

SUMMER RESEARCH FELLOWSHIPS IN ECOLOGY, EVOLUTION, AND MARINE SCIENCES

The UC Davis College of Biological Sciences and Department of Evolution and Ecology announces [summer undergraduate research fellowships](#) supported by the Kendra M Chan fellowship, the Nieland Family Fund, The Osborne Chair fund, and other donors. These awards provide a stipend to allow undergraduate students to conduct **full time** independent research under the direction of a faculty member in the Department of Evolution and Ecology or at the Bodega Marine Laboratory. The awards are open to all continuing students at UC Davis who will continue to be enrolled in UC Davis in Fall 2023 or beyond; students who will graduate on or before Spring or Summer 2023 are not eligible. The program will also include a 1-2 unit course offered in Fall 2023 for fellows to develop data analysis and presentation skills, culminating in the production of a poster presentation of the research results to the EVE community. The selection of Award recipients will be based on academic merit, research potential, potential contributions to community, and alignment of interests with faculty mentors. Fellowship recipients will receive approximately \$6200 for a 10 week internship. We expect to make 8 to 10 awards for summer 2023.

Faculty who have agreed to mentor students through this program are listed below, with a description of potential student projects. Faculty marked with a * will mentor students conducting research based on the Davis campus, whereas those marked with a + will support student research based at the Bodega Marine Lab (BML). Students selected to work on projects at BML will have housing costs at BML covered in addition to the stipend mentioned above. Descriptions of the Bodega Marine Lab, its facilities, research space, and housing are available [here](#) and information about the Department of Evolution and Ecology, its faculty, and research space are available [here](#).

***Rachael Bay.** Our lab works on evolutionary responses of organisms to human-induced environmental changes, mostly in marine systems. Projects combine field or laboratory experiments, molecular lab work, and computational analyses to understand how organisms acclimate and adapt to rapid changes in their environment. <https://baylab.github.io>

+Anya Brown. Students will be involved with field and lab work relating to ecology and microbial ecology of ecosystems around Bodega Bay, particularly seagrass wasting disease. Projects can include isolating and growing the pathogen responsible for the disease and seagrass plants in different conditions, field surveys around Bodega Bay and Tomales Bay, DNA extractions and next generation library preparation. All projects will be based at the Bodega Marine Lab. <http://brown-ecology.com/>

***Graham Coop.** The lab works on understanding patterns of population history, local adaptation and speciation from genomic data using a range of computational and statistical approaches. <https://gcbias.org>

***Elizabeth Crone.** Our lab group studies population dynamics of butterflies and native bees. Questions are centered around understanding the contribution of resources used throughout

their life cycles to population viability, how spatial environmental variation affects population dynamics, and population viability in changing environments. Our research involves overnight travel to field sites in the coast and mountains and long days of outdoor work.

<https://cronelab.faculty.ucdavis.edu>

***Jonathan Eisen.** Projects will involve studies of the community of microorganisms that live in and on seagrasses – the seagrass “microbiome”. Students will develop projects that may include lab experiments, microbial culturing, DNA sequencing, and bioinformatics to enhance our understanding of the effect of microbes on the ecology of macroscopic organisms.

<https://seagrassmicrobiome.org>

+John Largier. The coastal oceanography group works on transport by water motion in estuaries and coastal waters, addressing issues including larval dispersal, water quality (specifically hypoxia), coastal flooding (marshes), kelp forest habitats, and beaches in estuaries and bays. Students would be based at Bodega Marine Laboratory.

<https://coastalocean.ucdavis.edu>

***Artyom Kopp.** Our lab works on developmental and evolutionary genetics using *Drosophila* as an experimental model. Potential projects may focus on the evolution of sexual dimorphism and sex-specific structures, the origin of new genes and regulatory elements, and the evolution of cells and molecular pathways involved in male-female communication.

<https://kopplab.ucdavis.edu>

***Kate Laskowski** - We use clonal mollies to disentangle genetic, maternal and environmental influences on the development of behavior to understand how and why individuals exhibit unique behavioral patterns. Our work is lab-based and combines manipulative experiments with high-resolution behavioral tracking and molecular methods (e.g. RNA extraction, immunohistochemistry, microscopy). <https://laskowskilab.faculty.ucdavis.edu/>

***Gail Patricelli.** Projects focus on (1) the impact of urbanization and warming temperatures on songbird behavior and reproductive success, involving fieldwork in the Davis-Sacramento area (2) Using microphone arrays to examine singing and mate choice behavior in songbirds; involving analysis of audio recordings in the lab. <http://patricellilab.faculty.ucdavis.edu/>

***Jeff Ross-Ibarra.** A student in my lab would use computational tools to study the genetic aspects of local adaptation or genome evolution in domesticated maize or its wild relatives. My lab website with some current research projects is rilab.ucdavis.edu.

+Eric Sanford. The ecology and evolution of species' range shifts in the sea: Understanding the northward expansion of coastal marine invertebrates and/or the spread of invasive species during an era of rapid ocean change. Projects may focus on predatory drilling snails or invasive sea anemones. Students would be based at Bodega Marine Laboratory. Website:

<https://www.sanford-lab.com/>

+Jay Stachowicz. Students will undertake lab and field work based at the Bodega Marine Laboratory to investigate marine evolutionary and community ecology in seagrass ecosystems. Projects could include adaptation of seagrasses to climate change, community ecology of invertebrates and fish in seagrass habitats, or plant-microbe-disease interactions. Students would be based at Bodega Marine Laboratory and all projects will have both field and lab components. <https://stachlab.wordpress.com>

***Peter Wainwright.** Functional morphology of feeding in fishes. We will combine high-speed video recordings of fishes feeding in the laboratory with anatomical and phylogenetic studies to address a question about how fish feeding mechanisms work and evolve.
<https://fishlab.ucdavis.edu>

Applications will consist of basic contact information, list of prior coursework, list of preferred faculty mentors, two references and responses to three short prompts (up to 300 words each) describing a student's research experience, academic and career goals, and their potential contributions to the EVE Scholars community. Applications can be submitted at the following link: <https://forms.gle/RB3q2hMHNQy3Lhfu9>.

Deadline: March 21st at 5pm. Decisions will be made promptly.

Questions? Here are answers to some common questions. If your question isn't answered below, or if you have trouble with the application form, email Jay Stachowicz: jjstachowicz@ucdavis.edu

Q: Can I also take summer session classes at the same time as holding this research fellowship?

A: No. Fellows are expected to participate full time in research (40 hours per week). Under most circumstances this would prohibit taking classes during the summer quarters.

Q: Can one of my references be the faculty member I want to work with in this program?

A: Yes, but you do not have to be already working with a faculty member to apply for one of these positions

Q: Do I have to already be working in one of these faculty member's labs to apply?

A: No, definitely not!

Q: What if I don't have any research experience at all, can I still apply?

A: Yes! Keep in mind that 'research experience' can also refer to experiences you've had as part of a class. Applications from all UC Davis students will be considered. While formal research experience is not necessary, students should be prepared to work independently under the guidance of a mentor.

Q: My major is not in EVE, can I still apply?

A: Yes, but you must propose to work with one of the faculty listed above.