Newsletter
Biophysical Society MAY 2015

DEADLINES

## Awards & Contests

***June 15***
Changing Our World Submissions

## Thematic Meetings

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

***June 1***
Abstract Submission

***June 23***
Early Registration

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

***June 22***
Abstract Submission

***July 27***
Early Registration

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

***July 20***
Abstract Submission

***August 24***
Early Registration

# Biophysics Awareness Campaign

Have you noticed that every discipline seems to be using some aspect of biophysics these days? Yet the word "biophysics" remains poorly understood.

Members of the Biophysical Society know what biophysics is and its importance for moving science forward. Researchers from other disciplines, however, often ask " What do biophysicists do?" When you describe one person in their institution who does biophysics, they then think they understand the field, but do they really? Biophysics is so broad, so multidisciplinary that when you ask any three biophysicists to define what it is in its totality, all they can agree on is that "it is what biophysicists do." Unfortunately, that doesn't quite clarify it for others!

> "Researchers from other disciplines, however, often ask "What to Biophysicists do?" "

The strength and beauty of biophysics is precisely why it is difficult to define: Biophysicists come from so many disciplines and are often the only ones in their department who use biophysical techniques and analyze the resulting data. Biophysics is broad, it is quantitative and analytical, and it is all about using these quantitative and analytical approaches to solve biological problems. It is no accident that each year biophysicists are among the recipients of Nobel prizes in both medicine/physiology and chemistry, even though the media does not identify them as biophysicists.

> "Biophysics is broad, it is quantitative and analytical. "

It is important to the field and to biophysicists that other scientists, potential biophysicists, and the general public better understand biophysics and what it offers. That is why the Society is embarking on a campaign to increase the accessibility of biophysics and help others better understand what it is, its breadth, what biophysicists do, and why it is such a growth area and an exciting career path. We want to make it comprehensible to future researchers and more understandable to existing ones. We want the public to become familiar with the word biophysics and not fear it because it contains the "P" word. We want to ensure that biophysics continues to grow as a discipline.

That is what Biophysics Week, which will take place March 7-11, 2016, is all about, and we want the Society membership to be involved in preparing for it. The launch will take place at the Annual Meeting in Los Angeles, and all Society committees are already working to develop programs, tools, and materials that everyone can use to make biophysics more understandable in their communities. Between now and then, we will ask you, the Society members, for ideas and participation in the rollout of this event.

Biophysicists, stay tuned, and get ready to get involved!

## CONTENTS



Biophysical Society

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# Message from the President

Edward Egelman

Many of you are aware of the moves by both the National Science Foundation and the National Institutes of Health towards greater reproducibility, transparency and data sharing in the research that they fund. Some of this may be a response to a memo issued in early 2013, from the Office of Science and Technology Policy (OSTP) within the White House, instructing US federal funding agencies that support scientific research to make plans to have the data and publications resulting from their funding publicly available. The OSTP memo itself may be a response to the America COMPETES Reauthorization Act of 2010 that required such plans. Independent of the history, as scientists we must enthusiastically support such efforts.

Many years ago, someone told me that he was tired of science, since anyone else in the world might come to the same conclusions that he did in his research, while no one else would have written Beethoven's Fifth Symphony if Beethoven never lived. The strength of science lies precisely in this phenomenon. While someone else might have used different language than Einstein did to describe the invariance to all observers of the speed of light (ironically, a theory of invariance that became more popularly known as a theory of relativity), the theory would have emerged had Einstein never been born. While individuals are crucial to science, ultimately scientific conclusions do not depend upon particular individuals, and are seen as universal descriptions and laws that apply just as well in China or India as in the US. Science thrives in the most open environment possible, where results are shared and the data leading to published conclusions are made available. Science is set back greatly by those who do not share and who are more interested in protecting their reputation or "turf" than in seeking the truth about natural phenomena. Max Perutz' famous dictum, "In science, truth always wins," still remains true, but the path to such truth is made easier the more open and transparent science is.

The question becomes how, as biophysicists, we can make our scientific work more transparent. I am a structural biologist, and the most mature area of structural biology is x-ray crystallography, the field that Perutz helped create. There has been a steady progression in x-ray crystallography concerning what is made available when a paper is published. It was approximately 40 years after the first protein structures were determined that journals adopted a policy of requiring that the atomic coordinates of models generated from such studies be available upon publication. More recently, in 2008, it has become a standard that the structure factors — roughly speaking, the processed x-ray diffraction intensities — from such studies are made available in addition to the coordinates. This allows others to independently build and refine models, some of which may differ in significant ways from what has been published. Even more recently, some crystallographers are depositing the raw "frames" or images collected before the data processing, which can allow for a further level of reanalysis of what has been published, including correction of the space group. Each step involving the greater availability of data corrects mistakes and misinterpretations that may have been made, makes published results more robust, and advances science.

In other areas of structural biology the standards are not as developed as in crystallography, and are still emerging. For example, cryo-EM, the technique that I use, has had no standard for what data need to be deposited or made available, beyond the relatively recent requirement for the three-dimensional reconstruction and any atomic model built into it. Having the

actual image "stacks" of particles or even the raw micrographs available to others could only advance the field. While reanalysis of published results by others may lead to new controversies, these are healthy debates. A scientific field might be considered moribund when everyone agrees about everything.

How does this impact the Biophysical Society? We recently published an editorial in *Biophysical Journal* [*Biophys. J.* 108], which was reprinted in the April Newsletter, about how the Society and the *Journal* are moving towards such greater transparency. Specifically, new Guidelines for *Biophysical Journal* have been developed, which follow from the basic premise that "research results should be reported with sufficient clarity and detail to ensure that the study can be replicated in any laboratory." A corollary of this is that the data leading to a published study must be readily available. Availability of data does not necessarily mean deposition in a public database, as sometimes this can be simply impractical or unfeasible. Consider genetic constructs, where the standard of both journals and funding agencies for many years has been that they must be available, but this typically means that the author must provide these following a reasonable request. The same can be true of large data sets involving terabytes of data where deposition may be impractical but nevertheless these can and should be provided by the author upon reasonable request. How does one define "reasonable" and who will do it? This can be done by journal editors and funding agencies (i.e., those who have published the work and those who have paid for it).

But many questions still remain about what data need to be available, and what the standards should be in different areas of biophysics for deposition and availability. The Society can play an important role in helping to develop such standards and that will be one of our tasks in the coming period. Our Public Affairs Committee has already started reaching out to communities for their feedback; with some committee members planning workshops at various Gordon and Keystone conferences to hold discussions on standards. Members of the Society use an enormous range of biophysical techniques, from single-molecule trapping to fluorescence to NMR spectroscopy, and it is clear that there is no "one size fits all" set of standards for these disparate methods. Some of these areas are quite mature, such as x-ray crystallography, while others are just emerging and in their infancy. Not surprisingly, the more mature the area, the more standards currently exist.

The Society wants to help catalyze the discussions that need to take place in each community about the standards for data deposition and availability that are needed for both transparency and reproducibility. Society subgroups, particularly those focused on specific techniques, such as biological fluorescence, can play a significant role in terms of starting such discussions. Over the next year we would like the Society to be useful to its members in advancing standards in biophysics, but we also want all members to become involved in the process. So please send us your thoughts!

—*Edward H. Egelman*
University of Virginia

# Biophysicist in Profile

## SARAH VEATCH

*Sarah Veatch*, Assistant Professor of Biophysics at the University of Michigan, grew up in Brookline, Massachusetts. Her mother is a medical doctor and her father, *William R. Veatch*, was a membrane biophysicist. He was the first to work out the structure of the gramicidin A ion channel in solvents. He later extended his work to use fluorescence to probe membranes containing gramicidin, and used similar methods to probe physical properties of membranes containing cholesterol. William died when Veatch was only five years old. "I was not aware of his major contributions [to the field] until I had decided on my research direction," she says. Veatch became interested in physics in high school. She decided to pursue physics for her undergraduate studies, and graduated from the Massachusetts Institute of Technology (MIT) in 1998 with her Bachelor of Science degree in physics.

After completing her undergraduate degree, Veatch took a break from academia. "I worked for a year as an electrical engineer, and my main job was to program lighting consoles for use in high school auditoriums," Veatch says. "While I enjoyed this job as I was learning how to do it, I realized that what I really loved was the learning part and not the application of my knowledge." With this realization, she decided to go to graduate school in physics at the University of Washington to pursue a career in academic science. She decided to study biophysics. "I liked the idea that I could pursue physical questions in systems with real-life applications," Veatch explains.

Veatch settled on her research area after a recruiting talk by newly hired University of Washington professor *Sarah Keller*. "When I started graduate school, I was fairly sure I wanted to pursue some biophysical research project, but was unsure as to the specific area. Once I met my graduate mentor *Sarah Keller*, my path was clear. She was inspiring, and her research really excited me," says Veatch. She joined Keller's lab as Keller's first graduate student. Veatch struggled during this time with being confident in herself and her work. "I left college not knowing that I had what it took to survive as an academic scientist. I overcame this through my graduate work, where I began to get very excited about my science and could see that others believed that I had things to contribute," she says. Indeed, others in her field were taking notice of Veatch's work. Keller recalls one of the first Biophysical Society Annual Meetings the two attended together: "Sarah and I were talking in the poster hall. A young woman approached, asking for directions. She looked at our badges once, then again, and said, 'Veatch…and Keller? VEATCH AND KELLER?! I've read all your papers! They are great!' I felt like a rock star."

> "She looked at our badges once, then again, and said, 'Veatch…and Keller? VEATCH AND KELLER?! I've read all your papers! They are great!' I felt like a rock star."

During Veatch's time in Keller's lab, "Sarah [Veatch] wrote a series of groundbreaking papers on model lipid membranes that phase separate into coexisting liquid phases. She was the first to map the miscibility phase diagram of a ternary membrane by fluorescence microscopy and the first to quantify tie-lines," Keller says. "Her work continues to have huge impact. Web of Science lists 575 citations for her first full-length *Biophysical Journal* paper."

After completing her PhD in physics in 2004, Veatch undertook a one-year postdoc with *Bob Hancock* at the University of British Columbia. She worked with cell-penetrating peptides in Hancock's lab, and also worked with *Jennifer Thewalt* at Simon Fraser University examining the effect of fluorescent probes on the miscibility transition by 2H-NMR. Veatch then moved to another postdoc position with *Barbara Baird* and *David Holowka* at Cornell University. She was able to build upon her PhD work exploring the miscibility transition in purified membranes to better understand phase separation in isolated biological membranes. At Cornell, Veatch observed that plasma membranes isolated from living cells were poised surprisingly close to a miscibility critical point, a special composition where thermal motions can drive large composition fluctuations at equilibrium. "At Cornell I also began to explore ways to quantify the nanoscale distribution of proteins and lipids in intact cells, first through scanning electron microscopy, and then using super-resolution fluorescence localization techniques. I have built upon both of these scientific directions into my independent laboratory," Veatch explains. "This was made possible in part from a K99/R00 award from the NIH (NIGMS)."

Following her postdoc, Veatch was hired to her current position as an Assistant Professor of Biophysics at the University of Michigan. Her lab is generally interested in exploring how cells exploit the mixing of plasma membrane lipids to accomplish biological functions. "We are probing the structural and functional consequences of membrane heterogeneity in intact cells, focusing on the B cell receptor signaling pathway as a model system," Veatch details. "We are also excited to follow up on our recent observations that some liquid general anesthetics alter lipid mixing in ways that are surprisingly well correlated with their anesthetic potency. We are investigating if the ion channels responsible for anesthesia might be allosterically regulated, at least in part, through interactions with local lipids."

> "I attend the Biophysical Society Annual Meeting every year and think of it as a reunion of my extended scientific family."

As Veatch has progressed, her challenges have changed. "Since starting my independent laboratory, my partner and I have welcomed two sons into our family, and I still struggle with balancing how to be a mom while trying to prove myself as an early career scientist," Veatch says. "I would not say that I have figured out a way to overcome this, but am trying to find ways to accept that there are not as many hours in the day as there once were for me to spend on research, so I have to find ways to use them more efficiently." Though she used to spend her time outside of the lab playing and coaching rugby and remodeling her house, Veatch now spends whatever time she can outside of work with her family.

She also looks forward to attending the Biophysical Society Annual Meeting each year, where she reconnects with friends and colleagues. "I attend the Biophysical Society Annual Meeting every year and think of it as a reunion of my extended scientific family. I get to catch up with nearly everyone I have worked with in the past, I get to share and hear about the latest results with my field, and it's a great place for me to seek out mentoring," Veatch says. "I also love being able to bring my own students, to give them the opportunities I enjoyed and to see them thrive in this environment."

### Profilee-at-a-Glance

**Institution**
University of Michigan

**Area of Research**
Membrane Structure, Protein-Lipid Interactions

# Subgroups

## BIV

### Keeping up with the Crowd


Michael Senske

I recently interviewed *Michael Senske*, a graduate student from the University of Bochum in Germany, about his recent paper.

*Senske M*, *Törk L*, *Born B*, *Havenith M*, *Herrmann C*, Ebbinghaus S. *Protein Stabilization by Macromolecular Crowding through Enthalpy Rather Than Entropy*. J Am Chem Soc, 2014, 136: 9036-9041.

**What made you undertake these experiments?** When I joined the group of *Simon Ebbinghaus* as an undergraduate student I was fascinated by the recent studies in the field of macromolecular crowding. Back then, I realized the importance of studying proteins in their natural environment. We thought of a model protein with which we could test the predictions of the excluded volume theory on protein stability in crowded environments. I had the chance to follow up this idea when I started my PhD studies in *Martina Havenith's* group and carried out the present study as a joint project of three groups within the Cluster of Excellence RESOLV.

**What is the key finding?** Macromolecules stabilize ubiquitin enthalpically. This is in contrast to the predictions of the excluded volume theory, which predicts an entropic protein stabilization as a result of hard-core repulsions between the protein and the inert macromolecule. However, our data even show a destabilizing entropic contribution. We propose that an osmolyte-like water-mediated mechanism is the source of the enthalpy. In this study, this effect is more important than excluded volume.

**What was the most difficult part of preparing the paper?** I found the abstract the most difficult task. You have a limited number of words to describe your results precisely and make your study interesting to others. Nearly every single word is important. Moreover, we thought a long time about a conclusive and appealing figure to summarize our findings.

**What advice would you give to a grad student working on his or her first paper?** Before starting to write, be sure about the conclusion, and make sure that you have done the controls. Work then on results and discussion first and prepare the introduction and the abstract at the end. Leave the refinement of figures for the very end since this takes you a lot of time, and you don't want to change the figures for each version of the draft.

### A final thought. See our logo on the left?

We have a store (www.zazzle.com/biopolymers_in_vivo) where all friends of BIV can obtain BIV T-shirts and other bling. I am wearing the long-sleeved T-shirts now. Spiffy. Even spiffier, 10% of the proceeds go to BIV activities such as student awards and the BIV dinner. If you are not yet a BIV-er please consider joining and attending the next subgroup dinner.

—*Gary J. Pielak*, Subgroup Chair-Elect

## Members in the News

The following members have been awarded a 2015 Sloan Research Fellowship from the Alfred P. Sloan Foundation:

*Zahra Fakhraai*, University of Pennsylvania and Society member since 2014.

*Thomas E. Kuhlman*, University of Illinois, Urbana-Champaign, and Society member since 2013.

*Polina Lishko*, University of California, Berkeley, and Society member since 2009.

*Marcos Sotomayor*, Ohio State University and Society member since 2004.

# Biophysical Journal

## Know the Editors


David Warshaw

*David Warshaw*

University of Vermont

Editor for the Molecular Machines, Motors, and Nanoscale Biophysics Section

### Q: What is your area of research?

My laboratory focuses on the structure and function of myosin molecular motors and cytoskeletal proteins associated with biological movement; ranging from cardiac muscle contraction to intracellular vesicular transport, such as insulin granules. A common question is: How do myosin motors convert the energy from ATP hydrolysis into mechanical work as the molecular motor moves along its actin track? Our approach is comparative; we study "Mother Nature's" design principles for how myosins that differ substantially in both their structural and functional capacities are matched to their cellular roles in biological motion. For example, myosin Va, a processive, intracellular cargo transporter, can carry its cargo as a single motor, whereas muscle myosin II must work in a team to bring about muscle shortening.

We obtain additional insight from genetically mutated motors and cytoskeletal proteins that lead to inherited forms of human heart failure. Most recently, we have characterized the molecular mechanism by which myosin binding protein-C, a relative newcomer to the field of cardiac muscle proteins, modulates cardiac contractility, using a model system of cardiac muscle by building complexity *in vitro* through the assembly of isolated proteins. This approach is mirrored in our study of cargo transport by myosin Va, by assembling two- and three-dimensional complex actin networks *in vitro* that mimic the cell's challenging cytoskeletal highway system and monitoring the movement of synthetic lipid vesicles by one or many myosin Va motors. We use the power of molecular biophysics and single molecule techniques, such as laser trapping, total internal reflectance microscopy, and super-resolution STORM imaging, to characterize the molecular mechanics of these actomyosin motors and the proteins that modulate their function.

## Why Publish in *BJ*?

Tired of those top 10 lists? Here are ***more than 10 reasons*** to choose *Biophysical Journal* as the vehicle for publishing your research.

- High-quality science
- Rapid turnaround times
- No page limits
- Rigorous and constructive peer review by working scientists
- Affordable publication fees with discounts for BPS members
- Author friendly pre-print policy
- Policies that promote transparency and data sharing
- Hybrid journal with Open Access and licensing options
- Publisher deposits to Pub Med; compliance with federal agency policies
- Broad focus, wide dissemination
- Easy submission with ORCID IDs
- Authors receive link to share their article for 50 days
- Opportunities to have your work highlighted in cover art, sliders, video clips, news releases, the BPS Newsletter, and more
- Automatic consideration for the Paper of the Year Award

## Highlights from *BJ*

**May 5 issue 108/9**

Be sure to check out these articles in the latest issue of *Biophysical Journal*:

A Primer on Bayesian Inference for Biophysical Systems
*Keegan Hines*

Mechanical Heterogeneity Favors Fragmentation of Strained Actin Filaments.
*Enrique De La Cruz, Jean-Louis Martiel, Laurent Blanchoin*

Peptide Binding to a PDZ Domain by Electrostatic Steering via Non-Native Salt Bridges
*Amedeo Caflisch, Nicolas Blöchliger, Min Xu*

# Careers

## Navigating the Transition: Graduate Student to Postdoc

The Early Careers Committee hosted a panel at the 59th Annual Meeting in Baltimore, Maryland, to discuss navigating the transition from graduate student to postdoctoral training. The panel consisted of *Marcelo Diaz-Bustamante*, Johns Hopkins University, *David Jones*, University of Wisconsin, Madison, and *Prakash Subramanyam*, Columbia University. Some of the questions and answers from that session are summarized here.

### Q: How do I make sure I don't make a bad decision in choosing my postdoc?

It's possible to get lucky without being well-prepared, but try to think critically about what information you need to make this decision. Ask yourself what kind of mentorship you need to get out of your position. Ask current lab members what level of training the principal investigator (PI) gives to postdocs and how often the PI is in the lab. You want to end up in a lab where your priorities are in line with your PI's. If you do select a lab that does not satisfy you and you choose to leave, you will have learned from the experience, so it will not have been a waste of time.

Move away from your grad school lab. Professors want people who are willing to move out of their comfort zone and try something new. You do not need to do something totally different from what you did during your PhD, but at least take advantage of this time to learn new techniques.

### Q: Should I be intimidated by the phrase "one-year renewable" on an application?

That language is mandated by universities, but they will renew your position after one year if you are doing well. It can also be a good thing, because you may find you do not like the environment or the job, and it will be a convenient time to leave.

### Q: Would it be a red flag to do something in-between PhD and postdoc that is not scientific?

Not necessarily, but you may have to explain why you did something non-scientific. As long as it is for a good reason, it is not viewed negatively by most PIs.

### Q: Do I need to bring funding to a lab?

Of course it is better if you have funding, but it is not always necessary. Bringing your own gives you an edge while searching for your postdoc position, because the lab will not be worried about where your salary is coming from.

### Q: Does it matter where (geographically) you do your postdoc with regard to where you want to settle afterward? For example, could you do a postdoc in Europe but then go to the US for a permanent position?

It should not hurt your career to do your postdoc in Europe and then move to the US. Your PI will have more connections in Europe, but the scientific community spans the distance well. Consider the cost of living for the city you are thinking of moving to, and how your salary relates to it.

### Q: Should you change either your area or research or your technique when you start a postdoc, but not both?

If you were to change both your technique and area of research, it would be more of a challenge to secure funding quickly.

### Q: When did you have a conversation with your advisor about what part of your project you would take out of the lab?

Start negotiating with your PI about what you will take and "run with" about three years into your postdoc position.

### Q: Which part of your application was most important in getting your postdoc position?

The most important parts of the postdoc search are your letter of intent and interview. Have your advisor or other experienced scientists review the letter for you to make sure it is written in an appropriate style. Make the letter specific to the PI's research and lab, rather than using one letter for all of your applications.

Send your letter before a conference if the PI you would like to interview with will be attending. You can meet up and interview at the conference, and he/she can see your data during your presentation.

Even if you have a great letter and the interview goes well, do not be too discouraged if you are passed over for a position. In some cases, the PI is simply unable to fund you for one reason or another.

### Q: How do you balance doing your research in the lab with learning the skills you will need as a professor?

This is a difficult prospect. It takes time but after two or three years this balance will just be part of your routine, because you have to do it. As you spend more time in your postdoc, let technicians and students do more of the cultures and other basic tasks so that you can spend more time gaining the skills you need without burning out.

Take advantage of this time to mentor a student. Mentoring is a useful skill to carry through your career, and you cannot practice it before you have someone to mentor.

### Q: How do you balance family life with a postdoc position?

Most PIs are understanding of the competing demands for your time. Often you are able to work slightly different hours to better optimize your time. It can be tough, but it is manageable. When you have a family as a postdoc, you must be disciplined so that you do not sacrifice time with either family or work. You become extra efficient. If you have half an hour to read a paper, you will use that time to read it; whereas, you may have become distracted or procrastinated before you had family responsibilities.

A postdoc is the most productive and imaginative time in your career. You do not have to teach or run your own lab, so you are free to focus exclusively on research and honing your skills. Enjoy it!

## Grants and Opportunities

### The Data Incubator

**Program:** The Data Incubator is an intensive seven-week fellowship that prepares masters, PhDs, and postdocs in STEM and social science fields seeking industry careers as data scientists. The program is free for fellows and is supported by sponsorships from dozens of employers across multiple industries.

**Who Can Apply**: Anyone within one year of graduating from a masters or PhD program or who has already obtained a masters or PhD.

**Website:** https://www.thedataincubator.com

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### The Biomedical Engineering (BME) Program

**Objective:** To provide opportunities to develop novel ideas into discovery-level and transformative projects that integrate engineering and life sciences in solving biomedical problems that serve humanity in the long term.

**Deadline:** October 20, 2015

**Website:** www.nsf.gov/funding/pgm_summ.jsp?pims_id=501023

# Public Affairs

## BPS Members Advocate for Science on Capitol Hill

BPS members Eric Sunberg, Ryan Himes, and Tianqi Zhang on Capitol Hill

On March 17 and 18, Biophysical Society members *Eric Sundberg*, the University of Maryland School of Medicine, *Ryan Himes*, Loyola University, and *Tianqi Zhang*, University of Wisconsin-Madison, joined over 320 other scientists, engineers, and business leaders making visits on Capitol Hill as part of the 19th Science-Engineering-Technology Congressional Visits Day (CVD). This annual event is sponsored by the Science-Engineering-Technology Work Group (SET), of which the Biophysical Society is a participant. The purpose of the visits was to educate Congress about the important role federal research funding plays in innovation and competiveness; explain the harm sequestration cuts have had to research programs; and express support for sustained and predictable federal funding for research. Himes, Sundberg, and Zhang drew from their own experiences and labs to illustrate these points.

Overall, the visiting scientists visited the offices of members of Congress from 45 different states. Himes, Sundberg, and Zhang, along with BPS staff members *Ellen Weiss*, met with staff in the offices of Senators *Dick Durbin* (D-IL), *Mark Kirk* (R-IL), *Ben Cardin* (D-MD), *Barbara Mikulski* (D-MD), *Tammy Baldwin* (D-WI), *Ron Johnson* (R-WI), and Congressmen *Danny Davis* (D-IL), and *Tammy Duckworth* (D-IL), *John Sarbanes* (D-MD), and *Mark Pocan* (D-WI).

During the event, the SET working group honored Senator *Richard Shelby* (R-AL) and Congresswoman *Donna Edwards* (D-MD) with the *George E. Brown, Jr.*, Leadership Award for leadership in science, technology, and mathematics on Capitol Hill. Shelby serves as the Chairman of the Senate Appropriations Committee's Subcommittee on Commerce, Justice, Science, and Related Agencies and has fought to secure critical funding to construct state-of-the-art, world class STEM education facilities across the state. Edwards serves as the Ranking Member on the House Science, Space & Technology Committee's Subcommittee on Space, as well as on the Subcommittee on Environment during the last Congress. She has introduced legislation to expand research and development, domestic manufacturing, and infrastructure spending to create jobs and grow our economy.

## Congress Keeps Sequestration for 2016

In late March, the US Senate and House of Representatives approved their budget resolutions for Fiscal Year (FY) 2016. The budget resolutions serve as a blueprint for Congress, setting their overall spending level for the coming year. Both the Senate and the House version of the budget resolution keep sequester level caps on spending in place for FY 2016, which makes it nearly impossible to provide any meaningful increases for discretionary programs, like research funded by the National Institutes of Health (NIH) and National Science Foundation (NSF). The Congressional plans are in stark contrast to the White House's FY 2016 budget proposal, which includes small increases for all the science agencies. The House and the Senate planned to work out the differences in budget plans in April, but the resolution does not go to the President for signature. Rather, it functions as an internal planning document for Congress to follow as it goes about appropriating money for 2016.

The Biophysical Society will continue to advocate on behalf of our members by urging Congress to undo sequestration, raise the caps on non-defense discretionary spending, and reinvest in scientific research.

## NIGMS Recommits to Investigators in Its Strategic Plan

The National Institute of General Medical Sciences (NIGMS) released a strategic plan (2015-2020) outlining its priorities over the next five years. The plan is broad in nature, allowing the Institute flexibility to take advantage of opportunities as they arise but providing a framework to follow.

The plan lays out objectives and strategies to meet those objectives, with a strong commitment to investing in researchers and the workforce.

The objectives are:

- Maximize investments in investigator-initiated biomedical research to drive fundamental scientific discoveries that advance understanding of human health and disease.
- Support the development of a highly skilled, creative, and diverse biomedical research workforce.
- Support the development of and access to essential research tools, resources, and capabilities for biomedical research.
- Advance understanding of fundamental biomedical research and the NIGMS role in supporting it.

To see the full report go to http://publications.nigms.nih.gov/strategicplan/NIGMS-strategicplan.pdf.

## House Passes Secret Science Bill

On March 17, the House of Representatives approved the Secret Science Reform Act of 2015 (H.R. 1030), legislation that seeks to disallow the use of research findings to create policy at the Environmental Protection Agency (EPA).

The Biophysical Society, along with 34 other associations and universities, wrote to members of the House of Representatives on March 16 expressing serious concerns about the possible unintended consequences of this bill. The letter, organized by the American Association for the Advancement of Science, explained the research community's concerns about key terms in the bill, the difficulty and high cost of reproducing long-term public health and other studies, and the uncompensated financial burden on research grant recipients of sharing and archiving research results that might be used in a regulatory action by EPA.

The organizations note that the White House Office of Science and Technology Policy is working with federal agencies to establish policies on access to research data and suggests that Congress "wait to review the agency policies before imposing new statutory requirements."

The Senate has not indicated whether it will consider the bill. The President, on the other hand, as indicated he will veto the bill if it comes to him for signature.

Biophysical Society

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# UPCOMING EVENTS



## July

**July 4-9**

The 40th FEBS Congress: The Biochemical Basis of Life
*Berlin, Germany*
**www.febs2015.org**

**July 18-22**

10th European Biophysics Congress (EBSA2015)
*Dresden, Germany*
**www.ebsa2015.org**

## August

**August 10-15**

NIMBioS Tutorial: Evolutionary Quantitative Genetics
*Knoxville, Tennessee*
**www.nimbios.org/tutorials/TT_eqg2015**

**August 10-12**

International Conference and Exhibition on Antibodies
*Birmingham, United Kingdom*
**antibodies.conferenceseries.com**

## September

**September 6-10**

16th European Conference on the Spectroscopy of Biological Molecules (ECSBM) 2015
*Bochum, Germany*
**www.ecsbm2015.de**

**September 13-15**

Function of von Willebrand Factor in Primary and Secondary Hemostasis
*Hamburg, Germany*
**www.shenc.de**

## October

**October 5-7**

3rd International Conference and Exhibition on Mechanical & Aerospace Engineering
*San Francisco, California*
**mechanical-aerospace.conferenceseries.com**

**October 25-29**

Diabetes: New Insights into Molecular Mechanisms and Therapeutic Strategies (T2)
*Kyoto, Japan*
**www.keystonesymposia.org/index.cfm?e=web.Meeting.Program&meetingid=1419**

***Please visit www.biophysics.org for a complete list of upcoming events.***