

Biophysical Society

Newsletter

March/April 2008 Issue

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Call for Applications

2008 Discussions Meeting

Calmodulin Modulation of Ion Channels

Asilomar Conference Center
Asilomar, California
October 30 -November 1, 2008

Online application:
www.biophysics.org

Application deadline:
May 16, 2008

For program information,
see page 18.

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<http://www.biophysics.org>

Society Receives Five-Year MARC Grant

The Biophysical Society has been awarded a five-year grant from the NIH/NIGMS Minority Access to Research Careers (MARC) Ancillary Training Activities (T36)-Branch of the Minorities Opportunities in Research (MORE) Division. The will fund the annual Summer Course in Biophysics as well as minority travel awards to the Society's Annual Meeting.

The course, *Biophysical Society 2008 Summer Course in Biophysics: Case Studies of the Physics of Life*, will be held at the University of North Carolina, Chapel Hill, and will be organized by Barry Lentz, who is also the principal investigator on the grant.

Participation is open to underrepresented minorities in biomedical research. These include, but are not limited to, African Americans, Hispanic Americans, American Indians, Alaskan Natives and citizens of the U.S. Pacific Islands. Gender is not one of the criteria used.

Registration for this intense 11-week course, which includes research and lab experience, is limited to 12 students each year. Students who are accepted will receive a scholarship that includes tuition, course materials, housing, and a grant toward travel costs and other living expenses. Course credit will be awarded through the University of North Carolina.

The first course funded by this grant will take place May 25-August 9, 2008. Visit the Society web page for additional information and future deadlines.

Biophysical Journal Signs Agreement with Cell Press

Society members were recently notified by email of the Board and Council decision to partner with Cell Press in publishing *Biophysical Journal*, effective January 2009. For a copy of the email and press release, see page 20.

Society Board and Council

The Society's Executive Board and Council held meetings on February 1, 2, and 5 during the Society's 2008 Annual Meeting in Long Beach, California. A summary of the major actions taken during those meetings are listed on page 16.

Biophysical Society

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Biophysicist in Profile



Alberto Diaspro

Falling snowflakes sparked six year-old Alberto Diaspro's interest in science. "I went to the garden with a very small optical microscope and passed my afternoon waiting for snowflake observation" explains Diaspro. Forty years later, microscopy remains Alberto's forte as associate professor in Applied Physics at the University of Genoa and 2009-2011 President-elect of EBSA, the European Biophysical Societies Association.

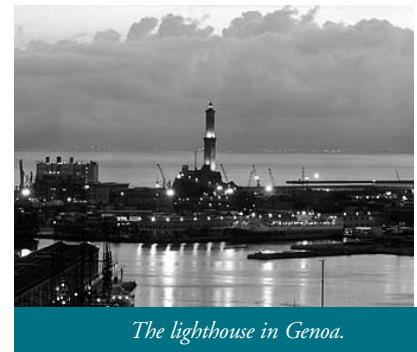
Diaspro was born at home in Genoa, Italy in 1959 to Lorenzo Diaspro and Liliana Arace, a mechanic and a housewife, respectively. Diaspro spent his adolescence living with his retired grandfather, Mario Arace. His grandmother died when he was young, "so we were two singles," jokes Diaspro. It wasn't until the mid-70s, when he met his wife Teresa, that he won the lottery.

"...a good engineer in hardware can always make something good in software, but not vice versa..."

Surprisingly, history and literature were Diaspro's favorite subjects as a child, but curiosity drove him towards microscopy and observation. By high school, he channeled his attention towards physics and mathematics. Fully supportive of his interest in microscopy,

in 1978 his grandfather bought Diaspro an oscilloscope as a gift for beginning his studies at the University of Genoa. Today, during every presentation or talk, Diaspro shows the audience a picture of that oscilloscope. "He was really not very skilled at these types of purchases, so I went to the shop and asked how he was able to buy this kind of microscope. The answer was really very simple; he had gone to the store and asked for the best that they had. And I still use it," exclaims Diaspro.

At the University of Genoa, Diaspro chose to major in electronic engineering instead of physics for an unusual reason: the moog synthesizer. Designed in 1964 by Robert Moog, the synthesizer is considered the first instrument of electronic music and became widely popular in the 1970s, especially with small bands and in discos. "One of my jobs then was designing stroboscopic lights for discos, so I started designing and building this kind



The lighthouse in Genoa.

of instrument, and I sold them. This is one of the reasons I chose electronic engineering," he explains. Diaspro was working towards a specialization in software until Alessandro Chiabrera, who was bringing biophysics into electronic engineering courses, convinced him to switch to hardware. "His key sentence was, 'a good engineer in hardware can always make something good in software, but not vice versa,'" Diaspro remembers.

Diaspro met Bruno Bianco and Francesco Beltrame his last year at the

University of Genoa when he was working in their lab on his thesis. They introduced him to the field of phase contrast microscopy and digital holography. Immensely interested in solving problems related to the observation of transparent objects in cells, Diaspro decided to do his

paper in *Nature* by David Agard and John Sedat, on three-dimensional optical imaging of cells. “This paper was very influential, one of the papers that I say moved my course of study,” he states emphatically.

For the next three years Diaspro worked for a software company—at

on the Society website, which he uses to fill this gap.

Diaspro migrated to the department of physics in 1995 and resumed research with atomic force microscopy, but subsequently decided to switch to confocal and multiphoton microscopy. “I switched in the sense that I started with optical, then I moved to atomic, and again to optical,” explains Diaspro. “Then fellow biophysicist Caesar Usai said, ‘Why don’t you set up a multiphoton microscope?’ And I said, why not?”

As a result of that conversation, Diaspro delved into what is now called multiphoton microscopy. In

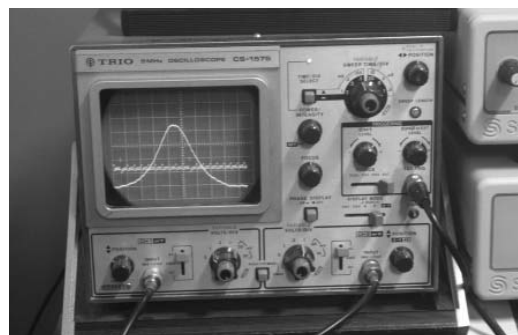
“His group has become perhaps the strongest group in microscopy in Italy,” says Gratton

thesis in biophysics instead of the classical electronic engineering he had been studying. In 1982, with Bianco and Beltrame as thesis advisors, he began working on the visualization of chromatin in cells using non-perturbative methods, a topic he continues to research. He received his Laurea degree (a five-year system no longer used in Italy) in electronic engineering with a thesis in biophysics. “A strange combination at the time,” notes Diaspro.

Since no PhD programs in biophysics were offered at the University of Genoa in the early 80s, Diaspro continued to research and study microscopy, matriculating into the Antonio Borsellino School of Biophysics. Here he met two researchers who cemented his interest in biophysics. “Ignacio Tinoco and Carlos Bustamante really drove my attention to biophysics in a professional, serious way. Meeting with them, talking with them, interacting with them, really inspired me. I never worked with them, but I still keep in contact with both of them,” Diaspro reflects.

In 1984, while researching the changing structure of chromatin using phase contrast microscopy, Diaspro became interested in three-dimensional optical after reading a

least during the day—in Genoa, the city that is so central to Diaspro’s life. At night, you could find him in Bianco’s and Beltrame’s lab studying chromatin. When an offer emerged to start a biophysics laboratory in the School of Medicine at the University of Genoa, he accepted. “I decided with my wife to accept even though we already had a daughter and the university was offering significantly less than my salary at the company,” states Diaspro. Diaspro moved to Spain for a period in the late 80s to work with atomic force and scanning force microscopy, but returned to Italy, when he secured a contract professorship teaching biophysics and conducting research at University of Genoa’s School of Medicine.



The oscilloscope given to Diaspro as a gift from his grandfather for beginning college. Diaspro still uses it to this day.

1999 he visited Enrico Gratton’s laboratory in Urbana-Champaign, Illinois, to learn about the design of a two-photon microscope. Gratton heavily influenced his interest in non linear fluorescence microscopy, and Diaspro credits him as one of the most important people in his career.

“I’d like to be a singer like Neil Young, Bob Dylan, or James Taylor—a folk singer”

“I enjoy teaching, and I really learn a lot. What I really think is missing is comprehensive textbooks in biophysics.” Diaspro is pleased with the efforts of the Biophysical Society to collect and post articles related to the teaching of biophysics

“Enrico is one of the greatest biophysicists, in my opinion. When you have a question, you get an answer. And if you don’t understand and you ask him again he will give you the answer, again, and again and again; he never gives up on giving

Subgroups

Intrinsically Disordered Proteins

Business Meeting

The IDP Subgroup held its second annual business meeting on Saturday February 2, 2008, at the Long Beach Convention Center. Nearly thirty people were in attendance. Elections were held for the positions of chair-elect, councilor, and 2009 symposium co-chairs (2). Elected were:

- Chair: *Richard Kriwacki* (St. Jude Children's Research Hospital)
- Chair-elect: *Rohit Pappu* (Washington University in St. Louis)
- Past-chair—*Keith Dunker* (Indiana University)
- Secretary/Treasurer—*Trevor Creamer* (University of Kentucky; term ending 2009)
- Council: *Sonia Longhi* (CNRS and Universités d'Aix-Marseille I and II; term ending 2011), *Vladimir Uversky* (Indiana University; term ending 2010), and *Vinod Subramaniam* (University of Twente; term ending 2009)
- 3rd Annual Symposium (2009) Program Co-Chairs: *Yuan Chen* (City of Hope) and *Péter Tompa* (Hungarian Academy of Sciences)

The Subgroup voted on and passed a motion establishing two awards to be given to postdoctoral researchers. The two best abstracts submitted for consideration will receive the Award. Awardees will receive a cash prize plus the opportunity to present a short talk in the annual Subgroup symposium. A call for abstracts will be issued later in the year.

A spirited discussion of the future of the Subgroup was held. Many suggestions for promoting the Subgroup and the subject of intrinsically disordered proteins were made. The Subgroup officers will be adopting some of these suggestions for the upcoming year.

Second Annual Symposium

The IDP Subgroup held its second annual symposium on February 2, 2008, Long Beach. The theme for this year's symposium was *Intrinsic disorder and human disease*. In the first session, chaired by *Rohit Pappu*, Washington University, *Michele Vendruscolo*, Cambridge University, presented a plenary lecture that focused on physico-chemical principles that explain the correlation between amino acid sequence and disorder / aggregation. *Lila Gierasch*, University of Massachusetts, Amherst, discussed the challenges associated with studying folded and disordered proteins in vivo and presented intriguing data regarding folding and aggregation of specific proteins in bacterial cells. *Ashok Deniz*, Scripps Research Institute, talked about the advantages of using novel, cutting-edge, single molecule techniques and high-resolution fluorescence measurements for studying conformational dynamics and protein oligomerization in IDPs such as alpha-synuclein and the yeast prion protein Sup35. *David Eliezer*, Weill Medical College, gave the concluding lecture in the first session. He presented results from NMR studies of conformational and binding equilibria of two systems implicated in neurodegenerative diseases, namely, alpha-synuclein and the microtubule associated protein Tau.

In the second session, chaired by *David Eliezer* and *Alan Fersht*, Cambridge University, discussed the thermodynamic basis for the interactions of intrinsically disordered regions of p53 with DNA and other proteins. He also presented results that highlighted the effects of p53 mutations on these interactions and discussed strategies for designing small molecules to modulate these interactions. *Alex Sigalov*, University of Massachusetts Medical School, proposed that specificity in homooligomerization without folding is possible for cytosolic domains of

several immune recognition receptors and argued that such interactions are crucial for signaling. *Rohit Pappu*, presented theoretical and computational results to quantify the influence of chain length on intrinsic disorder and oligomerization of polyglutamine. *Elisar Barbar*, Oregon State University, presented data to elucidate how the dynein light chain acts as a dimerization engine for intrinsically unstructured partners. *Vladimir Uversky*, Indiana University and Purdue University, gave the concluding lecture. He presented a guided tour of the various ways in which disorder in IDPs is useful for function and how deleterious effects of disorder can lead to a range of diseases.

An exciting day, full of intellectually stimulating discussions, concluded over a hearty Mexican meal. The momentum that was generated at the inaugural symposium in Baltimore was built upon successfully in Long Beach. Interest in the IDP Subgroup is growing rapidly and preparations for the third annual symposium in Boston are already underway.

The IDP Subgroup is extremely grateful to the following sponsors for supporting the symposium and activities of the subgroup: *Aviv Biomedical Inc.*, *Biacore Inc.*, *Bruker Biospin*, *Cambridge Isotope Laboratories Inc.*, *Isotec/Aldrich Inc.*, *Molecular Kinetics Inc.*, *New Era Inc.*, *Spectral Gases Inc.*, *Varian Inc.*, *VWR Inc.*, *Waters Corp.*, and *Wyatt Technology Corp.*

Note from Richard Kriwacki:

On behalf of the entire IDP Subgroup, I would like to thank *Rohit Pappu*, Washington University, and *David Eliezer*, Weill Medical College, for organizing the recent IDP Subgroup Symposium and to congratulate them on its success. The annual symposium is the Subgroup's "main event" of the year and its success (or failure) is a barometer of the interest we generate amongst Biophysical Society members. David's and Rohit's program packed a room

much larger than last year's and many of us received very positive feedback from the many attendees. So "Thank You," Rohit and David, for the thought and effort that went into organizing the Symposium—a job well done! We all look forward to next year's event that is being organized by *Yuan Chen* and *Peter Tompa*.

Papers of Interest

Huang HB, Chen YC, Lee TT, Huang YC, Liu HT, Liu CK, Tsay HJ, Lin TH. *Structural and biochemical characterization of inhibitor-1alpha*. *Proteins* 2007 68(3):779-88.

Meier S, Blackledge M, Grzesiek S. *Conformational distributions of unfolded polypeptides from novel NMR techniques*. *J. Chem. Phys.* 2008 128(5):052204.

Onitsuka M, Kamikubo H, Yamazaki Y, Kataoka M. *Mechanism of induced folding: Both folding before binding and binding before folding can be realized in staphylococcal nuclease mutants*. *Proteins* 2008 [Epub ahead of print]

Sandal M, Valle F, Tessari I, Mammi S, Bergantino E, Musiani F, Brucale M, Bubacco L, Samori B. *Conformational equilibria in monomeric alpha-Synuclein at the single-molecule level*. *PLoS Biol.* 2008 6(1):e6.

Song J, Guo LW, Muradov H, Artemyev NO, Ruoho AE, Markley JL. *Intrinsically disordered gamma-subunit of cGMP phosphodiesterase encodes functionally relevant transient secondary and tertiary structure*. *Proc. Natl. Acad. Sci. USA* 2008 105(5):1505-10.

—*Trevor Creamer*,
Secretary/Treasurer

Membrane Biophysics

The Membrane Biophysics Subgroup held its 2008 symposium on February 2 in Long Beach at the

Annual Meeting. The symposium topic was *Channel Gating Modifiers and Modulators* with presentations by *Jeffery Martens*, University of Michigan, *Ardem Patapoutian*, Scripps Research Institute, *Duane Allen*, Oregon Health Sciences University, *Diomedes Logothetis*, Virginia Commonwealth University, and symposium organizer *Eitan Reuveny*, Weizmann Institute of Science.

At the end of the symposium, the Subgroup held its business meeting, which included a discussion of our financial status led by Secretary/Treasurer *Carol Beck*, Thomas Jefferson University. *Dan Minor*, University of California, San Francisco, was elected Chair-Elect and will lead the symposium at the 2010 meeting.

The 2009 symposium will be organized by incoming Subgroup Chair, *H. Criss Hartzell*, Emory University School of Medicine.

The Subgroup would like to thank the speakers for their presentations; *icagen, Inc.*, for their sponsorship of the refreshments during the break; and *Decha Enkvetchakul*, Washington University, *Tooraj Mirshahi*, Geisinger Clinic, and *Brad Rothberg*, University of Texas Health Science Center, for representing the subgroup by judging the Student Research Achievement Award posters.

Following the symposium, the Subgroup held its annual Cole Award dinner in the Sicilian Room at the Renaissance Long Beach Hotel. At the dinner, *William N. Zagotta*, University of Washington School of Medicine and Howard Hughes Medical Institute, was presented with the 2008 K.S. Cole Award for contributions to the field of membrane biophysics. Over 100 people attended the dinner, including many of the awardee's colleagues, friends, and former lab members.



William N. Zagotta, recipient of the 2008 K.S. Cole Award presented by the Membrane Biophysics Subgroup, examines his Cole Award medal as subgroup chair Eitan Reuveny looks on.

Bertil Hille, University of Washington, introduced *William Zagotta* by giving a brief and often humorous overview of Bill's work and family. The Cole Award medal and the check were presented by subgroup chair *Eitan Reuveny*. Following the presentation, Zagotta gave an after-dinner talk, summarizing decades of his research on cyclic nucleotide regulated ion channels by looking at the models proposed, rejected, and refined, up to the present working model.

— *Eitan Reuveny*, Outgoing Chair

Motility

The Motility Subgroup held a very successful meeting in Long Beach, with an excellent attendance of approximately 300. The seven afternoon talks covered both actin- and tubulin-based motors and filaments. The speakers, coming from as far away as Japan, the United Kingdom, and Hungary, were *Yuichiro Maeda*, Nagoya University, *Kevin Facemyer*, University of Nevada School of Medicine, *Stoci Kovacs*, Eotvos University, *Samantha Harris*, University of Washington, *Maria Elena Zogghi*, University of Massachusetts Medical School, *Rob Cross*, Marie Curie Research Institute, and *Chuck Sindelar*, Lawrence Berkeley National Laboratory. Following dinner, *Roger Cooke*, University of Massachusetts Medical

School, kept us wide awake with his talk, *A Random Walk through the Field of Motor Proteins*, covering some of the highlights of his career and of our understanding of motor protein function.

At the Business Meeting, *Susan Gilbert*, Rensselaer Polytechnic Institute, and *Ken Taylor*, Florida State University, were elected co-chairs for the 2010 Subgroup meeting in San Francisco. We look forward to an exciting meeting next year in Boston, co-chaired by *Sarah Rice*, Northwestern University, and *Peter Knight*, University of Leeds. To keep up with subgroup activities and plans for the 2009 meeting, check the Motility Subgroup's website (<http://www.biophysics.org/subgroups/motility.htm>).

—*Roger Craig & Peter Fajer*,
2008 Co-chairs

Membrane Structure and Assembly

The Membrane Structure and Assembly Subgroup met in Long Beach for a stimulating scientific program examining the role of lipid-protein interactions in membrane struc-

ture and function. This was followed by the annual business meeting where it was announced that the Subgroup chair for the 2010 meeting in San Francisco will be *William Wimley*, Tulane University. The chair for 2009, *Antoinette Killian*, University Utrecht, will plan the subgroup meeting in Boston. Contact Antoinette at J.A.Killian@uu.nl with your questions or ideas concerning the Subgroup. We are fortunate that so many of our members are willing to invest time in the workings of the Subgroup. Be sure to thank our incoming Chairs when you have the opportunity. Also, please remember to thank Avanti Polar Lipids for their continued support of our Subgroup meeting.

An important Subgroup activity at the Annual Meeting is the Student Research Achievement Awards (SRAA) poster competition. The quality of entries in our Subgroup was phenomenal. The judges had a challenging task in choosing a single winner. For those of you sponsoring students, you should be extremely proud of their passion for science. Congratulations to this year's winner *Lijuan He*, and to her thesis advisor *Kalina Hristova* of Johns Hopkins

University. As you prepare abstracts for the Boston meeting please remember to encourage your students to submit their work for the SRAA poster competition.

—*Scott Feller*, Chair

Bioenergetics

The Bioenergetics Subgroup again held two symposia this year, a morning and an afternoon session.

Attendance was high for each session. The morning session, co-chaired by *Robert Gennis*, University of Illinois, and *Renate Naumann*, Max Plank Institute, Mainz, focused on time-resolved methods for studying the mechanism of ion pumps. *Shinya Yoshikawa*, University of Hyogo, presented mutagenesis data on subunit I of mitochondrial cytochrome oxidase showing that a key residue in the proton pumping D-channel, which had been shown to be a key player in proton pumping in subunit I of in *Rhodobacter sphaeroides oxidase*, did not affect proton translocation in beef heart mitochondrial enzyme. *Frank Millet*, University of Arkansas, mutated an amino acid residue within contact distances of a cis peptide bond in

SRAA Award Winners

Bioenergetics

An-Chi Wei,
Johns Hopkins University

Michelle Yu
Albert Einstein College
of Medicine

Nithya Srinivasan
Pennsylvania State University

Biological Fluorescence
Jill B. Jensen
University of Washington

Exocytosis & Endocytosis

Sunitha Ayers
Cornell University

Membrane Biophysics

Elizabeth Covington
Stanford University

IDP

John Fisher
St. Jude Children's
Research Hospital

Molecular Biophysics

Ireana Bagai
University of Arizona
Susan O'Donnell
University of Iowa

Motility

Nagy Stanislaw, University
of Chicago

Membrane Structure & Assembly

Lijuan He
Johns Hopkins University

Permeation & Transport
Julio Cordero-Morales
University of Virginia

subunit I of R. sphaeroides and found that the proton pumping activity of the enzyme decreased. *Michael Verkhovskiy*, University of Helsinki, showed in elegant experiments where simultaneous measurements of electrical potential and reflectance absorbance spectroscopy showed that a conserved tyrosine of subunit I in *Paracoccus denitrificans* cytochrome oxidase donated protons to the active site in the A to P intermediates in the enzyme's catalytic cycle. *Klaus Gerwert*, Ruhr-University of Bochum, used time-resolved infrared spectroscopy to monitor protonation states in bacterial rhodopsin photocycle and showed that secondary water shells around bound water in the enzyme affects the kinetics of the proton pump. *Constantinos Varotsis*, University of Crete, showed using resonance raman spectroscopy that in the mixed valance state of mitochondrial cytochrome oxidase, both the P and F intermediates in the oxygen reduction catalytic mechanism are in the same ionic state. *Michael Borsch*, University of Stuttgart, measured single molecule conformational changes in ATP synthetase from *E. coli* during catalysis using fluorescence energy transfer and showed that the enzyme moves in 36 degree steps during catalysis.

The afternoon session, co-chaired by *Shey-Shing Sheu*, University of Rochester, and *Paolo Bernardi*, University of Padua, focused on mitochondrial bioenergetics in disease and therapeutics. *D. Chan*, California Institute of Technology, showed that two different genes, OPA1 and NFN2, are involved in mitochondrial fusion and gave new details about the mitochondrial fusion complex. *Shey-Shing Sheu* showed in cultured neurons that reactive oxygen species is correlated with increased neuron firing and mitochondrial calcium ion uptake. *Douglas Wallace*, University of California, Irvine, discussed muta-

tions in the mitochondrial adenine nucleotide transporter and subunit I of cytochrome oxidase and showed that using adeno-associated virus to transform mitochondria can reverse the mutations in the adenine nucleotide transporter. In addition, he showed that the oxidase mutation can be reversed by using mitochondrial targeted peptide nucleic acid oligomers. *Barbara Cannon*, Stockholm University, showed that the uncoupling protein 1 was most likely involved in heat generation by uncoupling the proton gradient in mitochondria and provided evidence that other isoforms of the uncoupling protein are not major contributors to this response. Finally, *Paolo Bernardi* showed in a remarkable study that mutations in collagen VI genes change the ultrastructure of muscle and arrangement of the mitochondria resulting in apoptosis and these disease symptoms can be treated with cyclosporin A.

The Subgroup gave two types of awards to graduate students and postdoctoral fellows. The first was the Young Bioenergeticsist Award, which went to both *Ling Qin*, Michigan State University, and *Craig Jolly*, Arizona State University. In addition three graduate students in bioenergetics received the Student Research Association Award. They were *Michelle Yu*, Albert Einstein College of Medicine, *An-Chi Wie*, Johns Hopkins University, and *Nithya Srinivasan*, Pennsylvania State University. The Subgroup also elected a new treasurer, *Uwe Schlattner*, University of Grenoble, and a new council member, *Gyorgy Hajnoczky*, Thomas Jefferson University. The Subgroup dinner was a rousing success with more than 50 people in attendance. All in all it was a tremendous year for our Subgroup activities at the 2008 meeting.

—*Lawrence Prochaska*, Chair

Early Careers Committee

Activities at the 2008 Meeting

Meet & Greet Table at the Opening Mixer

The Annual Meeting can be much more enjoyable when you already know someone! The Meet & Greet table offered an opportunity for people who did not know anyone at the Meeting to join a group for dinner on the first night and make new friends. Part of the group that met at the 2007 Annual Meeting in Baltimore also went to dinner this year.

Unfortunately the restaurant suggested by the booking table at the conference center was more like a take-out, despite having taken our booking for 15 people! Thankfully, *Damien Samways*, our group leader, was able to find another location, and everyone had a nice evening together.

Postdoctoral & Graduate Student Breakfasts

The Postdoctoral & Graduate Student Breakfasts with Early Career members of the Society are a chance to discuss the issues currently facing these attendees. On Sunday, the Committee met with postdocs, and on Monday, with graduate students. Both meetings were well attended, and four new members joined the committee. From the breakfasts, we also gathered new ideas for our committee activities this year. Some of the issues discussed at the breakfasts included activities comparing jobs in academia and in industry, online discussions about job searching, other online activities that people can access outside of the Annual Meeting, and how to advertise the many services offered by the Society.

Negotiating the Transition to an Academic Job

Revisiting a previous theme of this annual panel, the discussion this year-focused on how to obtain tenure-track faculty posts at different kinds of universities and included speakers from research-intensive US universities, primarily teaching institutions, and institutions from outside the United States. *Ken Campbell*, University of Kentucky, organized and chaired this panel. The speakers were *Dana Lawrence*, Hood College, *Brian Delisle*, University of Wisconsin-Madison, *Seth Robia*, Loyola University, Chicago, and *Tharin Blumenschein*, University of East Anglia, UK. The panel was well-attended, and there were questions from the audience until the very end.

Pathway to Independence Award: When and How to Apply

William Balke, Senior Associate Dean for Research at the University of Kentucky, presented a workshop on this NIH award, which provides funds for the transition from postdoctoral fellow to independent researcher.

Transition from Postdoc to Faculty Luncheon

Co-organized by *Vera Moiseenkova-Bell*, Baylor College Medicine, and *Amy Harkins*, Washington University, the Early Careers Committee hosted this Question & Discussion luncheon with the CPOW. A summary of the event is included in the CPOW report of this newsletter.

Career Center

The Center was centrally located and highly accessible during the meeting. Workshops and consultations were available with *Ed Bocko*, Managing Director of Protran Resources, a

human resources consulting practice. A number of attendees used the Center and found the Center's staff and facilities to be an important and valuable part of the Annual Meeting.

Check out our blog!

Summaries of many of the events above will be posted in our blog. The url is: <http://www.nextstepbiophys.blogspot.com/>

—*Tharin Blumenschein*, Chair

Graduate Fair Summary

The 2008 Undergraduate Student Symposium featured a presentation by *Richard Ludescher*, Rutgers University, on *What is Biophysics?* The co-recipients of the Emily Gray Award presented lectures. *Donald Crothers*, Yale University, spoke on *Nature Cares about Kinetics* and *David Eisenberg*, University of California, Los Angeles, presented *Structural Biophysics of Aggregation Diseases*.

The symposium preceded the third annual Graduate Institution Fair. Representatives from institutions with graduate training programs in biophysics were on hand to pass out literature about their respective programs and to speak to undergraduate students interested in pursuing careers in biophysics. The Society would like to thank the following institutions for participating in the Graduate Institution Fair:

*Albert Einstein College of Medicine
Graduate Division
Boston University School of Medicine
Brigham Young University
City College of New York City
University of New York
Florida State University
George Mason University
Göttingen Graduate School for
Neurosciences and Molecular
Biosciences*

*Gulf Coast Consortia (Keck Center) &
Baylor College of Medicine
International Max-Planck-Research
School in Chemical Biology
Iowa State University
Johns Hopkins Program in Molecular
& Computational Biophysics
NIH - Graduate Partnerships Program
(GPP), Office of Intramural
Training & Education (OITE)
Northeastern University, Partnership
for Excellence in Structural Biology
University of Connecticut
Rensselaer Polytechnic Institute
Rutgers, the State University of
New Jersey
Scripps Research Institute
Simon Fraser University
Stony Brook University
Universidad Autonoma del Estado
de Morelos
University of British Columbia,
Department of Chemistry
University of California, San Diego
University of Connecticut Health
Center, CCAM
University of Massachusetts, Amherst
University of Michigan
University of Minnesota
University of Montana
University of Pittsburgh, Molecular
Biophysics & Structural Biology
and Program in Integrative Biology
University of Texas Health Science
Center at San Antonio
University of Texas Medical Branch
University of Washington, Department
of Physiology and Biophysics
Utah Southwestern Medical Center
Vanderbilt University
Wake Forest University
Yale University*

CPOW REPORT

Childcare

Now in its fourth year, childcare is becoming a successful tradition at the Annual Meeting. Our sincere thanks goes to Society staff for arranging this

service, provided by an outside agency, Kiddie Corp. A total of seven children attended childcare at the Annual Meeting. CPOW and Biophysical Society Staff are pleased to offer childcare at the 53rd Annual Meeting in Boston, Massachusetts. We are working hard to find corporate sponsors to help reduce the cost to you. Consider taking advantage of this reputable childcare service. For additional information on childcare, visit the Biophysical Society website.

Getting Paid & Other Negotiation Skills

A perfect blend of sage advice and humor from an esteemed panel portrayed the atmosphere of the CPOW-sponsored panel discussion on *Getting Paid and other Negotiation Skills* that was filled to capacity with more than 80 attendees. The panelists, all distinguished members of the Biophysical Society, were *Mary Barkley* (Moderator), Case Western Reserve University, *Ken Dill*, University of California, San Francisco, *Ronald Kaback*, University

of California, Los Angeles, and *Gregory Kaczorowski*, Merck Research Laboratories. During this lively and informative panel discussion, attendees learned that negotiating from a position of strength, having a clear understanding of needs and wants, and being able to contribute to a team are important tools in the negotiation process. Words of wisdom to “BE CAUTIOUS” were interjected with witty candor that filled the room with laughter and understanding. The easy rapport of the panelists created an atmosphere where attendees were eager to participate and unwilling to leave. Thank you to the panelists, attendees and organizers *Rajini Rao* and *Kathy Giangiaco* for helping to make a truly enjoyable and memorable session. Look for an expanded article on this discussion in an upcoming newsletter.

Transition from Postdoc to Faculty Luncheon

The *Transition from Postdoc to Academic Faculty* Luncheon, co-hosted by the Committee on Professional

Opportunities for Women (CPOW) and the Early Careers Committee, quickly soldout. The panelists consisted of *Erin Sheets*, Pennsylvania State University, *Nathan Baker*, Washington University; *Aldrin Gomes*, University of California, Davis, and *Amy Harkins*, Washington University. *Harel Weinstein*, Biophysical Society President-elect, was a welcome impromptu panelist who helped field questions better answered by a more established investigator. He brought to the panel his unsurpassed experience as a scientist who has trained numerous postdocs who now hold academic positions, as well as the viewpoint of a departmental chair and institute director. During the two-hour luncheon, participants had the opportunity to ask questions that were topically related to applications for positions, the interview process, negotiations of the setup package, position and lab space and to learn about time management, an important skill when transitioning from the postdoc lab to one’s own lab. A follow-up email listing addi-

(Continued on page 12.)

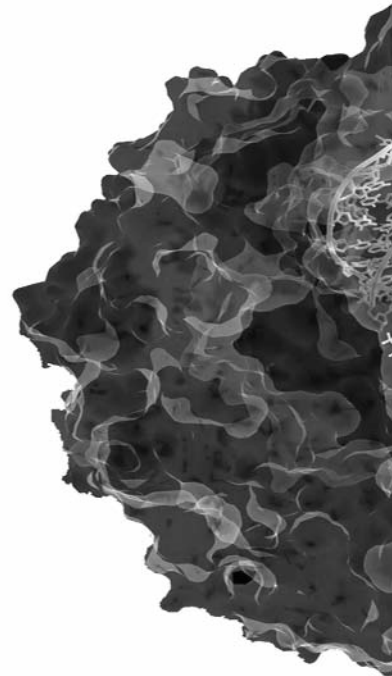
Boston in 2009

The 53rd Annual Meeting of the Biophysical Society will take place at the Boston Convention and Exhibition Center in Boston, Massachusetts, from February 28 to March 4, 2009. Planning for this meeting is already underway. The 2009 Program Committee Co-Chairs, *David Warshaw* and *Ming-Ming Zhou*, are currently leading the Program Committee to develop an engaging and dynamic program of symposia and workshops that will be presented at the 53rd Annual Meeting.

**Save the date for the 53rd Annual Meeting on your calendar today!
February 28 – March 4, 2009!**

Visit www.biophysics.org for the most up-to-date program and meeting information.

2008 Meeting



Joint Biophysical Society 52nd Annual Meeting and

ing-at-a-Glance

March
●
April
2008



and 16th IUPAB International Biophysics Congress

tional resources on these topics was sent to each participant. We thank the panelists, the participants, and the organizers of the luncheon, *Amy Harkins*, Washington University, and *Vera Moiseenkova-Bell*, Baylor College Medicine.

Career Roundtable Luncheon

The Committee on Professional Opportunities for Women (CPOW) held a well-attended career development roundtable luncheon at the 2008 Biophysical Society Meeting. More than 80 early career scientists attended the luncheon. Topics covered included: networking and cultivating scientific relationships, establishing successful collaborations, and the many types and sources of funding research. The following scientists served as discussion moderators, providing useful insights and practical advice: *Diane Papazian*, *David Warsaw*, *Frances Separovic*, *Barbara Ehrlich*, *Keith Elmslie*, *Guillermo Alvarez de Toledo*, *Ed McClesky*, *Ted Wensel*, and *Michelle Digman*. Thanks to each of the moderators and the event organizers, *Amy Harkins* and *Ruth Heidelberg*, for making this event a success. Look for announcements about next year's round-table luncheon in the summer newsletter.

—*Kathy Giangiacomo*, Chair

Public Affairs

The 2009 Federal Budget

In February, the President submitted his budget request to Congress. The request outlines the White House's budget plans for all the federal agencies for Fiscal Year 2009, which starts October 1, 2008. The budget proposal, which is accompanied by detailed justifications for increases and cuts in programs and initiatives at each agency, is only the starting point for the federal budget process on Capitol Hill. Congress began holding hearings on the budget proposal in February and invited leaders from each agency to testify before the appropriate subcommittees and explain the budget request.

The House and Senate are free to alter what the President has requested and include funding for its own priorities. With that said, President Bush has stated that he will veto any funding bills that exceed what he has proposed. Chairman Obey (D-WI) of the House appropriations committee has indicated that if this is the President's stance, Congress may just wait until a new President is elected to pass funding measures for FY 2009.

In the meantime, the Budget and Appropriations Committees will continue in good faith to consider each agency's budget and move through the budgeting process, and the Biophysical Society will work with the science community to advocate for federal funding for basic science research. Specifically, the Biophysical Society will be advocating for Congress to support the President's proposed budgets for the NSF and DOE Office of Science, and to increase the NIH budget by 6.7 percent.

NIH Budget Overview

The President's proposed FY 2009 budget freezes the National Institutes of Health (NIH) at its 2008 total enacted level of \$29.5 billion. Divided into 27 separate budget accounts which correspond to the NIH's Institutes and Centers (IC's), the FY 2009 budget remains flat for nearly all IC's for the fifth year in a row. The largest institute, the National Cancer Institute (NCI), would see its budget remain at \$4.8 billion in 2009, 11 percent below the 2004 funding level in real terms. NIH R&D also remains flat at \$28.7 billion.

However, NIH proposes to increase support for research centers to \$2,963 million, a 0.7 percent increase above the FY 2008 enacted level, while support for other research decreases by \$23 million, or 1.3 percent. After inflation adjustment, the stagnant budget leaves NIH funding 8 percent below 2004. According to the NIH, the success rate for grant applications is expected to be 18 percent in 2009. In comparison, the success rate was 32 percent in 2001, during the height of the NIH budget doubling period.

NIGMS

Within the NIH, the proposed FY 2009 budget for the National Institute of General Medical Sciences (NIGMS) is \$1,937.69 million. In its FY 2009 justification narrative, a document explaining the budget request that the White House sends to Congress, the NIGMS maintains that investigator-initiated research projects and new investigator research are the institute's highest priorities, and that a sufficient number of Research Project Grants (RPGs) will continue to be supported. RPGs include both R01s and other individual investigator awards. Noncompeting RPGs will

decrease by 116 awards and \$15.406 million, while competing RPGs will increase by 10 awards and \$3.44 million, for an estimated total of 3, 674 supported research grants.

The Cell Biology and Biophysics (CCB) Program FY 2009 budget is estimated at \$587,264 million, a decrease of \$745,000 or -0.13 percent from the FY 2008 estimate. According to NIGMS, the majority of the CCB FY2009 funds will be used to support investigator-initiated research projects in cell biology, biophysics, cellular imaging and structural biology. CCB will also use FY 2009 funds to support the Protein Structure Initiative (PSI) and an AIDS-related structural biology program.

NIBIB

The National Institute of Biomedical Imaging and Bioengineering (NIBIB) FY 2009 budget request is \$300.254 million, \$1.609 million more than the FY 2008 enacted level. Funding for Research Project Grants (RPGs) will decrease by \$2.9 million to \$206.7 million in FY 2009. The

Institute foresees making a total of 568 RPG awards in FY 2009. For noncompeting awards, funding will increase by \$4.4 million, but the number of noncompeting projects funded will decrease by 13 awards. For competing awards, the number funded and funding level will both decrease. The Institute plans to fund 22 awards with its proposed budget of \$7.3 million.

In its justification narrative, NIBIB states that the highest funding priority will be given to new investigators and to research initiatives that bridge the physical and life sciences. In addition, the Institute will place particular emphasis on further development of POC technologies, optical imaging, nanomedicine, and greater clinical translation of minimally invasive robotic assisted IGI technologies.

Office of the Director

NIH’s Office of the Director (OD) budget estimate decreases from \$524 million in FY 2008 to \$432 million in FY 2009. Within the Office of the Director’s budget, the Common

Fund would increase by \$38.269 million (7.7%) over FY 2008 funding to \$533.877 million. The Common Fund replaced the Roadmap for Medical Research in 2007. The fund is used to address trans-NIH research priorities.

NSF Budget Overview

The President proposes a \$ 6.85 billion budget for the National Science Foundation (NSF) for FY 2009, an increase of 14 percent over the FY 2008 level. With an emphasis on ensuring that America continues to hold its position as a global leader in science and technology, major changes include increased funding for science and engineering research. The President proposes providing \$305 million for research and related activities, an 8.5 percent increase over FY 2008 funding.

Under the President’s budget proposal, NSF’s Biology Directorate would receive \$675.06 million, a 10.3 percent increase over the FY 2008 budget of \$612.02 million. The Math and Physical Sciences Directorate would receive \$1,402.67 million, an increase of 20.2 percent

Organization	2007	2008	Proposed 2009	% Increase 2008-2009
NIH	\$29.1 billion	29.5 billion	29.5 billion	0%
NSF	\$5.8 billion	\$6.0 billion	\$6.85 billion	13%
NIST	\$581.3 million	\$640.7 million	\$634 million	22%
DOE	\$23.7 billion	\$23.8 billion	\$25 billion	4.7%
NASA (science research only)	\$4.7 million	\$4.7 million	\$4.44 million	N/A

over FY 2008 funding. Other budget highlights include increased support for research grants across the directorates; the Foundation anticipates funding an additional 1,370 awards in FY 2009, which would increase the success rate from 21 percent to 23 percent. If the budget were enacted, NSF's Faculty Early Career Development Program, a program designed to improve opportunities for scientists and engineers at the beginning of their careers would receive \$181.9 million, a \$14 million increase over FY 2008.

DOE Budget Overview

The President is requesting \$25 billion for the Fiscal Year 2009 budget for the Department of Energy (DOE), which includes funding for the agency's energy research, science, environmental management, and defense programs. The funding request for the DOE Office of Science is \$4.7 billion, an increase of nearly 19 percent above the FY 2008 level. Fusion Energy Sciences and Workforce Development programs receive the largest percent increases over the FY 2008 level, at 72 percent and 68.8 percent respectively.

According to the DOE, the FY 2009 budget request would enable more than 21,000 individual researchers from universities, national laboratories, and industry to use DOE scientific facilities in FY 2009 (an increase of 1,000 over FY 2008), as well as support 23,700 PhDs, post-doctoral researchers, and graduate students, an increase of 2,600 over the number supported in FY 2008.

NIST Budget Overview

The Fiscal Year 2009 budget proposal submitted by President Bush on February 4, 2008 includes \$634 mil-

lion for core research and facilities programs at the National Institute of Standards and Technologies (NIST), an increase of 22 percent over FY 2008 funding levels.

The total request of \$638 million is allocated among three sections: Scientific and Technical Research and Services (STRS) receives a proposed investment of \$535 million, NIST laboratory research receives \$99 million. Construction of Research Facilities receives 526.5 million. Four million dollars is requested for Industrial Technology Services.

NASA Budget Overview

The President has proposed a \$17.6 billion budget for NASA for FY 2009, a 1.8 percent increase over the FY 2008 level. Science Programs at NASA (Earth Science, Planetary Science, Heliophysics, and Astrophysics) will receive \$4.4 million, a decrease of 5.6 percent from the FY 2008 level.

Teaching of Evolution Approved in Florida

Science teachers in Florida's public schools will now be required to present evolution as a "fundamental concept underlying all of biology." The Florida Board of Education approved new science standards on February 19th by a 3-4 vote. The new standards make the teaching of evolution a requirement in the state's schools for the first time.

Leading up to the February vote, nine counties in Florida passed resolutions opposing the new standards, and two of the eight members of the politically appointed Board spoke out against the standards. On the other

side, scientists conducted a statewide petition and received the endorsement of a science curriculum expert at the Thomas B. Fordham institute in Washington DC, which graded the previous standards as an F.

In response to the Board's adoption of the new standards, two pieces of legislation were introduced in the State Legislature – Senate Bill 2692 and House Bill 1483, both entitled the "Academic Freedom Act". The bills, if passed, would provide cover for the teaching of religious beliefs as science in Florida's science classrooms. As of print time, hearings on the bills have not yet been scheduled. Concern exists in the science community that the bills will pass.

NIH Grantees Oversight Called into Question

A recent report by the Department of Health and Human Services (HHS) Office of the Inspector General (IG) has charged the National Institutes of Health (NIH) with failing to monitor conflicts of interest involving the researchers who receive its grants. According to the report titled "National Institutes of Health: Conflicts of Interest in Extramural Research", the records NIH keeps of conflicts of interest are poorly managed and lacking essential information, such as "which individuals associated with the grants had the reported conflicts of interest." Officials at NIH provided the IG office with 438 reports dating from 2004 to 2006, and indicated that they had more reports but did not have time to dig them out of their files for the IG office.

Conflicts of interest often involve pecuniary deals between academic sci-

entists and pharmaceutical companies, such as instances in which an investigator has a financial stake in a company whose drug he or she is testing. The Office of Extramural Research (OER) asks, but does not require NIH's 24 institutes that provide grants to hand over the financial conflict of interest reports that they receive. The institutes are responsible for maintaining documentation themselves. The relationship between the NIH and its grantee institutions is a trusting one, as it places the sole responsibility to comply with federal financial conflict-of-interest regulations on the institution, and does not monitor each institutions actions.

While acknowledging that records should be better managed, the NIH disagrees with some aspects of the report, claiming that it is not responsible for policing grantees.

To read the HHS Inspector General's Report, go to <http://oig.hhs.gov/oei/reports/oei-03-06-00460.pdf>.

Congress Gains Another Scientist

In March, physicist Bill Foster won a special election to fill the seat of former House Majority leader Dennis Hastert to become the U.S. Congressman representing Illinois' 14th District. Foster, a Democrat, spent 22 years at Fermilab and also was partial owner of a lighting firm. Foster defeated Republican Jim Oberweis by 53 percent to 47 percent. In order to maintain his seat Foster must beat Oberweis again in November.

Grant Size vs. Quantity Debate

In 2000, the National Science Board, which is the advisory body to the National Science Foundation (NSF), instructed the NSF to boost the size of the typical research grant at the expense of the quantity of grants provided. As a result, the average NSF grant grew 40% between 2000 and 2005. At that point, the Board reviewed the issue again. After the second review, the Board decided in February 2008 to leave the decision of size vs. quantity to each discipline to make the decision based on the attitudes of that particular community.

BPS Members Participate in Science Engineering Technology Hill Visits Day

In early March, Public Affairs Committee member *Kathleen Hall*, Washington University School of Medicine, and Publications Committee Chair *David Piston*, Vanderbilt University, traveled to Washington, D.C. to participate in the twelfth annual "Congressional Visits Days," an event sponsored by the Science-Engineering-Technology Work Group of which the Biophysical Society is a member. The message the participants hoped to convey to Congress was the need for increased and balanced federal investment in research and development. Hall and Piston joined over 250 scientists, engineers and business leaders who made visits on Capitol Hill as part of the event.

While visiting Congressional offices of Senators Alexander (R-TN), Corker (R-TN), McCaskill (D-MO) and Bond (R-MO) and

Congressmen Gordon (D-TN), Cooper (D-TN), and Clay (D-MO), Hall and Piston discussed the importance of the nation's broad portfolio of investments in science, engineering and technology to promote U.S. competitiveness. They specifically asked for the Senators and Congressman to be supportive of funding for the NIH, NSF, and the Department of Energy Office of Sciences. Most importantly, they provided a constituent perspective on the local and national impact of these programs.

Highlights of the two-day event included remarks by science administrators in the federal government and at the AAAS during a briefing, as well as the presentation of the George E. Brown Jr. Science, Engineering, and Technology Leadership Award to Chairman Bart Gordon of the House Science and Technology Committee. In addition, the Honorable Sherry Boehlert, a former member of Congress who used to chair the Science Committee, offered his views on how to make the case on the Hill for Federal science and technology programs during a breakfast session. The attendees then made hundreds of visits to their Senators and Representatives.

The Science-Engineering-Technology Work Group is an information network comprising over 40 professional, scientific, and engineering societies, higher education associations, industry and institutions of higher learning. The Work Group is concerned about the future vitality of the U.S. science, mathematics, and engineering enterprise.

(Board & Council continued from Page 1)

- Council approved the agreement to enter into a partnership with Cell Press to publish *Biophysical Journal*, effective January 2009.
- Council elected two of its members to the Executive Board. *David Dawson* and *Lynne Regan* will each serve two-year terms. They replace outgoing members *Rajini Rao* and *Suzanne Scarlata*.
- Four Society members were elected to the Nominating Committee. *Paul Axelsen*, *Michael Cabalan*, *Catherine Royer*, and *Marileen Dogterom* are charged with preparing the slate of 2009 candidates to be presented to Council when it meets in Boston. *Paul Axelsen* was elected Nominating Committee Chair. Also serving on the Committee is the Past-President, *Joseph Falke*.
- Council approved increasing the size of the Awards Committee by two members. *Mary Barkley* and *Anita Zimmerman* were appointed to fill the new positions. Each will serve for a renewable three-year term.
- The proposed 2008 Discussions Meeting topic and organizing Committee were approved (see related article, page 18).
- Council approved a slate of candidates for the 2008 elections. The full slate will appear in the May/June newsletter.
- The Board and Council approved the formation of a new Programs Committee for an initial period of three years. The Committee is charged with evaluating new and ongoing Society programs.

Profile (Continued from page 3.)

you explanations and is very sharp and passionate,” Diaspro says.

With previous experience in three-dimensional optical sectioning and confocal microscopy, Diaspro obtained a grant from the National Institute of Physics of Matter (INFM) to develop two-photon architecture in Gratton’s lab. “He (Diaspro) is a great organizer. It is amazing how many things he is capable of doing. He is very active in the Italian and international community. His group has become perhaps the strongest group in microscopy in Italy,” says Gratton, now professor of Biomedical Engineering and Physics at the University of California, Irvine.

These days, Diaspro is focused on the nanoscale approach, fluorescence imaging, and single molecule imaging, topics he has presented at the Biophysical Society annual meetings.

Diaspro first learned about the Biophysical Society in 1985 through the Italian Society of Pure and Applied Biophysics (SIBPA), and for the last five years has been an active member serving on the *Biophysical Journal* Editorial Board. Along with reading the *Biophysical Journal* and attending the Annual Meeting, Diaspro feels that developing close relationships with other members has played an important role in broadening his knowledge of biophysics. He sees the Biophysical Society as a family of

sorts. “Being a member is valuable; for me it’s more than colleagues, you have colleagues who are not members. But when you are members and are at the meeting or reading the Journal, there is a sense of family. There are so many people I love at the Biophysical Society.” Diaspro proclaims.

As 2009-2011 President-elect for of EBSA, Diaspro has ideological goals. “The idea is for EBSA to be a real European Biophysical Society, different from the “American” Biophysical Society, so that we know what European views are,” he states.

When he isn’t peering into microscopes, Diaspro enjoys cooking with his wife and 23-year-old daughter

Claudia. Even while cooking, the desire to understand drives him. Every year in Genoa there is a festival of science where he performs “molecular cooking,” explaining the science behind cooking to audiences. When asked what he would be if he weren’t a scientist, the answer is not a chef,

though. “I’d like to be a singer like Neil Young, Bob Dylan, or James Taylor—a folk singer,” Diaspro says. He plays the guitar and writes songs in his spare time. He states that all he needs to perform are “my guitar, and my wife, my daughter Claudia and friends; these are the only people who listen to me.” And of course, his lovely dog Sissi.

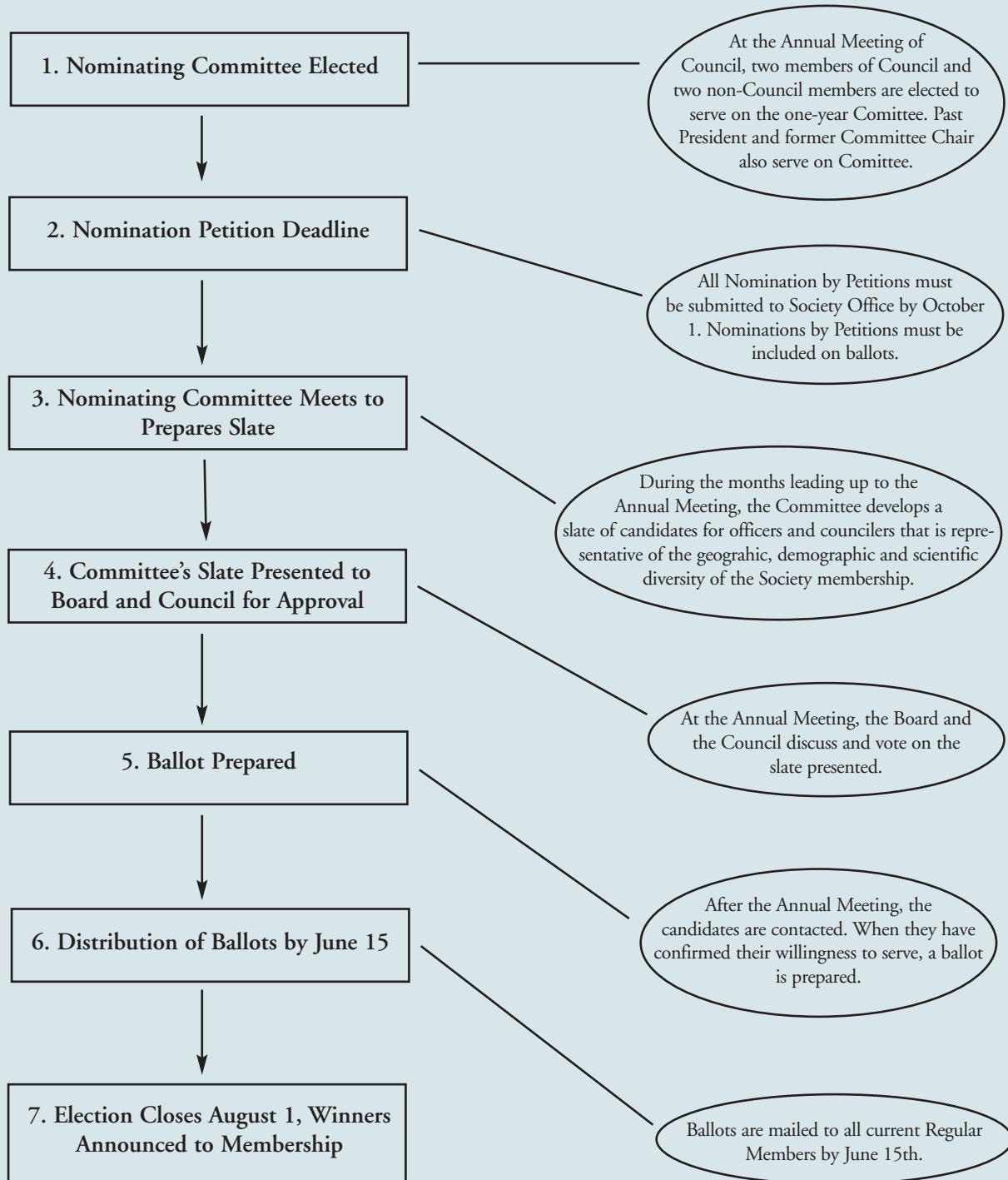


Diaspro in his lab

How the Society Works

Annual Election Process

Details of the election process can be found in the Biophysical Society Constitution and Bylaws, located on the BPS website (<http://www.biophysics.org/about/bylaws.htm>)



2008 Biophysical Society Discussions

Calmodulin Modulation of Ion Channels

Asilomar Conference Center, Asilomar, California

October 30 – November 1, 2008

Online Application: www.biophysics.org

Application deadline: May 16, 2008

Organizing Committee:

Mark E. Anderson, University of Iowa

David L. Armstrong, NIEHS, NIH

William A. Catterall, Washington University

Susan L. Hamilton, Baylor College of Medicine

Geoffrey S. Pitt, Duke University

Joerg Striessnig, University of Innsbruck

Richard W. Tsien, Stanford University

Ion channels are principal molecular determinants responsible for many vital functions including cell excitability, signal transduction, excitation-contraction coupling, secretion, and even transcription. Calmodulin is the prototypic calcium-sensing protein, and in the past decade it has become especially clear that calmodulin interacts with a remarkably large (and growing) number of ion channels, sometimes with yet unknown functional consequences. The fundamental role of calmodulin in signal transduction requires understanding of the underlying mechanisms, molecular determinants, and functional links.

The 2008 Discussions will address the regulatory roles of calmodulin in ion channel function with a focus on mechanisms of modulation, molecular determinants, structural principles of organization, and mediated signal transduction events. The Meeting will culminate with the session honoring Professor *Harald Reuter's* remarkable career in science and will be devoted to summarizing the results of 10 years of research in calmodulin modulation of ion channels.

The meeting takes place over a three-and-a-half-day period, with talks in the morning and evening, and the afternoons set aside for informal interactions. The Organizing Committee will announce if it can offer tentative partial support to speakers, but the amount will be decided at the time of the Meeting or shortly before, based on available funds and the individual requests.

The Meeting will be organized in six sessions. The presentations (15 minutes each) by leading experts in the fields will set the stage for the discussions during which the participants will exchange their results and ideas. This exchange also includes an afternoon poster session on the main topics of the meeting. The Chairs organize and moderate the discussions.

Program

For the complete program, visit www.biophysics.org

Thursday, October 30, 2008.

3:00 pm Check-In/5:00 pm Reception/6:00 pm Dinner

7:30 – 9:00 PM

Ten Years of Calmodulin Research in Ion Channels. The Past and the Future.

A special event session honoring Professor Harald Reuter's remarkable career in science
Nikolai M Soldatov, NIA, NIH, Introduction

7:45 PM

Chairs: *Harald Reuter*, University of Bern, Switzerland, and *Richard W. Tsien*, Stanford University

In this opening session of the Meeting, discussion will focus on where we stand regarding the many established facts and loose ends of calmodulin's functional significance in ion channel regulation.

Speakers: *Lutz Birnbaumer*, NIEHS, NIH, Research Triangle Park

William A. Catterall, University of Washington Medical School

Richard W. Tsien, Stanford University

Friday, October 31, 2008

9:00 AM **General Introduction**

Lutz Birnbaumer, NIEHS, NIH, Research Triangle Park, NC

9:15 AM – NOON

Session 1. Mechanisms of Modulation of Ion Channels by Calmodulin

Chairs: *Lutz Birnbaumer*, NIEHS, NIH, and *William A. Catterall*, University of Washington Medical School, Seattle, CA

Issues and overview: Modulation of ion channels by calmodulin has been a focus in the investigation of calcium and calcium-dependent potassium channels for the last 10 years. However, new principles of modulation of other channels and new roles emerged recently. The speakers will address specific questions related to these recent discoveries on the issues listed below.

7:30 – 9:45 PM

Session 2. Regulation of Neuronal Channels

Chairs: *Annette C. Dolphin*, University College London, and *Franz Hofmann*, Technische Universitaet Muenchen, Muenchen, Germany

Saturday, November 1, 2008

9:00 AM – NOON

Session 3. Molecular Determinants

Chairs: *John P. Adelman*, Vollum Institute, and *David T. Yue*, Hopkins University

Issues: Calmodulin binds to the channels in a calcium-dependent manner and with different lobes. What do we know about common and specific patterns of these interactions? How do other molecular parts affect these interactions? How many calmodulins are interacting with a single channel? Do accessory subunits affect calmodulin regulation? What could be the role of channels clustering?

2:30 – 3:45 PM

Session 4. A More General Picture: Non-channel Calmodulin

Chairs: *Martin Morad*, Georgetown University, and *M. Neal Waxham*, University of Texas Houston Medical School

Questions: Is calmodulin sequestered in cells and in what form? Is it freely available to the signaling or does its availability direct the signaling event? How mobile is calmodulin once it is released at some point in the cytoplasm? Does the concentration of calmodulin change during the cell cycle, in evolution or during development? Molecular motors related to calmodulin and their signaling role.

7:10 PM – 9:45 PM

Session 5. Signal Transduction Events Mediated by Calmodulin-Ion Channels Coupling

Chairs: *Ernesto Carafoli*, University of Padova, Italy, and *Bernd Nilius*, KU Leuven, Belgium

Issues: Among many processes mediated by calmodulin, the regulation of intracellular calcium release and transcription regulation are the focus of recent studies. Are calcium sensors available to the cytosolic calcium, e.g., released from the SR? What do we know about the organization of the underlying events? How is the coupling of the ion channel activity mediated to alter signaling? What may be the role of calmodulin-like proteins? These questions will be addressed in the topics listed below.

Sunday, November 2, 2008

9:00 – 11:00 AM

Session 6. Structural Principles of Organization

Chairs: Susan L. Hamilton, Baylor College of Medicine, and Daniel L. Minor, Jr., University of California, San Francisco

Issues: What do we know about the molecular organization of calmodulin binding sites? How does calcium affect the structure of calmodulin in binding sites?

10:45 AM. Meeting Wrap Up. Closing Remarks

William A. Catterall, University of Washington Medical School
Harald Reuter, University of Bern, Switzerland

(Cell Press Agreement continued from page 1)

Email Sent to Members in March from the Society President

Dear Biophysical Society Members,

I am writing to tell you of an exciting new development for the membership of our Society, and the field of Biophysics. Following a year of careful considerations, financial analyses and extensive discussions of a number of proposals regarding the evolution of our journal, the very dedicated work of the Publications Committee, led by its Chair David Piston and of the Executive Director Ro Kampman and her team, the Executive Board and Council unanimously approved the proposal to partner with Cell Press in publishing *Biophysical Journal*, beginning January 2009.

Cell Press is enthusiastic about publishing *Biophysical Journal* to enhance their coverage of biophysics, one of the main growth areas in science. The Biophysical Society and Cell Press anticipate important synergies between the content of *Biophysical Journal* and that of the existing Cell Press journals, including *Cell*, *Neuron*, *Molecular Cell*, *Current Biology*, and *Structure*. By partnering with Cell Press, *Biophysical Journal* will expand its readership, visibility and scientific profile, it will achieve an increased dissemination of biophysics research, and it will enhance Society member benefits.

The Biophysical Society will continue to retain full editorial control and ownership of the Journal's content. The Society will continue to appoint the Journal's Editor-in-Chief, Associate Editors, and Editorial Board, and to handle the entire manuscript review process. Members will also receive substantially reduced rates for print subscriptions to *BJ* and will continue to receive *BJ Online* as a benefit of membership. As in the past, the content of *Biophysical Journal* will be automatically deposited into PubMed Central to help authors comply with NIH policy, and will become freely available 12 months after publication. Authors will retain the current option to pay for immediate open access. The Journal will continue to be presented by Cell Press as an individual offering for acquisition by libraries.

It is important to note that this mutually beneficial partnership will provide new resources that will be passed on to the membership both through appropriate reductions of their costs of publication, such as page charges and color figure production, and through the development of new, and strengthening of existing programs aimed at the core missions of the Society, including its journal. In addition to encouraging the development and communication of knowledge in biophysics, the Society will be able to consider and implement other programs and initiatives for which suggestions are currently being developed by a special committee that will canvas the membership for this purpose.

Attached is a copy of the press release that will be communicated by Cell Press in the next few days. I trust you share in the excitement generated by this new development and that you will continue to enjoy the growing benefits of membership and to work with and support your Biophysical Society.

Harel Weinstein
Biophysical Society President

Cell Press Press Release Announces New Partnership with the Biophysical Society

CAMBRIDGE, Massachusetts -- Cell Press has been chosen by the Biophysical Society to publish its premier semi-monthly journal from January 2009. The Biophysical Society and Cell Press anticipate tremendous synergies between *Biophysical Journal* content and that of the Cell Press journals, including *Cell*, *Neuron*, *Molecular Cell*, *Current Biology*, and *Structure*.

For more than 50 years the Biophysical Society has promoted the development and publication of knowledge in biophysics. It has done so by publicizing, encouraging, and strengthening research in the discipline, by supporting the career development of its members and by displaying and disseminating their work at its Annual Meeting and through its Journal, by its proactive lobbying in support of funding for all basic research, and by taking a strong stance on public service, responsibility and outreach activities. The Society's members, now about 8,000 in number, work in academia, industry, and in government agencies throughout the world. In considering the importance of this new partnership for the Biophysical Society, its new President, Harel Weinstein emphasizes that: "The Biophysical Society's Council approved this development unanimously because it will help us strengthen the core missions of the Society by expanding the readership and visibility of *Biophysical Journal*, and thereby increase the dissemination and the impact on society at large of the exciting results from research in biophysics, one of the main growth areas in science."

"I am very pleased to welcome *Biophysical Journal* as a great complement to Cell Press content and mission," said Lynne Herndon, President and CEO of Cell Press.

By partnering with the Biophysical Society, Cell Press further strengthens its commitment to fostering scientific communication through the publication of exciting original research. Cell Press is recognized for its close relationship with the scientific community and for consistently delivering the world's leading research across the broad spectrum of life sciences. The Biophysical Society and Journal will be linked with Cell Press to provide an important forum for the publication of rigorously reviewed scientific papers. The Editor of *Biophysical Journal*, Edward H. Egelman, welcomed this development by saying: "The Journal continues to improve and grow in terms of the impact that it has in many areas of biological research. Our partnership with Cell Press will support this trend of growth in impact and recognition and provide us with more resources to achieve new heights."

Emilie Marcus, Editor in Chief of Cell Press states, "The Biophysical Society and its journal share with Cell Press a commitment to understanding biology at a mechanistic, molecular and computational level and to publishing the highest quality research. The editorial strengths and scope of *Biophysical Journal* provide an excellent opportunity for a balance of fruitful new synergies in our areas of overlap and exciting expansions into new disciplines. From an editorial and scientific perspective, I am thrilled by the prospects of our partnership."

About Cell Press

Cell Press, an imprint of Elsevier, is committed to improving scientific communication through the publication of biology research and reviews. Cell Press journals include the flagship journal *Cell*, *Neuron*, *Immunity*, *Molecular Cell*, *Developmental Cell*, *Cancer Cell*, *Current Biology*, *Structure*, *Chemistry & Biology*, *Cell Metabolism*, *Cell Host & Microbe* and *Cell Stem Cell*. Cell Press's mission is to continue to publish and develop journals that deliver the highest possible intellectual rigor, promote community trust, and are widely disseminated.

About the Biophysical Society

The Biophysical Society was founded in 1957 to encourage development and dissemination of knowledge in biophysics. It does so through its many programs, including its meetings, publications, including *Biophysical Journal*, and committee activities. The *Biophysical Journal*, which began publication in 1960, is the premier journal in the area of biophysics. The Society's members, now 8,000, work in academia, industry, and in government agencies throughout the world.

Members in the News



Daniel T. Chiu

Daniel T. Chiu, of the University of Washington and Society member since 2004, received the 2008 National Fresenius Award.



Dennis A. Dougherty

Dennis A. Dougherty, of the California Institute of Technology and Society member since 1998, received the 2008 James Flack Norris Award in Physical Organic Chemistry.



Ronald N. McElhaney

Ronald N. McElhaney, of the University of Alberta and Society member since 1979, was elected to the National Academy of Sciences of the Royal Society of Canada. McElhaney was also appointed Editor-in-Chief of the scientific journal *Chemistry and Physics of Lipids*, commencing in 2008.

Obituary

Biophysical Society Charter member *Belmont G. Farley* passed away on February, 28, 2008 at the age of 87 from complications due to Alzheimer's. After earning his PhD in Physics from Yale University in 1948, Farley worked with a group that developed the first transitionized computer in 1953, which he used to research neural networks using mathematical models. In 1969 he became the second member of Temple University's new Department of Computer and Information Science. He retired in 1986. Belmont Farley is survived by his wife of 55 years, two sons, a sister and a brother. His eldest son passed away before him.

Searching for a Job in Biophysics?

Visit the Society's webpage at http://www.jobtarget.com/home/index.cfm?site_id=652 to view the job board. Job seekers can post their resume online for FREE as well as apply to jobs currently posted on the board.

Looking for a Biophysicist?

Visit the Society's webpage at http://www.jobtarget.com/home/index.cfm?site_id=652 to post a job TODAY! Employers currently have access to over 200 Biophysicist's resumes.

Invitation to the 38th School in Biophysics, and the 3rd Workshop on Channels and Transporters

To be held in Erice, Sicily , 11-19 May 2008

Broad outline of Topics and Speakers:

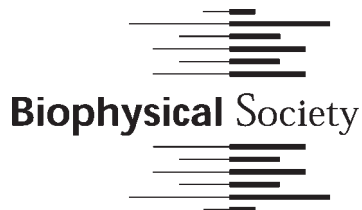
- Channels and receptors, B. HILLE, University of Washington
- Facilitated passive and secondary active transport, R. NAFTALIN, King's College London
- Voltage-gated ion channels, F. BEZANILLA, University of Chicago
- Structure and function of monoamine transporters, G. RUDNICK, Yale University
- Ca entry channels and G-protein-gated receptors, D. CLAPHAM, Harvard University
- Molecular structure of transporters, E. GOUAUX, Vollum Institute
- Structure and mechanism of lactose permease, R. KABACK, University of California Los Angeles
- Ion channels in human disease, W. CATTERALL, University of Washington
- Transporters in human disease, N. CARRASCO, Albert Einstein College of Medicine and G. SALOMONS, VU Medical Center, Amsterdam
- Cl-H exchangers and Cl channels, A. ACCARDI, University of Iowa
- Amperometry and fluorescence microscopy, L. De FELICE, Vanderbilt University
- Glutamate transporters, B. KANNER, The Hebrew University and M. KAVANAUGH, University of Montana
- Multidrug transporters S. SCHULDINER, Hebrew University of Jerusalem, K. LOCHER, ETH Zurich, HASSANE MCHAOURAB, Vanderbilt University, and R. TAMPE, University of Frankfurt
- Mechanisms of P-type ATPases, P. NISSEN, University of Aarhus
- Molecular computational modeling of transporters and channels, S. NOSKOV, University of Calgary
- Methodology for structural analysis of transporters and G-protein coupled receptors, C. TATE, Laboratory of Molecular Biology, Cambridge, and HASSANE MCHAOURAB, Vanderbilt University

For more information and to apply online, go to:
<https://medschool.mc.vanderbilt.edu/channels.transporters2008/>
or contact: lou.defelice@vanderbilt.edu or kannerb@cc.huji.ac.il

New! *Biophysical Journal* Supplementary Material Hyperlinking

Biophysical Journal will now be providing embedded hyperlinks to individual files in the Supplementary Material of the online version of its published articles. These hyperlinks will provide direct access from each citation to its associated Supplementary Material file. Each individual supplementary data file supplied by the author will have a hyperlink applied to its in-text citation in the online PDF and the full text version of the article. Supplementary materials may include additional text, figures (including charts, cartoons, and diagrams), tables, and movies.

For more information, visit <http://www.biophysj.org/misc/ifora.shtml#supplements> for detailed instructions on submitting supplementary files for hyperlinking.



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Biophysical Society Newsletter—March/April Issue

Upcoming Events

Biophysical Society

May 19-20, 2008

Intrinsically Disordered Proteins and Associated Pathologies: Prediction, Characterization and Function
Saint-Raphael (French Riviera).

http://www.inserm.fr/en/rh/ecole_inserm/ateliers/index.html.

June 16-20, 2008

NBC-2008 — 14th Nordic Baltic Conference on Biomedical Engineering and Medical Physics NBC-2008

Riga, Latvia

<http://www.rtu.lv/nbc14/>

June 18-21, 2008

IUTAM Symposium on Cellular, Molecular and Tissue Mechanics

Cape Cod, Massachusetts

<http://www.iutam.net/iutam/Events/index.php/1/2008>

June 23-24, 2008

12th International Conference Biodetection Technologies 2008 - Technological Responses To Biological Threats
Atlanta, Georgia

<http://www.knowledgepress.com/events/11271459.htm>

July 2-4, 2008

Optics Within Life Sciences (OWLS) 10: Biophotonics Asia 2008/Satellite Meeting to ICO-21

Singapore

www.owls10.org

July 24-30, 2008

4th Symposium on Nanotechnology, Nano-Biomimicry and Biomimetic Engineering

Baden-Baden, Germany

<http://www.iias.edu/>