

Postdoctoral Mentoring Plan

Three postdoctoral fellows will be funded through the project, two at UC Berkeley, and one at the Lawrence Berkeley Lab. Postdoctoral-level researchers are appropriate for the activities proposed due to the need for experience and understanding at the intersection between ecology, microbiology, genomics and soil science. One of the postdocs, Andrew Rominger, is PI of the current proposal, allowing him to develop expertise in leading a project, while also working closely with collaborators. Henrik Krehenwinkel will be developing his pioneering research in genomics, while extending to microbial communities in collaboration with the Lawrence Berkeley National Lab (LBNL). There will be a new postdoc hired at the LBNL, who will work closely with both Javier Ceja-Navarro and Eoin Brodie, developing research on microbial diversity. To date, Gillespie has mentored 19 postdocs, one current. Former postdocs have most recently gained positions at Wageningen University, Netherlands, East Carolina University, and the California Academy of Sciences, among others. Brodie has mentored nine postdocs, three current. His former postdocs have advanced to careers at Lawrence Berkeley National Lab, VTT in Finland, USDA, and UC Davis, among others.

Each postdoc will have access to UC Berkeley's institutional resources, including the Berkeley Postdoctoral Association, which offers resources on careers, funding, and conferences (postdoc.berkeley.edu) and the Career Center Services (<https://career.berkeley.edu/Phds/Postdocs.stm>). A particular advantage of the proposed set of postdoctoral fellows is that the PIs provide complementary expertise in macroecological and genomic theory, microbes to arthropods and plants, and conceptual areas that focus on the intersection between ecology and evolutionary biology. This would provide each one with broad interdisciplinary training. All three postdocs will be involved in the following activities:

1. Mentoring of the Postdocs: Gillespie and Brodie will both work with the postdoc on development of their professional skills, beginning with a skills self-assessment using the National Postdoctoral Association Competency Checklist. With Gillespie and Brodie, the postdocs will discuss the results of this assessment and will specifically develop activities to improve skills identified as being weaker. Weekly individual meetings will allow us to assess respective needs. At the same time, they will participate with the graduate students and other postdocs in field and laboratory work. Brodie's group also participates in UC Berkeley/LBNL terrestrial ecosystems and biogeochemistry working groups where all three postdocs will have opportunities for additional presentations and feedback from a broad audience.
2. Guest lectures and mentoring: Postdocs will be encouraged to give guest lectures in appropriate undergraduate classes to develop teaching expertise. Potential classes include Population and Evolutionary Genetics, Molecular Ecology, Ecological Genetics, Microbial Genomics and Genetics, General Microbiology, and Microbial Diversity. Brodie and Gillespie will help each postdoc prepare effective undergraduate lectures, graduate discussions, and provide post-contact critiques of classroom performance. The postdocs will also have the opportunity to mentor students (undergraduate and graduate) in both the Gillespie and Brodie research groups.
3. Outreach activities: To develop a broader toolkit for communication, each postdoc will work with the UC Berkeley Natural History Museums to develop material for the Understanding Evolution (evolution.berkeley.edu) website, designed for science teachers of all grade- and experience-levels. The system, which couples elements of evolution and ecology, field and laboratory, theoretical and empirical, provides an opportunity to effectively convey essential yet complex concepts. The postdocs will also be expected to become involved in the LBNL's Open House for connecting to the local community (www2.lbl.gov/openhouse) and especially the Science at the Theater (uctv.tv/scienceatthetheater) events.
4. National meetings and presentations: Postdocs will present their research at national meetings, write manuscripts, and participate in manuscript peer reviews. Brodie and Gillespie will work with each postdoc to improve their scientific writing and oral communication skills.