

Newsletter

Biophysical Society

MARCH

2015

DEADLINES

Thematic Meetings

New Biological Frontiers Illuminated by Molecular Sensors and Actuators
June 28–July 1, 2015
Taipei, Taiwan

April 6

Early Registration

See page 15 for all Thematic Meeting deadlines

Networking Events

April 15

Proposal Deadline

Awards & Contests

May 1

Awards Nominations

June 15

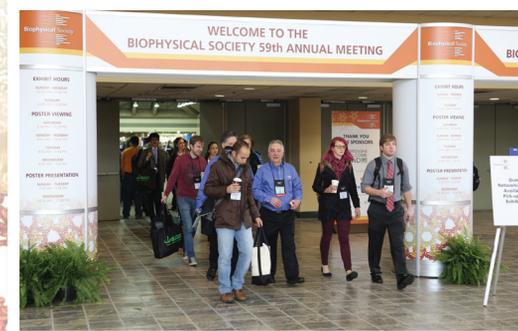
Changing the World Contest

Biophysicists Take Over Baltimore

Scientists from around the world descended on Baltimore, Maryland, last month to learn about the latest research in biophysics and share their most recent findings at the Society's 59th Annual Meeting.

The Baltimore Convention Center was buzzing during the five-day meeting; the sessions were well-attended and the common areas were filled with attendees meeting with colleagues from across the globe that they only see once a year. In addition to the scientific program, attendees had the opportunity to explore other areas of interest to the working scientist: career advancement, teaching, techniques, science policy, and funding.

For more highlights from the meeting, see page 8.



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Public Affairs

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Biophysicist in Profile

KELLY KNEE



Kelly Knee, a senior scientist in the Rare Disease Research Unit of Pfizer, grew up in Jamestown, New York, a small town about 80 miles southwest of Buffalo. “The news reports are true,” she jokes. “There was a lot of snow, but it was character-building.” Her mother was a nurse and her father a ceramics engineer, which made science and medicine frequent topics of conversation for the family. “I remember my dad writing equations and diagrams on napkins at dinner, and my mom talking about her experiences [as a nurse],” Knee recalls. “They were both so enthusiastic about their work, it was easy to take an interest.” In school, Knee enjoyed participating in science fairs, and particularly liked studying biology and chemistry. She hoped that she would become an obstetrician when she grew up. “I thought that delivering babies would be a really fun job,” she says.

When Knee started college at Alfred University in Alfred, New York, she planned to major in chemistry and go to medical school after completing her undergraduate degree. In her sophomore year, however, she found herself drawn away from her original plan. “I started working in a molecular biology lab, and found that I not only was more interested in biology than chemistry, I was also more interested in research than medicine,” explains Knee. She decided to pursue her PhD rather than going to medical school.

“I have so far found that working in drug discovery is an excellent place for a biophysicist, as the projects generally require creative thinking and cutting edge techniques.” – Kelly Knee

After earning her BA in biology in 1999, Knee started a PhD program in *Ishita Mukerji's* lab at Wesleyan University, as part of the Molecular Biophysics program. For her thesis, Knee used UV-resonance Raman spectroscopy to look at hemoglobin S polymerization. It was during this time that she developed an

interest in human diseases caused by protein aggregation. Knee looks back on her time in Mukerji's group fondly. “At the time I was working in her group, I thought it was extremely hard, but now that I am a few years removed, I'm really grateful for the training I got in her lab. When I'm writing a paper or preparing a talk, I often use ‘what would Ishita think of this’ as a benchmark for how much more work needs to go into it,” Knee says. “She has also been a great role model for me for what a woman in science can accomplish. She has a great family and at the same time has done great work in her field and is respected by her peers.”

Upon completing her PhD in Molecular Biology and Biochemistry, Knee began a postdoc position in *Jonathan King's* lab, in the Biology Department

at MIT. “The lab focus is on protein folding and aggregation, and my work in the group was primarily on the protein folding machine TRiC/CCT and its influence on the folding and/or aggregation of proteins implicated in human diseases,” Knee explains. King recalls Knee’s positive influence in the lab. “Kelly was always very lively, full of energy and enthusiasm, with a bit of the engineer’s mentality that all problems can be solved,” he says. *Oksana Sergeeva*, who was a graduate student in King’s lab when Knee was there as a postdoc, has held onto many of the qualities Knee modeled for her at that time. “She was very good about setting up experiments that specifically answered the questions we were interested in and didn’t waste any time on less fruitful experiments or directions. She was always thinking of how to package work together as a story and what we needed to complete that story....she has taught me to be very critical about science. I never trust what people say but actually look at the data carefully and see what it says,” Sergeeva notes.

Knee joined the Rare Disease Research Unit at Pfizer as a postdoc, working on protein folding and aggregation, following her time in King’s lab. She became interested in protein folding chaperones and “how they influence the aggregation of the more and less well-understood aggregates formed by crystalline (cataracts) and huntingtin (Huntington’s disease),” Knee says. She worked with the group as a postdoc for a year before being promoted to her current position. Now she is working primarily on drug discovery efforts in the area of hematology.

During her training, Knee had planned on pursuing a career in academia. “I think the biggest challenge in my career so far has been trying to determine where to go with my interests and skill set. I originally had my sights set on a career as a professor, however, as I finished up my first postdoc, it became apparent that there were far more

qualified candidates than jobs in academia, so I had to formulate a new plan,” says Knee. “I have so far found that working in drug discovery is an excellent place for a biophysicist, as the projects generally require creative thinking and cutting edge techniques. I find the fact that I can use biophysics and structural biology to better understand human diseases, and that my work might one day contribute to finding new treatments, to be extremely gratifying.”

When she is not working, Knee stays active; she plays squash in a league for young professionals and volunteers with a youth soccer organization in her neighborhood. She also loves to read, and in addition to staying up-to-date on research, she reads something non-scientific on her daily commute. Knee tries to take advantage of living in a large city, as well. “I am lucky to live in Boston, where there are always new places to meet up with friends on the weekends,” she says. “I try to get out as much as possible.”

Knee would encourage biophysicists just starting out in their careers to keep their options open. “It’s important to keep an open mind about where your career will take you. When I first started graduate school, I was only interested in an academic career, but as I went through my postdoc and into my first job, I recognized all the opportunities that existed outside academia,” she explains. “The second piece of advice I would give younger scientists is the importance of having good mentors. I have been really fortunate to have had several really great scientists take an interest in me and my career, and I think that is a large part of the reason that I have felt empowered to take risks and try new things.”



Knee and her biology team at a Boston Red Sox game.

Profilee-at-a Glance

Company
Pfizer

Area of Research
Drug Discovery

Public Affairs

President's FY16 Budget

President *Obama* submitted his proposed budget for FY 2016 to Congress in early January. The levels of funding he is requesting for key science agencies and programs are noted in the chart below. While the submission of the President's budget to Congress is the first step in the budget process, the approval of a budget falls to Congress. Both the House and Senate will begin the process by asking federal agency representatives to testify and explain their requests. These hearings are expected to begin by early March.

Federal Funding for Science Agencies (in billions)

Agency	FY 2014	FY 2015	President's Proposed 2016
National Institutes of Health	\$30.179	\$30,311*	\$31,311
National Science Foundation	\$7.172	\$7.344	\$7.724
Department of Energy Office of Science	\$5.071	\$5.071	\$5.340
NASA Science	\$5.151	\$5.245	\$5.289
NIST Science and Tech Labs	\$0.651	\$0.676	\$0.755

*NIH received an additional \$238 million to fight Ebola.

Three Bills Introduced in Congress to Increase NIH Funding

Based on legislation introduced during the first month of the new congressional session, there is some support on Capitol Hill for increasing funding for the National Institutes of Health (NIH). Four bills were introduced by February 2 that would circumvent or complement the regular appropriations process to ensure additional dollars flow to biomedical research in the coming years. Those bills are summarized here.

Accelerating Biomedical Research Act

In the US House of Representatives *Rosa DeLauro* (D-CT), *Brian Higgins* (D-NY), and *Peter King* (R-NY) introduced the Accelerating Biomedical Research Act (H.R. 531) on January 26. The purpose of the bill is to allow Congress to restore the purchasing power of the NIH budget to what it would have been if it had kept up with inflation since 2003. Currently, Congress has limited growth of the federal budget by adopting the Budget Control Act in 2012, which caps the total amount Congress can spend in discretionary funds each year. This bill would trigger an increase in that cap for any funding provided in excess of \$29.4 billion to NIH to accommodate the additional funding provided. The bill would allow appropriations to increase for NIH by 10 percent per year for the first two years and roughly six percent per year through 2021. It is important to note that this is a bipartisan bill.

Senate Appropriations Committee Ranking Member *Barbara Mikulski* (D-MD) and Senator *Ben Cardin* (D-MD) introduced a bill by the same title (S. 318) and language in that chamber. In a February 5 press release, Ranking Member Mikulski said, "This legislation will redouble our commitment to NIH science and research, investing in the health of American families and the future of our next generation of scientists and innovators."



American Cures Act

On the Senate side, Senator *Dick Durbin* (D-IL) on January 28 reintroduced the American Cures Act (S. 289) to support research at NIH, the Centers for Disease Control (CDC), the Department of Defense Health Program (DHP), and the Veterans Medical and Prosthetics Research Program. Durbin also championed this bill in the last Congress, but it did not go to a vote at that time.

The bill would provide a steady growth rate in federal appropriations for biomedical research conducted by the included agencies and programs by tying funding to the Gross Domestic Product (GDP). Specifically, the bill increases funding at a rate of GDP-indexed inflation plus five percent.

Original co-sponsors of the bill are Senators *Sherrod Brown* (D-OH), *Amy Klobuchar* (D-MN), *Barbara Boxer* (D-CA), *Edward J. Markey* (D-MA), *Ben Cardin* (D-MD), *Al Franken* (D-MN) and *Bob Casey* (D-PA).

Medical Innovation Act

Also in the Senate, on January 29, Senators *Elizabeth Warren* (D-MA), *Ben Cardin* (D-MD), *Sherrod Brown* (D-OH), and *Tammy Baldwin* (D-WI.) introduced the Medical Innovation Act (S. 320) to increase funding for medical research. The legislation would require large pharmaceutical companies that break the law and settle with the federal government to reinvest a small percentage of their profits into the NIH. The senators estimate that if the policy had been in place over the past five years, NIH would have received an additional \$6 billion each year.

As of press time, Representatives *Chris Van Hollen* (D-MD), *Jan Schakowsky* (D-IL), *Peter Welch* (D-VT), and *Kathy Castor* (D-FL.) were expected to introduce the Medical Innovation Act in the House in February.

The Society will continue to track these bills and provide updates if and when they move forward.

NSF Continues to Improve Transparency and Accountability

In January, the National Science Foundation (NSF) released a notice intended to clarify expectations for NSF's award abstracts. These abstracts are distinct from the project summary that is submitted as part of a proposal.

The notice states that effective December 26, 2014, NSF's updated Proposal and Award Policies was updated to say: "Should a proposal be recommended for award, the PI (Principal Investigator) may be contacted by the NSF Program Officer for assistance in preparation of the public award abstract and its title. An NSF award abstract, with its title, is an NSF document that describes the project and justifies the expenditure of Federal funds." The purpose of this update was to clarify the potential role the PI can play in preparing the award abstract. Thus, the Foundation wants to share with the NSF community its guidelines for the award abstracts, which are intended to improve communication with the public about the awards. The guidelines state:

The NSF public award abstract consists of both a non-technical and technical component. The nontechnical component of the NSF award abstract must:

- Explain the project's significance and importance; and
- Serve as a public justification for NSF funding by articulating how the project serves the national interest, as stated by NSF's mission: to promote the progress of science; to advance the national health, prosperity and welfare; or to secure the national defense.

By sharing these guidelines, NSF is clarifying the nature of requested assistance from PIs in this valuable effort in helping the agency adhere to its newly established guidelines. This collaborative effort also helps foster stronger public communication about the value of federal investments in fundamental research.

While not stated in the notice, the effort to improve the award abstracts stems partially from an ongoing disagreement with Chairman *Lamar Smith* (R-TX) of the US House Committee on Science, Space, and Technology, who is critical of NSF's investment in the social sciences.



Publisher's Corner

Deciding Where to Publish: Some Things to Consider

According to a recent Author Insights Survey released in 2014 by Nature Publishing Group, 96% of science authors said that journal reputation was their number one consideration when deciding where to submit their work. Although not surprising, this begs the question, What goes into obtaining and maintaining a journal's reputation? Ironically, many of the qualities and characteristics that earn a journal a good reputation are other factors listed in the survey, some of which ranked much lower:

- Quality of peer review
- Impact factor
- Speed from submission to first decision
- Positive experience with the editors of the journal
- Speed from acceptance to publication,
- Publishing fees
- Association with an established Society

Naturally, all journals strive to excel in these rather traditional measures of the publishing experience. But what other questions should an author be asking before making that where-to-publish decision?

These days, when ready to submit a paper for publication, an author has much more to consider than which journal has the highest impact factor, the best turnaround, and the most affordable publication fees. With the ever-growing list of new journals and publishing outlets an author might consider, the decision of where to publish warrants a rubric or at least a spreadsheet of comparative options. The process now makes choosing a phone plan look easy.

Before you've even submitted a manuscript for publication, you might consider posting it on a pre-print server. Although all pre-print servers are different, in general they can provide a free distribution service, make your article open to the world, and encourage citation. Many of them provide an opportunity to collect feedback about your work and your draft manuscript from the com-

munity at-large. Pre-print servers develop around disciplines such as physics (ArXiv), biology (BioArXiv), math (too many to name), and so forth. But before posting your article there are some questions to consider:

- Does posting on the pre-print server prohibit submitting the article to journals in your field?
- Can the article record be updated with a link to a later published version?
- How are the pre-print articles cited? Are they assigned DOIs? Are these the same DOIs used by the journals to which you submit?
- Will readers contact you directly?
- Do you retain copyright or sign it over? Do you have a choice of distribution and reuse licensing options? If so, which do you choose?
- Is the service for profit not-for-profit?

You may be required to—or want to—submit your manuscript to an open access (OA) journal or a journal with an open access option. If the funding source of your research requires open access publishing, you will need to know whether Gold open access is required or if Green open access is acceptable. Gold OA means that your article will be open to the world immediately on publication and this often comes with a price tag attached. Green open access means that your article will be open to the world after a specified embargo period (usually 6-12 months). Many journals including *Biophysical Journal* offer a hybrid model, meaning they offer both of these options. Before choosing a journal, you might ask:

- What are the open access requirements of my funding source?
- Does the journal offer a Gold open access option? Green open access? Both?
- If the journal offers Green open access, what is the embargo period?
- Are there fees for open access? If so, what are they?
- Is payment required before publication? Can my institution be invoiced?
- If I publish open access, what are my copyright and licensing options? How will the license affect my future decisions regarding this manuscript?

(Continued, page 7)

Biophysical Journal

Know the Editors



Rick Horwitz

Allen Institute for Cell Science
University of Virginia

Editor for the Cell
Biophysics Section
Rick Horwitz

Q: What is your area of research?

I have studied cell adhesion for most of my career. For the past several years, my colleagues and I have been interested in how integrin-mediated adhesion regulates and drives cell migration. Adhesions, in this context, pose several challenges. They are complex, containing over a hundred different molecules, most with a plethora of possible transient associations and post-translational modifications. Also, migration results transient, localized activities of adhesions that not only mediate attachment of the leading edge and release of the trailing edge, they also sense tension and generate the local signals that regulate actin polymerization and organization. Consequently, not all adhesions are doing the same thing and what they do is influenced by the details of their microenvironment including stiffness, fiber nature, and dimensionality.

These challenges, the quest for quantitation, and the role of adhesions as mechanosensors and tension regulators have driven our research for more than a decade. However, as we began viewing cell migration as an integrated cellular activity, we approached the limits of what a small, single lab could do. This was the impetus for the Cell Migration Consortium that I directed with *Tom Parsons*. It addressed many challenges including biosensors that detect cellular signals and activities, better quantitative imaging methods, mathematical models of migration, binding partners and post-translational modifications, the spectrum of adhesion components, and the structures of large macromolecular assemblies. My own research focused on collaborations with *Don Hunt* to identify novel phosphorylation sites and with *Enrico Gratton* and *Paul Wiseman* to produce high-resolution cellular maps of molecular concentration, dynamics, and interactions in migrating cells using image-based fluorescence correlation and cross-correlation microscopy.

The need to take a systems approach to cell biology, accounting for the spatial-temporal nature of cellular activities, is the theme of the new Allen Institute for Cell Science funded by *Paul Allen*, the co-founder of Microsoft.

The overarching goal of the institute is to develop predictive models of the cell, using dynamic image data. The Institute aims to understand cells, individually and in collectives, as integrated systems of organelles, molecular machines, and regulatory complexes that are repurposed and specialized to generate the plethora of observed cellular behaviors. It will do this by developing human-induced pluripotent stem cell (hiPSc), gene editing, and systems microscopy pipelines; by developing predictive models and theory iteratively with experiment; and by creating novel multi-scale, dynamic and visual outputs for the experiments and models.

Clearly, this is a very exciting time for biophysics and cell biology as they merge in technical, conceptual, and computational approaches. It promises major advances in understanding cells and the diseases that emerge from altered cellular behaviors.

(continued from page 6)

In the past, if you had a paper accepted for publication, you were probably asked to sign over copyright, unless you were a government employee. Now, although you may still be asked to sign a publishing agreement in which you sign over copyright, if you publish in an open access model, you may have a choice of licenses that control your rights as an author. If you are asked to sign a Creative Commons (CC) license, you may be asked to decide between a CC BY, or CC BY-NC-SA, or CC BY-NC-ND. And what are these anyway? Before selecting a journal in which to publish, consider:

- What is the difference between copyright and licensing?
- What licenses does the publisher offer?
- What are the differences and do those differences impact my work?
- How do I decide which license to use?

This all may occur before you even submit your article for publication. And any self-respecting publisher would insert a plea at this point for reading the Guide for Authors before submitting your manuscript to any journal. It should answer many of the questions posed in this article.

As publishing models continue to evolve and shift, there will be new factors for authors to consider, just as there are new journals from which to choose for publishing your work. To make your publishing experience as efficient as possible, remember that an informed author is a publisher's best friend.

59th Annual Meeting February 7-11, 2015 • Baltimore, Maryland



Symposia & Workshops

The 2015 Meeting featured over 100 sessions, including 23 symposia, six workshops, and 64 platform sessions highlighting the latest research topics and biophysical techniques.



National Lecture

Klaus Schulten presented *Discoveries in Biophysics through the Computational Microscope* at the National Lecture on Monday, February 9. To watch the National Lecture, go to www.biophysics.org/2015meeting.

iPad Air and Kindle Fire Winners



David Holland, Texas A&M, won the exhibitor iPad raffle.



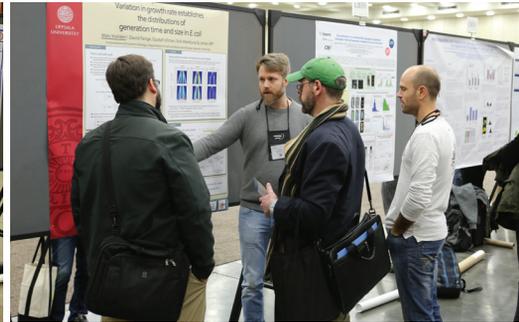
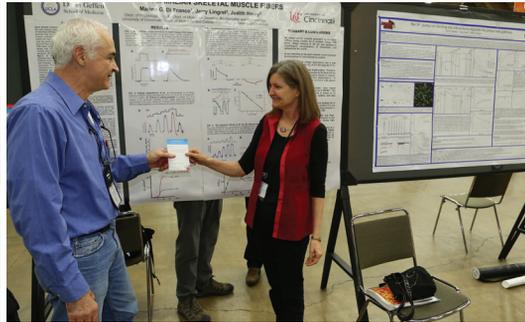
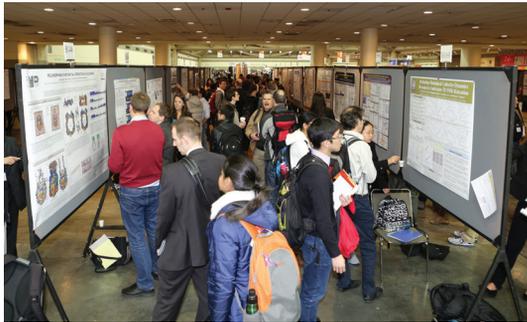
Yan Chan, Pennsylvania State University, won the Kindle Fire during the Wednesday Poster Session.



Career Programs

The BPS Meeting included over 20 career- and education-related sessions for attendees at all career levels.

BRIDGING THE SCIENCES: COMPUTATION AND EXPERIMENT



Poster Presentations

Over 700 posters were presented each afternoon in the exhibit hall that spanned the interdisciplinary field of biophysics. Another 500 attendees presented their research in the daily platform sessions.

1st Place
Collagen Forest
Chiara Peres

2nd Place
Influenza A Virion on a Mammalian Plasma Membrane
Heidi Koldsø

3rd Place
Two Proteins Self-organize into Spirals on a Flat Bilayer
Anthony Vecchiarelli

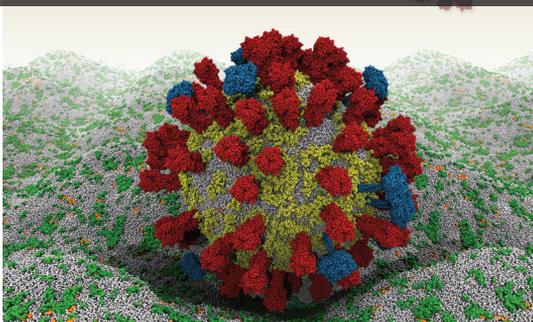


Image Contest

The Biophysical Society's fifth annual Art of Science Image Contest, sponsored by Bruker Corporation, received over 35 submissions. The 10 finalist entries were displayed at the Annual Meeting, where attendees voted on their top two images. The prizes were sponsored by Chroma Technology. Congratulations to the 1st, 2nd, and 3rd place winners. Visit the website for the description of the images, www.biophysics.org.

Exhibits

Attendees had the opportunity to visit over 200 exhibitors and view product demonstrations, the latest lab equipment, and scientific publications, as well as explore new technologies in the Exhibit Hall during the meeting.



NIGMS Director Lorsch on Developing a More Productive, Efficient and Sustainable Biomedical Research Enterprise

The Public Affairs Committee was pleased to host *Jon Lorsch*, Director of the National Institute for General Medical Sciences, National Institutes of Health (NIGMS, NIH), as a guest speaker at the Meeting. Lorsch, who has been director of the Institute since 2013, focused his talk on a new pilot program the Institute has launched, which he hopes will become a new model for funding research at NIH.

The purpose of the new program, “Maximizing Investigators’ Research Award (MIRA),” is to fund labs rather than individual projects. In exchange for more flexibility, longer support periods (five years), and less time writing grant proposals than R01 grants allow, principal investigators agree that if awarded a MIRA, it will be their only NIGMS grant. Lorsch hopes that a side benefit to the Institute and the research community is that the program will free up valuable dollars currently going to a small number of labs for wider distribution, increasing the pure number of investigators funded. MIRA grants will be capped at \$750,000 per year. Lorsch would like the community to start talking about how many researchers NIH funds, rather than grants, as a metric.

In order to keep the size of the pilot program manageable, the first RFA allows only investigators currently holding two or more NIGMS grants or one grant of more than \$400,000 to apply. This RFA can be found at <http://1.usa.gov/17TlcPQ>. A second RFA is under development that will be open to early career investigators.

As part of his presentation, Lorsch presented data illustrating how NIGMS funds are currently (and historically) distributed, productivity per principle investigator based on funding levels, and several other illuminating charts. Lorsch was generous enough to provide these slides for individuals to view after the meeting. They can be viewed on the BPS website at <http://bit.ly/bpslorsch>.

Biophysical Society TV

The Society is pleased to provide Biophysical Society TV as a means for individuals to hear directly from some of the meeting presenters, the Society leadership, and meeting attendees. The short videos provide another opportunity for the biophysics community to stay up-to-date on interesting research findings and learn more about the Society’s programs. The videos are freely available at www.biophysics.org/2015meeting.

High School Students Visit BPS 2015



Students from Baltimore's ConneXions Community Leadership Academy toured the Exhibit Hall in small groups with BPS members *Candice Etson*, *Ryan Hoffman*, *Virginia Smith*, and *Liskin Swint-Kruse*. The goal of their visit was to have fun socializing with professional scientists, helping to overcome one of the social barriers towards a career in science. The groups enjoyed the Biomolecular Discovery Dome, learned about new technologies from exhibitors, viewed the submissions for the Art of Science competition, and heard poster presentations.

When the afternoon was over, the students were excited about the range of activities that scientists enjoy, from making art to developing technology. They returned to their school with new insights into the social world of science, along with some new vocabulary and sore feet.

2015 SRAA Poster Competition Winners



The 14 winners of the annual Student Research Achievement Awards were recognized at the 59th Annual Meeting Awards Ceremony on February 9. These students were selected by judges from the Society's subgroups for their outstanding presentations during the poster competition. Ninety-seven students participated in the competition. The winners are:

Bioenergetics

Ewald Weichselbaum, Institute of Biophysics, Austria
Energetics of Lateral Membrane Proton Diffusion.

Biological Fluorescence

Thomas-Otavio Peulen, Heinrich Heine University
Germany
Positional Fluorophore Properties In High-Precision
FRET Analysis: Orientation Effects, Dynamic
Quenching and Beyond.

Biopolymers in vivo

Rayna Addabbo, University of Wisconsin-Madison
The Kinetics of Nascent Protein Folding Upon
Release from the Ribosome.

Huong Vu, IPST, University of Maryland
Effect of Force and Discrete Step-Size on the
Velocity Distribution of Processive Molecular Motors.

Exocytosis & Endocytosis

Supriya Balaji Ramachandran, University of Missouri,
Columbia
A Matched Filter Algorithm can Accurately Detect
Amperometric Spikes Resulting from Quantal
Exocytosis And Seed a Curve-Fitting Algorithm for
Estimation of Spike Parameters.

Intrinsically Disordered Proteins

Alex Holehouse, Washington University
Cider: Classification of Intrinsically Disordered
Ensemble Regions.

Mechanobiology

Ikenna Ivenso, Texas Tech University
Brownian Dynamics Study of Dna Supercoil
Relaxation.

Membrane Biophysics

Marcus Schewe, University of Kiel, Germany
Sensing The Electrochemical K^+ Gradient: The Voltage
Gating Mechanism in K2p Potassium Channels.

Membrane Structure & Assembly

George Hedger, University of Oxford, United Kingdom
Local Bilayer Reorganisation by the Jm Regions of All
Human Rtk: A Multiscale Molecular Dynamics Study.

Molecular Biophysics

Bo Hyun Lee, University of California, Davis
Proton as a Dual Regulator for Trpv1.

Motility

Rong Liu, Wayne State University
Deletion Of H2-Calponin In Macrophages Facilitates
Cell Motility and Lipid Clearance: A Novel
Mechanism to Attenuate Arterial Atherosclerosis.

Nanoscale Biophysics

Joseph Larkin, Northeastern University
Nanopore-Enhanced Positioning of Molecules in
Zero-Mode Waveguides.

Mingjie Dai, Harvard University
Single-Molecule Digital Imaging with Molecular
Resolution using Dna-Paint.

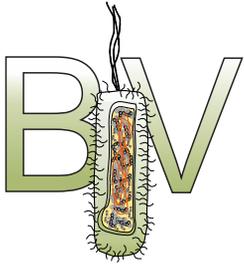
Permeation & Transport

Satya Prathyusha Bhamidimarri, Jacobs University,
Germany
Cyclodextrin Interaction with Specific Channel Cyma
from *K. Oxytoxa*.

Subgroups

BIV

Program Chairs *Sarah Woodson* and *Joan Emma Shea* organized a terrific Biopolymers In Vivo Symposium, our fifth, at the Biophysical Society Meeting this past month.



We introduced our logo (shown left), our logo store (http://www.zazzle.com/biopolymers_in_vivo), where friends of BIV can obtain logo-embazoned T-shirts and other swag (10% of proceeds go to BIV activities such as student awards), and our newly elected treasurer, *Daryl Eggers*.

Speaking of ‘newly elected,’ past chair *Silvia Cavagnero* presided over elections of officers, including Eggers, Chair-Elect *Gary Pielak*, who takes the reins in 2016, Member-at-Large *Elijah Woods*, and Program Co-Chairs *Ed O’Brien* and *Christian Kaiser*. Remaining on board are Chair *Martin Gruebele*, Past Treasurer *Jeetain Mittal*, and Members-at-Large *Simon Ebbinghaus* and *Tom Record*.

Everyone had a great time during the subgroup dinner at the Rusty Scupper, enjoying Baltimore crab cakes and other treats. You can sign up for this dinner next year by becoming a BIV subgroup member, or renewing your membership. If you let it lapse, it’s not too late: go to www.biophysics.org/BIV and click on “Join a subgroup” or “Join a subgroup/student.”

Margaret Cheung and *Pernilla Wittung-Stafhsede*, our inaugural BIV chairs, teamed up once again to do the poster judging. Congratulations to the winners: *Rayna Addabbo* (left) for *The Kinetics of Nascent Protein Folding upon Release from the Ribosome* and *Huong Vu* (right) for *Effect of Force and Discrete Step-Size on the Velocity Distribution of Processive Molecular Motors*.

We look forward to seeing you all at next year’s BIV symposium!

—*Martin Gruebele*, Subgroup Chair



Rayna Addabbo (left) and Huong Vu (right), BIV SRAA Winners



Biophysics:
Changing Our World

SUBMIT YOUR STORY TODAY

Submission deadline: June 15, 2015

Visit www.biophysics.org/contests for more information.

Grants and Opportunities

Eppendorf & Science Prize for Neurobiology

Objective: The Prize is awarded annually to one young scientist for the most outstanding neurobiological research based on methods of molecular and cell biology conducted by him/her during the past three years.

Deadline: June 15, 2015

Website: <http://www.sciencemag.org/site/feature/data/prizes/eppendorf/howto.xhtml#rules>

AAAS Mentor Award

Objective: The two categories of the AAAS Mentor Awards (Lifetime Mentor Award and Mentor Award) both honor individuals who during their careers demonstrate extraordinary leadership to increase the participation of underrepresented groups in science and engineering fields and careers.

Who Can Apply: The award is open to all regardless of nationality or citizenship.

Deadline: July 31, 2015

Website: <http://www.aaas.org/page/aaas-mentor-awards>

Biophysical *Journal*

Call for Papers

Special Issue: Electron Cryomicroscopy

Editors: Edward H. Egelman and Andreas Engel

Biophysical Journal will publish a special issue of the Journal with a focus on Electron Cryomicroscopy (cryo-EM). The Journal welcomes submissions that report on advances in the field of cryo-EM and its applications. Studies should further our understanding of cryo-EM imaging, cryogenic sample preparation techniques, or image analysis and reconstruction methods used in cryo-EM. The Journal aims to publish the highest quality work and articles should have sufficient importance to be of general interest to biophysicists, regardless of their research specialty.

Deadline for submission: July 1, 2015

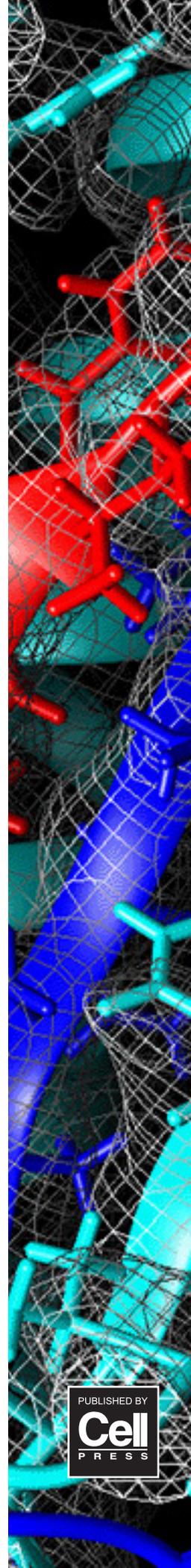
- Please include a cover letter stating that you would like to be part of the special issue on Electron Cryomicroscopy
- Select "Special Issue: Electron Cryomicroscopy" when uploading your submission.
- Instructions for authors can be found at:
<http://www.cell.com/biophysj/authors>
- Questions can be directed to the *BJ* Editorial Office at BJ@biophysics.org or (240) 290-5545.

..... *Journal* publication fees will apply

For more information, go to www.biophysj.org


Biophysical Society

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Biophysics of Proteins at Surfaces: Assembly, Activation, Signaling

OCTOBER 13-15, 2015

COMPLUTENSE UNIVERSITY OF MADRID, SPAIN

This meeting will focus on different aspects related to the biophysics of tuning protein functions through their assembly into biological or engineered surfaces. Particular aspects covered will include 1) the effect of the interaction with surfaces on the molecular structure of proteins and protein assemblies, with special interest in the modulation by surface-promoted orientation and two-dimensional accumulation of lipid-protein and protein-protein interactions; 2) the effect of two-dimensional organization and entropy loss on the modulation of protein function; and 3) the potential of introducing properly engineered surfaces to generate new or improved protein-based applications.

The program will include talks from the perspective of different systems and approaches reviewed by recognized biophysicists, with the goal of promoting fruitful discussions and future collaborations in the search of general principles of surface biophysics defining and exploiting protein structure and function.

ORGANIZERS

Félix Goñi, University of the Basque Country, Spain
Marjorie Longo, University of California, Davis, USA
Jesus Perez-Gil, Complutense University of Madrid, Spain
Nancy Thompson, University of North Carolina, Chapel Hill, USA
Marisela Velez, Higher Council for Scientific Research, Spain

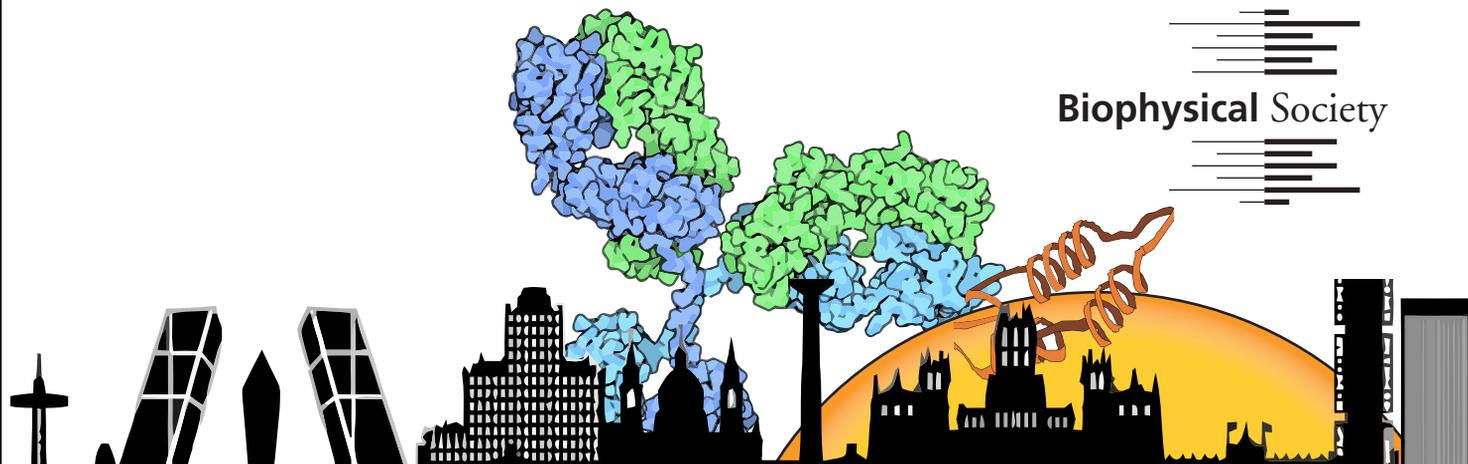
IMPORTANT DEADLINES

Abstract Submission June 1, 2015
Early Registration..... June 23, 2015

SPEAKERS

Alicia Alonso, University of the Basque Country, Spain
Gregor Anderluh, University of Ljubljana, Slovenia
Patricia Bassereau, Curie Institute, France
Maria Garcia-Parajo, Institute of Photonic Sciences, Spain
Ana Garcia-Saez, University of Tübingen, Germany
Juan Carmelo Gomez-Fernandez, University of Murcia, Spain
Félix Goñi, University of the Basque Country, Spain
Marjorie Longo, University of California, Davis, USA
Allen Minton, NIDDK/NIH, USA

Jesus Perez-Gil, Complutense University of Madrid, Spain
Ralf Richter, CIC biomaGUNE, Spain
Simon Scheuring, University of the Mediterranean, France
Petra Schwille, Max Planck Institute for Biochemistry, Germany
Claudia Steinem, University of Göttingen, Germany
Nancy Thompson, University of North Carolina, Chapel Hill, USA
Marisela Velez, Higher Council for Scientific Research, Spain



2015 BPS Networking Events

May	June	July
University of Kentucky Lexington, KY	Academy of Science Prague, Czech Republic	Paris Descartes University Paris, France
Perdue University West Lafayette, IN	University of Massachusetts, Amherst Amherst, MA	

For dates and additional information,
visit www.biophysics.org/networking

Do you have an idea for a networking
event and want to host one in your area?

BPS will be accepting networking event
proposals until April 15 for 2015 and 2016.

For your information about networking events and
proposal requirements, visit the website above.



2015 Thematic Meeting Deadlines

**New Biological Frontiers Illuminated
by Molecular Sensors and Actuators**
Taipei, Taiwan | June 28-July 1

April 6
Early Registration Deadline



**Biophysics of Proteins and Surfaces:
Assembly, Activation, Signaling**
Madrid, Spain | October 13-15

June 1
Abstract Submission

June 23
Early Registration



**Polymers and Self- Assembly:
From Biology to Nanomaterials**
Rio de Janeiro, Brazil | October 25-30

June 22
Abstract Submission

July 22
Early Registration



**Biophysics in the Understanding, Diagnosis
and Treatment of Infectious Diseases**
Stellenbosch, South Africa | November 16-20

July 20
Abstract Submission

August 24
Early Registration

For more information visit www.biophysics.org



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UPCOMING EVENTS

BIOPHYSICAL SOCIETY NEWSLETTER MARCH 2015

May

May 13-17

Biomolecules and Nanostructures 5

Jaroslawiec, Poland

<http://www.nanofun.edu.pl/bionano5/>

May 18

Allosteric Pharmacology

Rome, Italy

<http://www.lincai.it/>

June

June 1-5

6th Workshop on Neutron Scattering Applications in Structural Biology

Oak Ridge, TN

<https://public.ornl.gov/neutrons/conf/gcnb2015/>

June 14-18

13th Symposium on Bacterial Genetics and Ecology (BAGECO13)

Milan, Italy

<http://www.bageco2015.org/>

July

July 18-22

10th European Biophysics Congress (EBSA2015)

Dresden, Germany

<http://www.ebsa2015.org/>

July 22-25

29th Annual Symposium of the Protein Society

Barcelona, Spain

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

August

August 2-7

Amygdala in Health & Disease

Easton, MA

<https://www.grc.org/programs.aspx?id=13511>

August 10-12

International Conference and Exhibition on Antibodies

Birmingham, West Midlands, UK

<http://antibodies.conferenceseries.com/>