

HUMAN BIOLOGY

STANFORD UNIVERSITY

COMMUNICATING SCIENCE



By Katherine Preston, Ph.D.
Associate Director, Human Biology

If any single characteristic unites Human Biology majors, it is a drive to explore the connections among biological, psychological, and social factors that underlie fundamental human problems.

As professionals working to solve these problems, our graduates must be able to articulate and communicate their ideas effectively to experts in other fields, to policy makers and funding agencies, and to the general public. To translate scholarly insights into practical action, they will need to deliver complex messages that can cut through the daily deluge of scientific and health information, some of it dangerously inaccurate. In response, Human Biology has renewed our commitment to training HumBio majors

to be effective science communicators.

There are pedagogical as well as practical reasons to teach writing in science classes. Good science communication, in any genre for any audience, is about putting new discoveries as well as established ideas into context. It takes time and effort to really understand the relevant context well enough to write about it, and the most successful science communication assignments in HumBio challenge students to push themselves far beyond simply memorizing content and into a deeper appreciation of its importance. Ideally, assignments also allow students to explore their own interests and engage their creativity. And compared to routine problem sets, communication assignments may accommodate a broader range of learning styles and academic strengths

while reinforcing the same fundamental concepts.

Training in science communication begins in the Core (see the article on page 3). Faculty are encouraged to build on this foundation throughout the major, and many have solidified their science communication assignments with the help of HumBio's Writing Specialist Shay Brawn and our Academic Technology Specialist Carlos Seligo. Students may pursue serious advanced training through Stanford's Notation in Science Communication and use it to fulfill their HumBio capstone requirement.

HumBio graduates enter a diverse array of professions – medicine, public health, education, consulting, policy analysis, government, tech innovation, etc. – but virtually all will need to understand, interpret, synthesize, and express scientific content within a context suited to a given audience and situation. In the current media saturated environment, it is now more important than ever for HumBio graduates to bring clear and compelling voices to conversations about human problems.

Photo caption: For my own seminar, *The Human Plant Connection*, students produced a video tour of edible plants on campus for the ShoMe app (available in the App Store for iOS). Videos teach basic botany to interested tourists. You can see them here:

<https://api.shomediscovery.com/webapp/journeys/begin/1488>

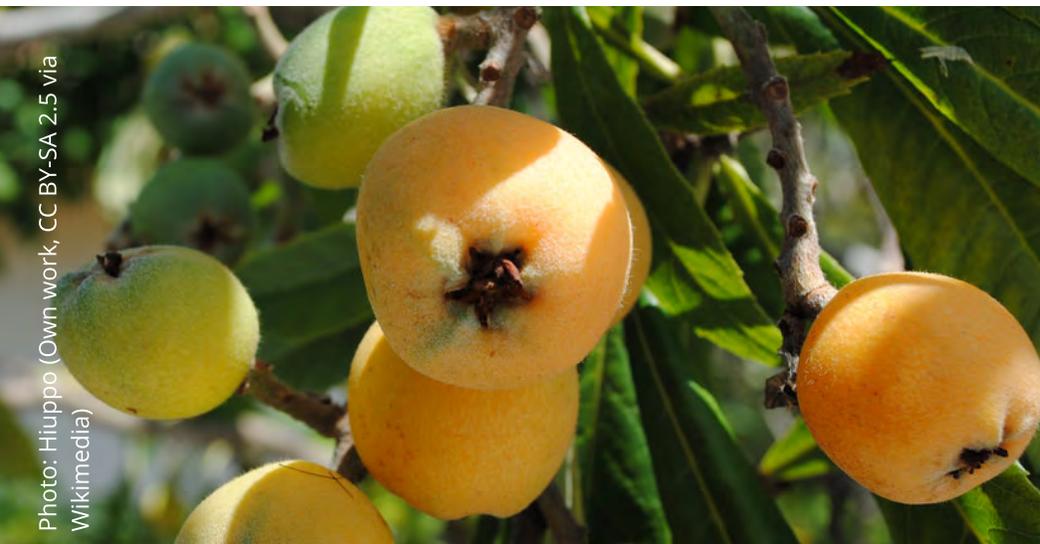


Photo: Hiuppo (Own work, CC BY-SA 2.5 via Wikimedia)



Photo: Carlos Seligo

Shay Brawn, Ph.D., (right) Writing Specialist in Human Biology, and Advanced Lecturer in the Program in Writing & Rhetoric (PWR) works with Christine Nguyen (HB '17).

In her role on campus, **Brawn helps students build writing competency over a range of topics and skill levels.**

She is an integral part of Human Biology's writing program, and values working with HumBio because it is an inviting major and she gets to see interdisciplinary communication in action. It is also satisfying to see HumBio students gradually master the craft of writing over the course of their undergraduate years. From early assignments in the Core, through upper division classes, to culminating works such as Capstone projects, Notation in Science Communication portfolios, and Honors Research theses, Brawn provides students with tools and support as they tackle writing assignments.

"Writing is a place where personal identity and intellectual work happen," says Brawn. **"I like helping students learn how to 'talk the HumBio talk,'** so that writing competency does not inadvertently become a gatekeeper."

Brawn is a ready resource for Human Biology students and faculty alike, equipping them with a common set of

writing assignment tools. **She urges faculty to develop a sense of audience in their students,** since each audience has different needs. For example, in an essay on desalination, the student must begin by considering audience, since this will effect how the topic is researched and framed. If the essay is intended for policy makers, it will focus more on cost and efficiency. If it is meant for the public, it may need to address local environmental concerns. And if it is for an audience of experts, the essay will likely emphasize the state of current technology. A student is not going to be able to meet the diverse needs of these different audiences in one short essay.

In addition to emphasizing audience, **Brawn has created rubrics and feedback structures to support maximum skill building** in student writers. By using a supportive feedback framework, faculty help students, and peers help each other, bridge the skill gap between their starting points and the expectations defined in the rubric.

An instructor in the Notation in Science Communication program, Brawn's science

MAJOR SUPPORT

communication work is concerned with the way shifts in audience and context create challenges for science writers, both popular and professional. **In one assignment, students do a deep dive into a literature review, then take what they have learned and adapt it into text that is meant for the public.** Between these steps, her students do a "half-life" assignment where they begin with a five minute scientific presentation, then cut it in half, then cut it in half again until the main idea becomes clear to the students. By distilling the work of others, students gain skills as consumers and readers of scientific content. They also gain practice at tracing data back to issues that matter to people in the "real world." Even well-educated people cannot be experts on every topic, so students need to learn how to enter dialog across disciplines. This useful skill will help them build partnerships with different stakeholders at the crux of social change.

Says Brawn, **"Many HumBio faculty have public-facing assignments. That gets students really excited about scientific communication, because they can see the stakes."**

Notation in Science Communication Portfolios

Earning a Notation in Science Communication (NSC) shows that students have mastered a rigorous, multi-year program, culminating in an e-portfolio that showcases their ability to communicate effectively across disciplines, audiences, and genres. The NSC meets Human Biology's **Capstone requirement**. **Anna Nagy curated her e-portfolio** through the lens of a concert pianist, thinking about how she will communicate with her future genetic counseling patients with clarity, precision, and empathy.

It is one thing to write an analytical paper to persuade people, it is quite different to have only a picture or a few words to emotionally engage the viewer. Through my internship I realized how important social media is in scientific conversation, and how powerful an image can be in making the public aware of an issue. Anna

bioethics.net @bioethics_net · Jan 21
#Bioethics in the News: Who invented CRISPR? Berkeley and Broad Institute will fight it out ow.ly/XkXTI

Bioethics in the News

"This [CRISPR] patent is potentially worth billions of dollars. Whoever has a patent on this could charge as much in royalties as they want and can set their price because they now have a monopoly."
- Mildred Cho, Stanford University

Source: National Cancer Institute

Anna's internship twitter post.

COMMUNICATING SCIENCE

CORE SUPPORT

Stanford requires all majors to offer writing-intensive, discipline-specific [Writing in the Major \(WIM\)](#) courses. **The Core's unique role in the HumBio curriculum makes it the most natural place to offer such training** to all HumBio majors at a formative period; yet the Core's size, pace, and rich content pose challenges to teaching writing and oral communication with effective individualized attention. To be certified, WIM courses must provide explicit writing instruction, the opportunity to revise drafts in response to instructor feedback, and assignments that address "a range of audiences and purposes" relevant to the major department. Interdepartmental programs like **Human Biology** must additionally **train students in the conventions of writing in several disciplines.** Fortunately, HumBio students now have all three quarters of the B-side to build a repertoire of communication skills through writing and speaking assignments that allow for reflection and

revision.

Until this academic year, WIM was fulfilled through an extensively scaffolded and multi-layered policy proposal assignment in spring quarter. But over the past several years, both fall and winter quarters have grown to include writing and speaking exercises, and we had the opportunity to define a

With the growing impact of science and technology on our society, the importance of communicating well and thinking critically about the massive amount of information available has never been greater.
Dr. Brawn

more [comprehensive and robust suite](#) of communication assignments that cover additional disciplines and genres. Moreover, by expanding the WIM certification to the entire B-side, **HumBio demonstrates our commitment to building strong communication skills in our majors.**



Photo: Carlos Seligo

2B: Culture, Evolution, and Society

- Academic writing assignments to practice scientific reasoning through a problem and supporting an argument with evidence specific to either human evolutionary biology or social history
- Training in revision, in response to CA comments and to peer review
- Public speaking assignment to develop a succinct logical argument
- Revision and reflection after feedback from a [Hume Center](#) oral communication tutor
- Presentation of public speaking assignment in section

Core Communication Assignments

3B: Behavior, Health, and Development

- Conference-style posters, in pairs, based on journal articles; peer review on poster and presentation in section
- Presentation of posters at HumBio Core Poster Day
- [UAR-style](#) grant proposal for a study to follow up on the article from the poster project

4B: Environmental and Health Policy Analysis

- Policy memo to engage an audience and generate interest in a proposed policy
- Comprehensive policy proposal, in teams, to address a complex environmental or health problem
- Presentation of the team policy proposal

In the advanced writing course *Farmers, Scientists, Activists: Public Discourse of Food Economies*, students act as consultants, writers, interviewers, project managers, team members and citizens while collaborating with community groups. Kaitlin Schroeder '19, a Notation in Science Communication student, works with her classmate Matt Rusk on a project to dispel food waste myths. Together, they created a [three-minute video](#) aimed at people working in campus dining halls. [Read the Stanford News article.](#)

Michaela Derby '17 and classmate Jackie Huddle created [documents and six videos](#) that tell a more holistic story of food stamps.



Photo: Stanford News

STUDENT NEWS

ACCOMPLISHED INSPIRED & INSPIRING

EMMA MATHERS '18

ON THE FRONT LINES OF THE SYRIAN REFUGEE CRISIS



Emma in the 'Life Jacket Graveyard,' a haunting place where refugees' discarded life jackets are dumped after arriving by boat on the Greek island of Lesbos.

Tired of feeling helpless about the Syrian refugee crisis, Emma took a leave of absence from Stanford to go lend a hand.

An [article](#) written by HumBio student adviser Samantha Wong began, "*The last time I talked to Emma Mathers in person, we were both stressing over our organic chemistry problem set. On the other side of the world, the Syrian refugee crisis had exploded...*" [Read the full story.](#)

Photo: Stanford News



JASON LI '18

DONALD A. STRAUSS PUBLIC SERVICE SCHOLAR

In response to the disproportionate representation of Asian Americans in Bay Area high school suicide clusters, Jason Li's project aims to provide culturally tailored, practical workshops for Asian American families to talk about mental health issues, which are often historically and culturally stigmatized.

By partnering with schools, community organizers, educators, mental health professionals and families themselves, Li will hold these workshops in vulnerable and under-resourced areas. [Read more.](#)



CONGRATULATIONS ATHLETES!

BRYCE LOVE '18

NATION'S TOP RUNNING BACK WINS THE [DOAK WALKER](#) & THE [ROTARY LOMBARDI AWARDS](#)
[READ MORE](#)

DREW SKUNDRICH '17

CAPTAIN OF MEN'S NATIONAL SOCCER CHAMPIONSHIP TEAM
[READ MORE](#)

KYRA CARUSA '19

GAME LEADER! SCORED AGAINST UCLA TO WIN WOMEN'S NATIONAL SOCCER CHAMPIONSHIPS
[READ MORE](#)

LISA MANZANETE '19

CO-FOUNDER OF FASCINATE

Inspired by an introductory seminar class, *Innovation and Communication*, students started a popular science publication, *Fascinate*. Now into its seventh publication, articles cover a range of topics:

- A Global Health Perspective on Climate Change
- Your Next Therapist Might be a Robot
- The World in Your Belly Button
- The Other Antibiotic: Viruses

Fact of the week: Parrot fish sleep in mucus bubbles of their own creation to protect themselves from harmful bacteria.

[Read more in the Stanford Report.](#)





ACCOMPLISHED INSPIRED & INSPIRING

Dr. Deborah Prentice served as the head B-side teaching assistant in the HumBio Core, and now serves as **Princeton's Provost**. Deborah studies social norms – the unwritten rules and conventions that govern social behavior. She is interested in how people are guided by and constrained by norms; how they respond when they feel out of step with

prevailing norms; how they determine what the norms of their groups and communities are; and how they react emotionally, cognitively, and behaviorally, to those who violate social norms. What a great foundation of thought to bring to her leadership at Princeton.

[Photo & bio excerpt from Princeton website.](#)

ALUMNI NEWS

Photos: Stanford Athletics

**RACHEL BUEHLER
VAN HOLLEBEKE '07
(SOCCER)**

**JACKIE FRANK DE LUCA '03
(WATER POLO)**

**INDUCTED TO
STANFORD'S HALL OF FAME**

Rachel Jackie

Photo: Kori Carter

**KORI CARTER '14
400-METER
HURDLES
WORLD
CHAMPION**

**WINNING TIME
53.07 SECONDS**

ALUMNI WEBSITE HOME TO OVER 70 STORIES



Photo: MaxPixel

Share yours - Read others' by visiting:
<https://humanbiology.stanford.edu/alumni-stories>

TIMI WUSU, MD, HB '05 UNKNOWINGLY UNDOCUMENTED



Photo courtesy of Maria Harsha Wusu

It was not until he had graduated from Stanford, and played for the NFL that his parents broke the news to Timi that he was brought to the U.S. at the age of three, and was therefore not a U.S. citizen. This delay complicated Timi's efforts to become a citizen.

Timi is working to complete his residency in medicine at Harvard and plans to return to Stanford to work with the sports teams here.

Timi's story was recently [aired on NPR](#).

Mallory Smith (HB '14) died of cystic fibrosis (CF) at the age of 25 on November 15, 2017.

A freelance writer, Mallory recently completed a book for the National Wildlife Federation called *The Gottlieb Native Garden: A California Love Story* about the importance of native plants for habitat restoration, wildlife protection and water conservation.

Mallory's area of concentration in Human Biology and Environmental Anthropology was reflected in her story *Biome*, in which she explored the similarities between her illness and the threat of invasive species to Hawaii's ecosystem.

A three sport varsity athlete in high school, Mallory went on to play for Stanford's Club Volleyball team and in her senior year they won the state championship. She loved to swim and surf, and talked about her passion for the ocean in her story, *Hide and Seek*

(<https://medium.com/@mallorybsmith/hidden-and-peek-88b4ec2903ad>), where she was able to briefly hide from CF while she snorkeled and swam with abandon. Mallory also wrote, *Give and Take*, in which CF served as both thief and teacher.

Hum Bio mourns the loss of Mallory, a vibrant member of our community, and a gifted writer who advocated for human health and the health of the earth.

Mallory was a Phi Beta Kappa member, a producer at Green Grid Radio (KZSU Stanford), a peer health educator, a member of Students for Sustainable Stanford, and public speaker for Voices of Inspiration and the Cystic Fibrosis Foundation.

[Medium: Mallory's blog](#)

[PBS: To save a young woman besieged by superbugs, scientists hunt a killer virus](#)

MALLORY SMITH IN MEMORIAM



Photo: Courtesy of Diane Shader Smith

WHAT'S DIFFERENT ABOUT HUMAN BIOLOGY

ARTICLE BY

NATHAN SELDEN, MD, PHD
CAMPAGNA PROFESSOR AND CHAIR
DEPARTMENT OF NEUROLOGICAL SURGERY



(L to R) Nate Selden, MD, PhD (Hum Bio '86), Troy Schmit, MHA (Hum Bio '83), and Mike Lieberman, MD (Hum Bio '84) prepare for a meeting of the Quality and Safety Oversight Committee at Oregon Health & Science University.

In the 1980s, many Human Biology graduates left Stanford planning to enter medicine. At times, it seemed unclear if Human Biology was just a slightly different path into medical school, or if Human Biology graduates were, in some way, uniquely influenced by their educational experiences in the Stanford Quadrangle.

Human Biology was founded with the intent of creating a unique analytical approach to the extraordinarily complex interchange between biological and social systems. **The founders intended Human Biology graduates to wrestle with intractable human problems** and to devise scientifically astute and organizationally practical solutions. Less clear at the time was whether Human Biology's unusual mix of experiential learning, team-based writing, interdisciplinary science, and capstone personal projects would yield a truly different sort of scientist. Based on my own professional encounters with Human Biology alumni, I think the formula worked.

At Oregon Health & Science University (OHSU), where I teach and practice neurological surgery, I recently began co-directing our academic health center's Quality and Safety Oversight Committee (QSOC). **Quality improvement and safety science are highly interdisciplinary undertakings** that function on the borders of traditional medicine with organizational design, social science, and business. This area sounds perfect for practicing 'human biologists' with just the type of training we received at Stanford in the 1980s.

It is no coincidence then that my two closest QSOC collaborators are Human Biology graduates, OHSU's Director of Quality and Safety, Troy Schmit, MHA, and our Chief Health Information Officer, Michael Lieberman, MD. Mike is a practicing internist who also directs the informatics component of all physician and surgeon practices at OHSU, helping us collect, analyze and use the 'big data' that drives health care for hundreds of thousands of patients.

Troy is a hospital administrator who has devoted his career to the specific area of health care safety and quality. His team of specialists track all quality and safety related data and guide all our medical teams as we intervene to streamline processes, improve experience, and enhance safety across OHSU's clinical enterprise.

I am fortunate to work with Troy every week, and Mike almost as frequently, applying the same team-based skills and interdisciplinary approaches we learned on the Farm back in the 1980s. When I travel around the United States as a visiting professor at other neurosurgical programs and medical schools, I almost always run across a Stanford Human Biology alumnus working at the intersection of biology and social science, leading teams, and making their institutions noticeably better.

Start asking around; you will find quite a few Hum Bio alums out there!

GENE EDITING IN HUMAN PATIENT



Paul Harmatz, MD, (HB'73) of UCSF Benioff Children's Oakland Hospital is the first doctor to edit genes inside of a human patient. An excerpt from a recent [Associated Press article](#) says that "although the CRISPR gene-editing tool has gotten a lot of recent attention, this study uses a different one called zinc finger nucleases. They're like molecular scissors that seek and cut a specific piece of DNA. The therapy has three parts: The new gene

and two zinc finger proteins. DNA instructions for each part are placed in a virus that's been altered to not cause infection but to ferry them into cells. Billions of copies of these are given through a vein. They travel to the liver, where cells use the instructions to make the zinc fingers and prepare the corrective gene. The fingers cut the DNA, allowing the new gene to slip in. The new gene then directs the cell to make the enzyme the patient lacked."



These are books that alumni have shared with HumBio. Please let us know what you have written and published by emailing: Robyn Duby, rduby@stanford.edu

ALUMNI BOOKSHELF

HEALTH & WELL-BEING

Body Wise: Discovering Your Body's Intelligence for Lifelong Health and Healing

By Rachel Carlton Abrams, MD (HB '89)
December 2016

Digging Deep: A Journal for Young People Facing Health Challenges

Co-author Sheri Brisson, MA (HB '84)
October 2014

Ethical Issues in Rural Health Care

Co-author Craig Klugman, PhD (HB '92)
November 2008

The Fireworks of Failure: How You Can Rise from the Ashes

By G.B. Church (HB '76)
December 2014

Food Love Family: A Practical Guide to Child Nutrition

By Maya Adam, MD (HB '04)
September 2015

Head and Neck Ultrasonography Essential and Extended Applications

By Lisa Orloff, MD (HB '82)
March 2017, 2nd edition

Sustaining Life: How Human Health Depends on Biodiversity

Co-author Ari Bernstein, MD, PhD (HB '99)
June 2008

The Viral Storm: The Age of a New Pandemic

By Nathan Wolfe, PhD (HB '92)
October 2011

When Boys Become Boys: Development, Relationships, and Masculinity

By Judy Y. Chu, EdD (HB '94)
June 2014

MEMOIR & REFLECTION

Delivering Hope: The Extraordinary Journey of a Surrogate Mom

By Pamela MacPhee (HB '86)
June 2009

The Dream Weaver: One Boy's Journey Through the Landscape of Reality

February 2006

A Journey Through the Landscape of Philosophy

October 2007

If You Can Read This: The Philosophy of Bumper Stickers

March 2010

Three books above by Jack Bowen (HB '95)

The Power of Two: A Twin Triumph over Cystic Fibrosis

By Isabel Stenzel Byrnes & Anabel Stenzel, MD (HB '94)
October 2014, updated edition.

Sweet Dreams, My Dance Critics

By Robert Abrams, PhD (HB '90)
March 2011

When Breath Becomes Air

By Paul Kalanithi, MD (HB '00)
January 2016

NATURE & ADVENTURE

Among Chimpanzees: Field Notes from the Race to Save Our Closest Relatives

By Nancy J. Merrick, MD (HB '74)
June 2014

Following Fifi: My Adventures Among Wild Chimpanzees: Lessons from our Closest Relatives

By John Crocker, MD (HB '73)
December 2017

Southwest Tahoe Basin: A Nature Guide

By Charles Quinn (HB '94)
January 2006

Spider Silk: Evolution and 400 Million Years of Spinning, Waiting, Snagging, and Mating

By Catherine Craig, Ph.D. (HB '74)
March 2012

Urban Carnivores: Ecology, Conflict, and Conservation

By Seth Riley (HB '88)
March 2010

ALUMNI FACULTY RESEARCH

STUDY SHOWS WHICH CHILDREN WITH AUTISM RESPOND BEST TO OXYTOCIN TREATMENT

Recent graduates, Raena Sumiyoshi and Lisa Jackson (both HB '15), are co-authors on the [study](#), *Intranasal oxytocin treatment for social deficits and biomarkers of response in children with autism*. Findings show that the brain hormone may help treat social impairments in autistic children whose baseline oxytocin levels are low before treatment. This study was the basis of Lisa and Raena's honors theses, with mentor Karen Parker, *Associate Professor (Research) of Psychiatry and Behavioral Sciences (Major Laboratories and Clinical Translational Neurosciences Incubator)*, and was published in the Proceedings of the National Academy of Sciences (PNAS).



Photo: Karabinkrok

EVALUATING THE SUSTAINABILITY OF SCHOOL-BASED HEALTH CENTERS

Recent graduate, Stephanie Navarro (HB '15), is the first author on a study that resulted from her honors thesis work with mentor Prof. Don Barr. The study evaluates school-based health centers (SBHCs). Owing to their success in delivering positive health outcomes and increasing access to care, experts have created frameworks to sustain this model. Findings support ideas from expert models that call for well-defined and executed community partnerships and quality coordinated care in the procurement of sustainable SBHC funding. This article was published in *Progress in Community Health Partnerships Press* at Johns Hopkins University.



POOR SOCIOECONOMIC CONDITIONS AND CHILDHOOD ROOTS OF CARDIOVASCULAR DISEASE

Don Barr, MD, *Professor (Teaching) of Pediatrics (General Pediatrics) and, by courtesy, at the Graduate School of Education*, published *The Childhood Roots of Cardiovascular Disease Disparities* which shows that children in lower socioeconomic environments with high levels of stress grow up with an increased risk of cardiovascular disease, independent of health behaviors. This paper will appear in the *Mayo Clinic Proceedings*. Watch Barr's summary in this [4 minute video](#).

See more alumni research and share yours on the HumBio alumni [LinkedIn group](https://www.linkedin.com/groups/904027).
<https://www.linkedin.com/groups/904027>

STANFORD ALGORITHM CAN DIAGNOSE PNEUMONIA BETTER THAN RADIOLOGISTS

Cooperation between Stanford's [Machine Learning Group](#) and four Stanford radiologists, including Curt Langlotz, MD (HB '81), led to a [paper](#) with an abstract that begins, "We developed an algorithm that can detect pneumonia from chest X-rays at a level exceeding practicing radiologists. Our algorithm, CheXNet, is a 121-layer convolutional neural network trained on ChestX-ray14, currently the largest publicly available chest X-ray dataset, containing over 100,000 frontal-view X-ray images with 14 diseases.

Four practicing academic radiologists annotate a test set, on which we compare the performance of CheXNet to that of radiologists. We find that CheXNet exceeds average radiologist performance on pneumonia detection on both sensitivity and specificity." [Read more.](#)

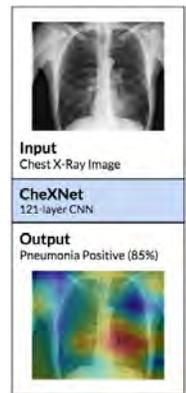


Photo: Stanford Machine Learning Group

CONTEMPORARY LIFESTYLES MAY CONTRIBUTE TO HIPPOCAMPAL ATROPHY & DIMINISHED MENTAL HEALTH

Photo: MaxPixel

Lindy Birkel (HB '81) outlines a connection between ancestral exploratory activity in nature and its likely effect on modern levels of hippocampal volume, thus on mental health. She hopes to test ways that people can make use of the highly plastic circuitry in modern life in a way that can contribute to mental health and the human-nature relationship.

Lindy has been in wellness (Stanford Health Improvement Program), management

(Stanford Graduate School of Business '87), and nature exploration ([Lindblad Expeditions](#)), and did not foresee these disparate interests coming together in her present neuroscience project. Says Birkel, "It all feels a bit like a walking Hum Bio experiment!"

Her [paper](#), *Decreased use of spatial pattern separation in contemporary lifestyles may contribute to hippocampal atrophy and diminish mental health*, can be found in *Science Direct*.

Director's Message

I hope that all our alumni and friends will appreciate reading in this newsletter about Human Biology's strong commitment to communicating science. What would a human biologist be without the overwhelming talent to command an audience and clearly communicate science and policy related to the human condition?

Over the past several years, we have re-invented Stanford's Writing in the Major requirement across the entire 2B, 3B, and 4B sequence of the Human Biology Core. Our Core staff, namely Associate Director Katherine Preston, Ph.D., Writing Specialist Shay Brawn, Ph.D., and Core Coordinator Annette Salmeen, D.Phil., have been instrumental in bringing together the expertise to make this happen. Kudos to them for their tireless commitment!

At the same time, I would also like to thank all of our donors, small to large, who have enabled us to make communication a key feature of the "B side." I am so grateful to every one of you who have helped Human Biology make this happen. In particular, we owe tremendous thanks to Daniel Grossman and Catherine Kennedy for creating the Catherine R. Kennedy & Daniel L. Grossman Fellows for Core faculty, along with the longstanding support from the Lucile Packard Foundation Professorship, and the Josephine Knotts Knowles Professorship.

Today's Human Biology students graduate with mastery in communication, as well as scientific literacy and data analysis. They are our future.



If you have thoughts that you want to share, please email me at pfisher@stanford.edu.

Paul Graham Fisher, MD
The Bing Director in Human Biology
The Dunlevie Family University Fellow in Undergraduate Education
The Beirne Family Professor of Pediatric Neuro-Oncology

**2018 REUNION
SAVE THE DATE!
FRIDAY OCTOBER 26**



Travel with HumBio Profs

BILL DURHAM

Peru Family Seminar - June 21-July 2, 2018

Galapagos Field Seminar - September 9-22 (wait list)

HERANT KATCHADOURIAN

Burgundy and the Loire Valley - May 20-June 1, 2018

BOB SIEGEL

Galapagos Family Adventure - June 27-July 6, 2018 (wait list)



**JOIN & POST
[HUMBIO ALUMNI
LINKEDIN GROUP](#)**



Photo courtesy of Grace Luczak

**GRACE LUCZAK '11
HUMBIO'S 1000TH
LINKEDIN GROUP MEMBER**

HUMBIO STAFF

Director: Paul Fisher

Associate Director: Katherine Preston

Manager: Linda Barghi

Academic Technology Specialist: Carlos Seligo

Alumni Officer/Newsletter: Robyn Duby

Core Coordinator: Annette Salmeen

Course Support Coordinator: Samantha Cooper

Student Services Officer: Lia Cacciari

Student Services Assistant: Matt Kramer

Writing Specialist: Shay Brawn

**SEND NEWS TO
ROBYN DUBY
RDUBY@STANFORD.EDU**

**PROGRAM IN HUMAN BIOLOGY
450 SERRA MALL, BLDG 20
STANFORD UNIVERSITY, CA 94305**

**Just for Fun
EVO-DEVO A CAPELLA SCIENCE
Despacito Biology Parody**