Biophysical Society NEVSLETTER October 201

2012 Society Fellows Named

The Biophysical Society congratulates the seven recipients of the 2012 Fellow of the Biophysical Society Award. This award honors the Society's distinguished members who have demonstrated excellence in science, contributed to the expansion of the field of biophysics, and supported the Biophysical Society. The 2012 Fellows will be honored at the 56th Annual Meeting in San Diego, California, in February.

56th Annual Meeting

February 25–29, 2012 San Diego, California

Deadlines

December 5, 2011

Student Housing

January 8, 2012

Early Registration

Late Abstracts

January 27, 2012

Childcare Pre-Registration

Hotel Reservations



Carlos Bustamante, University of California, Berkeley, for his impact on the field of single molecule biology through the use of atomic force microscopy and the development of magnetic tweezers and optical tweezers, which has provided a unique insight into protein and RNA folding and the operation of molecular motors.

José Onuchic, University of California, San Diego, for developing the widely recognized and highly regarded theory of energy landscapes and funnels that directs protein folding.



2 4 7

Tamar Schlick, New York University, for her research developing and applying novel multidisciplinary computational and modeling techniques to relate the structure of macromolecules with their cellular functions.



Klaus Schulten, University of Illinois at Urbana-Champaign, for his groundbreaking effort to develop computational molecular biology as an important tool to solve problems in biophysics.



Frances Separovic, University of Melbourne, for her pioneering research using solid-state NMR techniques to study the structure and dynamics of membrane-associated polypeptides.



Gregory Voth, University of Chicago, for his transformative advances in the field of biophysics from the development and application of new physically-based computational methods.



Toshio Yanagida, Osaka University, for his critical research on molecular motors using TIRF microscopy to study dynamics of single molecule fluorescence.

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Biophysicist in Profile

QIANG LÜ

"I was always fascinated by two things as a kid: stars in the sky and trains on the tracks," says Qiang Lü, Vice President of Biology at WuXi AppTec, a global pharmaceutical, biopharmaceutical, and medical device outsourcing company based in China and the United States. "Basically I was on my way to becoming a pure physicist." In primary school, however, his father's influence began to take hold. An engineer at an electronics company, he introduced Lü to the joys of tinkering with gadgets such as radios, televisions, and audio amplifiers. Lü's mother, a nurse, also encouraged Lü's interest in science and technology. "[My parents] always wanted me to become a scientist, without alternatives," says Lü. They sent him to a top middle school in Chengdu, capital of Sichuan Province in the southwest of China, where he received a rigorous education, especially in math. "I thought I spent so much time in math that I might as well become a mathematician," Lü recalls. Instead, he chose biochemistry. "A few months before the college entrance exams, when I browsed around college textbooks, I fell into biochemistry," he says. He went on to Peking University to pursue this newfound passion.

Lü liked biochemistry so much that he decided to continue on to graduate school. In his first year as a PhD student at Brandeis University, he was introduced to biophysics in *Chris Miller's* lab, where electrophysiology

In my view, good science is something that looks beautiful *and* makes a difference."

–QIANG LÜ

setups reignited his childhood passion for gadgets. After creating his first single channel recording, Lü was struck by the "simplicity, and the beauty that comes with it," he says. His advisor made a similarly strong impression on Lü. "Chris Miller not only has great insight into biophysics but more

impressively, as a former high school teacher, he could present it in an eloquent and elegant way," says Lü. *Xiaohua Wu*, a fellow graduate student, now Associate Professor in the Department of Molecular and Experimental Medicine at Scripps Research Institute, remembers what it was like to be "a group of newcomers who helped each other to adjust to the new life in America," she says, and that Lü adjusted extremely well. "Qiang was an extremely intelligent and diligent student and did very well in both course work and lab research," she says. "He is also very resourceful and knows what is around and what to build on."

After completing his doctorate, Lü accepted a postdoctoral position in *Kathleen Dunlap's* lab at Tufts Medical School, continuing his work on electrophysiology there. "He bravely took on the project of cloning several variants of a gene encoding the voltage-gated calcium channel that is re-

sponsible for transmitter release from avian sensory neurons," Dunlap says—a great help, she says, as molecular biology was not her area of expertise. "My lab had, for two decades pre-Qiang, studied the G protein-dependent modulation of this channel and its control of synaptic transmission, without knowledge of its structure," she says. "Qiang's successful cloning adventure was a key step in identifying the molecular underpinnings of the differential modulation and helped the field at large to begin to link structural features of the calcium channel family to their functional consequences on synaptic transmission and neuronal excitability."

Lü carried the experience gained during his postdoc to Wyeth Research in Princeton, New Jersey, and, a few years later, to Novartis Institutes for BioMedical Research, Inc., in Cambridge, Massachusetts, taking a leadership role in the Preclinical Safety Profiling division. He worked with his Unit Head, *Laszlo Urban*, on developing automated ion channel assays dedicated to cardiac safety. Lü worked on projects such as developing an electrophysiology panel for safety assessment for hERG, Nav1.5, and Cav1.2 as well as supervising a cellular toxicology group that investigated hepatotoxic and genotoxic effects of small molecules. "Qiang is an excellent leader with good scientific background, outstanding organizational skills, and a can-do mentality," says Urban. "He has great diplomatic skills; he can communicate difficult matters with charm while being in command."

Today, Qiang uses all of these strengths abundantly in his management and strategy roles at WuXi Apptec. He focuses on research areas such as neuroscience and pain, and oversees the company's Discovery Technology platform. "WuXi Apptec is a legendary company that transformed the drug discovery paradigm through innovation and process optimization, taking advantages of large-scale talent and other resources, both preclinical and clinical, in China," says Lü. Even within the most progressive companies, there are always challenges to be met. Some of Lü's involve not only how to manage scientists, an art that differs significantly between the US and China, but more personal challenges too, like adapting to each change in his career, and knowing when to look for a new opportunity. "Every change is a challenge, but comes with great opportunities, many of which can be obtained through proactive rather than reactive movement." After many years working in industry, Lü is absolutely sure of two things: "Change is something that never changes, and



WuXi biology colleagues on a retreat in Zhejiang Province in China. From left: Xinsheng Chen, Qiang Lu, Henry Lu, Chichang Chan, and James Wu.

you will never get bored!" he says. Not only does Lü never get bored, he rarely takes a break—though he admits that sitting down to enjoy some classical music or going for a hike once in awhile would be nice.

Meanwhile, Lü still has big plans for the part he'll play in the future of drug discovery. He wants to "bridge drug discovery in the US and in China, transforming pharmaceutical industry both in Western countries and in China-different patients, different markets," he says. He was admitted to the highly competitive Recruitment Program of Global Experts, or 1,000-Talent Plan, a career-building initiative to attract top scientists to carry out leading technologies research and develop high-tech industries in China. He also wants to teach, including teaching in an industry setting, he says, and hopes to inspire young Chinese students to study science and work in drug discovery. "At this stage, when I am as old as Chris was when I was his graduate student, the most rewarding feeling is to see the young faces around me in China gaining more and more experience and enjoying more and more about drug discovery," he says.

Lü himself was once one of these students. He joined the Biophysical Society in 1992 as a graduate student, and has long since found a home there. "Being a member I feel I belong to a family where I grew up," he says. Today, he regularly attends the Annual Meeting, and frequently hires scientists aspiring to industry careers through the Society's Career Center. "The Annual Meeting is a great opportunity to reunite with old friends and network with new friends," he says.

Whatever the future holds for drug discovery, Lü remains focused on what's important. "In my view, good science is something that looks beautiful *and* makes a difference," Lü says. "While I am unable to make cutting-edge basic discoveries, I am confident that I can contribute in its application to drug discovery, and to bring more life to the science as well as to the patients."

56th Annual Meeting SAN DIEGO, CALIFORNIA | FEBRUARY 25–29, 2012

What meeting attendees are saying about student opportunites:

"As a student at the meeting, I saw so many great talks both in and out of my field. These speakers really inspired me to take my own research in new and innovative directions that I would not have otherwise tried."

—Early Career Member

Student Opportunities

The Biophysical Society welcomes undergraduate and graduate students to the 56th Annual Meeting in San Diego! In addition to regularly scheduled scientific sessions, BPS provides multi-level, student-specific programming so students can get the most out of their meeting experience. These activities provide opportunities to network with faculty members from around the world, discuss future career goals, and see what research other students are conducting.

Undergraduate Student Symposium

Sunday, February 26, 11:30 AM-1:00 PM

Undergraduate and high school students looking for an introduction to the field of biophysics should look no further than this symposium, where student speakers will provide tips and advice to attendees pursuing an academic path in biophysics, and a panel of postdoctoral fellows will engage the audience in discussion on the exciting future of biophysics research. The

2012 Emily M. Gray Awardees, *Ken Dill* and *Sarina Bromberg;* will also speak at this event, which is sponsored by the Education Committee.





Visit the Student and Faculty Activities page on the Annual Meeting website for detailed information on these events and more by using the QR code to the left.

Graduate & Postdoc Institution Fair

Sunday, February 26, 1:00-3:00 PM

Thinking about applying to a graduate program, or looking for a research or fellowship opportunity? Check out over 40 different institutions at this Grad & Postdoc Fair! Representatives from colleges and universities with graduate programs in biophysics will be on hand to answer questions, distribute literature, and talk about the different opportunities they have available for students and postdocs.

Graduate Student Breakfast

Supported by the Burroughs Wellcome Fund

Monday, February 27, 7:30-8:30 AM

Kick off your morning with the Early Careers Committee! Committee members will be available to answer questions about anything from transitioning to a postdoc to using your degree in government or industry. They'll also be on hand to tell you about the resources available to you as a Student Member of the Society. This popular breakfast is limited to the first 100 attendees, so be sure to arrive early!

Undergraduate Student Breakfast at Noon

Monday, February 27, 12:00-1:00 PM

Join the Education Committee for a studentfriendly "breakfast" at noon! At this unique networking event, get your questions answered about pursuing a graduate program, meet other undergraduates interested in biophysics, and listen to an industry representative discuss different career paths, all over a few slices of pizza! Space is limited to the first 100 attendees.

Stay Connected

Be sure to get the latest news and updates on the Annual Meeting and other Society news by following the Biophysical Society on Twitter, Facebook, and the official BPS Blog!



Twitter: @BiophysicalSoc



Facebook: facebook.com/ biophysicalsociety



Blog: biophysicalsociety.wordpress.com

Late Abstract Deadline

January 8, 2012

Late abstracts for the 2012 BPS Annual Meeting in San Diego are now being accepted. Although late abstracts will not be published, they will be posted online in a searchable format through the online itinerary planner, available in late January at www.biophysics.org.

Student Housing

The Biophysical Society has reserved space at 500 West in San Diego solely for undergraduate and graduate student members attending the Annual Meeting.



500 West in San Diego.

Rooms are limited, so secure your reservations today to ensure the best rate possible. Go to http://www.biophysics.org/2012meeting/AccommodationsTravel/StudentHousing for complete information. "The experience was amazing, and I was able to learn a great deal from both the oral presentations and the poster sessions, as well as interact with professors, researchers, and students from across the different areas of biophysics...to stay informed on what is happening in this field."

Biophysical Society

-Student Member

"One of the most valuable things I remember from my meeting experience was interacting with the big names in my field. I not only met them, but I was able to discuss my research with them—the feedback they provided was priceless!"

—Early Career Member

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Public Affairs

Study Identifies Funding Gaps in Black Researchers' Success Rates

According to an NIH-commissioned study published in *Science*, black applicants from 2000-2006 were 10 percentage points less likely than white applicants to be awarded research project grants from the NIH after controlling for factors that influence the likelihood of a grant award. In an accompanying commentary, NIH Director Collins, and Principal Deputy Director and chair of the NIH Diversity Taskforce *Lawrence Tabak*, call the findings unacceptable and commit to immediate action by the NIH.

"The strength of the US scientific enterprise depends upon our ability to recruit and retain the brightest minds, regardless of race or ethnicity. This study shows that we still have a long way to go."

-FRANCIS COLLINS, NIH DIRECTOR

"NIH commissioned this study because we want to learn more about the challenges facing the scientific community and address them head on. The results of this study are disturbing and disheartening, and we are committed to taking action," said Collins in a statement released by NIH. "The strength of the US scientific enterprise depends upon our ability to recruit and retain the brightest minds, regardless of race or ethnicity. This study shows that we still have a long way to go. It is imperative that NIH and its partners in the biomedical research community take decisive steps to identify causes and implement remedies. NIH is already moving forward with a framework for action." NIH initiated the study in 2008 to determine if researchers of different races and ethnicities with similar research records and affiliations had similar likelihoods of being awarded a new NIH research project grant, known as a Type 1 R01. The study controlled for education, citizenship, country of origin, training, employer characteristics, prior research awards, and publication record. Although Asian applicants also were less likely to receive an award than white applicants, those differences disappeared when the sample was limited to US citizens. Award probability for Hispanic applicants did not differ significantly from white applicants.

The study is part of a larger effort by NIH to examine and improve the diversity of its funded biomedical research workforce. Diversity includes race, ethnicity, gender, age, disabilities, and socioeconomic status

Also of concern to NIH is the low number of applications for NIH R01 grants from nonwhite applicants. Of the 40,069 individual applicants included in the 2000 to 2006 study, 1.5% self-identified as black or African-American (598), 3.3% as Hispanic (1,319), 13.5% as Asian (5,402), 71% as white (28,456), and 11% as other/unknown. These figures are consistent with data showing that the number of underrepresented populations in the fields of science and medicine remains small.

"Recruiting the best minds to biomedical research is a shared responsibility," said Tabak. "It's up to the academic community to foster and support inquisitive minds and a love of science in people of all races, ethnicities, genders, and socioeconomic backgrounds. And it's up to NIH to ensure that everyone enjoys the same opportunity for NIH funding to succeed in their scientific endeavors."

NIH has developed and is implementing a framework for action to:

Increase the number of early career reviewers including those from underrepresented populations;

- Examine the grant review process for bias and develop interventions as well as improve support for grant applicants; and
- Gather expert advice on additional action steps.

To learn more about this study and to provide additional suggestions about causes and remedies, visit thttp://www.nih.gov/about/director/08182011_statement_diversity.html.

NIH Investigators Face Tightened Conflict of Interest Rules

In August, the US Department of Health and Human Services issued new rules regarding conflict of interest for investigators funded by the National Institutes of Health (NIH). The purpose of the rules is to provide a framework for identifying, managing, and ultimately avoiding financial conflicts of interest among NIH investigators in order to ensure the objectivity and integrity of the research process.

"The NIH is committed to safeguarding the public's trust in federally supported research that is conducted with the highest scientific and ethical standards," said NIH Director *Francis Collins* in a press release. "Strengthening key provisions of the regulations with added transparency will send a clear message that NIH is committed to promoting objectivity in the research it funds."

Major changes to the regulations include the definition of significant financial interest (SFI), the extent of investigator disclosure, the information reported to the Public Health Service (PHS) awarding component, the information made accessible to the public, and investigator training. For example, the revised regulations:

• Require investigators to disclose to their institutions all of their significant finan-

cial interests related to their institutional responsibilities;

- Lower the monetary threshold at which significant financial interests require disclosure, generally from \$10,000 to \$5,000;
- Require institutions to report to the PHS awarding component additional information on identified financial conflicts of interest and how they are being managed;
- Require institutions to make certain information accessible to the public concerning identified SFIs held by senior/key personnel; and
- Require investigators to complete training related to the regulations and their institution's financial conflict of interest policy.

Additional details about the major changes to the regulations can be found at: http://grants. nih.gov/grants/FCOI_Final_Rule_inspection_ Desk.pdf.

The regulations will be implemented no later than 365 calendar days after publication of the final rule in the Federal Register.

Scarpa Steps Down, Nakamura Named Acting Director for NIH Center for Scientific Review

Richard Nakamura became the Acting Director for NIH's Center for Scientific Review (CSR) on September 18, taking the place of *Toni Scarpa*, who retired as Director at the beginning of September. CSR receives all and reviews most of the over 80,000 grant applications researchers send to the NIH each year.

Nakamura has had a 35-year tenure at the National Institute of Mental Health, where he has

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served as both Scientific Director and Deputy Director, and he served as Acting Director from 2001 to 2002.

Scarpa previously was a professor and chair of the Department of Physiology and Biophysics at Case Western Reserve University in Cleveland. He also served as Treasurer of the Biophysical Society from 1999-2003 and was a Society member for 28 years.

NSF Names New Biology Directorate Leader

Starting on September 6, *John C. Wingfield* assumed the position of Assistant Director for the National Science Foundation's (NSF) Directorate for Biological Sciences. Wingfield was appointed by NSF Director *Subra Suresh* and takes over the position held by *Joann Roskoski*, who served as Acting Assistant Director for biological sciences since October 2009. The Directorate for Biological Sciences provides support for research to advance understanding the underlying principles and mechanisms governing life.

"All the BIO divisions have strong interfaces with each other as well as with the other directorates and offices across NSF," said Wingfield. "I feel it is the responsibility of the Assistant Director to pull together the incredibly diverse programs in BIO to advance our basic understanding of life that will contribute to human society in so many ways."

Wingfield, an environmental endocrinologist, joined NSF as division director of Integrative Organismal Systems in September 2010 from the University of California, Davis. He received his PhD in Zoology and Comparative Endocrinology from University College of North Wales, UK in 1973.



science and engineering news that matters

The Biophysical Society is a proud partner of Discoveries and Breakthroughs Inside Science (DBIS), a syndicated science news service that features 90-second science news stories covering all areas of science.

The purpose of these segments is to increase the awareness and appreciation of the role that science research and researchers play in the general public's daily life. Each month, these segments are viewed by over 52 million people in the United States and 200 million people internationally.

Have an idea for a story? BPS members can submit story ideas and view past stories at http://www.aip.org/dbis/BIOPHYS/



First *Biophysical Journal* Webinar a Success

Biophysical Journal held its first webinar, *Super-resolution: redefining light microscopy for the 21st century*, in collaboration with Cell Press and Leica Microsystems on September 8. More than 2,000 people registered for the webinar, and nearly 1,000 joined the webinar on the day of the event.



Stephen Hell presented this image, by Willig, Urban, Nägerl, Hell, Biophys J (2011), as part of *Biophysical Journal's* webinar.

The event, moderated by *David Wolf*, Photonics Radiation Monitoring Devices, included speakers *Stefan Hell*, German Cancer Research Center; *Hari Shroff*, National Institutes of Health; and *Paul R. Selvin*, University of Illinois at Urbana-Champaign. Participants asked many questions at the end of the session, more than could be addressed in the allotted time. To view the webinar, visit http://mediazone.brighttalk. com/event/ReedElsevier/00003e3b9e-5329intro.

Submit and Save

As a Society member you receive discounted publication charges when publishing in *Biophyiscal Journal* and free online color figures. Visit www.biophysj.org to submit your research article today.

Members in the News



Stefan Hell of the Max Planck Institute for Biophysical Chemistry and Society member since 1998 received the 2011 Korber European Science Award.



Arthur Horwich of Yale University and Society member since 2002 received the 2011 Albert Lasker Basic Medical Research Award.



Christine Payne of Georgia Institute of Technology and Society member since 2004 received a Defense Advanced Research Projects Agency (DARPA) Young Faculty Award.



2012 Networking Event Grant Deadline

Don't forget: Applications for funding for a 2012 local networking event are due on October 14! Visit the Society website for details. To submit your application, go to http://www. surveymonkey.com/s/2012MiniGrant.

Subgroups

IDP Pedagogy, Part II

This article is the second in a series of articles illustrating how IDPs are taught across the discipline. Look for subsequent installments, as well as a continuation of this article in future Newsletters.

Richard Kriwacki, St. Jude Children's Research Hospital, routinely teaches structural biology. He interviewed *Ryan Hoffman*, IDP Subgroup Postdoctoral Representative, focusing on expository strategies.

How do you introduce students to IDPs?

It depends on the level of the students. I lecture to [University of Tennessee] health science students; they're graduate students primarily. They're oftentimes incomplete in terms of knowledge of protein structure, and concepts relating to structure-function relationships. I teach anywhere from a half-dozen to thirty students. I have to tailor my lectures to the whole group, and not teach to the top 5%. I basically have to explain how they should be thinking about the physical properties of proteins and the functions they perform. I have to teach them the importance of knowing where the atoms are located in a structure and what the importance of that knowledge is in the context of enzyme function, protein-protein interactions, functional mechanisms, and so on. At the same time that I'm teaching these concepts in the context of folded proteins, I also introduce examples where dynamics are critical for function. Sometimes I build a bridge from folded proteins to dynamics within folded proteins and then move to more dramatic examples of dynamics that are involved in function.

So you primarily motivate IDPs through their biological relevance?

I don't introduce the topic [of] IDPs by showing them an ensemble representation of protein structure. I start with function. In the case of p27, I start with, "p27 is a potent inhibitor of the cell cycle. But the kinases that are bound by p27 can be made partially active through post-translational modifications to p27, and p27 participates in a signaling cascade that leads to its eventual ubiquitination and degradation. This sounds really cool. How do you think this works?" So then I'll show them a movie illustrating p27's dynamic structure in isolation and I'll say, "We've measured this. This movie is the result of MD and it's in agreement with physical measurements of real samples by NMR. So this is the way the protein looks. How is this related to its kinase regulatory function?" Then I'll show them a cartoon that illustrates what we understand about the sequential folding upon binding mechanism. Then I'll make a few comments about how binding first to a cyclin is important for mediating specificity for particular cyclin-kinase complexes and that's what this aspect of the mechanism has evolved to do. So I'm constantly making references to the biology and disease-relatedness to keep their attention.

You mostly use examples of biological relevance from your own work?

I often use p53 to illustrate [IDP structure-function] because most of the students are familiar with the name and it's kind of attention-getting, but I very often use examples from our own work. In particular, [our] best-studied protein is p27 and it exhibits a lot of cool relationships between dynamics and function. And since we've published in some good journals, oftentimes I'll say to them, "What I'm about to present to you may seem sort of bizarre; you've never heard of this before. We've been able to publish this work in [top] journals. We're not just making this up; other people think this is important." I find I'm fairly successful even with what you may call a somewhat naive student audience based on exam question grading, getting across to them

the importance of flexibility within proteins, [detailed in] a few case studies where it can be seen that function is dependent on flexibility and dynamics.

This interview will be continued in the next installment of IDP Pedagogy.

-Jianhan Chen, IDP Secretary/Treasurer

Biopolymers in vivo

Based on BIV's recommendation, the BPS has added two new abstract categories to the 2012 BPS conference program:

- 1Q Protein Biophysics In Vivo
- 2I Nucleic Acid Biophysics In Vivo

If you did not submit an abstract in time for the October 2 deadline, we encourage you to submit a late abstract!

— Joan-Emma Shea, BIV, Member-at-Large

Annual Meeting Subgroup Sessions

Look for a full listing of Subgroup Sessions that will be held during the Annual Meeting in San Diego on February 25, 2012, in the next issue of the Newsletter or go to www.biophysics. org/2012meeting for continuous updates.

Subgroups holding sessions include: Bioenergetics, Biological Fluorescence, Biopolymers in vivo, Exocytosis & Endocytosis, Intrinsically Disordered Proteins, Membrane Biophysics, Membrane Structure & Assembly, Molecular Biophysics, Motility, Nanoscale Biophysics, and Permeation & Transport. Looking for an interdisciplinary summer research opportunity for undergraduates?

Check out the Summer Course in Biophysics!

Visit BPS at these upcoming meetings:

SACNAS October 27–30, San Jose, CA Booth 1216

ABRCMS November 9–12, St. Louis, MS Booth 326



The Biophysical Society Summer Course in Biophysics: Case Studies in the Physics of Life is funded by The National Institute of General Medical Sciences, National Institutes of Health. [T36-GM075791]

www.biophysics.org



Grants and Opportunities

Name: Alan T. Waterman Award

Objective: To recognize talent, creativity, and influence of a singular young researcher. Established in 1975 to commemorate the Foundation's first Director, the Waterman Award is the National Science Foundation's highest honor for promising, early-career, researchers.

Nomination Deadline: October 31, 2011

Website: https://www.fastlane.nsf.gov/honawards/watermanHome.do

Name: Collaborative Research in Computational Neuroscience (CRCNS)

Objective: To support collaborative activities that will advance the understanding of nervous system structure and function, mechanisms underlying nervous system disorders, and computational strategies used by the nervous system.

Proposal Deadline: November 2, 2011

Website: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5147&org=NSF&sel_ org=NSF&from=fund

Name: Vannevar Bush Award

Objective: The Vannevar Bush Award honors truly exceptional lifelong leaders in science and technology who have made substantial contributions to the welfare of the Nation through public service activities in science, technology, and public policy.

Nomination Deadline: November 2, 2011

Website: http://www.nsf.gov/nsb/awards/bush.jsp

Name: National Science Board Public Service Award

Objective: The National Science Board Public Service Award honors individuals and groups that have made substantial contributions to increasing public understanding of science and engineering in the United States. These contributions may be in a wide variety of areas that have the potential of contributing to public understanding of and appreciation for science and engineering – including mass media, education and/or training programs, and entertainment.

Nomination Deadline: November 2, 2011

Website: http://www.nsf.gov/nsb/awards/public.jsp



Student Spotlight

Kevin Hartman University of Michigan Ramamoorthy Lab

What initially attracted you to biophysics?

I was interested in the interface between the three main areas of science, chemistry, physics, and biology. In the field of biophysics, I am able to study and understand the physics and chemistry, in real-world applications in the areas of health and biology.

What is your current research project?

My current work focuses on the amyloidogenic peptides amylin and prostatic acid phosphatase, which relate to type II diabetes and HIV transmission, respectively. I have characterized these peptides' interactions with model membrane systems by observing their lipid aggregation, fusion, and membrane disruptive abilities. My current focus is on understanding the kinetics and mechanism of amyloid fiber formation. I am looking at specific physiological compounds that either inhibit or enhance the kinetics of fiber formation, and trying to determine, what changes in the body might cause these peptides to undergo aggregation and enhance their respective diseases.

What do you hope to do after graduation?

After graduation the choice I am facing is to either move into the industrial sector or stay in the field of academia. I am currently leaning towards moving into industry, in either the chemical or pharmaceutical fields, but am still open to pursuing an academic career.

Tell us about a great experience or opportunity you've had in the past year.

This year, I got the opportunity to be a student mentor to an undergraduate student in the lab. In doing so, I was able to get a feel for the other side of the academic world as I planned experiments and pieced together the story of the concerned project, while also guiding the student through the challenges of working in the lab.

Why did you join the Biophysical Society?

I had a terrific opportunity to attend the 53rd Biophysical Society Meeting in Boston. This was a great experience and it kept me informed on what is happening in this field...I plan on continuing [my membership] throughout my scientific career.

If you were not a biophysicist, what would you be?

As a chemist by training and a biophysicist in practice, had I not ventured into the science field, I always had the inclination to become a chef. I currently tend to cook a great deal, and have in the past, thought of pursuing this further.

Ayyalusamy Ramamoorthy, Hartman's PI, says:

"Based on my interaction with him so far in the lab, I can summarize that Kevin is an outstanding student with an exceptional commitment to research. He works very hard and is always hungry to learn a great deal of bioanalytical/biophysical aspects of membrane-related and amyloid-related biological problems. He has presented his research in the Biophysical Society conferences, given several excellent group-meeting presentations, and is a team player. I am sure that he will continue to accomplish a great deal of work as a graduate student and develop an outstanding thesis from these projects."

Suggest a Student to Spotlight

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



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UPCOMING EVENTS

December

December 1-3, 2011

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

December 11-15, 2011

Drug Discovery - Tropical Diseases Conference *Cancun, Mexico* http://www.zingconferences. com/index.cfm?page=conference &intConferenceID=91

January

January 22-27, 2012

Cardiovascular Development and Regeneration *Taos, New Mexico* http://www.keystonesymposia. org/meetings/viewMeetings. cfm?MeetingID=1138

January 30–31, 2012

10th Cytokines & Inflammation Conference San Diego, California http://www.gtcbio.com/ index.php?option=com_ conference&file=home&cn=10th%20 Cytokines%20and%20 Inflammation%20Conference&cid=51

February

February 12–16, 2012

Sirtuins in Metabolism, Aging, and Disease *Tahoe City, California* http://www.keystonesymposia. org/Meetings/ViewMeetings. cfm?MeetingID=1142

February 16–28, 2012

Omics and Personalized Health *Heidelberg, Germany* http://www.embl.de/training/ events/2012/PRO12-01/index.html

March

March 4–9, 2012

Mechanical Systems in the Quantam Regime Galveston, Texas http://grc.org/programs.aspx?year=20 12&program=mechquant

March 25-30, 2012

20th International Analytical Ultracentrifugation Conference San Antonio, Texas http://www.auc2012.uthscsa.edu/