Newsletter
Biophysical Society DECEMBER 2015

DEADLINES

Meetings

60th Annual Meeting
February 27-March 2
Los Angeles, California

December 1
Image Contest Submission

December 7
Student Housing

January 13
Early Registration
Late Abstract Submission
Blogger Applications

Engineering Approaches to Biomolecular Motors: From in vitro to in vivo
June 14-17
Vancouver, Canada

March 13
Abstract Submission

April 6
Early Registration

Liposomes, Exosomes, and Virosomes
September 11-16
Ascona, Switzerland

March 7
Abstract Submission

March 11
Early Registration

Congressional Fellowship

December 15
Application

Future of Biophysics Burroughs Wellcome Fund Symposium


Isabelle Baconguis


Axel Innis


David Kast


Kimberly Stroka

The 2016 Future of Biophysics Burroughs Wellcome Fund Symposium highlights the work of young researchers doing cutting-edge research at the interface of the physical and life sciences.

The speakers selected for the 2016 Symposium are *Isabelle Baconguis*, Vollum Institute, Oregon Health & Science University; *Axel Innis*, INSERM U869, France; *David Kast*, Perelman School of Medicine at the University of Pennsylvania; *Kimberly Stroka*, University of Maryland.

The Symposium will be held on Monday, February 29, 10:45 AM – 12:45 PM, at the Los Angeles Convention Center.

Vasanthi Jayaraman and *Michael Ostap*, Program Co-Chairs for the 60th Annual Meeting, will co-chair the symposium.

Time is Running Out to be the 2016-2017 BPS Congressional Fellow!

Interested in using your science skills to inform science policy?

Interested in spending a year working on Capitol Hill in Washington helping develop policy?

Application deadline: December 15, 2015

Visit biophysics.org for additional information.

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Biophysical Society

The *Biophysical Society Newsletter* (ISSN 0006-3495) is published twelve times per year, January-December, by the Biophysical Society, 11400 Rockville Pike, Suite 800, Rockville, Maryland 20852. Distributed to USA members and other countries at no cost. Canadian GST No. 898477062. Postmaster: Send address changes to Biophysical Society, 11400 Rockville Pike, Suite 800, Rockville, MD 20852.

Biophysicist in Profile

SILVIA CAVAGNERO

Silvia Cavagnero, University of Wisconsin-Madison, grew up in Lido di Ostia, Italy, a village by the seashore near Rome. Cavagnero loved reading as a child. "I really enjoyed reading everything: street signs, magazines, comics, the newspaper, novels, even entire random pages of the encyclopedia," she recalls. She thought that she would pursue a career as a school teacher or a writer, but became interested in a career in science as she read more science-related pages in the encyclopedia. She began reading biographies of famous physicists and biologists like *Albert Einstein*, *Enrico Fermi*, *Ettore Majorana*, *James Watson* and *Francis Crick*, *Dorothy Hodgkin*, *Marie Curie*, and *Rita Levi Montalcini*. She fortunately also had inspiring high school science teachers, who always encouraged her inquisitiveness. "I gradually realized how powerful and rewarding it can be to really understand why and how things happen in the world right around us," she says, "and how thrilling it is to discover new things that have never been seen before."

She decided to study chemistry as an undergraduate student at La Sapienza University of Rome, and found the subject was a good fit. "I fell in love with the subject, which seemed to explain so much about our everyday world… Though my favorite subject was biology, it was only through chemistry that I could really understand some of what was going on in my biology classes."

Cavagnero moved to the United States and earned her master's degree in chemistry at the University of Arizona, Tucson. She then went on to pursue her PhD at Caltech in the lab of *Sunney I. Chan*. "I kept being drawn to big unsolved problems in biology and to the idea of gaining a fundamental understanding. I learned more math and physics and discovered how useful they can be as tools to understand biology in a more quantitative way," she says. "I suppose that this really is what biophysics is all about!"

> "I gradually realized how powerful and rewarding it can be to really understand why and how things happen in the world right around us."

In Chan's lab, Cavagnero worked on the origins of the exceptional thermal stability of rubredoxin, a protein from the hyperthermophilic bacterium *Pyrococcus furiosus*, which lives in boiling water. As a graduate student, she became interested in protein folding. Though she did not work in the protein folding field at that time, she did pick up some important biophysics basics that would prove useful later on: the fundamental principles of kinetics, thermodynamics, quantum mechanics, and how to make and purify proteins. That knowledge became important during her postdoctoral work at Scripps Research Institute in the lab of *Peter Wright*. "In my postdoctoral research, which was carried out in collaboration with *Jane Dyson*, I studied the folding kinetics of apomyoglobin at atomic resolution by NMR [nuclear magnetic resonance] spectroscopy," she says. "When time came to apply for an independent academic position, I was ready to bring protein folding and biophysics to more cell-relevant environments. I was driven by a compelling

need to explore how proteins fold, misfold, and aggregate under conditions where all the relevant states (unfolded, folded, and intermediates) are actually populated in the living cell. I also realized the importance of taking into account key cellular players such as the ribosome and molecular chaperones to understand how proteins fold and how they manage to bypass aggregation in the cell."

Following her postdoc, Cavagnero accepted a position as an assistant professor in the Department of Chemistry at the University of Wisconsin-Madison, where she still works to this day, though now as a full professor. Currently, she works on the mechanism of protein folding in the cellular environment, and on the role of the ribosome and other cellular components, especially the Hsp70 chaperone, in protein folding. "In my work, I make extensive use of biochemistry, molecular biology, time-resolved fluorescence spectroscopy, and multidimensional NMR," Cavagnero says. "I also work on improving the sensitivity of NMR spectroscopy by laser-driven approaches, primarily photochemically induced dynamic nuclear polarization (photo-CIDNP). The hope is that we will soon be able to use a much more sensitive version of NMR spectroscopy to solve biological problems at atomic resolution and sub-micromolar concentration."

One of the greatest challenges in Cavagnero's career, and something that has been rewarding for her, is serving as a mentor to her students. "There is really no training in [mentoring] provided to postdocs, and this is especially unfortunate," she elaborates. "I have faced this challenge by trial and error, and by learning to talk to my students more – not just about science, but also about their daily needs, their hobbies, as well as their future aspirations." Nurturing her students and helping them accomplish their personal and professional goals is one of the most enjoyable aspects of her work. "I take the greatest pride in seeing my undergraduate and graduate students and postdocs grow in both their intellectual skills and self-confidence, while in my lab," she explains.

Martin Gruebele, University of Illinois, works with Cavagnero in the leadership of the Biophysical Society's Biopolymers in vivo Subgroup. He shares, "Silvia is a wonderful person, who cares a lot about students and others doing science, and from that [it] automatically follows that she loves science and discovery."

Cavagnero also works to support people from underrepresented groups working in science. She has served on the Society's Committee for Inclusion and Diversity, and has had the opportunity to speak at the Society's Summer Research Program in Biophysics. "Giving lectures about my research at the Summer Research Program in North Carolina has created unprecedented opportunities to make a small difference in the life and emerging careers of young biophysicists with different ethnic backgrounds," she explains. Her friend *Marina Ramirez-Alvarado*, professor of biochemistry and molecular biology at the Mayo Clinic, shares this enthusiasm, and the two connected over this and have worked together organizing a US/Mexico Workshop in Biological Chemistry in the past. "Silvia is a hard worker and gentle leader who accomplishes an incredible amount of work without making a lot of noise," Ramirez-Alvarado says. "I am sometimes very loud and there is a value of doing things quietly. Silvia is very modest but she is a force of nature."

Cavagnero with her daughters, Cecilia and Irene, and dog Daisy.

When Cavagnero is not in the lab, she spends time with her husband and two daughters. Though managing both work and family life can be difficult at times, Cavagnero, like others, has worked to find balance. "I have learned to unconditionally choose family without ever looking behind," Cavagnero says. "In a way, it is really comforting to know that proteins will keep folding and unfolding in the cell no matter what. Proteins will always let you unveil their mysteries when you are ready to interrogate them."

Profilee-at-a-Glance

Institution
University of Wisconsin-Madison

Area of Research
Protein folding

Public Affairs

Budget Deal Opens Up Possibility of Increased Research Funding

With the Speaker of the House stepping down and pressure to extend the debt ceiling looming, Congress approved the Bipartisan Budget Act of 2015 at the end of October. The deal, which was negotiated by House and Senate leaders as well as the White House, provides an additional $80 billion to be spent in FY 2016 and FY 2017 over what was allowed under sequestration. The increase in available funds raises the possibility for boosts in funding for the National Institutes of Health (NIH), the National Science Foundation (NSF), and other federal science agencies this year.

The agreement raises annual spending caps on discretionary spending by $50 billion for FY 2016, and $30 billion for FY 2017. The additional dollars are split evenly between defense and non-defense spending accounts, a position for which NDD United, a loose coalition in which the Biophysical Society participates, has advocated, and the White House has insisted upon.

While the budget deal does not guarantee that science agencies will see their budgets rise this year or next, it provides appropriators with additional dollars to divide up among federal programs. Both the NIH and NSF received additional funds in appropriations bills passed earlier this year by House and Senate committees, which indicates that there is support for the increasing funding for these programs on Capitol Hill. Congress has until December 11 to approve the FY 2016 budget or pass another continuing resolution funding the government at 2015 levels. As of press time, it was expected that Congress would focus on the appropriations bills in November, but that they may get delayed by directives attached to the spending bills known as policy riders. Policy riders are directives that instruct federal agencies on how to spend or not spend funds or attach other qualifications to the receiving of funds.

An example of a rider from the House earlier this year was a requirement that NSF spend 70 percent of its research funding in FY 2016 on four of its six research directorates, which would result in significant funding cuts for the Geosciences and Social, Behavioral, and Economic Directorates at the Foundation.

The Society will post updated budget information on the policy section of its website as it becomes available.

Controversial NSF Bill Approved by House Science Committee

In early October, the House Science, Space, and Technology (SST) Committee passed the Scientific Research in the National Interest Act (H.R. 3292). The legislation would require the NSF to include in every public announcement of a grant award a non-technical explanation of the project's scientific merit and how the grant will serve the national interest. The legislation has not gone to the House floor or been considered in the Senate.

According to a statement put out by the majority on the committee, led by Committee Chairman Lamar Smith (R-TX), the legislation is intended to "affirm NSF's newly required determination that a project is worthy of taxpayer support." According to the minority on the committee, led by Ranking Member Eddie Bernice Johnson (D-TX), the legislation is intended to add a level of political scrutiny to NSF's peer-review process.

It is possible that House Republicans will attempt to attach the language to any appropriations bill moving through Congress for FY 2016.

NCATS Seeks Input on Strategic Plan

The National Center for Advancing Translational Sciences (NCATS) at NIH is seeking input on a five-year strategic plan. Specifically, the Center wants to hear from stakeholders about what they see as the scientific and operational challenges and opportunities and research needs in translational science. NCATS has been in existence since 2012 and was established "to transform the translational science process so that new treatments and cures for disease can be delivered to patients faster."

While the Request for Information issued by NIH notes that NCATS does not usually fund basic research, but focuses on preclinical and translational research, Biophysical Society members with an interest in the work of NCATS are encouraged to share their thoughts with the NIH. The request can be found at http://1.usa.gov/1GZ8X58. The deadline to submit comments is January 8, 2016.

On the Move?

Have you changed positions recently? Moved to a new lab? Please send a short announcement describing your comings and goings to CCurry@biophysics.org.

Starting in January 2016, the BPS Newsletter will include a report of BPS member career-related moves. Not moving yourself but know of a BPS member who is? Please send an email and Society staff will follow-up.

Grants and Opportunities

Collaborative Awards in Science

Objective: To promote the development of new ideas that can bring disciplines together to speed the pace of discovery.

Who Can Apply: Established investigators holding a research position with at least five years of postdoctoral experience.

Deadline: January 5, 2016

Website: www.wellcome.ac.uk/Funding/Biomedical-science/Funding-schemes/Science-collaborative-awards/index.htm

International Research Scientist Development Award (IRSDA) (K01)

Objective: To provide support and protected time to advanced postdoctoral US research scientists and recently appointed US junior faculty for an intensive, mentored research career development experience in a low- and/or middle-income country leading to an independently funded research career focused on global health.

Who Can Apply: Any candidate with the skills, knowledge, and resources necessary to carry out the proposed research as the Program Director/Principal Investigator (PD/PI). Candidates for this award must have a research or health-professional doctoral degree at least two years prior to the deadline.

Deadline: March 2, 2016

Website: http://grants.nih.gov/grants/guide/pa-files/PAR-15-291.html

Biophysical Journal

Know the Editors


Dennis Bray

Dennis Bray

University of Cambridge, UK
Editor, Systems Biophysics

Q: What is your area of research?

Our group is interested in the internal chemistry of living cells as a form of computation. Systems of protein and other molecules perform logical operations as silicon devices do, but with unique properties.

The set of biochemical reactions by which an *E. coli* bacterium detects and responds to distant sources of attractant or repellent molecules is probably the simplest and best understood example of a cell-signalling pathway. The pathway has been saturated genetically and all of its protein components have been isolated, measured biochemically, and their atomic structures determined. Our group has used detailed computer simulations, tied to experimental data, to ask how the pathway works as an integrated unit. We found that the physical location of molecular components within the molecular jungle of the cell interior is crucial for an understanding of their function. Signal amplification, for example, appears to depend on the propagation of protein conformations across clusters of receptors and associated molecules.

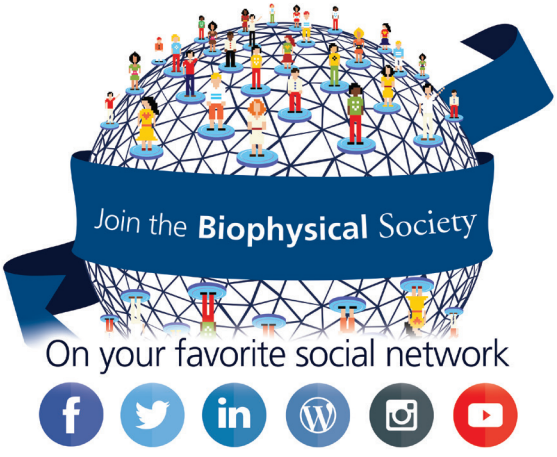
Because it is relatively simple and well documented, the *E. coli* chemotaxis pathway serves as a benchmark for our understanding of cells in general. How close are we to a complete understanding? Can we expect in the near future to build computer models that capture every essential aspect? Or are there features of living cells that are currently beyond our ability to resolve experimentally or reproduce on silicon chips? Questions such as these are increasingly pertinent in a world populated by intelligent machines.

Faster Turnaround for BJ Letters

Did you know that Letters are a mechanism for you to publish your hottest results? Biophysical Letters are for unusually urgent and significant research in various areas of biophysics. Therefore, the criteria for acceptance of a Letter are more stringent than for Regular (Research) Articles.

From this point forward, *Biophysical Journal* is committed to moving submitted Letters as quickly as possible from submission to publication. Because letters are only three pages in length, they will be subjected to shorter turnaround by reviewers. To ensure rapid handling, Letters will be allowed only one minor revision cycle; that is, submissions requiring significant revision will be rejected or authors will be encouraged to resubmit the work as a Regular Article. Accepted Letters will be published online within two weeks of receipt of the final source material.

Letters should be submitted using a template; the link to that template is provided here and on the Journal submission site: http://biophysj.msubmit.net/html/biophysj_manuscript_templates.html.



Biophysical Society Thematic Meeting

Liposomes, Exosomes, and Virosomes: From Modeling Complex Membrane Processes to Medical Diagnostics and Drug Delivery

Ascona, Switzerland | September 11–16, 2016

This meeting will cover recent developments for investigating biochemical reactions and networks at, in, and across membranes of artificial and cell membrane-derived vesicles. Themes the meeting will address include: imaging membrane proteins and their biochemical reactions by light- and electron-optical and force microscopy at small ensemble and single molecule levels; vesicles in cellular trafficking and processes; lipid and protein micro-/nano-domains in membranes; transmembrane signalling in cell-derived vesicles; modeling in-plane and trans-membrane reactions; vesicles as ultrasmall containers for (bio-)chemical reactions; vesicles as artificial cells and for synthetic and systems biology; extracellular vesicles (exosomes) as diagnostic biomarkers; viral envelopes (virosomes) and vesicles for targeted drug delivery; and membrane networks and tissue engineering.

The meeting will bring together experts in membrane biophysics, cell biology, synthetic biology, diagnostics, pharmacology, and pharmaceutical formulation and will appeal to academic scientists and researchers in pharmaceutical industry. Bringing together different approaches to this multidisciplinary topic will allow an intense scientific exchange of ideas and will highlight the field from different views. This will provide a basis for a molecular understanding of central questions about the use of cell-derived and model membranes, deliver the newest technical approaches, and stimulate further developments as well as future collaborations.

ORGANIZING COMMITTEE

Daniel Müller, Swiss Federal Institute of Technology Zurich, Switzerland
Lukas Tamm, University of Virginia, USA
Horst Vogel, Ecole Polytechnique Fédérale de Lausanne , Switzerland

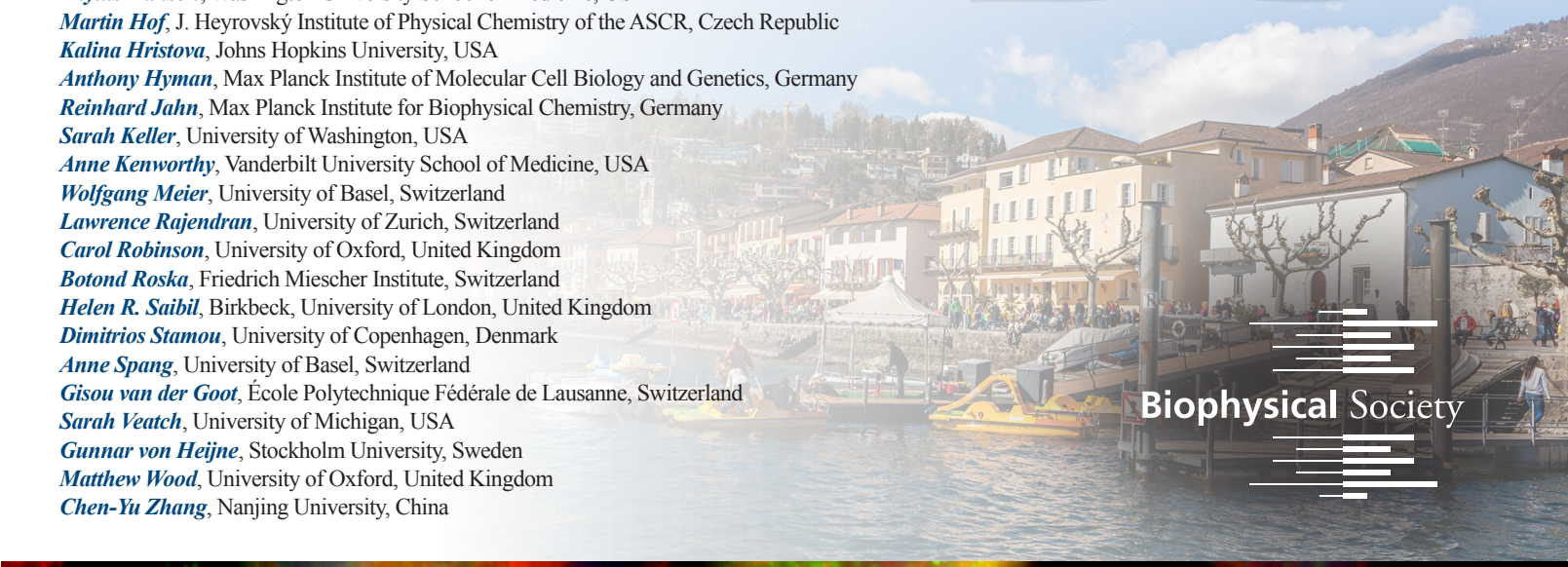
SPEAKERS

Wolfhard Almers, Oregon Health & Science University, USA
David Alsteens, Catholic University of Louvain, Belgium
Philippe Bastiaens, Max Planck Institute of Molecular Cell Biology and Genetics, Germany
Steven Boxer, Stanford University, USA
Petra Dittrich, ETH Zürich, Switzerland
Suzanne Eaton, Max Planck Institute of Molecular Cell Biology and Genetics, Germany
Donald Engelman, Yale University, USA
Christian Eggeling, University of Oxford, United Kingdom
Jay Groves, University of California, Berkley, USA
Phyllis Hanson, Washington University School of Medicine, USA
Martin Hof, J. Heyrovský Institute of Physical Chemistry of the ASCR, Czech Republic
Kalina Hristova, Johns Hopkins University, USA
Anthony Hyman, Max Planck Institute of Molecular Cell Biology and Genetics, Germany
Reinhard Jahn, Max Planck Institute for Biophysical Chemistry, Germany
Sarah Keller, University of Washington, USA
Anne Kenworthy, Vanderbilt University School of Medicine, USA
Wolfgang Meier, University of Basel, Switzerland
Lawrence Rajendran, University of Zurich, Switzerland
Carol Robinson, University of Oxford, United Kingdom
Botond Roska, Friedrich Miescher Institute, Switzerland
Helen R. Saibil, Birkbeck, University of London, United Kingdom
Dimitrios Stamou, University of Copenhagen, Denmark
Anne Spang, University of Basel, Switzerland
Gisou van der Goot, École Polytechnique Fédérale de Lausanne, Switzerland
Sarah Veatch, University of Michigan, USA
Gunnar von Heijne, Stockholm University, Sweden
Matthew Wood, University of Oxford, United Kingdom
Chen-Yu Zhang, Nanjing University, China

Deadlines

Abstract Submission
March 7, 2016

Early Registration
March 11, 2016



Biophysical Society

www.biophysics.org/**2016Switzerland**

Biophysical Society 60TH ANNUAL MEETING

LOS ANGELES, CALIFORNIA • FEBRUARY 27 – MARCH 2, 2016

Late Abstract Submissions

Deadline: January 13

Late abstracts for the 2016 BPS Annual Meeting in Los Angeles are now being accepted. All late abstracts will be posted online in a searchable format through the online itinerary planner and the meeting app. Late abstracts will be programmed each day of the meeting and grouped by topic to correspond with the topic presentations of abstracts submitted by the October 1 abstract deadline.

Student Volunteers

The Biophysical Society invites undergraduate and graduate students to volunteer time at the Annual Meeting in exchange for complimentary meeting registration. Volunteers must be Society members with registration fully paid and must be willing to volunteer for six hours during the meeting. To apply, please send an email to meetings@biophysics.org by December 20, 2015, with the following information: full name, cell phone number, and complete list of dates/times available. Those selected will have their registration refunded after the meeting.

Calling All Bloggers!

Deadline to apply: January 13

Interested in sharing your experiences at the Annual Meeting? Enjoy writing or interested in expanding your writing experience? BPS is looking for five to ten bloggers to share meeting tips, must-go-to events, the best local eateries, and how they are navigating the meeting more with the Society's blog readers. (Note: The blog has over 3500 readers during the Meeting!) Check out some of the latest entries, as well as posts from the 2015 meeting at https://biophysicalsociety.wordpress.com/category/annual-meeting-2015/. To learn more and submit your application, visit https://www.surveymonkey.com/r/bpsblog16.

Poster Printing

Looking for an easy way to have your poster printed and delivered directly to the Los Angeles Convention Center for onsite pickup? BPS is working with Tray Printing to simplify poster printing and allow you to pick up your poster onsite. Visit www.biophysics.org/2016meeting and click on 'Abstracts,' 'Poster Guidelines' for more information. A discount is available to those who submit their printing request on or before February 24, 2016.

Showcase your Program at the Graduate and Postdoc Institution Fair

Monday, February 9, 1:00 PM–3:00 PM

Does your institution have a biophysics program? Reserve a table today to showcase your program at the Graduate and Postdoctoral Institution Fair during the 2016 Annual Meeting. Representatives interested in reserving a table at this fair to display information about their institution's program(s) must complete a registration form and submit the registration fee by January 13. The institution registration form can be found online at http://www.biophysics.org/2016meeting/Program/ProfessionalDevelopmentNetworking/tabid/6630/Default.aspx.

Graduate and Postdoc Institution Fair, Baltimore, Maryland, 2015.

Over 3,500 Abstracts Programmed

Following the October 1 regular abstract deadline, members of the Program Committee and Council reviewed and sorted the over 3,500 submitted abstracts, which were programmed into 20 symposia, 4 workshops, 64 platforms, and 116 poster sessions. Over 650 posters will be presented each day of the meeting.

The Society would like to thank the Program Committee, Council, and the many other Society members who participate in the planning, reviewing, sorting, and programming each year. Their work ensures that the final program reflects the breadth of research areas in biophysics with as few programming conflicts as possible given the volume and richness of the scientific program. The 2016 Annual Meeting Program Committee members are *Vasanthi Jayaraman*, *Michael Ostap*, *Olga Boudker*, *Enrique De La Cruz*, *Karen Fleming*, *Samantha Harris*, *David Rueda*, *Antoine van Oijen*, and *Claudia Veigel*. Society members *Joseph Mindell*, *James Sellers*, *Frances Separovic*, *Ana Maria Soto*, and *Jin Zhang* also assisted *Vasanthi Jayaraman* and *Michael Ostap* with the programming this year.

Top: 2016 Program Chairs Mike Ostap and Vasanthi Jayaraman program sessions for the 2016 Annual Meeting. Bottom: Ana Maria Soto and Jim Sellers (left), Mike Ostap and Vasanthi Jayaraman (center), Zin Zhang and Frances Separovic (right) take a minute to pose in front of the programming board at Society headquarters where they programmed symposia and platform sessions for the 2016 Los Angeles meeting.

Need advice on navigating the two-body problem or getting the next promotion? Tips on managing your lab staff?

Join your peers at **PI to PI, A Wine and Cheese Mixer** to discuss these and other issues in an informal setting.

Sunday, February 28, 5:00 – 7:00 PM

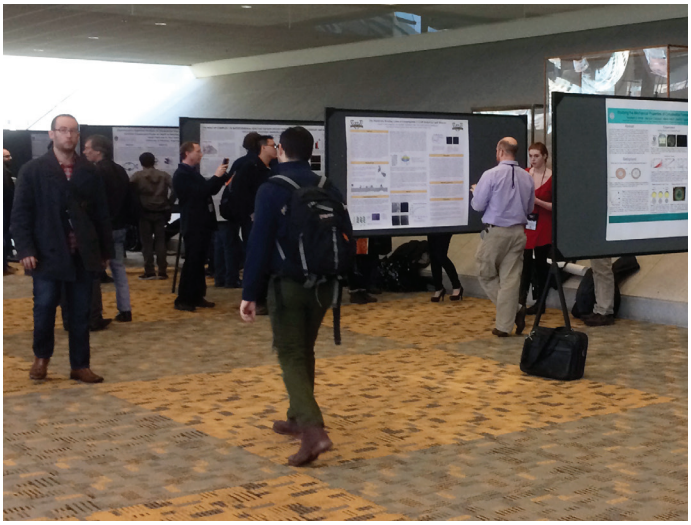
#BPS16

Additional details at www.biophysics.org/**2016meeting**

Education Events

Undergrad Mixer and Poster Fest
Saturday, February 27, 4:00 PM–5:00 PM

This social and scientific mixer for all undergraduate students attending the meeting is a must-attend event! Come meet other undergraduates and learn about their research projects. Undergraduates listed as coauthors on posters are welcome to practice their poster presentation in a less formal setting, even if they are not listed as the presenting author. For undergrads who will be presenting during the standard scientific sessions, the mixer provides an additional opportunity to hone presentation skills. Pre-registration is required to present. Organized by the Education Committee. Registration is available on the Annual Meeting website.



Undergrad Mixer and Poster Fest, Baltimore, Maryland, 2015.

Colleges in the Community Day
Sunday, February 28, 11:30 AM–5:00 PM

This full day of activities for local college students and their instructors kicks off with an Undergraduate Student Pizza "Breakfast" where participants will have an opportunity to socialize and network with their peers and members of the Biophysical Society's Education Committee in a fun and relaxed environment. Next, students will have a chance to win prizes during a scavenger hunt designed to promote learning and interaction with researchers. Undergraduates will also have a unique opportunity to ask graduate students, postdocs, and leading biophysicists about training and career opportunities in biophysics and related fields during this interactive Q & A session. Come prepared to find out about the course of study that biophysicists undertake, what it means to be a biophysicist, and how biophysicists make important discoveries. Finally, students will have access to an exclusive tour of the exhibit hall where they will view special demonstrations featuring cutting edge instrumentation producing breakthroughs in structural biology and other areas. The deadline to register is January 20. Visit the Annual Meeting website to register.

Teaching Science like We Do Science
Sunday, February 28, 2:00 PM–3:30 PM

This interactive workshop will provide participants with practical tools, tips, and open educational resources for bringing biophysics topics in the lab and in the classroom to life for undergraduate and graduate students. Small group discussions guided by Discipline-Based Education Research (DBER) recommendations will provide opportunities to apply the teaching tools presented to participants' educational practice.

Biophysics 101: Forster Resonance Energy Transfer
Monday, February 29, 1:30 PM–3:00 PM

Forster Resonance Energy Transfer (FRET) is widely used to study protein structure and protein in vitro and in vivo, in molecular ensembles and in single molecules. The utility of FRET comes from its ability to resolve distances that are smaller than the diffraction limit of light, in the 20- to 100-year Angstrom range. This year's Biophysics 101 session will include two lectures on FRET that highlight the power and the limitations of the technique.

Research Programs at PUIs: Founding, Establishing, and Maintaining a Research Laboratory
Tuesday, March 1, 12:00 PM–1:30 PM

This session, sponsored by the Education Committee, will provide guidance on founding, establishing, and maintaining a research laboratory at a Primarily Undergraduate Institution.

Career Center Schedule

Career development workshops and career counseling will be available in the Career Center from Saturday, February 27 through Tuesday, March 1. Joe Tringali and Alaina Levine will lead workshops throughout the meeting and will also provide résumé critiques.

Registration is required for the limited number of one-on-one career counseling sessions. Please sign up for these appointments onsite at the meeting beginning Saturday morning, February 27. These signups are on a first-come, first-served basis, one session per person. Please come prepared to your appointment with résumés, CVs, and any other appropriate materials.

Registration is not required for the workshops, but please show up on time!

Saturday, February 27

One-on-One Résumé and Career Counseling:

1:00PM – 2:40PM | 4:30 – 5:30PM

Workshop:

3:00PM – 4:00PM Networking: Optimizing Your Time at BPS 2016

Sunday, February 28

8:00AM – 8:30AM Career Q&A with Joe Tringali

Workshops:

9:00AM – 10:00AM Selling Yourself to the Life Sciences Industry

10:30AM – 11:30AM Leveraging Social Media for Networking and Career Advancement

12:00PM – 1:00PM Creation and Utilization of the Effective CV and Résumé

2:30PM – 3:30PM Networking for Nerds

4:00PM – 5:00PM Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)

One-on-One Résumé and Career Counseling:

8:30AM – 1:00PM | 2:30PM – 6:00PM

Monday, February 29

8:00AM – 8:30AM Career Q&A with Joe Tringali

Workshops:

10:00AM – 11:00AM Ten Tough Industrial Interview Questions (and Ten Pretty Good Responses)

11:30AM – 12:30PM Leveraging Social Media for Networking and Career Advancement

2:30PM – 3:30PM Selling Yourself to the Life Sciences Industry

4:00PM – 5:00PM Successfully Navigating the International Job Search

One-on-One Résumé and Career Counseling:

8:30AM – 10:00AM | 11:30AM – 12:30PM | 2:00PM – 5:20PM

Tuesday, March 1

8:00AM – 8:30AM Career Q&A with Joe Tringali

Workshops:

9:30AM – 10:30AM Career Planning and Job Searching for Science Professionals: Academic Opportunities

2:30AM – 3:30PM Creation and Utilization of the Effective CV and Résumé

One-on-One Résumé and Career Counseling:

8:00AM – 9:00AM | 11:00AM – 1:00PM | 4:00PM – 5:00PM

Subgroups

BIV

We are looking forward to the 60th Annual Meeting in Los Angeles, with a BIV Subgroup Symposium themed *Translation Dynamics and Nascent Proteome Behavior*. In recent years, new approaches have revealed exciting regulatory and mechanistic aspects of how proteins are being synthesized, how they fold into native structures, how they are exported from the cytosol, and how these processes work together to faithfully produce functional proteins. Approaches ranging from molecular dynamics simulations to single-molecule manipulations to translatome-wide analyses have been developed to look at the nascent proteome from all different angles.

We have lined up a terrific group of speakers that covers a wide range of exciting recent breakthroughs in this field: *Jonathan Weissman*,University of California, San Francisco, will present recent results using ribosome profiling, one of the most powerful approaches for studying cell-wide translation that has been developed over the last years. *Helmut Grubmüller*, Max Planck Institute for Biophysical Chemistry, Göttingen, will talk about the intricate dynamics that enable ribosomes to function. *Jody Puglisi*, Stanford University Medical School, has developed single-molecule approaches for following single ribosomes in real time as they translate messages and synthesize polypeptides. *Thomas Miller*, California Institute of Technology, will discuss molecular-level insights into protein translocation across membranes obtained from computational studies. *Gunnar von Heijne*, Stockholm University, is utilizing special protein sequences to study translocation of newly synthesized proteins across lipid bilayers. *Ken Dill,* Stonybrook University, is going to provide a theoretical perspective on proteome behavior.

These speakers, together with two presenters that will be selected from among graduate students and postdocs based on poster abstracts, will offer a broad and in-depth perspective on this exciting area of in vivo protein biophysics.

See you soon in sunny LA!

— *Christian Kaiser* and *Ed O'Brien*
Program Co-Chairs, BIV

MEMBER BENEFIT

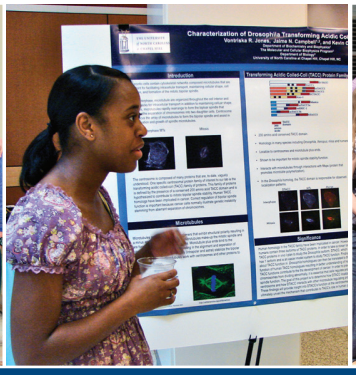
Did you know the Society currently has 14 subgroups that as a member you are eligible to join?

Each subgroup is a community within biophysics that meets and interacts around a specific scientific discipline, focus, or technique. Subgroups hold symposia each year on Subgroup Saturday, the first day of the Biophysical Society's Annual Meeting. Check out the program for Subgroup Saturday 2016.

Subgroups provide opportunities to grow and network within your area of interest and provide a forum for you to become part of a more intimate scientific community.

- Bioenergetics
- Bioengineering
- Biological Fluorescence
- Biopolymers in vivo
- Cryo-EM
- Exocytosis & Endocytosis
- Intrinsically Disordered Proteins
- Mechanobiology
- Membrane Biophysics
- Membrane Structure & Assembly
- Molecular Biophysics
- Motility
- Nanoscale Biophysics
- Permeation & Transport

To learn more about subgroups or to join one today, visit biophysics.org/subgroups



Biophysical Society

2016 Summer Research Program in Biophysics

May 10 – July 29, 2016 | University of North Carolina at Chapel Hill

Priority Application Deadline: February 15, 2016

Applications accepted past deadline on a rolling basis, subject to space availability

Interested in interdisciplinary science? Want to work in fast growing area of biomedical research? Looking to get some hands-on lab experience this summer? Check out the Summer Course in Biophysics, an 11 week course for for undergraduate minority students, disadvantaged students, and students with disabilities at the University of North Carolina, Chapel Hill! Course expenses, travel costs, meals, and housing are covered.

Course includes:

- Lectures with UNC faculty members and seminars with visiting professors from graduate programs across the country
- Mentored research experience
- Team-building activities and field trips
- Professional Development Opportunities
- GRE Preparation

Prerequisites:

- Studying quantitative science: chemistry, physics, biochemistry, and/or computer science
- 2 semesters of biology
- 2 semesters of calculus-level physics
- 3.0 cumulative or higher GPA in science courses

See what past students have to say about the Summer Research Program!

"…this has been the most useful and wonderful summer of my college career. Not only have I learned academically, I have built multiple bridges that can only benefit me in the future."

"It has influenced me to take an additional science course at my university as well as has helped me create ideas for my senior project… the environment of the course created learning."

"I learned new lab techniques as well as worked on the project independently. I was able to complete my own experiments and when I had questions or hit a snag, my mentor was available to help."

For more information or to recommend a student, email Daniel McNulty: **dmcnulty@biophysics.org**, or visit **biophysics.org**.

Society Donors

The Society gratefully acknowledges the individuals who made donations to Society programs in 2015. Donations allow for the growth each year in student and international travel awards, public affairs involvement, Society Awards, and other outreach activities that could not otherwise be undertaken. The names of the Society donors are listed below.

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UPCOMING EVENTS

February

February 6-7

Reactive Oxygen Species in Health and Disease
Ventura, California
https://www.grc.org/programs.aspx?id=16612

February 7-11

Stromal Cells in Immunity
Keystone, Colorado
http://www.keystonesymposia.org/index.cfm?e=web.Meeting.Program&meetingid=1405

March

March 6-10

Stem Cells and Cancer
Breckenridge, Colorado
http://www.keystonesymposia.org/index.cfm?e=web.Meeting.Program&meetingid=1373

March 20-25

Connecting Antibody Biology, Structure and Function to Future Applications
Galveston, Texas
https://www.grc.org/programs.aspx?id=14500

April

April 2-6

Modern Phenotypic Drug Discovery: Defining the Path Forward
Big Sky, Montana
http://www.keystonesymposia.org/index.cfm?e=web.Meeting.Program&meetingid=1387

April 25

Advancing Science Through Diversity
Arlington, Virginia
http://www.nsf.gov/events/event_summ.jsp?cntn_id=136075&org=NSF

May

May 2-5

Molecular Mechanisms in the Synapse: Experiments and Modeling
Ashburn, Virginia
https://www.janelia.org/you-janelia/conferences/molecular-mechanisms-synapse-experiments-and-modeling

May 23

Translation of Fundamental Chemistry to Materials Designed for Advanced Applications
Arlington, Virginia
http://www.nsf.gov/events/event_summ.jsp?cntn_id=136075&org=NSF

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