

IN THIS ISSUE

SUSAN L. LINDQUIST, PHD  
 KATHRYN HALL, PHD, MPH, MA  
 BSCP WEBSITE AND  
 BROCHURE GET A NEW LOOK  
 BRIAN LEWIS, PHD

# BSCP

BIOMEDICAL SCIENCE  
 CAREERS PROGRAM

## Speaker Profile

### Susan L. Lindquist, PhD

SUSAN L. LINDQUIST, PHD, WILL be the keynote speaker at the Biomedical Science Student Careers Conference on Saturday, April 2. A pioneer in the study of protein folding, Lindquist is a professor of biology at the Massachusetts Institute of Technology (MIT) and member of the Whitehead Institute for Biomedical Research at MIT. She is also a Howard Hughes Medical Institute (HHMI) investigator, member of the David H. Koch Institute for Integrative Cancer Research at MIT and associate member of the Broad Institute of MIT and Harvard University.

A former director of the Whitehead Institute, Lindquist is an expert in protein folding — the way molecular proteins change shape in biological systems. When this goes wrong, it can lead to diseases like Parkinson’s, Alzheimer’s, amyotrophic lateral sclerosis (ALS), cystic fibrosis and many cancers. In 2014, she co-founded Yumanity Therapeutics, in Cambridge, Massachusetts. The company is dedicated to finding treatments for neurodegenerative diseases that are caused by protein misfolding, focusing initially on Parkinson’s, Alzheimer’s and ALS. Its integrated platforms originated in Lindquist’s lab at the Whitehead Institute and the Howard Hughes Medical Institute.

Previously, Lindquist co-founded FoldRx, which was acquired by Pfizer Inc. FoldRx

developed tafamidis, which treats hereditary peripheral amyloidosis, another genetically based nervous system disease caused by protein misfolding.

Lindquist grew up in Chicago, the daughter of a first-generation Swedish father and first-generation Italian mother, both of whom she describes as “loving and very true to” their cultures. She always had a fierce love of science and earned a full scholarship to the University of Illinois, Champaign-Urbana. Self-described as shy and not very social in high school, she blossomed in college, especially in her science classes. She received a BA in microbiology with high honors. At the suggestion of one professor, she applied to graduate school. She earned a PhD in biology from Harvard, and then returned to Chicago, where she was a postdoctoral fellow for the American Cancer Society at the University of Chicago. She stayed on as a professor until 2001, the last 13 years as an HHMI Investigator. There, Lindquist met her husband, at the time a teacher of French literature, and they had two daughters. In 2001, MIT hired her as the first female director of its Whitehead Institute.

The National Academy of Sciences member and multiple award winner — this year she was made a Fellow of the Royal Society and in 2010 she won the National Medal of Science, among others — once described protein-folding behaviors as “the overarching

theme” of her work and said she “stumbled into the field” in graduate school. She has also described how difficult it was to be a woman in her field in the early 1970s. She recalls there were only one or two female professors among the nearly 70 in her biological sciences department. Today, by contrast 15 to 20 percent of the faculty at prestigious institutions are female — an improvement, but less impressive when held up to the fact that about 50 percent of the graduate biology students are women.

Lindquist has always supported women scientists in her lab and at her companies. She advises younger women in the sciences to make sure to pick supportive partners if they plan to have families — like she did.

For relaxation, she and her husband love to tango — Argentinian style. Who says women can’t have it all? ■



SUSAN L. LINDQUIST, PHD

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## Where Are They Now? Kathryn Hall, PhD, MPH, MA

WHEN WE LAST CAUGHT UP WITH Kathryn Hall, PhD, MPH, MA, a former BSCP student, she had just returned to academia as a gastroenterology fellow at Beth Israel Deaconess Medical Center (BIDMC), after making a documentary about AIDS in the African-American community and creating a community project around it. Five years later, Hall has just been awarded a Harvard Catalyst Program for Faculty Development and Diversity Inclusion Faculty Fellowship.



KATHRYN HALL, PHD, MPH, MA

The two-year, non-degree program is for Harvard junior faculty. Hall is now in the Preventive Medicine department at Brigham and Women's Hospital.

Through the Harvard Catalyst Fellowship, Hall will receive \$100,000 to continue her research on whether genetic variation in a key enzyme in catecholamine metabolism alters the incidence of cardiovascular disease and the effects of aspirin treatment

CONTINUED ON PAGE 4

## Update

### BSCP Website and Brochure Get a New Look

THE BIOMEDICAL SCIENCE Careers Program (BSCP) recently launched a redesigned website, [www.bscp.org](http://www.bscp.org), to better “reflect who we are right now,” according to director Lise D. Kaye. With bolder graphics and easier navigation, it is the site's first revamp since 2002, executed by Rene Payne of

FAVOR design + communication. Payne also redesigned the BSCP brochure, highlighting the program's mission, history and initiatives.

The updated site contains current information about BSCP-sponsored events and announcements. It also has a New England Resource Directory, with descriptions of



non-degree biomedical science related programs offered by academic institutions and the private sector. The list includes programs developed for underrepresented minorities as well as those open to everyone. There are also links on the site to internship, fellowship and employment opportunities, as well as to BSCP sponsors' sites.

Since BSCP was founded, participants have cited the opportunity to connect with

CONTINUED ON PAGE 4

## Mentor Profile

### Brian Lewis, PhD

THIS APRIL WILL MARK THE third time that Brian Lewis, PhD, has been a mentor at the Biomedical Science Careers Student Conference and the fifth time he has been a judge at the New England Science Symposium. The associate professor in the Department of Molecular, Cell and Cancer Biology, and dean of Diversity at University of Massachusetts Medical School (UMass Med), learned about BSCP through some of his colleagues. He says he has kept up with some of the students he met and mentored at the events.

Lewis specializes in the molecular genetics of pancreatic and liver cancers. His laboratory focuses on finding correlations between genetic changes, tumor behaviors and signaling pathways. A graduate of the University of California, Los Angeles (UCLA), with a PhD from Johns Hopkins, Lewis performed postdoctoral studies at the National Institutes of Health and Memorial Sloan-Kettering Cancer Center. He recalls that at the beginning of his postdoctoral training, his research advisor told him to “find an interesting question to tackle.” At the time, there were no systems to model pancreatic cancer, a necessary step toward understanding the disease. So he created one. “It was very goal-oriented,” he says of his work. “It took a lot of doing, but we got there.” He adds that technology developments in the biological sciences have exploded in the last 15 to 20 years, making what was extremely difficult then much easier now.

Born and raised in Jamaica, Lewis says the school system tracked him into the sciences by the time he was 12. His mother wanted him to be a physician, and while

that was not his long-term goal, he was interested in biology. He chose to attend UCLA in large part because his father was living in Los Angeles. He faced a significant cultural adjustment in California, but his father was part of an “extended family” of Jamaicans and every weekend there were large gatherings at one of the homes. Two years into his college education, when his father became ill, “that group of people was instrumental in helping me move forward,” Lewis says. He believes that support network helped him achieve the first step — graduating from college — on the path to his current career.

Though not part of the job description, mentoring is an integral part of what he does, particularly with minority students. He says he sometimes felt isolated as a graduate student and that is still a challenge for minorities in the biomedical sciences. “It impacts performance,” he says. “That can create a self-reinforcing cycle.” To that end, he makes it a point to be available to students, providing a venue for them to voice their frustrations. “I feel it’s a worthwhile use of my time.”

Lewis advises undergraduate students to get as much experience as they can. In his first research experience, the MD/PhD fellow he was working with “showed a lot of belief in what I could do. I reciprocated and put in a lot of time and work.” This helped him as he advanced.

To PhD candidates, he says, the process “is an exercise in passion. You really have to want this.” He concedes that UMass Med’s first year, especially, is extremely challenging. “For a lot of [the students it’s]



BRIAN LEWIS, PHD

unlike anything they’ve seen before. I push maintaining belief in their ability.”

When students are choosing a lab for their research, Lewis says he encourages them to think critically about what the atmosphere is like, since there are likely to be challenging periods during graduate training. “When you’re in that deep dark hole, you have to believe you’re in the right [place].”

Lewis is grateful to several mentors for helping him get where he is. “I’ve never had a really negative experience, and that’s a little unusual,” he concedes. He appears to be working overtime to ensure his students and others he meets are as lucky as he has been. ■



## BIOMEDICAL SCIENCE CAREERS STUDENT CONFERENCE

The Westin Copley Place Boston  
Friday, April 1 and Saturday,  
April 2, 2016

The application deadline is February 3, 2016. To request an application, please forward your academic level and preferred postal mailing address to [lise\\_kaye@hms.harvard.edu](mailto:lise_kaye@hms.harvard.edu).

## NEW ENGLAND SCIENCE SYMPOSIUM

The Joseph B. Martin Conference Center  
at Harvard Medical School  
Sunday, April 3, 2016

To register, go to [www.NewEnglandScienceSymposium.org](http://www.NewEnglandScienceSymposium.org).

## EVENING OF HOPE

The Westin Copley Place Boston  
Wednesday, April 27, 2016

## REMINDER

Please remember to update your contact information and post your resume at [www.bscp.org](http://www.bscp.org). Look for "Contact Information/Submit Resume" on the bottom of the redesigned home page.

For more information, please contact Lise D. Kaye at [lise\\_kaye@hms.harvard.edu](mailto:lise_kaye@hms.harvard.edu) or (617) 432-0552.

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## BSCP WEBSITE AND BROCHURE GET A NEW LOOK

CONTINUED FROM PAGE 2

mentors and others in similar fields and situations as a primary benefit of their affiliation with the program. The revamped website will make it easier than ever for current and former BSCP students to keep in touch. Under a "Where Are They Now?" tab, the site features some former students and their present positions. This newsletter is also archived, dating back to the first issue in 1993.

BSCP welcomes your feedback. So please visit the site. Update your contact information. And let us know what you think. ■

## KATHRYN HALL, PHD, MPH, MA

CONTINUED FROM PAGE 2

in racial or ethnic minority populations. When she started at BIDMC, she was conducting placebo research with a renowned researcher in the field. "Although placebo treatment has been an integral part of clinical trials for the last 50 years, we are only just understanding the biology behind it and figuring out how to make it a druggable target," she says.

Hall attended her first BSCP conference in 1992 as a PhD candidate at Harvard University. She was a mentor in 2000, 2002, 2004 and 2010, and will return in this role in April. In 2015, she was a Ruth and William Silen, MD, Award winner for

her oral presentation at the New England Science Symposium (NESS). She will be a poster judge at the symposium in April.

Hall credits attendance at BSCP events as a factor in helping her career develop, "from networking and meeting people who do similar research." At the last NESS she attended, she met Whitney Henry, also a BSCP participant, who is conducting cancer research at Beth Israel Deaconess Medical Center. From that encounter, Hall says, "We started a small collaboration."

More meetings like that can translate to more exciting results for the general population. ■