



Human & Evolutionary Biology Newsletter

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Editor: Joshua Carlos, MS



2026 Milligan Fellowship Winners with Dr. Gioia Polidori. (From left) Lori Khatchaturian, Grant Elfvin, Dr. Gioia Polidori, Mohammed Ali Al-Sabeh, Helen Zhang

A Message from the Chair

Dear Alumni and Friends,

The past year has marked a time of transition on our campus. Throughout it all, the staff in the Life Sciences have responded with grace and extraordinary resilience, ensuring that faculty and students continue to reach their research and academic goals.

As institutional support evolves, we believe that the role of our alumni is foundational in helping us maintain high-quality instructional labs and advance innovative research. Your contributions serve as a bridge, allowing us to sustain the national reputation of our undergraduate programs and the uniqueness of our research endeavors.

Our administrative structure has shifted, and we are more focused and determined than ever to lead the field of Human and Evolutionary Biology nationally. I invite you to read on to see the specific ways our students are thriving and how you can help us continue to support the excellence of our degree programs.

With gratitude,

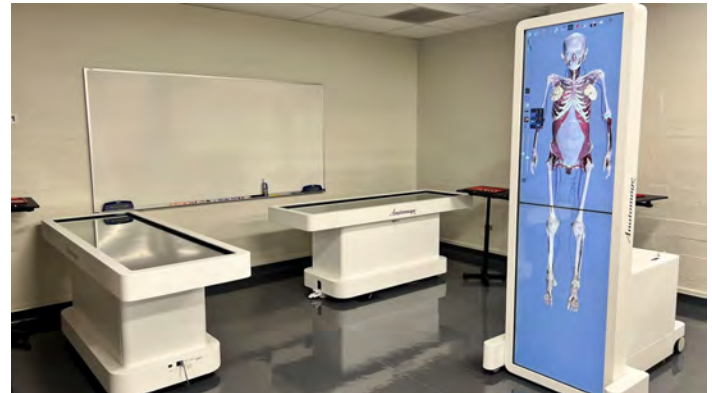
Lorraine P Turcotte, PhD

Section Chair, Human and Evolutionary Biology

Inside Instructional Labs: World-Class Tools for Student Success

Despite recent departmental restructuring, our commitment and efforts toward providing an unparalleled education continue unabated. Here is the cutting-edge technology our undergraduates are using today:

Virtual Cadaver Labs using Anatome tables: Students perform high-definition, life-sized dissections using our Anatome tables which allow for 3D visualization of human anatomical details and evaluation of clinical case-studies.



Metabolic Performance: Students utilize sophisticated equipment to evaluate cardiovascular fitness and metabolic health.

Body Composition: We continue to teach our students the different ways to measure body composition including using the method of hydrostatic weighing—the premier research method for precise body density assessment.



Real-Time Movement Feedback: Students utilize sophisticated motion capture systems and motion analysis software to evaluate reaction forces and to assess multijoint control of human movement in various settings.

Undergraduate Spotlight

Many of our students participate in research activities. Today we highlight Ayla Seddighnezhad who was the recipient of the Student Recognition Award, Dornsife Scholar Award Distinction, the Renaissance Scholar Distinction, and the Discovery Scholar Distinction in 2026, and the recipient of the Human and Evolutionary Biology Milligan Fellowship in 2025. Ayla is also President of the USC Cancer Relief Chapter and co-President of the Trojan Shelter Club.

Ayla Seddighnezhad

B.S. Human Biology: Health and Disease, Class of 2026

"I am an undergraduate researcher at USC Dornsife, working in the Kuhn and Zavaleta labs through the Cancer Undergraduate Research Experience to improve early detection of breast cancer using a nanoparticle-based liquid biopsy approach. Beyond the lab, I lead and serve in student organizations supporting vulnerable communities, work as a scribe in a dermatology clinic, and tutor middle and high school students, extending my passion for science into meaningful community impact. After graduation, I plan to return to the Bay Area to work as a Medical Assistant under a surgical oncologist while completing my Progressive Degree Program, before pursuing medical school and a career as a physician dedicated to patient care and clinical innovation. I am deeply grateful for the support that has made this journey possible."



Alumni Spotlight

Many of our students have been successful in obtaining highly competitive positions. Today we highlight Hannah Weiss who is a Human Factors Research Engineer at NASA Johnson Space Center.

Hannah Weiss, PhD

B.S. Human Biology: Applied Physiology, Class of 2018



As a student-athlete swimmer at USC, I was constantly engaged in understanding and improving human performance. That experience, paired with USC's exceptional biomechanics and human physiology curriculum, sparked my interest in how the body adapts to challenging environments. Today, I apply those principles in my work with NASA, studying how spaceflight affects sensorimotor function and developing countermeasures to support astronauts during critical mission phases. It is an honor to contribute to efforts enabling safe and effective exploration beyond Earth.

Select Your Impact: Support the Human Biology Instructional Labs

As we continue to incorporate lab tools and technology into our undergraduate labs, your donations will help us to upgrade our equipment inventory so that our students receive a state of the art education. For example,

- **\$100** – Covers specialized consumables such as high-filtration mouthpieces and Personal Protective Equipment such as lab coats and data storage for student projects
- **\$500** – Covers specialized consumables such as cleaning solutions and recording devices, such as GoPros, for our biomechanics labs
- **\$1000** – Covers the maintenance and calibration of one of our metabolic carts and wearable sensors for biomechanics projects
- **\$2000** – Upgrades a computer to run the most current Anatomage Table software

SUPPORT OUR LABS



Bridging Research and Practice

Celebrating our undergraduate and graduate students and the research that defines them.

Eloise Pedersen, PhD, University of Southern California

PhD Student in The Stanford Research Group, Integrative and Evolutionary Biology Graduate Program



Photo Credit: Eloise Pedersen. Easy and Tamtam (chimpanzee names) in Ngamba Island Chimpanzee Sanctuary in Uganda.

Eloise completed her Bachelor's degree (BA) from Cambridge University (UK) and her Master's degree (MS) from University College London (UK) before choosing to complete her doctoral degree in the Integrative and Evolutionary Biology program at USC to work with Dr. Craig Stanford. Eloise will graduate with a PhD in Integrative and Evolutionary Biology in May of 2026. Her research work focuses on social learning strategies in chimpanzees at Ngamba Island and children in the Northeast of England. To do this, she uses puzzle box tasks and other foraging experiments to explore whether chimpanzees and children prioritize social information or outcome information. Her research aims to find if chimpanzees will prefer low over high-ranking group mates if they want to obtain a high value food (pineapple instead of carrot) or more efficient foraging technique. Similarly, in children she provides participants with options to copy due to demonstrator popularity or tool efficiency and reward value (plain versus sparkly stickers).

Craig Stanford, PhD, University of California, Berkeley
Professor of Human and Evolutionary Biology

Dr. Stanford's research focuses on gathering information on nonhuman primate biology to better understand how humans evolved with a focus on the origins of the human diet, the role of meat, and the origins of hunting.

Dr. Stanford has played a central role in chimpanzee research and worked in collaboration with Jane Goodall's group in the 1990's to study chimpanzees in their natural habitat. In one of his recent books, Dr. Stanford explains that chimpanzees are similar to us not only genetically but also behaviorally. For example, he showed that hunting and meat-eating by chimpanzees is as much about social and political gains from control of meat as it is about nutritional benefits.

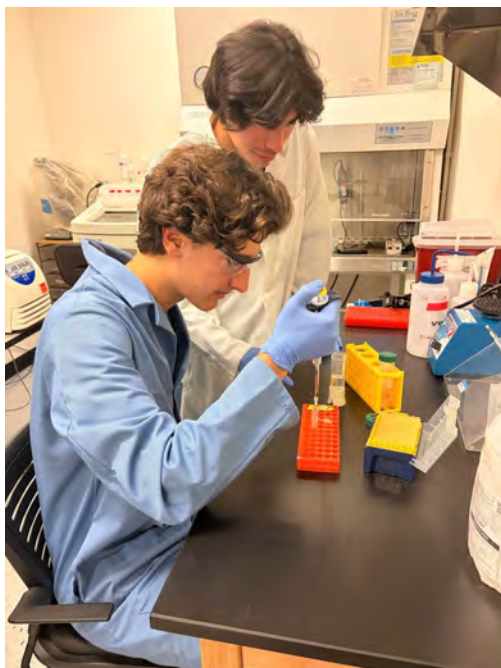


Leo Tornes Martinez

PhD Student in the Schier Lab, Integrative and Evolutionary Biology Graduate Program

Mohammed Ali Al-Sabeh

B.S. Human Biology Freshman in The Schier Lab



Parents can pass on more than just genes. Their life experiences leave biological “notes” for their children through a process called epigenetic inheritance. These “notes” influence gene activity in the offspring, which, in turn, shapes physiology and behavior. Because nutrition is a key driver of lifelong health, the Schier Lab is exploring how dietary behaviors are passed across generations. Leo Tornes, a first-year PhD student in the Integrative and Evolutionary Biology Program, and Mohammed Ali Al-Sabeh, a freshman Human Biology major, are studying how parental preferences for sugary foods are inherited and how this process influences dietary choices, growth, and metabolism in the offspring. This research is critical for understanding how health risks persist across generations and will inform new approaches for improving nutrition and preventing disease.

Lindsey Schier, PhD, Purdue University
Associate Professor of Human and Evolutionary Biology

Dr. Schier received the 2025 Alan Epstein Award from the Society for the Study of Ingestive Behavior for her research on how the brain rapidly senses carbohydrates in the foods and fluids we consume. The Schier lab recently discovered that taste cells on the tongue can detect the nutritional value of sugars, not just their sweetness. Similar to the gut, taste cells use digestive enzymes to break down complex carbohydrates into simpler sugars. These sugars, particularly glucose, then activate nearby metabolic sensors within the taste cells, which, in turn, signals to the brain. Together, these mechanisms allow the brain to rapidly assess the energy content of food and shape how appealing it tastes long before the nutrients are fully metabolized by the body.



Select Your Impact: Invest in Research Development

If you want to invest in the development of the next generation of researchers,

- **\$100** – Covers research essentials such as gloves, pipettes, and textbooks
- **\$500** – Covers biological kits such as those that measure hormones like insulin
- **\$1000** – Covers the purchase of small pieces of equipment such as lab incubator-shakers and pipettors
- **\$2000** – Covers cameras that can be used in the field to record chimpanzees in the wild

**SUPPORT OUR STUDENTS IN
THEIR RESEARCH ENDEAVORS**



Want more information about our program?
Visit <https://dornsife.usc.edu/heb/> to learn more
about our students, faculty, and upcoming events.



USC Dornsife
Department of Biological Sciences
Human and Evolutionary Biology