

# Human Biology Newsletter

The Program in Human Biology | Stanford University

Spring 2014

## Bing Overseas Seminar: Issues of Development in Northern Tanzania

An Interview with  
Alex Heaney and Ali Maggioncalda



Alex Heaney (HB '14) and Ali Maggioncalda (HB '14), in front of Mount Kilimanjaro in Tanzania 2013

During the Summer of 2013, Alex Heaney (HB'14) and Ali Maggioncalda (HB'14) travelled to Tanzania to pursue research for their honors theses. Alex Heaney's research was inspired by attending the Bing Overseas Seminar titled "Issues of Development in Northern Tanzania" with Robert Siegel, Professor (Teaching) of Microbiology and Immunology, and twelve other students. Heaney and Maggioncalda shared their reflections below during an interview with HumBio.

*How did you come up with the idea for your project and what were the major outcomes of your work?*

**Heaney:** "On this trip I was introduced to Sianga Kuyan, a Maasai man who migrated from his rural village to Arusha City, where he struggled to survive. He eventually started an organization called Future Warriors Project that helps migrant Maasai in Arusha adjust to the culture shock of moving to an urban area. He is now working to start a Maasai community center and asked me to help him research what the Maasai in Arusha need most and how the community center could best help the migrant Maasai. I realized that this particular situation is a case study of my academic passion: how climate change will influence global health. The Maasai people are devout pastoralists and recent droughts have been killing their livestock, forcing them to migrate to urban areas in search of alternative income. Many Maasai migrants do not speak the national language, so they end up homeless, jobless and socially isolated.

### INSIDE THIS ISSUE:

#### Health and the Environment

Alex Heaney and Ali Maggioncalda.....	1-2
Lawrence Goulder.....	3
Alumni/ Faculty News.....	4
Student News/ New Courses.....	5
Odds and Ends.....	6

### DIRECTOR'S MESSAGE

Health and the environment are two topics constant to Human Biology. Alumni will remember the classes HumBio 40 and 41, which considered health and environmental policy, respectively. Today much of that curriculum falls into the HumBio Core.



Professor Paul Fisher

Peruse this newsletter to see the incredible work our students are conducting in health, environment, and other areas. Their rich experience is even more impressive when one remembers that they are undergraduates.

As HumBio heads toward age 50 in the coming years, we are already hard at work to ensure that our students will be adroit at navigating the human condition as they work to optimize human health and the health of the environment. All our students will be increasingly expected to demonstrate mastery in communication, data analysis, and scientific literacy in our 21st century curriculum. Next year, we will also pilot the introduction of in-depth capstone experiences, so that even more of our students can dig deeply into scholarly successes like those recounted on these pages.

Email me your thoughts at [pfisher@stanford.edu](mailto:pfisher@stanford.edu).

FEATURES

These conditions result in mental and physical health issues like HIV, malaria, malnutrition, depression and anxiety. I conducted thirty qualitative interviews with migrant and non-migrant Maasai to explore their health perceptions and help-seeking behaviors. We currently know very little about Maasai health, and my project seeks to build a foundational understanding of how Maasai think about health and make healthcare decisions. I also attempt to understand how climate-driven migration might impact those perceptions and decisions. My results have both practical and theoretical implications. Understanding Maasai help-seeking behavior could aid healthcare workers in making modern care more accessible and attractive to urban Maasai. More abstractly, these results can be extrapolated to aid other climate-driven migrant populations around the world.

*What were the most valuable things you learned in Tanzania?*

**Heaney:** My experience in Tanzania taught me that I could be a true leader. My project coordinator and translator, both native Maasai men, had a completely different work style and sense of time than I am used to at Stanford. I learned to adjust my expectations while trying to maximize the productivity of our interactions. While in Tanzania, my contact with my Stanford advisors was minimal, so I drew heavily on the advice



Heaney with a friend in the Maasai villages (Photos courtesy of Alex Heaney)

they had instilled before I left to guide my research. I also found myself relying on the knowledge gained from my Stanford classes. It was stressful, yet empowering, to approach this research with so much independence. I am proud to say that, despite many challenges, I left Tanzania after two months with all the data I set out to collect, and that I gathered it in the most methodological way possible. At Stanford it is easy to get lost in the masses of amazingly accomplished students. Going to Tanzania showed me that I can stand on my own two feet, applying the knowledge I have learned at Stanford to conduct valid and important research in a foreign setting.

*Ali's gap year in Kenya and Indonesia inspired the research she continued in Tanzania. In these places, she met incredibly resilient and loving people who attributed their ability to overcome adversity (death, poverty, interpersonal conflict, etc.) to belief in a higher power. Read more about her project and the motivation behind it:*

**Maggioncalda:** An incident that really motivated me to study this phenomenon seriously was a conversation I shared with an incredible 14-year old Kenyan orphan, appropriately named Moses. One

day I asked him how he managed to be so optimistic and strong for all his younger siblings, despite the seemingly insurmountable challenges he faced. He simply said, "Ali, God has a plan for me. I have faith." Though not religious myself, I became fascinated by the powerful role religion can play in people's lives and wanted to better understand the relationships between spirituality, religiosity and psychological resilience. I took a year of Swahili, found amazing advisors and an on-the-ground organization to partner with (thank you, Support for International Change!), and received a UAR major grant. I surveyed 280 rural Muslims and Christians about religiosity, spirituality and protective factors for psychological resilience (self-esteem, self-control, optimism, access to resources, and feelings of being loved and supported.) I also conducted 20 interviews. Out of

respect and gratitude for my participants, I feel I have a duty to share the powerful stories that I collected.

*How did your time abroad shape your undergraduate experience?*

**Maggioncalda:** Though Stanford is an incredibly diverse and open-minded place for the most part, I have observed quite a bit of negativity towards students who are openly religious. Many students seem to think that intelligence and belief in God are contradictory, even

mutually exclusive, and though we have very strong and vibrant religious communities, I don't see much mixing of religious and non-religious communities. I confess that even I devalued religion before embarking on this "thesis journey." My mother is an evolutionary biologist and I have grown up in Palo Alto without much exposure to religion. That said, in preparing for my project, I felt an outpouring of support from friends and classmates who wanted to share their religious experiences with me. Girls in my sorority took me to Muslim and Christian services, friends on my study abroad program shared personal accounts of God's role in their lives. When I piloted my survey instrument, Swahili-speaking Stanford students voluntarily skyped and met with me for hours to fine-tune my translated survey. On the ground, while conducting 20+ hours of interviews, people shared intimate details of their lives with me. I am so grateful to everyone who has helped me with this project and I have felt a shift in mindset both intellectually and personally. Though I used to only tolerate and accept religious views, I now genuinely respect them.

## Teaching Future Environmental Health Policy Makers: *An interview with Larry Goulder*



Photos courtesy of Larry Goulder

For more than a decade, Larry Goulder, Shuzo Nishihara Professor of Environmental and Resource Economics and the first Catherine R. Kennedy and Daniel L. Grossman Fellow in Human Biology (since 2004), has been teaching Sophomores in the HumBio Core to recognize and assess different policy options for tackling important environmental and health problems. As faculty co-coordinator for HumBio 4B, Environmental and Health

Policy Analysis, Goulder currently works closely with Laurence Baker, Professor of Health Research and Policy and by courtesy, of Economics, to teach HumBio students about important contemporary environmental and health challenges and give them tools to analyze and evaluate policy options that confront them. Goulder's lectures address a range of issues, including global climate change, air and water pollution, the loss of biodiversity, and the pressures from growing human populations. One of the key goals of the course is to help students understand where private markets do a very good job meeting human needs and wants – and where markets perform poorly. His core lectures look at ways that public policy can potentially improve the functioning of private markets. Goulder emphasizes the importance of giving students a realistic view of public policy, one that recognizes that government intervention sometimes succeeds but also can fail. “My students come to recognize that although nearly all economists believe that government interventions can, in theory, improve the functioning of markets, in fact there are important disagreements among economists and other interested parties as to whether the government will be capable of achieving that potential.”

When asked about how he engages students at a personal level with the material he is teaching, Goulder points to the subject matter. “It’s easy to make the material relevant to the students. Environmental and health issues are always in the news, and students can’t help but see the relevance when I talk about issues that have just appeared in the newspaper or on the internet.”

Goulder does not shy away from revealing his own passion about the issues. And he gets great satisfaction when he senses that he has kindled similar passion in his students. His mission is to make HumBio students aware that these challenges are their challenges - that they are the future policy makers, educators, and health care professionals who will inherit and be charged

with solving the problems of today. A HumBio graduate remembers the impact of his lectures: “Professor Goulder showed us why these topics should matter to us – that the health of the environment is intimately linked to our own health and that we have the power to make positive change.”

Goulder openly shares one of the hurdles he has faced during his time teaching in the HumBio core: “Teaching in HumBio is very rewarding - but it also has its challenges. The interest profiles of the HumBio students vary greatly and some students come into the classroom with limited prior exposure to public policy. It’s a challenge to get them interested in a new field and it’s especially rewarding when I succeed.”

Goulder received his Ph.D. in economics, but his educational background extends to other areas. As an undergraduate at Harvard he majored in philosophy, focusing considerably on moral philosophy. He affirms that his background in philosophy proves useful in his classes when he considers the fairness of policy options and when he discusses the ethical obligations of humans to other species. Goulder also has a background in music. “During two summers of my college years and for a year immediately following my graduation from college, I studied music theory and composition in France.” He studied under the world-renowned teacher Nadia Boulanger, who mentored many of the leading composers and musicians of the 20th century, including Aaron Copeland, Quincy Jones and Leonard Bernstein. Goulder enjoys playing piano and guitar, and takes great pleasure



Goulder in Alaska, 2013

in composing music, “Music has always been kind of magical for me. When I’m writing a song, oftentimes I don’t know how the melodies or harmonies arrive, yet they do arrive somehow and it’s wonderful when they do.”

Goulder says the highlight of his teaching comes from passing the torch: “I get a great deal of satisfaction when I feel that I’ve inspired a student or when a student writes to me and says ‘You’ve really sparked my interest and I want to pursue environmental and health policy as a career.’” To read more about Larry Goulder's work, visit his [website](#) where you will also find links to recent publications.

ALUMNI NEWS

### Jacus Elected Fellow to the American College of Environmental Lawyers

[John Jacus](#) (HB '79, JD '84), partner at David Graham & Stubbs LLP, was elected as a Fellow to the American College of Environmental Lawyers for 2013. Jacus is being recognized for his distinguished experience and high standards in the practice of environmental law. The Fellows are chosen by their peers based on achievements made in the diverse field of environmental law and policy, over a minimum of a 15-year period. Jacus represents clients under all major federal and state environmental laws and regulatory programs, including the Clean Air Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, Clean Water Act, and National Environmental Policy Act. Congratulations!



### A Home with a Future

Lauren Gokey (HB '13) was on the communications team of Stanford's Eco-House student project which was entered in the U.S. Department of Energy's Solar Decathlon, held in October 2013. Together, 60 Stanford students from different majors envisioned, designed and built the house. The home was then reassembled at Stanford's [Jasper Ridge Biological Preserve](#), where the ranger and family will eventually reside. This team of students was the only one of 20 teams to win two top honors: 1st in affordability and 3rd in market appeal. Talk about an interdisciplinary approach to solving the world's problems...one house at a time. Read more [here!](#)



photo courtesy of the Stanford Report

FACULTY NEWS

### Sit to Stand boosts productivity

[Cathy Heaney](#), Associate Professor (Teaching) in Psychology and in Medicine, ran a 12-week pilot study and showed that Sit to Stand desks help employees rise to the occasion of sitting less during their workday, boosting productivity and energy. Heaney's study is a first step toward identifying meaningful guidelines for how much of the workday employees should sit or stand in order to avoid the negative health consequences of sitting too much. Heaney teaches the popular HumBio classes, Community Health Psychology and Community Health Assessment. [Click here](#) to read more.



Photo courtesy of Stanford Center for Longevity

### Congratulations to HumBio Faculty!

[Christopher Gardner](#) was promoted to Professor (Research) of Medicine (Stanford Prevention Research Center). Gardner teaches the ever popular Human Nutrition HumBio course. Enjoy a [Livin' La Vida Low Carb interview with Gardner](#) on Low-Carb vs. Low-Fat Diet.



Photo courtesy of Christopher Gardner

[David Lyons](#), Professor (Research) in Psychiatry and Behavioral Sciences, who coordinates and teaches the Winter B-side Core course, "Behavior, Health and Development," was named the Catherine R. Kennedy and Daniel L. Grossman Fellow in Human Biology, joining Walter Scheidel of Fall B-side and Larry Goulder of Spring B-side. Lyons' intellectual contributions and HumBio community spirit are truly appreciated.

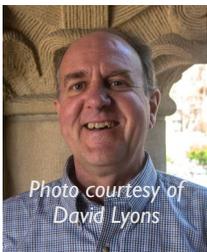


Photo courtesy of David Lyons

[Bob Siegel](#), renowned to many HumBio alumni for his Human & Viruses classes, was promoted to Professor (Teaching) in Microbiology and Immunology. Virtually revisit Stanford by going on [Siegel's Stanford Safari 2013](#).

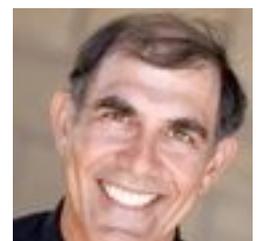


Photo courtesy of stanford.med.edu

STUDENT NEWS

## Hillary Streeter (HB '14) explores gender stereotypes and consequences for LGBT students in “Crossing the Line”

Hillary Streeter’s documentary film “Crossing the Line” explores issues around homophobia and gender stereotyping in sports at Stanford. The project was supported by the Bingham Fund for Student Innovation in Human Biology. Streeter’s documentary was shown during panel discussion events at both Cal Berkeley and Stanford this year and can be streamed through the Stanford University Archives by clicking [here!](#)



Photo courtesy of Hillary Streeter

NEW COURSES

## Principles of Epidemiology



Photo by Carlos Seligo

[Lianne Kurina, PhD](#) joined the Stanford faculty as an Associate Professor (Teaching) of Medicine in the Section of General Medical Disciplines. Kurina is teaching HumBio 151P, Principles of Epidemiology, this spring. Kurina received her undergraduate degree from Princeton and then her PhD in biology from Stanford. She transitioned to epidemiologic research at the University of Oxford and has since conducted research focused on the interplay of social and psychological factors and health. She is currently studying disability trajectories of active duty U.S. Army soldiers and sleep patterns among older Americans. Prior to moving to Stanford, Kurina taught courses in epidemiology, data analysis, and women’s health at the University of Chicago for 10 years. Principles of Epidemiology is one of her favorite courses to teach because it introduces students to how medical and epidemiologic researchers conduct, interpret, and judge studies aimed at improving human health. How do we decide which behaviors or environmental exposures damage – or improve – our health? How do we decide which medical treatments

are most effective? And how do we judge the quality of the evidence provided by any given research study? The ability to critically evaluate epidemiologic studies is essential for clinicians trying to provide the very best care for their patients and for non-clinicians interested in incorporating the results of epidemiologic studies into their own health practices. In the Winter, Kurina also started teaching HumBio 88: Introduction to Statistics for the Health Sciences. In this course, students learn the statistical tools used to describe and analyze data in the fields of medicine and epidemiology. This very applied course relies on current research questions and publicly available data. Students gain proficiency with Stata to do basic analyses of health-related data, including linear and logistic regression, and become sophisticated consumers of health-related statistical results. Welcome to HumBio, Dr. Kurina!

## Human Physiology

[Peter Kao, MD, PhD](#), Associate Professor of Medicine in the Division of Pulmonary and Critical Care Medicine, began teaching HumBio 133, Human Physiology this Winter. He received his AB (Chemistry and Physics, 1979) and AM (Chemistry, 1979) degrees from Harvard University, and PhD (Biochemistry, 1986) and MD (1988) degrees from Columbia University College of Physicians and Surgeons (Medical Scientist Training Program). Kao was drawn to California by its natural beauty and career opportunities, and completed Residency in Internal Medicine, Fellowship in Pulmonary and Critical Care Medicine and a Howard Hughes Medical Institute research fellowship in immunology and gene regulation at Stanford University Medical Center. He joined the Stanford faculty in 1993. He directs a laboratory research program studying lung repair after injury, and novel transcriptional regulators of cell growth and T-cell activation. Kao serves as the Pulmonary block director for the Human Health and Disease pathophysiology course for Stanford medical students (Inde 221), and teaches a sophomore seminar during the Fall quarter, Respiration (Med50Q). Kao’s favorite course during medical school was Physiology, and he is truly delighted for the opportunity to revisit this subject and update his understanding with the additional perspectives provided by both clinical experiences and basic research. He strives to transmit this enthusiasm to Stanford students contemplating careers in the health profession. Kao serves as Co-Resident fellow with Kim Wisckol in Castano House, Manzanita Park, where they direct the Community Leadership program that encourages students to learn from each other. Kao enjoys outdoor activities that include camping, skiing, cycling, and Masters swimming. Welcome to HumBio, Dr. Kao!



Photo courtesy of Peter Kao

TED TALKS

RECENT HUMBIO HAPPENINGS

STAY IN TOUCH

In case you missed these fantastic TED talks!



**Nathan Wolfe (HB '92)**, Lorry I. Lokey Visiting Prof in Human Biology, Founder and CEO of Metabiota and Founder of Global Viral gave the TED talk, "[What's left to explore?](#)"

**Anne Fernald**, Josephine Knotts Knowles Professor of Human Biology recently spoke at TEDx Monterey on "[why talking to kids matters.](#)" Stay tuned. The talk will be posted on the TEDx Monterey site any day!

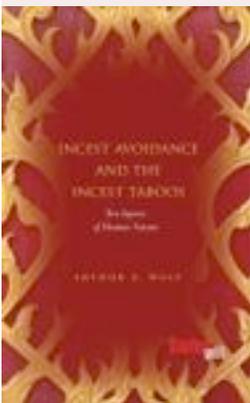
And three more of the HumBio staff's TED favorites:

**Sir Ken Robinson** on "[how schools kill creativity](#)"

**Brene Brown** on "[the power of vulnerability.](#)"

**Kelley McGonigal** on "[how to make stress your friend](#)"

Like the TED talk format? Join us on May 10th, 2014 for [TEDxStanford](#), a day full of thought-provoking short talks and performances program at the CEMEX stage. This year's theme is "Above and Beyond." The event also will be available via livestream video.



**NEW FACULTY BOOK:**  
*Incest Avoidance and the Incest Taboo: Two Aspects of Human Nature*  
By Arthur Wolf  
Read more [here.](#)

[Jennifer Pinto-Martin](#) HB '78, PhD, MPH, the MacInnes Professor and Chair of the Biobehavioral Health Sciences Department at the University of Pennsylvania School of Nursing and Perelman School of Medicine, gave a HumBio-sponsored talk to Stanford and the broader community on the Epidemiology of Autism Spectrum Disorder: What we know and what are we investigating? Pinto-Martin was awarded the TIME magazine Top Ten Parenting Finding of 2011 for her Pediatrics publication on the prevalence of ASD in adolescents born at low birth-weight. Read more [here.](#) Pinto-Martin has had continuous NIH support for her longitudinal epidemiologic research on neonatal brain injury since 1984. Pinto-Martin also serves as the Executive Director of the Center for Public Health Initiatives, and is the Director for the Center for Autism and Developmental Disabilities.

HumBio co-sponsored a talk by [Marion Nestle](#), "Advocacy for Healthier Food Systems: from clicks to occupy." Nestle is the Paulette Goddard Professor in the Department of Nutrition, Food Studies, and Public Health and Professor of Sociology at New York University. Her research focuses on how science and society influence dietary advice and practice. She is the author of several books including, "[Food Politics](#)" and "Safe Food."

**LinkedIn**

Be part of building career connections over the generations of HumBio grads by joining the [Stanford Program in Human Biology \(HumBio\) Major Alumni LinkedIn Group.](#)



**SAVE THE DATE!**

Oct. 24, 2014 for The Homecoming Reunion Open House at HumBio

**BEYOND HUMBIO**

Alumni Panel

To participate in next Winter's panel, contact Lia: [cacciari@stanford.edu](mailto:cacciari@stanford.edu)

**STAY IN TOUCH!**

**Visit the HumBio webpage:**

<http://humbio.stanford.edu/alumni>

Send alumni news and stories to

Robyn: [rlduby@stanford.edu](mailto:rlduby@stanford.edu)

**THANK YOU!**

Human Biology extends its sincere appreciation to our supporters for their generosity. To discuss HumBio gift opportunities or make a gift, contact Denise Ellestad, Associate Director for External Relations at (650) 723-0023.



**Program in Human Biology Staff**

- Director: Paul Fisher
- Assoc. Director: Katherine Preston
- Program Manager: Linda Barghi
- Admin. Associate: Robyn Duby
- Program Support: Barbara Hunt
- Student Services Officer: Lia Cacciari
- Academic Technology: Carlos Seligo
- Newsletter: Maya Adam

This newsletter is available online:

<http://humbio.stanford.edu/newsletter>