

Mentor Profile

Steven Freedman, MD, PhD

STEVEN FREEDMAN, MD, PHD, associate professor of medicine at Beth Israel Deaconess Medical Center and Harvard Medical School (HMS), a devoted teacher, researcher and physician, was a student advisor at the 2008 Biomedical Science Careers Student Conference and an oral judge at the 2008 New England Science Symposium, because “whatever [Joan Reede] asks me to do in life, I do,” he says. “It was unbelievable. The research [by] these ‘kids’ was better than I tend to see when I go to major meetings.”

In addition to teaching and caring for patients in his gastroenterology practice, Dr. Freedman spends a great deal of his time on translational research, searching for ways to cure disease. While clinical research purely focuses on people and may involve more invasive trials in very closely monitored settings, translational research involves making discoveries at the lab bench using mice or cells and “translating” this to treatments that are then tested in patients.

Currently, according to Dr. Freedman, there are two major roadblocks to curing disease. First, “people who do work at the lab bench do not know clinicians who do research and don’t know how to make their work medically applicable.” Second, once a drug is approved, researchers struggle to determine how to get it out to people to make sure it is safe and effective.

A recent decision by the National Institutes of Health (NIH) should go a long way toward pushing through those roadblocks and making medical research in general a much more comprehensive, integrative endeavor. Harvard University is one of 14 institutions that just received Clinical and Translational Science Awards (CTSA) from the NIH. With \$233 million over five years, the university will launch a Clinical and

Translational Science Center (CTSC) that will “change the entire culture of research,” according to Dr. Freedman. He will co-direct the center with Lee Nadler, MD, the Virginia and D. K. Ludwig professor of medicine at Dana-Farber Cancer Institute and HMS, and the principal investigator of the CTSA grant.

The CTSC presents new opportunities for students at every level — and in all disciplines — including Harvard University, Harvard Medical School, all of the Harvard professional schools and all of the hospitals and institutes that make up the Harvard community. It will “bring together people who don’t usually work together for applied research — undergrads, doctoral students, medical students, business students, law students. It’s clear we will not cure illnesses unless we work together,” Dr. Freedman notes.

A key component of the program is its focus on supporting young researchers. Each year, \$3 million of pilot grants will be awarded to junior investigators doing interdisciplinary or cross-institutional projects. Another important piece is CONNECTS, an Internet portal that helps researchers find one another within Harvard, which Dr. Freedman likens to a speed dating service. The portal also will offer a resource called SHRINE (Shared Health Research Information Network) that contains pooled data on research subjects across hospitals, so scientists can instantly analyze health data from large populations.



STEVEN FREEDMAN, MD, PHD

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SPECIAL THANKS TO

Mintz, Levin, Cohn, Ferris,
Glovsky and Popeo, P.C., and the
Massachusetts Medical Society
for their support of this newsletter.

J. Roberto Trujillo, MD, ScD

President, Pan-American Society of Neurovirology

WHEN MEXICAN-BORN J. ROBERTO Trujillo, MD, ScD, director of Latin America Research in Virology and Neurosciences, head of the Laboratory of Neurovirology and adjunct professor at the Institute of Human Virology at the University of Maryland School of Medicine, entered medical school at the University Autonomous of Mexico State, his goal was to become a neurosurgeon. But he became discouraged by the notion that there was no treatment for many diseases of the brain. He began to shift his focus toward doing analytic as well as clinical work.

Dr. Trujillo's decision was also affected by the fact that his medical training took place in the mid-1980s, at the height of the AIDS epidemic. Watching this disease ravage patients, he wanted to help. After completing his MD, he spent two years as a clinical neuroscience fellow at Baylor College of Medicine in Houston, Texas. Then he went to Harvard, receiving a doctor of science degree in virology and neuroscience in 1995.

"There were no programs for neurovirology at the time," he explains. He

inquired about pursuing two PhD programs and was advised by Tom Fox, MD, associate dean for graduate education at Harvard Medical School, to train as a molecular virologist and take courses in neurosciences. "I started to pull all of my professors together as a team," he says. "With my connections to Latin America, I pulled in that community, too." When he completed his program, Dr. Trujillo was the first neurovirologist at Harvard. He remained at Harvard as an investigator of neurovirology and retrovirus until 2002.

In 2000, Dr. Trujillo founded the Pan-American Society of Neurovirology (PASNV), whose goal is to eradicate viruses that affect the brain in the Americas. The society works to bring together neurologists and virologists from the United States and Latin American countries. In the spring of 2008, the PASNV, along with the University Autonomous of Guadalajara, celebrated the third Pan-American Symposium on Neurovirology.

"It is important to help other people. Teaching is not enough. In developing countries, if you want to cure diseases, you need centers for excellence... centers

where they can do the research," Trujillo notes. He is currently helping the University Autonomous of Guadalajara build a new center for the study of medical sciences, including human virology. It will be the first center in the country with a hospital, a laboratory conducting clinical trials and biotechnology. "In Mexico, it will be the first time in our 500-year history that we have scientific development like this," he says.

While he was at Harvard, Dr. Trujillo became involved with BSCP. He has been a student advisor since 2004. In 2006, one of his former fellows from Mexico, Filiberto Cedeño, contacted him because he wanted to train in the United States. Dr. Trujillo suggested Cedeño attend the Biomedical Science Careers Student Conference. That year, Cedeño attended the conference and presented a poster at the New England Science Symposium. Through the contacts he made that weekend, and his subsequent training in Dr. Trujillo's lab, Cedeño became the first Hispanic person to be accepted into the immunology program at Harvard Medical School. He is currently in his second year as a graduate student.

Other students have also benefited from their meetings with Dr. Trujillo. Theanne Griffith, a Smith College graduate, received a scholarship to attend the 2008 Pan-American Symposium on Neurovirology after she sat at Dr. Trujillo's table at the 2008 BSCP conference. Liliana Robles, another student whom Dr. Trujillo met at an earlier BSCP conference, rotated through his neurovirology lab. Today she is a fellow in neurology at Baylor College of Medicine. "Our future depends on our students," he says. "Every time, at every conference, you find some surprises."

"We live in a world where you can travel around the world in 24 hours; diseases can travel, too. Being Hispanic American and Mexican, I feel like I build a bridge, and that is my mission." ■



J. ROBERT TRUJILLO, MD, SCD, LEFT, AT BSCP CONFERENCE WITH STUDENTS

New England Science Symposium Ruth and William Silen, MD, 2008 Awards

SIX STUDENTS RECEIVED RUTH AND William Silen, MD, awards for oral and poster presentations, and three received honorable mentions for poster presentations at the 2008 New England Science Symposium (NESS) in April. The presentation of the Ruth and William Silen, MD, Award at the NESS has been a tradition since 2004, when William Silen, MD, Johnson & Johnson professor of surgery, emeritus, Harvard Medical School and surgeon-in-chief, emeritus, Beth Israel Deaconess Medical Center, made funds available for students.

Co-sponsored by the Harvard Medical School (HMS) Minority Faculty Development Program of the Office for Diversity and Community Partnership and the Biomedical Science Careers Program, the NESS has taken place every year since 2002 and has been attended by more than 1,775 participants so far. The 2008 NESS took place on April 6 at the Joseph B. Martin Conference Center at HMS, with 244 students/fellows and 79 other attendees registered.

PROFILE

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The Harvard CTSC also has recruited scientists to be research navigators who specialize in a certain field. They will serve as 'matchmakers' and consultants, helping participants figure out how best to enhance their collaborations.

"We're here to address all the gaps and barriers and develop a true community of investigators," Dr. Freedman says. "I had heard about Joan's program, but had never attended [before 2008]. It seemed like an unbelievable opportunity to be engaged in, given my interest in fostering young people to be exposed to research."

At the conference, Dr. Freedman found, "it was great to be able to talk to people and their families about the opportunities that lie ahead, especially minorities and women. The doors need to be open a little bit more." Two

Dr. Silen presented the awards. The three awards for oral presentations went to: Vadim Villarroel, post-baccalaureate, Dartmouth College, 2004 (first prize, \$300); Eydith Comenencia Ortiz, post-baccalaureate, University of Puerto Rico, 2006 (second prize, \$200); and Theophilus Hill, post-baccalaureate, University of Pennsylvania, 2007 (third prize, \$100). Poster presentation prizes were awarded to: Bryant Webb, medical student, Wake Forest University School of Medicine (first prize, \$300); Sara Tribune, college student, Tougaloo College (second prize, \$200); and Escar Kusema, college student, Colby College (third prize, \$100). Aynara Chavez-Munoz, college student, Colby College; Chiara Grisanzio, MD, post-doctoral/research fellow, Brigham and Women's Hospital; and Ibarido Zambrano, post-baccalaureate, Skidmore College, 2006 were awarded honorable mentions for their poster presentations. In addition to the certificates given to the recipients of the Ruth and William Silen, MD, Awards, all oral and poster presenters received a certificate of participation. ■

of the students he met at the conference shadowed him this past summer. One, a post-graduate student doing research at Tufts University, was trying to decide whether to pursue a career in medicine or research. The other, a Wellesley College student beginning her junior year, plans to pursue an MD/PhD and wanted to see how Dr. Freedman balances his research and clinical practice.

"I've learned a lot from Joan," Dr. Freedman says. "This experience has provided me with an opportunity to inform chiefs and senior research faculty at Beth Israel Deaconess Medical Center to what BSCP is, and introduce them to talented students they might not meet otherwise." Now he will carry those lessons to his current endeavor and provide opportunities for even more students. Because, he says, just like BSCP, "CTSA is all about nurturing people." ■

NEW ENGLAND SCIENCE SYMPOSIUM 2009

CALL FOR ABSTRACTS

Deadline for abstract submission for the 2009 NESS is January 7, 2009. To submit an abstract and to register, go to www.NewEnglandScienceSymposium.org.

2008 HOPE SCHOLARSHIPS

FOUR STUDENTS RECEIVED \$7,500 Hope scholarships at the 2008 Evening of Hope, which took place May 1 at The Boston Park Plaza Hotel. Biogen Idec Foundation, Boston Scientific Corporation, The Fleming Family Foundation, Inc. and Genzyme Corporation were scholarship sponsors.

Biogen Idec Foundation and Genzyme Corporation were also "Hope Leaders," and Boston Scientific and Waters Corporation were "Corporate Leaders" for the evening, signifying their high level of commitment to BSCP students and diversity within their own organizations.

The four scholarship recipients were: Juan Carmona of Harvard University, Damien Abreu of Yale University, Marthe J. Pierre of Cambridge Rindge and Latin High School and Roxana Mesías Gómez of City University of New York Hunter College.

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PHD, MENTOR PROFILE

J. ROBERTO TRUJILLO,
MD, SCD

PRESIDENT, PASNV

2008 SILEN AWARD
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2008 HOPE
SCHOLARSHIPS

SEPTEMBER 2008 ■ VOL. 13 NO. 3

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Conference Center

Deadline for abstract submission: January 7, 2009

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

EVENING OF HOPE

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HOPE SCHOLARSHIPS

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Juan Carmona is a PhD candidate in the biological and biomedical sciences program at Harvard University as a Howard Hughes Medical Institute (HHMI) postdoctoral fellow, studying the molecular basis of aging in animals. He expects to receive his PhD in 2009.

Damien Abreu will receive a bachelor's degree in molecular biophysics and biochemistry from Yale University in 2010. He plans to pursue an MD/PhD and combine biomedical research and clinical medicine.

Marthe J. Pierre is a student at Merrimac College with a premed focus and hopes to become a missionary physician.

Roxana Mesías Gómez is currently pursuing a master of arts in biology, with a concentration in molecular neuroscience at the City University of New York Hunter College. She plans to obtain a PhD in neuroscience, with a goal of finding treatments to cure brain cancer. ■