

Biophysical Society NEWSLETTER

September 2011

56th Annual Meeting

February 25–29, 2012
San Diego, California

Deadlines

September 30, 2011

Satellite Meeting Proposals

Ancillary Meeting Proposals

October 2, 2011

Abstract Submissions

SRAA Applications

October 5, 2011

Travel Award Applications

Networking Mini-Grants

Proposal Deadline

October 14, 2011

Bezanilla Voted President-Elect

Seven Members Elected to Council

Francisco Bezanilla of the University of Chicago was elected President-Elect of the Biophysical Society in the 2011 Society elections. He will assume that office at the 2012 Annual Business Meeting in San Diego, California. His term as President will begin at the 2013 Annual Business Meeting in Philadelphia, Pennsylvania.

Seven Society members were elected to Council, each for a three-year term that will begin at the 2012 Annual Meeting. They are (pictured at right): *Taekjip Ha*, University of Illinois at Urbana-Champaign; *Samantha Harris*, University of California, Davis; *Marcia Levitus*, Arizona State University; *Merritt Maduke*, Stanford University; *Daniel Minor*, University of California, San Francisco; *Jeanne Nerbonne*, Washington University Medical School; and *David Yue*, Johns Hopkins University School of Medicine.

A record 31% of eligible members cast their ballots this year. The Society is indebted to all candidates who ran in these elections and to the members who cast their votes.



Francisco Bezanilla



Taekjip Ha



Samantha Harris



Marcia Levitus



Merritt Maduke



Daniel Minor



Jeanne Nerbonne

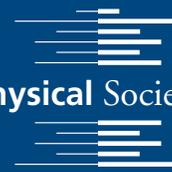


David Yue

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Alisha Yocum

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Public Affairs

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Call for 2013 Thematic Meeting Proposals

Proposal deadline: September 9, 2011

Each year during the summer and fall, the Biophysical Society sponsors small focused-topic meetings that are organized by Society members. The Society provides partial financial support in the range of \$10,000–\$20,000, in addition to complete meeting management, including all web and onsite components.

The Society is now calling for proposals for 2013 thematic meetings. Complete submissions will be considered by the Thematic Meetings Committee, and the Committee's recommendations will be submitted to the Society's Executive Board for consideration in November 2011.

In 2010, the Society sponsored two highly successful meetings: one on calcium signaling in Beijing, China, in October, and another on actin, the cytoskeleton, and the nucleus in Singapore in November. In July 2011, the Society sponsored another successful meeting entitled *Dynamic DNA Packaging Across Kingdoms: Chromatin & Beyond* in Asilomar, California (see page 10 for meeting summary). In 2012, the Society is sponsoring a meeting in Beijing, China, on techniques used in studying weak protein-target interactions, and one in India on membrane proteins and lipid-protein interactions.

What makes these meetings unique and exciting is that they bring together researchers in different areas who do not otherwise attend the

same conferences, but work on the same topics from different approaches. Bringing these individuals and approaches together is the essence of biophysics.

Criteria for meetings sponsored by the Biophysical Society are as follows:

- Organizers must be Society members.
- Topics must be timely, not recently addressed, and should foster interdisciplinary and international research.
- Speakers must present new and exciting research.
- The proposed list of speakers must represent geographic, gender, and ethnic diversity.
- Domestic and international sites are appropriate.
- Joint meetings with other societies or institutions are appropriate when justified.

Complete submissions must include names of the organizers, meeting title, rationale for holding the meeting in 2013, description of the topics that will be presented, a list of proposed speakers, the proposed location and rationale for that site, and a preliminary budget that includes federal agencies and commercial firms that will be solicited for financial support. Proposals should address each of the selection criteria above.

Proposals must be submitted through the onsite submission site at <http://www.surveymonkey.com/s/8GFPH3G> for consideration.

The deadline for submissions of proposals for 2013 meetings is September 9, 2011.

Subgroups

Membrane Biophysics— What's New?

Greetings, MBS members. Our Annual Membrane Biophysics Subgroup Symposium will be held on February 25, 2012. The theme for the symposium, organized by the MBS Chair *Paul Slesinger*, Salk Institute, will be *Dancing with New Structures – Insights into Transport Function*. Speakers include *Jeff Abramson*, UCLA; *Wayne Hendrickson*, Columbia University; *Pierre-Jean Corringer*, Institut Pasteur; *Christine Ziegler*, Max Plank Institute of Biophysics; and *Youxing Jiang*, Utah Southwestern. This symposium will cover some of the latest studies using high-resolution structures to significantly advance our understanding of the function of ion channels and transporters. See you in San Diego.

The Call for Nominations for the 2012 Kenneth S. Cole Award is now open. This annual award is given to an investigator who has made a substantial contribution to the understanding of membrane biophysics. For a listing of previous winners, please visit <http://biophysics.org/MembershipSubgroups/Subgroups/MembraneBiophysics/PastKennethSColeAwardees/tabid/740/Default.aspx>.

The award will be presented at the Membrane Biophysics subgroup dinner, following the Saturday afternoon symposium at the Annual Meeting. Any member of the Membrane Biophysics subgroup may nominate someone. The recipient will be selected by the Subgroup Chair and the Advisory Committee. Nominations containing a brief statement summarizing the qualifications of the nominee should be sent to *Mike White* at mwhite@drexelmed.edu. The deadline for nominations is **September 16, 2011**.

—*Mike White*, Secretary-Treasurer

Distinguished Service and Emily Gray Awardees Announced

The Biophysical Society is proud to announce the recipients of the 2012 Distinguished Service Award and the Emily M. Gray Award. These Society members will be honored at the National Lecture on Monday, February 27, 2012, in San Diego, California. The Emily M. Gray Awardees will also give a presentation at the Undergraduate Student Symposium on Sunday, February 26, 2012.



Edward Egelman

Edward Egelman, University of Virginia, will receive the Distinguished Service Award for his leadership and vision as Editor-in-Chief of *Biophysical Journal* and longstanding service to the Society.



Kenneth Dill



Sarina Bromberg

Kenneth Dill, Stony Brook University, and *Sarina Bromberg*, freelance writer, will be presented with the Emily M. Gray Award for their impact on the education and professional formation of countless scientists by writing a textbook, *Molecular Driving Forces*, which is landmark in molecular biophysics.



Biophysicist in Profile

MERRITT MADUKE

“Biophysicists tend to be very independent-minded and self-sufficient,” says Merritt Maduke, Associate Professor of Molecular & Cellular Physiology at Stanford University, “nevertheless, it is a valuable proverb that ‘two are better than one, and that a three-stranded cord is not easily broken.’ It is important to always learn from and support one another.”

Maduke cultivates such an environment in her own lab, one that encourages collective learning and finding creative solutions to biophysical problems—an environment not unlike the one Maduke’s parents provided for her. They made sure actively seeking and acquiring knowledge was an ever-present part of her life. Her mother,

trained as a nurse, encouraged delving into biological questions. Her father, a commodities futures trader, came at learning from an inherent fascination with the knowledge out there for the taking. “From the time I was three years old, he

spent time every night with me after dinner, giving me math problems and telling stories about great discoveries in chemistry and physics of the 20th century,” says Maduke. “Both of my parents read extensively, and together they created an environment in my childhood that inspired the love of learning.”

As an undergraduate, Maduke started on the pre-med track. “I didn’t really think about it, but it seemed to be a default pathway for students who were good at science,” she says. Her love of using math to solve problems determined her choice of major—chemistry—but one of her teachers, *Brian Miller*, taught her to enjoy lab work. “Dr. Miller was a master at teaching us how to connect theory with experiment, was open to trying any new experiment in the lab, and allowed us to call him at home

with questions any time except between the hours of 2:00 AM and 6:00 AM,” she says.

Though not swaying her from her medical aspirations, Miller’s classes did prompt Maduke to try a summer research program. She joined *David Lynn’s* lab at the University of Chicago the summer before her senior year, studying plant metabolism using ¹³C NMR. Lynn’s lab showed Maduke what Miller’s class alone could not. “He exemplified the wonder of a career in academics—continually asking questions, learning, and discovering new things,” she says. “It was an excellent introduction to biophysics, applying physical approaches to studying a biological problem.” By the end of the summer, she had shifted her focus to graduate school and applied immediately, retracting her already-submitted medical school applications.

Once accepted to the University of California, San Diego’s (UCSD) Chemistry Department, selected for its biology-infused approach to chemistry and its proximity to the beach for pre- and post-experiment jogs, Maduke got to work in *David Roise’s* lab. She applied what she calls Roise’s “rigorous approach” to her own project, developing fluorescence-based methods to study the binding of mitochondrial presequences to membranes as well as to assess their translocation kinetics. In the meantime, she read ceaselessly. *Chris Miller’s* published work on the *Torpedo* chloride channel told her she had found the next step in her career. Even after her application for a postdoc in Miller’s full lab was rejected, Maduke was so fascinated by his work that she took off for Brandeis University to meet Miller in person.

“It’s an incredible experience to design and conduct experiments that increase our knowledge of the world.”

—MERRITT MADUKE



Merritt Maduke’s son Max in the lab.

“After an hour of talking with her, I realized that a postdoc position had just opened up,” Miller says. “Lucky for me, she accepted it.”

Pioneering work by Miller had established CLC-type chloride channels as fundamentally different in both structure and mechanism from the cation-selective families of ion channels. Seeking to further understand the molecular mechanisms of these chloride channels, Maduke and a team led by fellow postdoc *Joe Mindell* discovered a prokaryotic CLC protein, and published the first direct structural data on a CLC, a projection structure solved using electron microscopy on two-dimensional crystals. As more data were published, including an X-ray crystallographic structure by *Dutzler* and *MacKinnon* and a surprising discovery concerning CLC function by *Accardi* and *Miller*, Maduke saw the need to integrate understanding of structure and function more than ever. “The discovery by Accardi and Miller that the CLC family encodes both channels and secondary active transporters challenged the existing paradigm that these two types of proteins operate by fundamentally different mechanisms and suggests instead that their mechanisms are subtle variations on a single central theme,” she says. “Research in my laboratory has been focused on determining the molecular details of these mechanisms.”

Maduke found more at UCSD than her life’s work. She met her husband, *Eric Lanzendorf*, in a molecular spectroscopy class, and they hit it off when they both ran the La Jolla Half-Marathon. “Ever since then we have been thinking about science and running together,” says Maduke. The couple also bike and hike together, along with their four-year-old son, Max. Of Maduke’s memorable qualities, a few stand out to Lanzendorf, including “her honesty and integrity coupled with a sense of childlike wonder—the ‘hey, this is neat’ factor,” he says.

Considering Maduke’s adventuresome approach to research, these qualities are evident in her lab as well as outside it. “As a researcher, I’m impressed by how many tools she is willing to use to address a particular problem,” says *Justin*

Du Bois, one of Maduke’s frequent collaborators. Her lab seems to have their collective hands in everything, from NMR structural biology, electrophysiology, crystallography, biochemistry, molecular biology, to pharmacology.” Using what you know and teaching yourself new tricks when you need to is a philosophy Maduke reinforces in her students. “Merritt taught me never to be satisfied with incomplete answers,” says *Gilbert Martinez*, a former student of Maduke’s, “and if you can’t find a complete answer with a technique you are comfortable and familiar with then you should learn a new technique to answer the question right.” Such an approach can occasionally require a friend to lend a hand, or an ear. “I am fortunate to have many friends and collaborators in biophysics to advise us in areas in which I am still gaining expertise,” says Maduke. “I have met many people at the Biophysical Society Annual Meetings who have helped me in my thinking and research directions. No one connection stands out, but the sum of all the connections is amazing.”

Amidst her work and family commitments, Maduke finds time to give back in other ways. She’s a member of the BPS Committee for Professional Opportunities for Women (CPOW) and was recently elected to the BPS Council. She volunteers with a local organization called “Science is Elementary,” helping to teach primary school children in underprivileged communities about the process of discovery and the scientific method. She has also volunteered to judge high school science fair projects at the California State Science Fair. “We are extremely lucky to live in a society that supports scientific research,” she says. “I think we owe it to society to work very hard in gratitude and to provide a good return on this investment in us.”



Merritt Maduke (left) backpacking with friends and family (son Max, center; husband Eric, right) in the Desolation Wilderness, Eldorado National Forest.

Ask Professor Sarah Bellum



Professor Sarah Bellum answers your questions on navigating the often-uncharted waters of early career development. Professor Bellum is communicated by Patricia L. Clark, founder of the Early Careers Committee and a member of Council. Do you have a question for Professor Bellum? Send it to sarah_bellum@biophysics.org. Your privacy is assured!

How to Get a Letter that Glows

Q: I am preparing to apply for postdoctoral positions, and need to get letters of recommendation from two people on my thesis committee. One member readily agreed to write a letter, but the other was really surly about it. “Professor Grumpy” said that over the past five years he has seen me only at my two formal committee meetings, and that was hardly the basis for writing a strong letter. I see his point, but what can I do about it now?

A: Letters of recommendation will be an incredibly important part of your professional life throughout your career. Your CV or résumé provides an abbreviated, objective catalog of your career progress, but it is in your letters of recommendation that your unique attributes, professional triumphs, and interpersonal skills can shine through. In these letters, your contributions can be placed in the context of your field, and your progress and promise can be compared to that of others at your career stage. Even one strong, glowing letter can make a so-so CV stand out from the crowd, and clinch an interview—and just as fast, a collection of mediocre letters can torpedo an application, even if it comes with a

very strong CV. So what are the qualities that distinguish a glowing letter from a mediocre letter?

Glowing letters are written by letter writers who have substantial personal knowledge of the applicant and his/her work. Try to see your situation from the perspective of your surly committee member. If the last time Professor Grumpy thought about you was two years ago at your last committee meeting, it is unlikely that he will be able to allot time in his short-term schedule to get to know you and your thesis project to the extent needed to write a strong, thoughtful letter. And at any given moment, Professor Grumpy is balancing several competing commitments, all of which demand more of his time than he can devote to them. He might be writing a grant proposal, preparing lectures, writing reports for a departmental committee, or updating a presentation for an upcoming seminar trip. More likely, he is trying to do all of these things, and more, simultaneously. Out of the blue, you show up and ask for a letter. Writing even a so-so letter will take time away from something else on his calendar, a sure recipe for making Grumpy even grumpier. The shorter the timeline, the grumpier he will get—and the less likely it is that your letter will glow.

Now instead, imagine a different scenario: imagine that approximately every six months after your last formal contact with your committee members you sent a brief progress summary to each of them, updating them on project goals, your recent progress, and planned future directions. Imagine that when something noteworthy occurred in your professional life, you sent them a brief email to let them know that your study on X was just published in Journal Y (PDF attached), or that you attended conference Z and won an award for your poster presentation. Imagine that you went out of your way to chat with Professor Grumpy and your other commit-

tee members when you saw them at seminars and department functions. Imagine that you read up on Professor Grumpy's research area, asked him for advice when you encountered a snag in your research that related to his expertise, and thanked him for his contributions in the Acknowledgements section of publication resulting from that study (a copy of which you sent to him, along with a note thanking him for his help). Imagine that when you wanted some of Professor Grumpy's time, you sent him an email asking to make an appointment at a time convenient to him, following up with a polite reminder email if you did not receive a response. If there was still no response, you tried dropping by his office to set up an appointment in person. A common theme throughout this scenario is realizing that a substantial letter of recommendation, and definitely a glowing letter, arises from a solid relationship between the student and his/her letter writer, while simultaneously respecting Professor Grumpy's competing time demands.

This is all very nice for the future, but what about your current situation? Professor Grumpy hasn't had a progress update from you in years, and your goal was to send out your applications in the next two weeks. What can you do now to salvage your situation? Your best bet is to book an appointment with Professor Grumpy ASAP to explain your situation and ask for his advice on how to proceed. What you are most interested in is establishing a reasonable timeline for Professor Grumpy to write the strongest possible letter. Emphasize that you would rather have a strong, thoughtful letter than a quickly written, so-so letter, and make it as easy as possible for him to write a glowing letter by providing him with your current CV, publications, and a brief summary of your thesis research. Make it crystal-clear why you especially value a letter written by Grumpy ("I am a bit concerned that my application will be at a disadvantage because my most significant

manuscript is still under review. Given your expertise in XYZ, I am hoping you might feel comfortable mentioning in your letter the contributions and future impact of my work on our understanding of XYZ"). Give him some background information on the job/fellowship you are applying for, application deadlines, and where to send or submit his letter. Email all of this to him so he can easily cut-and-paste the relevant information into his letter.

But respect Grumpy's schedule. If he is out of town or too busy to meet with you, send him an email explaining your situation, letting him know that you understand that you were remiss in keeping him up to date and tardy in your request for letters.

Then, based on what you hear, recalibrate your own timeline: If Grumpy is already swamped with writing his grant renewal proposal, it might be a

month before he can produce your letter. Go ahead and submit your applications, but include a note indicating when your letters will arrive. If the deadline is rigid and you know Grumpy's letter will not arrive in time, consider delaying your application until the next review cycle. This might mean delaying your thesis defense, or staying on in your current lab after your defense. You absolutely must discuss this decision with your PhD advisor; other variables, including your relationship with your PhD advisor and his/her current funding status, are involved.

Finally, keep in mind that the first glowing letter will take the most time to produce. Even substantial updates to an existing letter are nowhere near as time-consuming as producing a brand-new letter. Yet one more reason to start the letter-writing process early: If you start with a glowing letter, it will likely keep glowing for a good long time.

Even one strong, glowing letter can make a so-so CV stand out from the crowd, and clinch an interview.

56th Annual Meeting

SAN DIEGO, CALIFORNIA | FEBRUARY 25–29, 2012

See what meeting attendees are saying about the meeting:

"One of the main reasons I love BPS ... is that it enables me to get ideas from scientists who are primarily biologists, or primarily physicists, or primarily something in between or completely out of this range. It is the most interdisciplinary specialized meeting I've attended."

—markitalandry on BPS Blog

"Wow. I spent 3 hours presenting my poster to a constant stream of people! Thanks for all the great discussions everybody!"

—MyLabView on Twitter

Present Your Research at the BPS Annual Meeting

Abstract Deadline: October 2, 2011

What makes the Biophysical Society meeting the most interactive, interdisciplinary meeting around? Is it the fact that it's the one place where over 6,500 physicists, chemists, engineers, biochemists, and biologists meet? Or is it the myriad of ways researchers can present their work?

In addition to the presentations by the over 100 invited speakers in the symposia and workshops, the Biophysical Society meeting offers opportunities for scientists at all points of in their careers to share their research through:



Over 4,000 abstracts are submitted for the Society's Annual Meeting. Each meeting day includes nearly 800 different poster presentations.

- Over 800 poster presentations scheduled daily;
- Sixty platform sessions, featuring more than 475 speakers selected from the submitted abstracts and highlighting younger researchers;
- Four minisymposia, with each featuring six speakers selected from abstracts submitted for each minisymposium topic; and
- Member-organized sessions. Don't see an abstract topic that describes your work? Submit a member-organized proposal by September 19 to be considered for a platform session.



More than 400 platform and 24 minisymposium speakers are selected from among abstracts submitted by the October abstracts deadline.

Workshops

Optogenetics: Development of Novel Optical Tools for Controlling Protein Cellular Behavior

Kevin Gardner, University of Texas Southwestern Medical Center, *Chair*

Peter Hegemann, Humboldt University, Germany

Chandra Tucker, Duke University

Orion Weiner, University of California, San Francisco

Biofuels

Steven Briggs, University of California, San Diego, *Chair*

Charles Wyman, University of California, Riverside

Sten Stymne, Swedish University of Agricultural Sciences

Michelle Chang, University of California, Berkeley

Measuring Excursions from the "Structure" (X-Ray Crystallography, NMR, Simulations)

Natalie Ahn, University of Colorado, Boulder, *Chair*

James Fraser, University of California, San Francisco

Lewis Kay, University of Toronto, Canada

Haw Yang, Princeton University

Measuring, Modeling and Designing Protein Recognition Specificity

Ora Schueler-Furman, Hebrew University, Jerusalem, Israel, *Chair*

Gevorg Grigoryan, Dartmouth College

Sachdev Sidhu, University of Toronto, Canada

Sarel Fleishman, Weizmann Institute of Science, Israel

Protein Reconstitution in Artificial Membrane Systems

Stephen Sligar, University of Illinois at Urbana-Champaign, *Chair*

Kalina Hristova, Johns Hopkins University

Heiko Heerklotz, University of Toronto, Canada

Additional speaker to be announced

Minisymposia

Molecular Motors: Stopped or Slowed by Their Tracks

David Warshaw, University of Vermont, and

Ronald Rock, University of Chicago, *Co-Chairs*

Allosteric Communication in Ring-shaped ATPases

Yale Goldman, University of Pennsylvania, and

Samara Reck-Peterson, Harvard University, *Co-Chairs*

Optical Recording of Ion Channels

Heping Cheng, Peking University, China, *Co-Chair*

Additional co-chair to be announced

Ligand-gated Channels

Cynthia Czajkowski, University of Wisconsin-Madison, *Co-Chair*

Additional co-chair to be announced

Spread the Word:

Post and display the Annual Meeting Poster enclosed with this issue of the newsletter.



Sea, Sand, and Science at Asilomar

One of the most fascinating questions in biology is how organisms accomplish the physical feat of condensing their vast amounts of DNA into manageable volumes, while still being able to access and transcribe any gene when needed. In early July, more than a hundred researchers assembled at the Asilomar Conference Center on the misty shores of the Pacific to share their perspectives on the topic.

The meeting was unique in bringing together physicists and biologists, experimentalists and theorists, and scientists who focus on prokaryotes and scientists who focus on eukaryotes. The resulting mix was electric, exciting, and dynamic. The speakers gave outstanding talks and provoked extensive discussions and the participants had extended opportunities for informal interactions. Artificial boundaries between research areas and approaches were fully breached. Topics



Noted as Monterey Peninsula's "Refuge by the Sea," Asilomar State Beach and Conference Grounds is located within the town of Pacific Grove, California, and consists of 107 acres of stunning and ecologically diverse beachfront land.

covered included DNA packaging and transcriptional dynamics in prokaryotes, with lively discussions and new perspectives on a topic that speaker *Rob Philips* said that some mistakenly put down as "so 1970s." The parallels and differences between bacterial and viral DNA packaging and DNA condensation by H1 and polyvalent cations were also highlighted.

The nucleosome was extensively featured, with talks including single molecule physical studies, theory and modeling, and molecular biological approaches.

An especially vibrant and engaged participant was *Jon Widom*. In typical fashion, when a questioner commented that what he had presented differed from the textbook representations, Widom remarked they will be rewriting the textbooks. Widom passed away tragically and unexpectedly shortly after the meeting (see in Remembrance, page 11).



Meeting attendees representing 12 countries in addition to the US participated in the four-day meeting consisting of six plenary sessions, two poster sessions, and lots of opportunities for discussion and sharing of research.

Following are some comments from the attendees about what they liked best:

- The mix of participants with different backgrounds (biochemists, physicists etc.)
- Fantastic diverse set of speakers, giving excellent talks.
- The informal settings and the quality of talks of great. The venue was superb.
- Staying with other participants in one place gave the opportunity for exchange apart from posters and talks.
- Meeting other people in the field in an informal way provided plenty of time for discussion.
- The smaller size enabled a lot of good discussion. The professors were good about talking to postdocs and grad students and not only to other professors.
- The composition of the group of attendants was not too large and shared a focus.
- For me it was an opportunity to meet top scientists in fields that don't normally mix. The techniques ranged through theoretical simulation, unusual applications (for me) of biophysical techniques, and stunning molecular imagining that forces one to rethink old assumptions. This was a very powerful effect of the group interaction.
- Mixture of molecular biochemists, biologists, and physicists interested in DNA and other types of compaction and organization.
- The discussion during the sessions was more free-flowing than I have found at other meetings, even Gordon Research Conferences.
- Gathering a variety of people and discussing future collaboration during other meetings.
- At other meetings, as a molecular biologist, I end up mostly interacting with other biologists and biochemists. It was really great to hear what the physicists thought and get their perspective on things.
- The confluence of people from molecular biology, physics, and engineering.

Jon Widom *in Remembrance*

We, along with many others in the Biophysical Society community, were shocked and saddened on learning of the recent death



Jon Widom

of our colleague Jon Widom. The news was particularly jolting for those of us who attended the *DNA Packaging across Kingdoms: Chromatin and Beyond* meeting because of its incongruity with our very recent visit with him.

In his conference talk Jon entertained and enlightened us with his typically flawlessly logical presentation of his laboratory's latest important results on the DNA sequence code for nucleosome positioning. His generosity was evidenced in the several talks that incorporated studies of the Widom nucleosome positioning (601) sequence. Jon's personal engagement was equally apparent in his conversation and in his familiar role of forging connections between the many scientific friends that he accumulated over the decades. During his career Jon made very significant contributions to our understanding of DNA organization and its role in gene expression, contributions that will serve as the foundation of future advances in the field. He also made many friends and admiring colleagues around the world. We join the extended network of Jon's scientific family and friends in expressing our sadness and loss. We will miss him.

— Dorothy Beckett and
Cathy Royer

Public Affairs

BPS Warns Lawmakers Against Eliminating Selected Science Projects

In July, the Biophysical Society, along with more than 140 other scientific societies and universities, sent a letter urging US Congressmen, in their need to cut spending, to avoid singling out specific programs and grants for elimination.

Spearheaded by the American Association for the Advancement of Science (AAAS), the letter was sent to key lawmakers who were preparing to debate the Commerce, Justice, and Science appropriations bill for fiscal year (FY) 2012, which includes funding for the National Science Foundation. The letter stated the undersigned oppose any attempts to eliminate or substantially reduce funding for particular research programs. Defunding specific grants or entire scientific disciplines “sets a dangerous precedent that, in the end, will inhibit scientific progress and our international competitiveness,” the group warned.

“Everyone understands that legislators face tremendous challenges related to the deficit and the national economy,” said *Joanne Carney*, director of the Office of Government Relations at AAAS, in a press release. “But recently, selected research areas have been unfairly trivialized based on misinformation intended to challenge the scientific review process.”

Every year, Congress members and staff call out unfamiliar or seemingly odd research topics for defunding. Most recently, Senators *Tom Coburn* (R-Oklahoma) and *John McCain* (R-Arizona) have mislabeled as frivolous important projects related to understanding addiction, global climate change, biodiversity, and antibiotic mechanisms, discrediting the peer review process that resulted in the funding of these projects.

“Simply put, we need all scientists and scientific disciplines working—alone and together—to advance our knowledge base,” the letter concludes. “Allocating federal investments competitively through scientific merit review is the very process that has led this country to be a world leader in science.”

Federal Court Dismisses Stem Cell Funding Challenge

On July 27, a federal judge ruled in favor of the government in a lawsuit challenging the Obama Administration’s work to support stem cell research. In short, Judge *Royce C. Lamberth* dismissed the original lawsuit brought forth by *James Sherley* and *Theresa Deisher* challenging the NIH guidelines funding embryonic stem cell research. While there may be an appeal or additional action in the future by the plaintiffs, this is a very positive ruling for the Department of Justice and for embryonic stem cell research. If the plaintiffs choose to appeal this decision to the DC Circuit, they have 60 days in which to do so.

In a statement, NIH Director *Francis Collins* responded, “We are pleased with today’s ruling. Responsible stem cell research has the potential to develop new treatments and ultimately save lives. This ruling will help ensure this groundbreaking research can continue to move forward.”

Status of FY 2012 Federal Science Budgets

With the House and Senate wrapped up in talks about the debt ceiling, the appropriations process that would provide funding for federal agencies for the fiscal year beginning October 1, 2011 has stalled. As of press time, bills funding NSF, DOE, NASA, and NIST had been considered in House committees, but only funding for DOE had been approved by the full House. No appropriations bills had been passed by the Senate or its committees.

The House Appropriations Committee passed its FY 2012 Commerce, Justice, Science Appropriations Bill, which includes funding for NSF, on July 13. The Committee provided NSF with \$6.9 billion, the same amount the NSF received in FY 2012, but moved \$43 million from the major facilities and equipment and education and human resources accounts to research and related activities. The same appropriations bill provides \$16.8 billion for NASA, a decline of 8.9% or \$1.6 billion from FY 2011. Within that amount, the committee provides \$4.5 billion, a decline of 8.7% or \$431.4 million for NASA's science programs. For NIST, the bill provides \$700.8 million, a decline of 6.6% or \$49.3 million from FY 2011. The bill had not been approved by the full House as of August 1.

The full House passed the FY 2012 Energy, Water, and Related Agencies Appropriations bill on July 15. The legislation provides the annual funding for the Department of Energy and includes \$4.8 million for the Office of Science, a cut of \$42 million from its FY 2011 level. An amendment on the House floor restored funding for the ARPA-E program, which the Appropriations Committee had eliminated.

Grants and Opportunities

Name: The 2013 Japan Prize

Objective: To encourage research that will contribute to the development of science and technology, and promote the comprehensive spread and development of ideas and information in science and technology.

Nomination Deadline: February 28, 2012

Website: <http://www.japanprize.jp/en/prize.html>

Name: NIH Blueprint for Neuroscience Research Grand Challenge: Developing Novel Drugs for Disorders of the Nervous System

Objective: For investigators working with small molecule compounds to gain access to a robust "virtual pharma" drug development network to develop neurotherapeutic drugs.

Letter of Intent Due Date: November 15, 2011

Application Due Date: December 15, 2011

Website: <http://grants.nih.gov/grants/guide/rfa-files/RFA-NS-12-002.html>




17th International Biophysics Congress (IUPAB)

October 30–November 3, 2011
Beijing, China

Visit www.17ibc.org for detailed information

Members in the News



Barry Lentz of the University of North Carolina at Chapel Hill and Society member since 1979 was the 2011 recipient of the UNC Mentor Award for Lifetime Achievement.

2011 Society Local Networking Events

The Biophysical Society's first two Local Networking Events take place in October and November of this year. Organizers applied to the Society for small grants to host the events in places where the Biophysical Society does not normally meet but has a community of members spread across local institutions.

Interested in attending? Find details about these two exciting events and how to register below.

Minnesota Regional Networking Meeting

October 28, 2011
St. Olaf College
Northfield, Minnesota
1:00–7:00 PM

Hosted by Jennifer Klein

Department of Chemistry
St. Olaf College



Seminar Speaker

David D. Thomas

Department of Biochemistry,
Molecular Biology and Biophysics
University of Minnesota

Central Pennsylvania Regional Networking Meeting

November 11, 2011
Penn State Milton Hershey Medical Center
University Fitness and Conference Center
Hershey, Pennsylvania
10:00 AM–4:00 PM

Hosted by Christopher M. Yengo

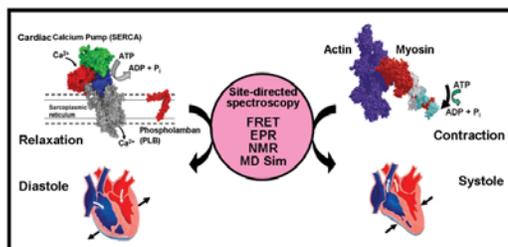
Associate Professor of Cellular and Molecular
Physiology
Penn State University College of Medicine
cmy11@psu.edu



Keynote Speaker

E. Michael Ostap

Director of Pennsylvania
Muscle Institute, Professor of
Physiology
University of Pennsylvania
School of Medicine



The Synergy of Education and Research in Biophysics

Register for this exciting afternoon event by sending an email with your name and institution to

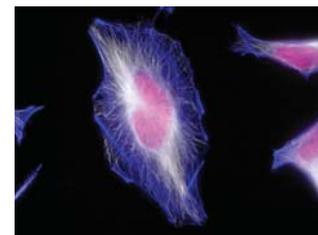
2011.olaf.biophysics@gmail.com by **October 21**. Please submit poster abstracts by email to 2011.olaf.biophysics@gmail.com by **October 14**. Undergraduates, graduate students, research scientists, and faculty are encouraged to present.

For the full event schedule and more details, please visit <http://www.biophysics.org/MembershipSubgroups/NetworkingEvents/Minnesota/tabid/2932/Default.aspx>

Biochemical, Mechanical, and Cellular Control of a Membrane-associated Molecular Motor

Registration is required and must be completed by **September 30**. Please register and submit your abstract online at: <http://www.huck.psu.edu/calendar/conferences-and-workshops/2011/2011-biophysical-society-regional-meeting/registration-form>.

For the full event schedule and more details, please visit: <http://www.huck.psu.edu/calendar/conferences-and-workshops/2011/2011-biophysical-society-regional-meeting>.





Student Spotlight

PRANAV GARG
UNIVERSITY OF CENTRAL FLORIDA, ORLANDO
TATULIAN LAB

What initially attracted you to biophysics?

When Dr. Tatulian told me about this project that he has the grant for, it immediately caught my attention and I decided to make it my masters thesis. Physics has always been my strong point since [my] school days, and characterizing a protein using cool graphs and equations altogether pulled me towards this area.

What specific areas are you studying?

My area is membrane biophysics where I am trying to characterize the physical parameters of a pro-apoptotic protein on the mitochondrial membrane by the means of artificial lipid vesicles.

What is your current research project?

Our current aim is to determine if the C-terminal helix itself is a sufficient structural unit that possesses the capabilities of membrane binding and pore formation and also to elucidate the biophysical characteristics of membrane binding mode, membrane destabilization, and pore formation of a 20-amino acid peptide that corresponds to the C-terminal α -helix of a pro-apoptotic protein called Bax.

What do you hope to do after graduation?

I have already been accepted into the MBA program at the College of Business Administration here at the University of Central Florida, and I plan to pursue a second masters immediately after I graduate with this MS (thesis).

If you could give one piece of advice to someone just starting their undergraduate science career, what would it be?

Biophysics is an interesting field that not only allows you to work on conventional biological

systems/assays but also on new equipment, machines, software, and programs. In all biophysics is a true blend of all the natural sciences.

Why did you join the Biophysical Society?

Being a member of this Society, I can see what current research is going on in the field. I have learned a lot from the peer review articles, and interestingly, have met some really great people who think alike during the Society's Annual Meetings.

What (or who) inspires you scientifically?

Since I am working on a cancer protein, my biggest motivation is to do something good for people. Even if it's not as large as creating a revolutionary drug for cancer treatment, I would be more than happy to contribute to the scientific community by the means of education, if nothing else.

Suren Tatulian, Garg's PI, says:

"Pranav is keenly interested in biophysics and biotechnology. During a short period of time he grew from a novice to an expert in a variety of techniques such as fluorescence, circular dichroism, and infrared spectroscopy. He also was a key factor in developing experimental techniques that have not been used in the lab before. Pranav worked tirelessly and vigilantly to overcome initial technical hurdles and achieve nice results on the kinetics of lipid vesicle content release caused by pore-forming peptides. His interests are both in basic research and better understanding of the mechanisms of biomolecules and practical applications of new findings either for biotechnological or pharmaceutical purposes."

Suggest a Student to Spotlight

Do you have a spotlight-worthy student in your lab? Send his/her name to society@biophysics.org.



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UPCOMING EVENTS

November

November 13–17, 2011

Zing Nanotechnology
Conference 2011
Cancun, Mexico
www.zingconferences.com

**November 28–
December 2, 2011**

2011 Materials Research Society
Fall Meeting & Exhibit
Boston, Massachusetts
<http://mrs.org/fall2011/>

December

December 1–3, 2011

Molecular Insights for Innovative
Therapies
Heidelberg, Germany
<http://events.embo.org/emm2011/>

December 5–9, 2011

The Zing 5th IECA Conference 2011
Cancun, Mexico
www.zingconferences.com/

December 15, 2011

Proton Transport in Biomolecular
Systems: Insights, Surprises, and
Predictions from Molecular Simulation
Frankfurt, Germany
[www.biophys.mpg.de/en/activities/
mpibp-seminar-series.html](http://www.biophys.mpg.de/en/activities/mpibp-seminar-series.html)

January

January 8–13, 2012

Electrochemistry
Ventura, California
[http://grc.org/programs.aspx?year=20
12&program=elecchem](http://grc.org/programs.aspx?year=2012&program=elecchem)

January 22–27, 2012

Membranes in Motion: From
Molecules to Disease
Tahoe City, California
[www.keystonesymposia.org/Meetings/
ViewMeetings.cfm?MeetingID=1143](http://www.keystonesymposia.org/Meetings/ViewMeetings.cfm?MeetingID=1143)

February

February 4–5, 2012

Isotopes in Biological & Chemical
Sciences
Galveston, Texas
[http://grc.org/programs.px?year=
2012&program=grs_iso](http://grc.org/programs.px?year=2012&program=grs_iso)

February 19–24, 2012

Protons & Membrane Reactions
Ventura, California
[http://grc.org/programs.aspx?year=
2012&program=protons](http://grc.org/programs.aspx?year=2012&program=protons)