

HUMAN BIOLOGY

STANFORD UNIVERSITY



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FALL 2019

HUMBIO: FORWARD-THINKING PIONEERS OF CHANGE



© StanfordWho / Margaret McNerny



© StanfordWho / Michael Ostacher

Since its inception, the Program in Human Biology has been at the forefront of innovation and forward-thinking methods, challenging the status quo and equipping its students with the interdisciplinary tools required to be the best leaders they could be. The Program founders' goal was to provide students with classes relevant to the era and the issues being faced during that time. That mission remains salient today.

In 1968, Herant Katchadourian, now retired professor of Psychiatry and Human Biology, developed his pioneering course, HumBio 10: Human Sexuality. The class was conceived by university administrators in the hopes of fostering dialogue with students about pregnancy, premarital sex, and sexually transmitted infections (known then as venereal diseases). In its first year, 1,035 students took the course. As the conversation about human sexuality evolved, so did the course. Herant incorporated additional topics including AIDS, homosexuality, and sexual harassment and rape. Human Sexuality, which quickly became known as "hum-sex" reached over 20,000 students in the 30+ years that Herant taught the class.

Another landmark and progressive course offered by Human Biology came at the time of the debate over women's reproductive rights, specifically abortion and a woman's right to choose. While Roe v. Wade (1973) was a legal milestone on a national level, Dr. Carl Djerassi, who quickly became known as the 'father of the

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'Pill', also helped in paving the way for the sexual revolution of the 1960s and 70s. A professor of chemistry at Stanford, he was also the chemical creator of the birth control pill in 1951. In the early 70s, Carl began teaching his class on the Biosocial Aspects of Birth Control, having a deep interest in the relationship between and effects of science on society.

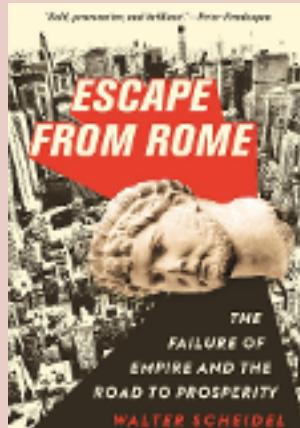
Today, we are excited to offer two important and highly topical courses for our time: HumBio 163: The Opioid Epidemic: Using Neuroscience to Inform Policy & Law taught by Margaret McNerney and Michael Ostacher and HumBio 123E: Health Economics & Policy: Exploring Health Disparities, Child Health & Healthcare Spending taught by Maya Rossin-Slater.

The opioid epidemic's scale and reach in the US are staggering. HumBio 163 takes students through the history and science of opiates and the addiction epidemic. In this thought-provoking seminar, Margaret and Michael engage the students in critical thinking didactics, activities, and discussions to help students not only understand the epidemic but also learn how this information can be used in public health policy to reverse its damages. A number of guest speakers, from those who have suffered from addiction to those with the power to influence federal policy, enrich the course enormously.

In HumBio 123E, which was taught last Winter 2019 and will be taught again in the coming Winter Quarter 2020, Maya challenges students to think critically about the role the

government and public policy plays in issues related to population health, healthcare, and health policy. Topics of study and discussion will include the demand for health care, socioeconomic disparities in population health outcomes, health insurance design, the role of competition in health care markets, determinants of health care spending, technological change in the health care sector, and pharmaceuticals and the opioid crisis. At this time in our nation, when access to health care is fragmented and the topic of such important debate, this course lays essential groundwork for future leaders in this field.

FACULTY SPOTLIGHT: NEW BOOK BY WALTER SCHEIDEL



"Why the Roman Empire fell is often discussed in history classes and textbooks. But new research by Stanford historian Walter Scheidel considers an angle that has received little scholarly attention: Why did it – or something similar to it – never emerge again? Scheidel discusses in a new book why the Roman Empire was never rebuilt and how pivotal its absence was for modern economic growth, the Industrial Revolution and worldwide Western expansion. Freed from the clutches of an imperial monopoly, Europeans experimented and competed, innovated and collaborated – all preconditions for the world we now inhabit, he said."

Read his full interview with Melissa De Witte [here](#).

Excerpt pulled from Stanford News



© Daniel Hinterramskogler

15 Questions with the New Program Director: Lianne Kurina, PhD!

The Program would like to formally welcome Lianne Kurina, PhD, our new Bing Director of the Program in Human Biology! Dr. Kurina has been an inspirational professor since 2013, teaching courses in epidemiology and statistics for Human Biology. She has also partnered with military colleagues to develop the Stanford Military Data Repository. We are excited to have her lead HumBio into the future as we near our 50th Anniversary in 2021!

1. Where Are You From: Boston, MA

2. Favorite Hobby: Horseback riding

3. Three Interesting Facts About You: (1) I met Barack Obama just prior to his successful run for the presidency while walking our greyhound in Chicago; (2) I spent most of my PhD out hiking on young lava flows in Hawai'i; and (3) My husband, Jonathan Pritchard (Biology & Genetics faculty) was in the running movie *Without Limits*

4. Favorite Holiday: Thanksgiving – I love food and being with family!

5. Go-To Productivity Trick: Quitting out of email!

6. Favorite Movie: This is embarrassing, but I sang acapella in college and perhaps for that reason I enjoy the Pitch Perfect movies?

7. Who Would You Swap Places With for a Day?: A dolphin trainer, no question about it.

8. Who Inspires You: There are so many! Family members, humanitarian workers, and – this will sound cheesy but is completely true – HumBio alums, many of whom are dedicating all of their energy and, in some cases, putting themselves at substantial risk, in order to help others.

9. Guilty Pleasure: Mystery novels, like the Inspector Gamache series, and silly English mysteries like the Her Royal Spyness series. Total escapes.



10. When I'm not at HumBio You Can Find Me: At home with my kids, at the Stanford Red Barn, or up in Mendocino.

11. Academic Passion: Coming up with actionable knowledge to promote well-being among active-duty military service members.

12. Secret Talent: Turning any student response in class into a right answer.

13. Your Motto in Life: Be kind

14. Favorite Part of my Job: Teaching!

15. Best Piece of Advice: Do not worry about what others will think of your career choices; make the choices that are best for you.



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Congratulations to Steven Fahy '18 for being named the Pac-12 Cross Country Scholar-Athlete of the Year!



© Photo Courtesy of Joy Zhang

Joy Zhang HumBio '10, MBA '18 and Madeline Dangerfield-Cha MBA '18 connect Stanford and other college students to senior citizens in need of companionship through their program **Mon Ami**!



© KateCourtney.com

Congratulations to Kate Courtney '18 for becoming the first American in 17 years to receive the 2019 Union Cycliste Internationale Mountain Biking World Cup Overall Title!

FACULTY SPOTLIGHT: JAMIE ZEITZER



© Norbert von der Groeben / Stanford Medicine News

Dr. Jamie Zeitzer, Associate Professor (Research) of Psychiatry and Behavioral Sciences at the Stanford Center for Sleep Sciences & Medicine and a group of Stanford researchers have published new research findings on sleep. They found that a combination of light and cognitive therapy can increase how long teenagers are able to sleep each night. Using light therapy helped to reset the teens' circadian clocks while the cognitive therapy motivated them to go to sleep earlier.

Read more about his findings [here](#).

Class of 2020 Student Highlight



© Courtesy of Kathryn Plummer

Kathryn Plummer

Concentration: Exercise & Sports Physiology

What's Next: Professional Volleyball, then PT school!

"My HumBio experience is something that I will cherish forever because I got a world-class education and met some of the best people, both students and professors. I learned more than I knew was possible in 4 years through this program and I couldn't be more thankful."



© Stanford Athletics

Derek Waldeck

Concentration: Human Performance & Physiology

What's Next: Professional Soccer, then PT or PA school!

"HumBio gave me far more than I could have ever imagined. The way that I now approach critical thinking, in depth analysis, and interactions with people every day has changed because of my experience in HumBio, and for that I will be forever grateful."

STUDENT SPOTLIGHT: SAVANNAH MOHACSI

Savannah Mohacsi '20, who integrates her passion for art with her interest in medicine, spent her summer interning at Stanford Health Care where she and another student helped to execute an 18-by-10-foot mural designed by the conceptual artist Sol LeWitt.

"She said of her internship experience: 'Being able to create this mural in a hospital space has allowed my artistic skills to serve a greater purpose, knowing that patients and families who are experiencing the most challenging and emotional times will be able to look to the LeWitt mural for a brief moment of refuge and experience the



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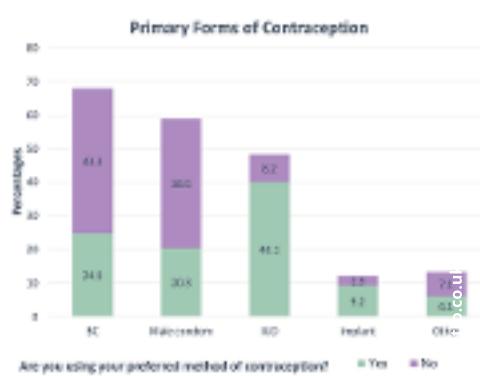
unexpected brilliance that the piece exudes from its colorful geometric array" (Excerpt from Stanford News).

You can read more about the project [here](#).



© Courtesy of Kayler Detmer

BINGHAM FOUNDATION FUND FOSTERS INCREDIBLE STUDENT INNOVATION



The Bingham Foundation Fund for Student Innovation is a resource that allows our bright and caring undergraduate students to boost their leadership skills by innovating and creating educational and inspiring projects for the Stanford community, and beyond. The fund provides students with the opportunity to be creative and innovative with projects that do not typically fall neatly into the categories covered by other undergraduate grants.

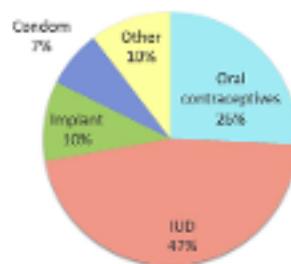
In 2018-2019, the Bingham Foundation for Student Innovation Fund in Human Biology supported Julia DiTosto '19 in her synthesis research project, "Contraceptive Use and Preference Among Undergraduate

Students". The synthesis project allows Human Biology students the opportunity to bring their personal and academic interests together into a culminating intellectual and creative project. Julia researched patterns in the use of contraception, contraceptive preferences, and factors associated with the use of or preference for certain contraceptives.

Using an electronic survey that was answered by over 500 Stanford undergraduate students, Julia found that the majority of respondents who were sexually active were using some form of contraception, however only about 40% of the students were using their preferred contraceptive method. She found contraceptive pills to be the most common method used by those who were not using their preferred



Females who are not using their preferred method: what would you like to be using?



method and IUDs for those who were happy with their method. She also discovered that about half of the respondents were interested in having improved access to and information on medication-based abortions in student health clinics.

Overall, Julia's study concluded that the majority of students would prefer to be using long-acting reversible contraception (LARC) such as IUDs but lack information about them and have difficulty obtaining them.

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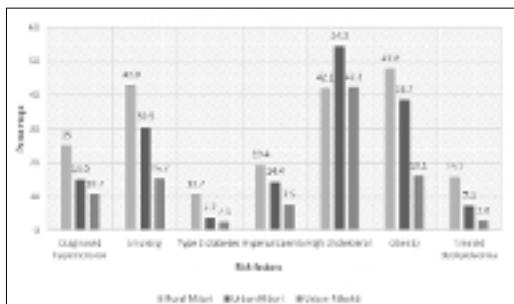
For the 2019-20 academic year, we have three students executing really exciting and unique projects.

Kayler Detmer's '20 project promoted childhood literacy and health living through physical activity and nutrition in her hometown of Twin Falls, Idaho. Thanks to funding from the Bingham Foundation, and the support of local businesses, collegiate athletes, and other volunteers, Kayler was able to successfully host "Read, Run, and Rise-Up," a full day event for children and their families to attend this summer. The event included many exciting activities for children of all ages including reading stations, three-legged races, and plenty of prizes, food, and giveaways.

Layla Joseph '20 completed her project, "Measuring the Outcomes of Hauora Maori Education in Medicine" over the course of her summer. Working with

specialists in the field of Maori Studies and the Maori Center at the Otago Medical School (OMS), Layla studied the educational experiences of OMS graduates and how this affected their implementation of Hauora Maori in New Zealand's public hospitals. This in turn allowed them to analyse how the education of OMS graduates impacted health disparities in the region. Ultimately, her project looked to better equip OMS graduates to serve Maori patients by improving the cultural competency training in medical school.

Courtney Gao '20 brings HumBio students and faculty together through a film club series titled "Spotlight." Over the summer, Courtney invited Gavin Sherlock, Associate Professor of Genetics and a lecturer in the Human Biology Core, to discuss the documentary series Life on Earth with Sir David Attenborough and how the series fueled his own passion for evolution and genetics. In October, she had David Magnus, Professor in Medicine and Bioethics facilitate a conversation about bioethical choices in an episode of the hit TV show, ER. Her hope is that in creating a space for intellectual engagement and interaction and robust conversation, students will be able to continue to explore their interests, develop closer relationships with faculty, and further navigate their pathway at Stanford and beyond.



Some of Layla's Findings on Maori Health Disparities

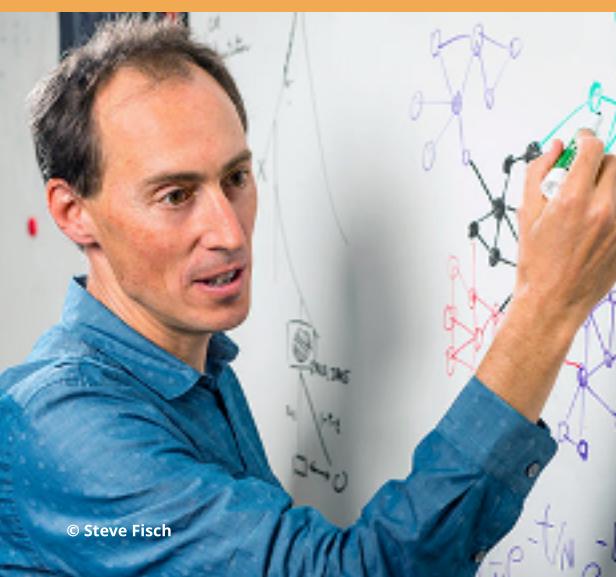


© Courtesy of Courtney Gao



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FACULTY SPOTLIGHT: JONATHAN PRITCHARD



"In a new study, Stanford researchers, [including Jonathan Pritchard, Professor of Biology and Genetics] and their European colleagues drew on ancient DNA to construct the first genetic history of Rome...Those genetic data reveal at least two major migrations into Rome, as well as several smaller but significant population shifts over just the last few thousand years... Notably, DNA analysis revealed that as the Roman Empire expanded around the Mediterranean Sea, immigrants from the Near East, Europe and North Africa pulled up their roots and moved to Rome. This significantly changed the face of one of the ancient world's first great cities."

"The historical and archaeological records tell us a great deal about political history and contacts of different kinds with different places – trade and slavery, for example – but those records provide limited information about the genetic makeup of the population."

Read more about the study and their findings [here](#).

Excerpt pulled from Stanford News



WELLNESS WEDNESDAY HEALTH & WELLNESS INITIATIVE

An average of 3 out of 4 college students report being stressed during the school year. In an effort to promote healthy living, wellness, and opportunities to destress for the HumBio community, this Fall HumBio introduced a new event series entitled "Wellness Wednesdays". These low-key events are planned to take place roughly every other week over a 4-hour window, offering students the opportunity to take a break from all their hard work to relax and have fun with their classmates.

Our first event, Wellness Wednesday: Succulents & Boba, invited students to decorate and pot their own succulents. With music playing and the doors wide open, we had roughly 65 students and a number of faculty and staff come through the event, appreciating the chance to unwind from the stress of midterms and enjoy the camaraderie among those who attended. It was deemed by all a smashing success!

Since the pilot, we have hosted pumpkin painting and apple cider, holiday cookie decorating, paper snowflake making, and hot chocolate. Our goal is that by offering students opportunities to come together during



© Samantha Cooper

times of stress to relax and support one another, we will not only be helping to improve the mental well-being of our students but also continue to foster our tight knit and supportive community.

We hope to host a number of exciting events planned for the future including a play-doh power hour, board games, and jellyfish air plants.



© Jessy Frydenberg

New Course Offerings

HumBio 14: Understanding Connections Between Food & Environment

HumBio 178A: Introduction to Disability Studies: Disability & Technology (Eng 108A)

HumBio 116: Climate Perspectives: Climate Science, Impacts, Policy, Negotiations & Advocacy (PubPol 116)

HumBio 179B: Music & Healing
(Music 39B)

HumBio 122E: Reducing Health Disparities & Closing the Achievement Gap through Health Integration in Schools
(Educ 429, Peds 229)



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HumBio Bookshelf

Books recommended by faculty and staff

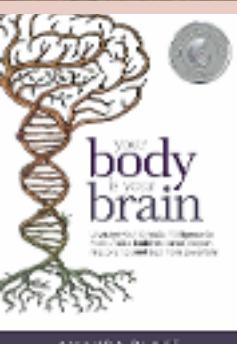
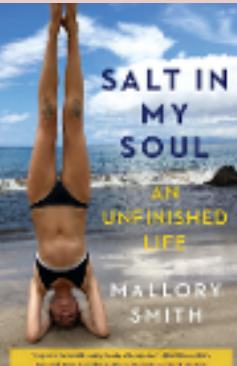
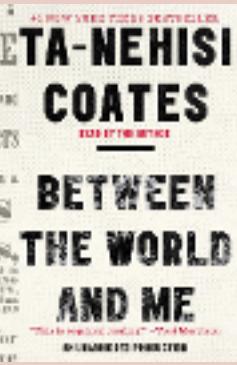
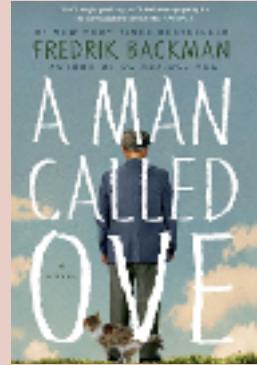
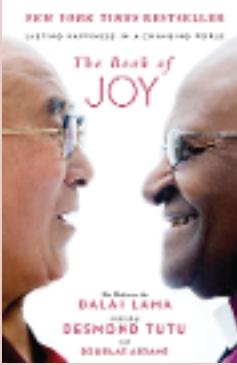
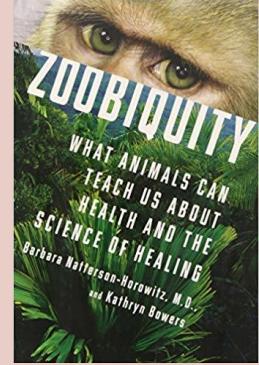
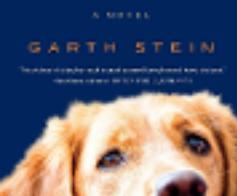
David Attenborough

**Life
on Earth**



THE SUNDAY TIMES BESTSELLER

NEW YORK TIMES BESTSELLER
**THE ART OF
RACING IN
THE RAIN**



© Linda Cicero / Stanford News Service

The Retirement of Russ and Anne Fernald

After three decades of achievements, service, and contribution to the Human Biology program, Drs. Anne and Russ Fernald have retired from Stanford University. Anne and Russ are known worldwide as two of the most forward-thinking and talented investigators in their respective fields and their work has influenced and inspired many. Both gifted teachers, their instruction for many years in the Human Biology core courses, as well as other courses, at Stanford impacted the development of many students. Russ' inspired leadership of the Human Biology Department was another key contribution. The Program in Human Biology has and will continue to benefit from the Fernalds' legacy.

Well-known for his research on how social behavior influences the brain, Russ first joined Stanford's Psychology Department in September of 1990. Soon after his arrival, he began lecturing in the HumBio Core, HumBio 4A, now known as "The Human Organism." In April 1994, Russ was endowed with the Benjamin Scott Crocker Professorship in Human Biology and in 1996, he took over the leadership of Human Biology as the Program Director.

Russ directed the program with great success for eight years, during which his colleague, dear friend, and co-teacher of the Core, Craig Heller, described his leadership as innovative and passionate. Professor of Neurology and

Neurosurgery and Professor of Biology, Robert Sapolsky looks to Russ not only as a model for scientific resilience but also as an extraordinarily uplifting and energetic spirit. In the lab, the office and the classroom, Russ was known to cultivate a connected culture of positivity and appreciation. Even in the face of chaos, Robert says that Russ remained optimistic, upbeat, and was always excited about what was coming next in science. Russ' tenure as HumBio director was also marked by a number of key innovations, including an invigoration of the HumBio Core sequence, early adoption of the internet as a teaching tool, and the



© Linda Cicero / Stanford News Service



establishment of the Service-Learning Program.

Anne joined Stanford as a faculty member of the Psychology Department in September of 1985. She then went on to become the Josephine Knotts Knowles Chair in Human Biology and the Director of the Language Learning Lab in Psychology. Known for her passionate, thoughtful, and caring investment in her students and colleagues, Anne taught on the B-Side of the Core in the course currently known as Behavior, Health, and Development, for 22 years. Human Biology was fortunate to have Anne, a leading expert in language development, not only join the team and help the HumBio Program flourish but also become an incredible mentor to countless students and colleagues over the years.

With Anne's retirement, Michael Frank, the current David and Lucile Packard Professor of Human Biology and Director of the Symbolic Systems Program, will be taking over her teaching in the Core. Having worked with Anne as both a student and a colleague in the Psychology Department, Mike emphasizes how important Anne's attention to intellectual rigor was to his personal and professional development as a scientist. He maintains that her requirement that he and his classmates be clear, thorough, and correct in their reasoning contributed to his development into the scientist that he is today and serves as an example to

the broader field of language development research.

Together, Anne and Russ started the HB REX program, which has been an incredible gateway to innovative research for many Human Biology students over the years. Anne and Russ have also mentored countless students to success such as Vinita Kailasanath '04 and Elsie Gyang Ross '04, who worked closely with Russ and Anne, respectively, during their time as undergraduates at Stanford.

When asked about working in Russ's lab on her honors thesis and resulting publication on hormone receptors, Vinita, now an intellectual property, technology, life sciences, and commercial deals attorney at the Arnold & Porter law firm, spoke fondly of her experiences. She loved that Russ always promoted a positive culture. Russ highlighted the important role that each team member played in the research they were doing and would always give credit where credit was deserved.

Similarly, Elsie, who is now an Assistant Professor of Surgery (Vascular Surgery) and of Medicine (BMIR) at the Stanford University Medical Center expressed her sincere

gratitude for the incredible support and strong mentorship she received from Anne throughout her college experience, especially on her thesis on how infant-directed speech influences infant attention in different languages. She emphasized the sheer devotion and investment Anne put into the personal and professional success of her and her classmates.

The Program would like to thank both Russ and Anne for everything that they have done for the program and for all of the faculty and students who had the opportunity to cross paths with this extraordinary couple. Their legacy as educators, administrators, and mentors among many other roles will most certainly continue to impact the Stanford community and beyond. We wish them the best of luck in their future endeavors!





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Congratulations to Senior Jenna Gray for being named the Setter of the Year by the Pac-12 Volleyball Conference for the third time! Just one of her many accomplishments!

Congratulations to Mustafa Fattah '20 for being named a 2020 Marshall Scholar!

Fattah will build on his undergraduate studies by pursuing a master's degree in neuroscience at Cambridge University. He applied for the Marshall Scholarship to engage with scholars in the U.K. and broaden his worldview.

“My focus has been on neuroscience, specifically on imaging neurodevelopmental disorders, and I can’t wait to expand the scope of my neuroscience knowledge through the Marshall Scholarship,” Fattah said.



© Alex Kekauoha

A HUGE congratulations to Dr. Julie Parsonnet for being elected to the National Academy of Medicine!

Dr. Parsonnet, Professor of Health Research & Policy (Epidemiology) and the George DeForest Barnett Professor in Medicine teaches HumBio 57 - Epidemic Intelligence: How to Identify, Investigate, & Interrupt Outbreaks of Disease.

Dr. Parsonnet specializes in adult infectious diseases. She is particularly interested in gastrointestinal infections, including *H. pylori* infection and diarrheal diseases, tuberculosis and illnesses with prolonged fever. She also studies the way infections contribute to the development of chronic diseases including cancer, allergy and obesity.



© Stanford Healthcare



© Photo courtesy of Stanford Athletics

Congratulations to Josh Orrick '21 and the men's water polo team for winning their first NCAA title since 2002!



© Jim Shorin/isiphotos.com

Congratulations to Beatti Goad '20, Ceci Gee '20, Belle Briede '21, and the women's soccer team for bringing home their third NCAA championship title!



© David Hague / The Stanford Daily

Congratulations to Audriana Fitzmorris '20, Jenna Gray '20, Kathryn Plummer '20 and the women's volleyball team for claiming their third national title in four years after an incredible sweep over Wisconsin on Saturday, December 21!

Outside Hitter, Kathryn was named the tournament's Most Outstanding Player and the National Player of the Year by VolleyballMag.com while setter, Jenna was named the Honda Sport Award winner for Volleyball. Congratulations!

HUMBIO ON SOCIAL MEDIA



Director's Message

Welcome to Human Biology! I am thrilled to be the new Director of this wonderful program!

In my first year of directing, I hope to meet as many of you as possible. My own path – trained in biology and ecology and then moving to epidemiology – is a little like a Human Biology story in and of itself. After my PhD at Stanford in 1998, I spent time at Oxford and then the University of Chicago before returning to Stanford six years ago. It is terrific to be back at this optimistic and ambitious institution, and a particular privilege to now be directing HumBio. In addition, I will continue to teach – HumBio 88 (Introduction to Statistics for the Health Sciences) and HumBio 154B (Principles of Epidemiology) – and pursue my research program focused on active-duty service member health outcomes.

Looking to the future, I plan to continue the great work of Paul Fisher. Broad goals of mine include strengthening community among our current students and alumni, ensuring excellence in teaching for all of our course offerings, and broadening knowledge about and access to research for our students.

Feel free to reach out to me at lkurina@stanford.edu or stop by my office in Building 20, Room 22P.

Looking forward to the wonderful work that we will all do together!



Lianne Kurina, PhD
The Bing Director in Human Biology
Associate Professor, Primary Care & Population Health
Director, Stanford Military Data Repository



DO YOU HAVE EXCITING NEWS OR STORIES YOU'D LIKE TO SHARE?

DO YOU WANT TO LEAD A CAREER WORKSHOP?

HUMBIO WANTS TO HEAR FROM YOU!

JOIN AND POST IN OUR LINKEDIN GROUP, SHARE YOUR STORIES ON OUR WEBSITE, OR SEND IT TO [Jessy Frydenberg](#).



Get the latest updates and see what's happening in HumBio with our new and improved Instagram and Facebook pages! Tag **@humbio** or **#humbio** to be featured on our page.

TRAVEL WITH HUMBIO PROFESSORS!

Robert Dunbar & Bill Durham: Spice Islands & Beyond, April 7-22, 2020

Robert Siegel: Galapagos Family Adventure, June 24-July 3, 2020

Bill Durham: Galapagos Expedition, July 8-17 2020

Susan Charnley & Bill Durham: Tanzania Field Seminar, September 3-19, 2020

HUMBIO STAFF

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