Illinois at Urbana-Champaign*James Howe*, Yale University School of Medicine*Gabriela K. Popescu*, University of Buffalo, SUNY**WORKSHOPS****Sunday, March 1**

7:30 PM – 9:30 PM

Workshop 1: Advanced Single Molecule Fluorescence Techniques in Vitro and in Vivo*Jeff Gelles*, Brandeis University, Chair
Speakers to be announced**Workshop 2: Channelopathies and Pumpopathies***Stephen Cannon*, University of Texas Southwestern Medical Center at Dallas, Chair*Ilya Bezprozvanny*, University of Texas Southwestern Medical Center at Dallas

William Catterall, University of Washington
Daniela Pietrobon, University of Padova, Italy
Arie Struyk, University of Texas Southwestern Medical Center at Dallas

Workshop 3: Enzymes in Energy Metabolism

Michael Radermacher, University of Vermont, Chair
Carmen Mannella, Wadsworth Center
Jacqueline Milne, NCI, NIH
C. Roy Lancaster, Saarland University, Homburg, Germany
Juan J. Aragón, Autonomous University, Madrid, Spain

Tuesday, March 3

7:30 PM – 9:30 PM

Workshop 4: Protein Folding and Stability

Rohit Pappu, Washington University, Chair
Cecilia Clementi, Rice University
Doug Barrick, Johns Hopkins University
Martin Gruebele, University of Illinois, Urbana-Champaign
Gary Pielak, University of North Carolina at Chapel Hill
Sheena Radford, University of Leeds, United Kingdom

Workshop 5: Nanotechnology/Microfluidics

Petra Schwille, Dresden University of Technology, Germany, Chair
Owe Orwar, Chalmers University of Technology, Göteborg, Sweden
Robert Austin, Princeton University
Cees Dekker, Delft University of Technology, The Netherlands
 Speaker to be announced

SUBGROUPS

All subgroup meetings will be held on Saturday, February 28.

Bioenergetics

Lawrence Prochaska, Wright State University School of Medicine, Subgroup Chair
Shelagh Ferguson-Miller, Michigan State University, and
William A. Cramer, Purdue University,
 Morning Session Co-Chairs
William Dowhan, University of Texas Medical School at Houston
Thomas N. Seyfridt, Boston College
Valerian E. Kagan, University of Pittsburgh
Richard Epsand, McMaster University, Hamilton, Canada
Tatiana Rostovtseva, NICHD, NIH, and
John Lemasters, Medical University of South Carolina, Afternoon Session Co-Chairs
Christopher Baines, Cincinnati Children's Hospital Medical Center
Craig Thompson, University of Pennsylvania Cancer Center
John Pastorino, New Jersey State Medical College
Jan Hoek, Thomas Jefferson University

Biological Fluorescence

Suzanne Scarlata, Stony Brook University, Subgroup Chair
David Piston, Vanderbilt University
Peter So, Massachusetts Institute of Technology
Catherine Royer, Centre National de la Recherche Scientifique, Montpellier, France
Richard Benninger, Vanderbilt University
 Two short talks will be presented by selected junior faculty and/or student members of the subgroup.

Exocytosis & Endocytosis

Ruth Heidelberger, University of Texas Medical School at Houston, Subgroup Chair
 Speakers to be announced

Intrinsically Disordered Proteins

Richard Kriwacki, St. Jude's Research Hospital, Subgroup Chair

Rick Morimoto, Northwestern University

Yosef Shaul, Weizmann Institute of Science, Israel

Yuan Chen, Beckman Research Institute of the City of Hope
Susan Lindquist, University of Chicago

Peter Tompa, Hungarian Academy of Science, Budapest

Lewis Kay, University of Toronto, Canada

Vincent Hilser, University of Texas Medical Branch

Vinod Subramaniam, University of Twente, Enschede, The Netherlands

José Onuchic, University of California, San Diego

Membrane Biophysics

H. Criss Hartzell, Emory University School of Medicine, Subgroup Chair & Organizer
Tom DeCoursey, Rush University Medical Center
Joseph Mindell, NINDS, NIH
Fred Lamb, University of Iowa
Uhtaek Oh, Seoul National University
Annmarie Surprenant, University of Manchester, United Kingdom

Membrane Structure & Assembly

Antoinette Killian, Utrecht University, The Netherlands, Subgroup Chair
Sarah Keller, University of Washington
Stephanie Tristram-Nagle, Carnegie Mellon University

Erwin London, Stony Brook University

Katsumi Matsuzaki, Kyoto University, Japan

Kalina Hristova, University of California, Irvine

Lucie Khemtouri, Utrecht University, The Netherlands

Bruno Antonny, Centre National de la Recherche Scientifique, Valbonne, France

Siewert-Jan Marrink, University of Groningen, The Netherlands

Molecular Biophysics

Claus Seidel, Heinrich-Heine University of Duesseldorf, Germany, Subgroup Chair

Martina Havenith, Ruhr-Universität Bochum, Germany

Wayne L. Hubbell, University of California, Los Angeles

Jin Wang, Stony Brook University

Gabriel Waksman, UCL and Birkbeck College, London, United Kingdom

Motility

Peter Knight, University of Leeds, United Kingdom, and

Sarah Rice, Northwestern University, Subgroup Co-Chairs

Stan Burgess, University of Leeds, United Kingdom

Mike Diehl, Rice University

Stefan Diez, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany

Raúl Padrón, Venezuelan Institute for Scientific Research (IVIC), Caracas, Venezuela

Chris Berger, University of Vermont

Kazuo Sutoh, University of Tokyo

Permeation & Transport

Svetlana Lutsenko, Oregon Health Science University, Subgroup Chair
Speakers to be announced

MINISYMPOSIA

Four Minisymposia will be organized from among abstracts submitted for consideration in the following topics:

Virus Mechanics: Material Properties and Assembly

Microtubular Motors: Structural and Functional Diversity

Modulating Protein by Ubiquitination

Electron Transfer and Energy Coupling Reactions in Organelles

Annual Meeting Deadlines

Abstracts

Abstract Submission: October 5, 2008

Abstract submission: October 5

SRAA poster competition: October 5

Abstract revision: October 10

Abstract withdrawal: October 31

Abstracts issue print order: January 5

Registration

Early registration: August 1 – January 5

Advance/on-site registration: January 6 – on-site

Housing

Room sharing reservations: November 24

Student housing reservations: November 28

General housing reservations: January 23

Travel Grants

International travel award applications: October 5

Minority biophysicist travel award applications: October 5

Student travel award applications: October 5

Careers

Negotiating the Transition to an Academic Job

This is the second in a two-part series summarizing the discussions held during the Transitions Panel Discussion in Long Beach during the Society's 2008 Annual Meeting.

The summaries were prepared by Early Career Member *Damien Samways*.

Applying for a Job

How do you express non-numeric abilities when searching for your first faculty position?

and do you feel you would be particularly qualified to coordinate any of these?

How long should a research statement be?

As concise as possible! This is why a figure is useful. Some say one page, some say two, but few say more than three pages. Think about the summary/abstract section of a grant, with an added figure. It must be easy to understand because there will likely be a diverse search committee consisting of many members who are not familiar with your research and methods. Take care to emphasize why your

It is important to have done your homework and know something about the courses currently on offer at the institution you are applying to.

What should go in a teaching philosophy statement?

Try to resist the temptation to exaggerate here. Focus on your teaching qualifications, and draw attention to any important contributions you have made as an instructor (course design, etc.). It is important to have done your homework and know something about the courses currently offered at the institution to which you are applying. This allows you to highlight specific qualifications that you feel make you particularly well suited to contribute to, or improve upon, the existing course structure.

If you have an offer, how do you go about negotiating startup, salary, teaching load, etc.?

Regarding startup funds, there is usually a limited degree of flexibility here. It is primarily important to have a firm and realistic idea of your budget for the proposed research when you go for an interview. Try to be as accurate as possible regarding equipment expenses, personnel salaries, and consumables. Again, do a little homework on the department you are applying to. An institute with a well funded departmental confocal suite is going to demand that you present a particularly good case for having your

Take care to emphasize why your research matters, and try to focus on a particular area of physiological/pathophysiological relevance . . .

These abilities should be highlighted in your cover letter, research proposal and, of course, in your references. Put considerable effort into crafting your research proposal, and try not to make your cover letter look in any way generic. Read the advertisement for the position carefully and do a bit of research into the institute and department to which you are applying. In what research is the present faculty engaged? What graduate and undergraduate courses are on offer,

research matters, and try to focus on a particular area of physiological/pathophysiological relevance (circulatory, respiratory, pain, neurodegenerative disorders, etc.). What contribution will it make to the field and beyond? It's also worth suggesting likely sources of funding.

Should you use citations in a research statement?

No, this isn't necessary. List only references for your own work.

It is primarily important to have a firm and realistic idea of your budget for the proposed research when you go for an interview.

own. Try to separate the equipment that you absolutely need from that which could, potentially, be shared.

Salary negotiation is also relatively limited, with institutes usually following a set of approved guidelines. When you become a superstar with multiple NIH grants under your belt, you might have a bit more bargaining power on this issue!

Teaching loads, usually quantified as contact hours, vary considerably between institutions. Be sure to ask about this during the interview. New investigators are sometimes given a lighter teaching load for their first few semesters as Assistant Professors, allowing them to concentrate on setting up their lab and initiating their research projects.

Who should I choose as references?

PhD advisors and postdoc mentors are important for highlighting your

qualities as a researcher. Collaborators may also be useful here. If possible, choose at least one reference who can speak about your teaching abilities (perhaps the coordinator of a course that you gave a few lectures in).

How long does a search committee member spend reviewing a CV?

About one minute! So keep it punchy and concise.

Try to separate the equipment that you absolutely need from that which could, potentially, be shared.

How important are awards and services?

Clearly, successful grant applications demonstrate your ability to craft and execute competitive research proposals. If you also have papers published from this work, you are really in a strong position. Services become more important after you obtain a faculty position.

Does age matter?

No. The key issue is your productivity, which is usually indicated by the number of publications in the previous five years or so.

What are the criteria to be met in order to achieve tenure?

Most institutes provide a rough guideline, although there is no hard-and-fast rule. Generally, a successful R01 application is a key requirement, along with a regular publication record.

How many applications should I send out?

As many as possible. However, each and every one of them should be, to some extent, tailored to the position and institute you send them too.

**Biophysical Society
Job Board**

The Job Board includes several biophysics-related job postings as well as the opportunity to post job openings from your institution or company. Check out the Job Board at www.biophysics.org

**Visited the
Biophysical Society
Website Lately?**

See the new
www.biophysics.org

... successful grant applications demonstrate your ability to craft and execute competitive research proposals.

How the Society Works

How the Annual Meeting Program Schedule is Determined

By October 5, 2008, the Society will have received over 3,500 abstracts from Society members for the 2009 Annual Meeting. These abstracts will be sorted and then programmed into minisymposia and platform and poster sessions—all within three weeks. It is a gargantuan effort conducted by nearly 50 Society members who put in countless hours of work each year.

1. In June, the Program Committee schedules the 21 symposia and 3-6 workshops to ensure that the topics are distributed throughout the meeting and do not conflict. That schedule is printed in the Call for Papers, which is mailed in July each year.

2. On the day that the abstract submission site closes to all revisions, abstracts from authors who had requested to be considered for a minisymposium are forwarded to the minisymposia co-chairs. Each set of co-chairs selects the six abstracts that are most appropriate for that minisymposium. The abstracts not selected are placed in the appropriate poster category.

3. Within five days of the revision site closing, all submitted abstracts, except those selected for the minisymposia, are pulled in the order of topic category and each category is sent to a member of Council or the Program Committee whose area of expertise matches the category. Each is responsible for reviewing and sorting the abstracts in their scientific area. This involves over 40 Society members, who together represent the breadth of scientific expertise required to review the abstract categories.

4. The sorters first select abstracts for platform sessions. The number of platform sessions is limited to 50 because of the number of rooms available. This translates into approximately 400 abstracts selected for platform sessions, from the approximately 1,200 that asked to be considered. Those not selected are placed in the appropriate poster topic category.

5. The sorters next review all poster abstracts and organize them into poster session topic categories. Typically, posters are limited to 30-40 abstracts per topic category, per day. Topic categories that have large numbers of submissions are divided into multiple sessions, which are then scheduled one per day. Approximately 700 posters are scheduled for each day of the four-day meeting.

6. By the end of October, when all abstracts have been sorted, the Program Chair and other Society members meet for one day to schedule all sessions. Scheduling a meeting of this size with its multiple types of concurrent sessions is challenging. A great deal of effort goes into ensuring the least number of conflicts, while trying to distribute the topics evenly across all days.

7. By mid-November, the presenting authors of all of the abstracts are notified of their presentation session, date, and time. Preparation of the Abstracts Issue, Abstracts CD, Annual Meeting Program and online Itinerary Planner begins.

Public Affairs

NIH and Other Agency Budgets Remain in Limbo

Although Congress is supposed to be wrapping up the 2009 Fiscal Year Budget, which begins October 1, the Senate and House are still working on adding money to the 2008 budget and have postponed working on the 2009 appropriations bills until after the election.

In July, Chairman Tom Harkin of the Senate Appropriations Subcommittee on Labor, Health and Human Services, Education and Related Agencies, indicated that he planned to include \$500 million for NIH in the second supplemental budget bill for 2008. The week before, Harkin, along with the Committee's Ranking Member,

Senator Arlen Specter (R-PA), introduced S. 3272, the NIH Emergency Supplemental Appropriations Act of 2008, that provides \$5.2 billion of research funding to the National Institutes of Health.

Harkin and Specter introduced the legislation in order to draw attention to the ground NIH has lost since the doubling of the budget ended in 2003. After several years of lean budgets for domestic programs, many Senators and Representatives believe that other agencies deserve increases rather than NIH, since they received a large influx of money earlier in the decade. Harkin and Specter wish to restore the NIH's purchasing power that was lost due to inflation over the last five years.

The Senate Appropriations Committee was to vote on the

Supplemental Bill in September. BPS members were asked to contact their Senators over the August Congressional Recess to express their support for \$500 million for NIH being included in the bill. In addition, BPS President Harel Weinstein wrote to both Harkin and Specter expressing the Society's support for their efforts and offering the Society's assistance in gaining support for the additional NIH funds.

While the additional money for 2008 may seem inconsequential since the fiscal year is at an end, it is important since Congress will most likely fund the federal government through a continuing resolution that will last until March 2009. A continuing resolution funds the government at the same rate as the previous year.

Want information on candidates positions on health and science? Go to:



SHARP Network: <http://sharp.sefora.org>



Research!America: <http://www.researchamerica.org>

Subgroups

Permeation Transport

Permeation Subgroup Invites New Members!

The Permeation Transport Subgroup fosters the study of biophysical mechanisms of permeation and transport of small molecules and biopolymers across cellular membranes through channels, transporters, and pumps. The members of the group determine high-resolution structures and the dynamics of the transport molecules, and they investigate the molecular basis of selectivity and regulation of membrane transport.

The topics discussed at the subgroup meetings include mechanistic insights revealed by theory, molecular dynamic simulations, high-resolution structures, and a wide range of functional measurements. There is a growing interest in understanding novel mechanisms of membrane permeation, transitions between different modes of transport within the same class of molecules, and understanding how and why the classes of transport molecules are so different. Students, postdoctoral fellows, and established investigators with interests in these topics are encouraged to join the group.

—*Svetlana Lutsenko*, Chair

Motility

The Motility Subgroup focuses on the structure, function, and regulation of the motor protein families (myosin, kinesin and dynein) and on the protein tracks along which they move

(actin filaments, microtubules) to generate muscle contraction, cell motility, and intracellular movement.

We encourage all interested investigators, postdocs, and students working in these fields to join the subgroup. Students are especially encouraged to submit their poster for the SRAA student poster competition.

—*Peter Knight* and *Sarah Rice*,
Co-chairs

Intrinsically Disordered Proteins (IDP)

Postdoctoral Research Awards

Awards will be made to two postdoctoral scholars/fellows for outstanding research in the field of intrinsically disordered proteins. Awardees will each receive a US \$500 honorarium and present a short talk at the IDP Subgroup Symposium on Saturday February 28, 2009, in Boston (held in conjunction with the 53rd Annual Meeting of the Biophysical Society). To be considered for these awards, postdoctoral scholars/fellows must:

- Submit an abstract for a poster and/or talk to be presented at the Biophysical Society Annual Meeting. Select “Intrinsically Disordered Proteins” as a topic.
- Send the abstract via email directly to the IDP Subgroup at IDPsubgroup@gmail.com by October 10, 2008.
- Have their advisor email the Subgroup at IDPsubgroup@gmail.com by October 10, 2008 confirming the postdoctoral status of the applicant. To be eligible for an award, postdoctoral scholars/fellows must be in that status at the time of abstract submission.

The selection committee will choose the top two abstracts from

those submitted on the basis of scientific quality and diversity with respect to the topics to be discussed by the other invited speakers.

The IDP Subgroup wants to express its gratitude to the anonymous donor(s) who provided funding to support these two awards.

Meeting Report

By Rohit Pappu

The Protein Society’s Annual Symposium, held in July in San Diego, California, included a session devoted to Intrinsically Ordered proteins. The session was in keeping with the Symposium’s overall theme, “Proteins: The Machines of Life.” Several IDP subgroup members participated in the session.

Lisa Miller from the Brookhaven National Laboratory chaired this session. The session featured four invited speakers (*Keith Dunker*, Indiana University and Purdue University in Indianapolis; *Guy Ziv* (standing in for *Gilad Haran*), Weizmann Institute; *Rohit Pappu*, Washington University in St. Louis; and *H. Jane Dyson*, The Scripps Research Institute). The session also featured two young investigators, *Wing-Yu Choy* from the University of Western Ontario and *Veena Venkatachalam* from the Massachusetts Institute of Technology.

Keith Dunker provided an overview of Bioinformatics approaches for identifying and classifying intrinsic disorder in protein sequences. He also gave a guided tour of the many important biological functions associated with disorder.

Guy Ziv, standing in for *Gilad Haran* explained how novel single molecule fluorescence techniques are useful for probing heterogeneous conformational ensembles accessed under denaturing conditions. He also

demonstrated the use of polymer physics theories in interpreting data from these experiments.

Wing-Yiu Choy, a freshly minted assistant professor, discussed how nuclear magnetic resonance (NMR) techniques can be manipulated to yield important information regarding IDPs involved in cancer.

Following a brief break, *Veena Venkatachalam* an undergraduate student in the laboratory of *Colin Stultz* discussed new computational methods that are being used in combination with NMR spectroscopy to identify regions of preferential local structure in the microtubule associated protein Tau. *Rohit Pappu* presented recent results demonstrating how the combination of computer simulations and polymer theory are being used to develop a physics-based taxonomy to classify disorder in archetypal IDPs. He showed that while sequences rich in polar amino acids form collapsed, albeit disordered ensembles, the preference for collapsed states can be reversed by dialing up the net charge as happens in arginine-rich P1 protamine sequences.

Jane Dyson presented the final talk of the session. She described the diverse aspects of disorder using the NF- κ B-I κ B complex as a model

system and showed, using NMR data, that nascent elements of local structure govern the dynamics and binding of this highly evolved complex.

The session concluded with a lively discussion regarding the implication of the term “intrinsic disorder”. The general consensus was that this term lacks quantitative rigor and does not fully and clearly distinguish between different varieties of disorder. Clearly, much work lies ahead and these issues are being addressed as evidenced in the talks that were presented at the meeting and in the papers that have been published recently (see below).

Papers of Interest

Szilágyi A, Györfy D, Závodszy P. *The twilight zone between protein order and disorder.* Biophys J. 2008 Aug;95(4):1612-26. PMID: 18441033

Munishkina LA, Ahmad A, Fink AL, Uversky VN. *Guiding Protein Aggregation with Macromolecular Crowding.* Biochemistry. 2008 Jul 30. PMID: 18665616

Ashbaugh HS, Hatch HW. *Natively unfolded protein stability as a coil-to-globule transition in charge/hydrophathy space.* J Am Chem Soc. 2008 Jul 23;130(29):9536-42. PMID: 18576630

Galea CA, Wang Y, Sivakolundu SG, Kriwacki RW. *Regulation of cell division by intrinsically unstructured proteins: intrinsic flexibility, modularity, and signaling conduits.* Biochemistry. 2008 Jul 22;47(29):7598-609. PMID: 18627125

Libich DS, Harauz G. *Solution NMR and CD spectroscopy of an intrinsically disordered, peripheral membrane protein: evaluation of aqueous and membrane-mimetic solvent conditions for studying the conformational adaptability of the 18.5 kDa isoform of myelin basic protein (MBP).* Eur Biophys J. 2008 Jul;37(6):1015-29. PMID: 18449534

Cortese MS, Uversky VN, Keith Dunker A. *Intrinsic disorder in scaffold proteins: Getting more from less.* Prog Biophys Mol Biol. 2008 Jun 20. PMID: 18619997

Tran HT, Mao A, Pappu RV. *Role of backbone-solvent interactions in determining conformational equilibria of intrinsically disordered proteins.* J Am Chem Soc. 2008 Jun 11;130(23):7380-92. PMID: 18481860

—*Trevor Creamer*,
Secretary/Treasurer

Members in the News



Jamie Doudna Cate of the University of California, Berkeley, and Society member since 2003 received the 2008 Irving Sigal Young Investigator Award.



Chad Rienstra of the University of Illinois and Society member since 2006 received an NIH High End Instrumentation grant.



Robert Stroud of the University of California, San Francisco and Society member since 1980 received the 2008 Hans Neurath Award.



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Biophysical Society Newsletter—September/October Issue

Upcoming Events

Biophysical Society

November 10 – 15, 2008

APCMBE 2008 - 7th Asian-Pacific Conference on Medical and Biological Engineering

Beijing, China

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

November 19 – 23, 2008

International Workshop on Biological Physics at Large Facilities from Molecule to Cell

Grenoble, France

<http://www.ill.eu/news-events/workshops-events/biological-physics-at-large-facilities/>

November 23 -26, 2008

European Conference on Medical Physics

Trieste, Italy

<http://cadsagenda5.ictp.trieste.it>

November 23 – 28, 2008

EMBE 2008 — 4th European Conference of the International Federation for Medical and Biological Engineering

Antwerp, Belgium

<http://www.embec2008.be/>

December 10 – 13, 2008

Engineering Principles in Biological Systems

Cold Spring Harbor, New York

<http://meetings.cshl.edu/meetings.html>

December 15 – 17, 2008

BIO'08 - 4th WSEAS Int. Conf. on Cellular and Molecular Biology, Biophysics and Bioengineering

Puerto De La Cruz, Canary Islands, Spain

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