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.
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 dis-
eases 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 dis-
ease 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, receiv-
ing a doctor of science degree in virology
and neuroscience in 1995.

"There were no programs for neurovi-
rology at the time," he explains. He
inquired about pursuing two PhD pro-
grams 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 Amer-
icas. The society works to bring together
neurologists and virologists from the
United States and Latin American coun-
tries. 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 Univer-
sity Autonomous of Guadalajara build a
new center for the study of medical sci-
ences, 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 his-
tory 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 Neuroviro-
ology 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, rotat-
ed 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 trav-
el 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.

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 Theophelus 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 Oscar Kusuma, 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 Ibarbo 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.

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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 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.”
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Deadline for abstract submission: January 7, 2009

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For information, contact Lise D. Kaye at lise_kaye@hms.harvard.edu.

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.

HOPE SCHOLARSHIPS

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