

Human Biology Newsletter

The Program in Human Biology | Stanford University

Spring 2009

Jonny's Viral Initiative

FACE AIDS encourages student involvement in public health



Photo: Katie Bollbach

Rosemary from the Mwanze FACE AIDS support group

Jonny Dorsey's (HB '09) plan to graduate from Stanford in four years took an unusual detour after a summer trip to Zambia. Moved by the dismal medical conditions at a Congolese refugee camp, he and two other Stanford students—**Katie Bollbach** and **Lauren Young**—decided to take two years off to create FACE AIDS, a student-run campaign to help fight AIDS in Africa.

Working in collaboration with [Partners In Health](#) in Rwanda, [FACE AIDS](#) enlists college students from around the country to help bring quality medical care and social services to the poorest regions of the world. Today there are about 150 active student chapters that support these programs, by hosting fundraising events and selling AIDS awareness pins produced by Rwandans.

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DIRECTOR'S MESSAGE

This issue of the Human Biology Newsletter focuses on public health, discussing our curriculum, as well as some amazing public health projects undertaken by students and faculty.



Professor Carol Boggs

Stanford offers a large number of service-learning programs that encourage HumBio students to get out in the world and make a difference in the realm of public health. These initiatives are more important than ever, with the global recession starving these programs of badly needed funding.

In addition, this year we've enriched our Core units on public health and launched three new health policy courses. As our nation heads towards sweeping reform of the health care system, these courses will provide our students with a historical context and an analytical toolbox, all of which should benefit Human Biology graduates in whatever careers they pursue, from medicine, to basic research, to public health policy. §

STUDENT NEWS

Viral Initiative, cont'd

Donations are then used to train health workers and establish new clinics in these communities.

In February, the Stanford FACE AIDS chapter partnered with [Stanford Dance Marathon](#) to raise over \$120,000 through a 24-hour dance event, where hundreds of Stanford students danced for donations. The event included dozens of live performances, moving presentations, and a Stanford “Hack-a-thon,” where computer-savvy volunteers programmed through the night to help allied charities with special projects, such as the Partners in Health medical records system and the FACE AIDS Facebook page.

Dorsey said Human Biology’s culture of social entrepreneurship was a significant influence in his decision to launch FACE AIDS.

“In my Bioethics class, [Gary Schoolnik, M.D.](#) made me think about how simple efforts can save many lives in developing countries,” said Dorsey. “[Anne Firth Murray](#), Stanford lecturer and the founder of the Global Fund for



From left, Lauren Young, Mama Katele, Jonny Dorsey and Katie Bollbach sit in Mama Katele's home in a Zambian refugee camp.

Women, gave us advice on how to raise funds for the organization. And my faculty advisor and close friend, [Bob Siegel](#), sat down with my parents to ease their fears about my time away from school.”

As this year’s ASSU student president, Dorsey is launching a new initiative that focuses on public health at home. The “[I Am Not a Bystander](#)” campaign encourages Stanford students to stand up, speak out, and act for the wellness of their peers. It educates and motivates students to help one another through the many challenges that face college students today, including sexual assault, intolerance, eating disorders, depression, relationship abuse, stress, and alcohol abuse.

Dorsey isn’t completely sure what he’ll do after graduation in June, he thinks he may work full time on a new project called [Global Health Corps](#), a fellowship program that allows other recent graduates to go do meaningful work to improve health around the world. §



Tom McFadden (HB '08) rapping about biology.

HumBio Gets Jiggy With It

If there was an MTV award for “Best Biological Hip Hop Video,” it most certainly would go to [Tom McFadden](#), a Course Associate (CA) for Stanford’s Program in Human Biology. His science-based rap songs have become monster hits among science nerds. And John Tierney of the *New York Times* was so impressed, he wrote about them in his blog entry, “[Rappin’ for Science](#).”

McFadden’s portfolio of rap songs includes “I’m Going Going Back Back to Plasma Membrane,” about cellular membranes; “Regulatin’ Genes,” about HOX genes; and “It’s Too Late to Apoptize,” about the tragic relationship between cancer cell proliferation and programmed cell death.

McFadden’s roadies include [Jake Wachtel](#), cinematographer and editor; fellow CA [Helen Snodgrass](#); [Bob Siegel](#), Associate Professor of Microbiology and Immunology; [Derrick Davis](#), world-renowned econ/public-policy major; and [Jonny Dorsey](#), a HumBio Senior.

And if this music video thing doesn’t work out for McFadden, he’ll probably be able to fall back on his Stanford degree. To watch these videos visit McFadden’s webpage: § <http://www.youtube.com/user/tomcfad>

STUDENT NEWS

Got Ideas?

Bingham Fund Fosters Student Innovation

The Bingham Foundation is generously providing funds for innovative student projects that benefit undergraduate education. These grants are available to all Human Biology majors, with proposals due on April 30 and October 31.

Established in 1995, this program has inspired a number of amazing projects, some of which alumni can watch or attend, including:

☀ **Pin-Yi Ko** (HB '09) produced "[Living it @ Stanford.](#)" an online video that aims to encourage more Stanford students to participate in public service programs.

☀ **Joyce Ho & Stephanie Nevins** (HB '09) published the "[Stanford Service in Global Health Journal.](#)" which educates students on international community health projects.

☀ **Josh Wong** (HB '10) was awarded Bingham funds to support "[Food For Thought.](#)" a one-day conference on critical issues in food and agriculture worldwide, featuring academics and practitioners from NGOs, government agencies and international institutions.

☀ **Cooper Lloyd & Maryam Garba** (HB '10) helped organize a "[Malaria Day](#)" campaign on campus.

☀ **Maria Duzon** (HB '09) is organizing an exhibition of her photographs of Ecuadorian street children as a way to get students interested in [Volunteers in Latin America \(VILA\)](#) service-learning opportunities



Duzon's Bingham project: photos of Ecuadorian street children

For more information on The Bingham Fund for Student Innovation in Human Biology, visit [HumBio's Bingham Fund website.](#) §

Finzer Named Truman Scholar

Lauren Finzer (HB '09) was named a 2008 Truman Scholar. The Truman Foundation honors college juniors who have dedicated themselves to public service and provides them with financial support for graduate study. Lauren is majoring in Human Biology at Stanford, concentrating in Sustainability in Global Environment and Health. She is also co-President of Students for a Sustainable Stanford. §



Lauren Finzer

ALUMNI BRIEFS

Theodore Marcy, M.D., M.P.H. (HB '76), a professor and pulmonologist at the University of Vermont, was interviewed on [Vermont Public Radio](#) about the state's ambitious goal of reducing smoking by half, with the help of funds received from the "Big Tobacco" lawsuit.

Kathryn M. Chu, M.D., M.P.H., (HB '93) an Assistant Professor and a Colon and Rectal Surgeon at Johns Hopkins, has been working with Doctors without Borders on the global prevention of obstetric fistulas for patients in Africa.

Congrats to **Regan (Johnson) Bermark** (HB '06) for her article, "Mexican Immigrants in the US Living Far from the Border may Return to Mexico for Health Services," published in *The Journal of Immigrant and Minority Health*, with coauthors Don Barr and Ronald Garcia.

Annie Kalt (HB '08) is working as the FACE AIDS Africa Program Director in Rwanda, helping to generate critically-needed support for an educational program for HIV-affected youth. §

RESEARCH

Levitin on Perfect Pitch

To demonstrate the human brain’s amazing ability to “name that tune,” **Daniel Levitin**, the Lorry Lokey Visiting Professor in Human Biology, played exactly five one-hundredths of a second of the song, Eleanor Rigby, and virtually everyone in the packed auditorium identified it correctly. What this simple experiment illustrated was that the average person has very accurate and easily accessible long-term memories for music.

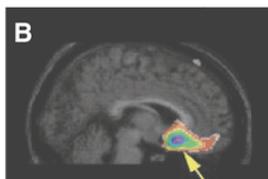
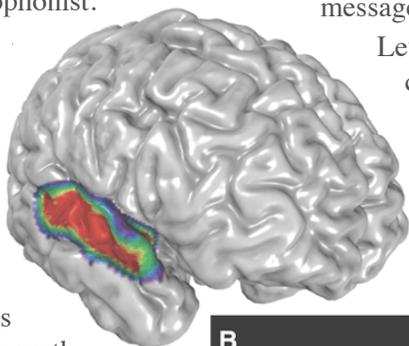
Several types of auditory mysteries were discussed during the winter Psychology/HumBio Colloquium, “Mental Representation of Music,” orchestrated by Levitin, an Associate Professor from McGill University, and a talented neuroscientist, record producer, and saxophonist.

Levitin is also the author of the international bestsellers “[This Is Your Brain On Music: The Science of a Human Obsession](#)” and “[The World in Six Songs: How the Musical Brain Created Human Nature](#).”

Levitin’s research, which started when he was an undergraduate at Stanford, focuses on figuring out how humans encode, recall, and experience music. His methodology incorporates psychophysics, neuroimaging, and work with special populations that process music differently, such as individuals with Williams Syndrome and Autism.

In his lecture, Levitin explained several musical components that the mind processes when identifying a melody, including rhythm and pitch. Pitch, he said, is a psychological concept invented in the mind. While human brains are good at identifying specific melodies—even when they’re played fast or slow, or in a high pitch or a low pitch—very few people can identify the pitch label (C, B, D, etc) of any given note in a song.

With the help of brain imaging studies, Levitin and his colleagues discovered that people with perfect pitch don’t have special ears or special cortical structures, rather, they simply possess the unique ability to label notes as a function of their frequency. So, just as children learn to recall the word label for the color “red” by matching it to a specific frequency of electromagnetic radiation that is interpreted in the brain, those who have early and meaningful exposure to the names of musical tones, are more likely to be able correctly identify the word label for, say, Middle C.



Levitin hypothesizes that perfect pitch may be rare because, from a Darwinian perspective, there was no survival advantage for early humans to hone this skill. For example, it didn’t matter if a caveman sang out, “Watch out for the sabertooth tiger!” in the key of C-major or F-sharp. Everyone in the clan got the message.

Levitin’s

current line of research explores how and why music influences human emotion, specifically among children with autism. Through carefully designed listening tests using different interpretations of Chopin’s Nocturne, he determined that autistic children were not as sensitive to the same expressive cues in music as the general population. The results of this study, part of the doctoral dissertation of his student **Anjali Bhatara** (HB ’04), are being prepared for journal submission, and will add to our understanding of how the brain works and how music affects our emotions. §



Levitin at Stanford’s Psychology Colloquium

Photo: [Wyles Vance](#)

ALUMNI BRIEFS

June Cohen @ TED Media

June Cohen (PolySci/HumBio ’92) is Director of TED Media, responsible for bringing the legendary TED Conference online. In 2006, she produced TEDTalks, the podcasts that made the talks available to the world, and in 2007, she led the widely acclaimed redesign of TED.com. TEDTalks have now been viewed more than 25 million times worldwide, and are widely regarded as the gold standard in mind-bending online videos. §



CURRICULUM

Core Values**Understanding Public Health Policy**

As the U.S. government begins an overhaul of its health care system, it couldn't be a better time for Human Biology students to get a dose of public health policy. During the spring quarter of the "Core," the 30-unit foundational class taken by all Human Biology majors, the B-side class (HB-4B) covers environmental and health policy analysis.

This year the health policy lectures will be led by **Don Barr, M.D., Ph.D.**, Associate Professor (Teaching) in Sociology. In this class, Barr talks about the economic, social, and institutional factors that underlie the incidence of disease, and how public policies can work to improve overall human health. Using the topics that he covers in his book, "Introduction to U.S. Health Policy: The Organization, Financing, and Delivery of Health Care in America," Barr discusses a range of related topics, including:

- ☀ The history of managed care
- ☀ Community health
- ☀ Social determinants of health
- ☀ Health care economics
- ☀ Children's health
- ☀ Health, medicine, and the humanities



Don Barr, M.D.

During the past few years, Barr has been passionate about exploring factors that influence health care inequality. He's practiced medicine in a rural area and at a large HMO, Kaiser Permanente. He spent five years working on a health care services center for homeless people in Palo Alto. He wrote the book, "Health Disparities

in the United States: Social Class, Race, Ethnicity and Health." And most recently, he volunteers once a week at an inner city Oakland Clinic.

"My work at the free clinic makes it easier for me to write and think about the issues of disparities in health care," said Barr.

Barr clearly would like to see more compassion in today's health care system.



The 2008/9 Core CA Team has a bipolar episode. Top: Lindsey Merrihew, Will Peterson, Michelle Wilson, Tom McFadden, Isabel Shelton-Mottsmith, Aimee Rolston, Helen Snodgrass, Marci Pepper.

He considers the grand finale of his course the part where he gets the students to think about the future of medicine, a future where at birth, each person will have access to his or her entire genome, flagged with probabilities for specific diseases. To frame this discussion, he assigns readings by science philosopher E.O. Wilson and science writer Stephen Gould, then facilitates

a lively debate that asks the question, "With infinite knowledge of genetics, will our society ever be able to accurately predict treatment outcomes of patients? How should this affect health care policy?"

For those Human Biology students on the pre-med track, Barr hopes this class will broaden their horizons: "I like to think of my class as a survey of possible public health careers, beyond medical school," said Barr. "Since all Human Biology students have to declare an area of concentration during their sophomore year, this class provides a little nudge for those considering a career in public health." §

"Health care in the U.S. consumes 16% of the GDP, more than twice that of any other country. We use more technology and pay higher prices, all without providing quality care for everyone. This is the challenge that we currently face."

---Philip R. Lee (MD '48)
HumBio lecturer emeritus & health care policy expert

FACULTY PROFILE



Dr. Zaroff was a member of the first climbing expedition to reach the summit of Chulu West, a 22,000-foot peak on the Nepal-Tibet border.

Lawrence Zaroff, M.D, Ph.D. A Surgeon of Hearts and Minds

Dr. Lawrence Zaroff, a recipient of the Human Biology Award for Excellence in Faculty Advising, has plenty of life experiences to draw upon when he offers career advice to Human Biology students. He was a cardiac surgeon for 29 years. He spent ten years mountain climbing. Then, at age 63, he went back to school to earn a Ph.D. in history at Stanford at age 68. Today, he teaches medical humanities courses at Stanford, practices medicine at a free clinic one day a week at Ritter Health Center in San Rafael, and writes columns for the New York Times Science Section.

If there's one skill that most surgeons, mountain climbers, and newspaper columnists share, it's the ability to think creatively under pressure. One of the best examples of this attribute was when Zaroff, as a newly minted intern in a New York City emergency room, was faced with a patient whose heart kept failing, even after being hooked up to an external pacemaker, circa 1956. Improvising, he grabbed a six-inch piece of chicken wire and 15 feet of lamp cord at a nearby hardware store; jury-rigged one of the first internal pacemakers; and saved the patient. (To read the complete story, read his New York Times column: www.nytimes.com/2004/10/26/health/26case.html)

Mountain photo: [James Milne](#)

After what some might consider a long and winding career (with many ups and downs)—developing a new demand pacemaker, directing a cardiac surgical research laboratory at Harvard, and climbing some of the tallest mountains in the world—he ended up settling down at Stanford University.

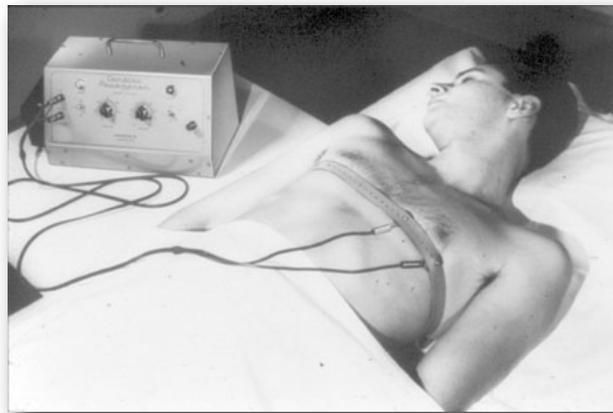
“I never learned anything until I got to Stanford,” he said, as if that explained everything.

With a traditional retirement nowhere in sight, this quarter Zaroff will teach “The Human Condition: Medicine, Arts & Humanities” at the medical school and “Novels and Theatre of Illness,” an undergraduate seminar. In addition to an extensive reading list, the class will feature visits from Marilyn Yalom, author of “A History of the Breast”; a Huntington’s Disease patient and genetic counselor; Eliza Lo Chin, editor of “This Side of Doctoring”; and two filmmakers talking about their work on death and dying.

“In my class, we discuss the human condition and how it relates to medicine. If you don’t understand humans, you’ll never be a good doctor,” said Zaroff.

One of his former students, **Britta Gooding**, added, “Dr. Zaroff taught us about the realities of pursuing a career in medicine. We read literature that opened up a forum for class discussion and examination of medical topics, such as responsibility to a patient, coping with a patient’s death, public perception of doctors, and insight into the various specialties.”

In 2006 Zaroff was honored as Stanford’s ASSU Teacher of the Year, and his former students are probably wondering what amazing thing he’ll do next. §



A state-of-the-art heart pacemaker in 1956.

In Memoriam: Heather Wimmer

Heather Lani Wimmer, who worked for Stanford as executive director of the Department of Athletics, Physical Education and Recreation Investment Fund, died Nov. 22 of brain cancer at age 47.

Born in Hawaii, Wimmer earned a bachelor’s degree in Human Biology from Stanford in 1984, and began working at Stanford 10 years ago. §



FACULTY NEWS

Meet HumBio's New Associate Director

The Program would like to welcome **Katherine Preston, Ph.D.**, our new Associate Director of the Program in Human Biology and a lecturer on ecology, evolution, and plant biology.



Many of you may have met Dr. Preston while she worked as a National Science Foundation Postdoctoral Fellow and taught botany and plant evolutionary ecology from 1997-2006 at Stanford. Dr. Preston received her Ph.D. in Plant Sciences at Indiana University (with concentrations in Ecology and Evolution) and her A.B. in Biology and French at Duke University.

Dr. Preston's ongoing research explores the comparative ecology and development of stem and leaf traits in relation to water availability; physiological ecology of plants resprouting after fire; and developmental plant mechanisms that influence hydraulic architecture.

Among her other responsibilities, Dr. Preston is coordinating the HumBio undergraduate Honors and Research Experience Programs, matching undergraduates with suitable projects, developing their writing and research skills, and building a sense of community among the students. She will also be teaching a class in the fall that explores the intertwined biologies of humans and plants, including the ways they have evolved under reciprocal selection pressure, all of which will better prepare students to address challenges in our increasing complex and interdisciplinary world. §



Endowed Chair to Jeffrey Wine

Jeffrey Wine, Professor of Psychology and the former HumBio Director, was named the Benjamin Scott Crocker Professor of Human Biology in December. Wine runs the Cystic Fibrosis Research Laboratory,

which is conducting basic research looking for ways to ameliorate cystic fibrosis lung disease, the major cause of illness and death among Cystic Fibrosis patients. §

New HumBio Courses

HUMBIO 120A: Health Policy and Health Care System Design

The design of health care systems and their ability to improve the health of the population successfully. Concepts related to health care systems and components. Focus is on the health care systems of the U.S. and U.K.

4 units, Spr (Laurence Baker)

HUMBIO 122: Beyond Health Care: Seeking Health in Society

Available evidence linking social welfare interventions and health outcomes. If and how non-health programs and policies could have an impact on positive health outcomes. Evaluation of social programs and policies that buffer the negative health impact of economic instability and unemployment among adult workers and their children. Examination of safety nets, including public health insurance, income maintenance programs, and disability insurance. Prerequisites: 4B or equivalent and background in research methods and statistics.

3 units, Win (Eunice Rodriguez)

HUMBIO 146: Culture and Mental Illness

(Same as ANTHRO 181.) Interdisciplinary. Culture and social context on the identification, course, and outcome of psychiatric illness. What is known from psychiatry about the nature of illness as a biomedical process and from anthropology about the life course of illness within particular settings. Prerequisite: Human Biology core or equivalent or consent of instructor.

3 units, Spr (Tanya Luhrmann)

Health Policy Expert Named Lokey Visiting Professor

Donald W. Light, Ph.D., M.S., from the University of Medicine & Dentistry of New Jersey and Princeton University, will be the Lorry I. Lokey Business Wire Visiting Professor in Human Biology for the fall of 2009 through 2011. He will teach International Health Policy: Comparative Health Care Systems, and will continue his research on the uninsured; immigrant health; comparative healthcare systems; and distributive justice issues in health policy. §

EVENTS

Infectious Diseases & the Environment Series

April 30

Schistosomiasis in China:
The Curious Perspective of an Engineer

Bob Spear, U.C. Berkeley

May 14

Biodiversity and the dynamics of infectious pathogens: The importance of disease-ridden squirrels

Dan Salkeld, Stanford University

May 28

Population dynamics of zoonotic pathogens: Leptospirosis, monkeypox and beyond

Jamie Lloyd-Smith, U.C.L.A.

For more on these public events:

Karen Levy (klevy@stanford.edu)
or Gary Schoolnik
(gary.schoolnik@stanford.edu)

Initiative Against Malaria

Malaria Eradication:
Is that really possible?

Dr. A. David Brandling-Bennett
Deputy Director,
Malaria, Global Health Program
Bill & Melinda Gates Foundation
5pm Friday, May 1, 2009
Bechtel Int'l Center
Reception buffet afterwards
RSVP: jslibaw@stanford.edu

**SAVE
THE DATE:**

HumBio Reunion:
October 23, 2009



Thank You!
**Stanford's Program
in Human Biology extends
its sincere appreciation to
the generous contributions
of our supporters.**

LinkedIn
with Human Biology

Please send us news about your achievements or ideas, and stay in touch with alumni by registering with www.linkedin.com and joining the "Stanford Human Biology Major Alumni" social network.

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From the left, Student Adviser Fiona Gispén, Tracy Hughes from Cisco, and Student Adviser Lisa Jacobs

Beyond HumBio

We're looking for alumni volunteers for a Human Biology student advisory panel that will discuss career paths and share perspectives on your area of expertise. This evening event will be held on January 5, 2010. Contact Lia Cacciari if you'd like to participate: cacciari@stanford.edu or 650-725-0332

**Program in
Human Biology Staff**

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Assoc. Director: **Katherine Preston**
Program Manager: **Linda Barghi**
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