Postdoctoral Scholar - Community Ecology ESPM: Organisms and the Environment
University of California Berkeley

Job Title	Postdoctoral Scholar - Community Ecology ESPM: Organisms and the Environment
Department	
Institution	University of California Berkeley Berkeley, California
Date Posted	Nov. 15, 2024
Application Deadline	12/15/2024
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Environmental Sciences/Ecology/Forestry Botany/Plant Sciences Biology - Computational Biology - Developmental/Evolutionary Biology - General
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Job Description	

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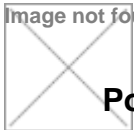
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Position overview Position title: Postdoc Employee
Salary range: The UC academic salary scales set the minimum pay determined by rank and step at

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appointment. See the following table(s) for the current salary scale(s) for this position https://www.ucop.edu/academic-personnel-programs/_files/2024-25/oct-2024-scales/t23.pdf. A reasonable estimate for this position is $66,737 - $74,425.

Percent time: 100

Anticipated start: Spring 2025

Position duration: 2 years with the possibility of extension based on performance and availability of funding.

Application Window
Open date: November 14, 2024

Next review date: Friday, Nov 29, 2024 at 11:59pm (Pacific Time)
Apply by this date to ensure full consideration by the committee.

Final date: Sunday, Dec 15, 2024 at 11:59pm (Pacific Time)
Applications will continue to be accepted until this date, but those received after the review date will only be considered if the position has not yet been filled.

Position description

The Macrosystems Ecology Laboratory (PI Benjamin Wong Blonder, Department of Environmental Science, Policy, and Management) seeks a postdoctoral researcher in the area of community ecology.

The Macrosystems Ecology Laboratory focuses on predicting organismal response to environmental change. The postdoctoral researcher for this position, under the guidance of the PI, would be the lead researcher for a National Science Foundation-supported Long Term Research in Environmental Biology (LTREB) grant, "Whole-community plant demography in a variable environment: assembly mechanisms and outcomes in the Colorado alpine".

Project rationale: Predicting the responses of ecological communities to rapid environmental change is becoming increasingly important. Making good predictions is challenging because of the potential complexity of interactions among large numbers of species. Additionally, developing robust theory requires well-studied test cases (datasets). While such test cases exist in several long-term forest study systems, there is much less knowledge available for other biomes, e.g. the alpine. The alpine biome also is one of the most vulnerable to ongoing climate changes.

Project scope of work: This project will conduct long-term monitoring of plant community dynamics in the Colorado alpine biome, assembling a unique long-term record of population and community change during a period of rapid environmental change. The project will focus on integrating species-scale demographic models with community-scale models. The project will test hypotheses related to three core questions:

1. What are the roles of spatial neighborhoods, metacommunity/dispersal processes, and ontogenetic/size structure in community assembly?
2. How do these processes influence community dynamics in a variable environment?
3. Can community states in the future be forecasted, and with what uncertainty? The project uses a long-term alpine tundra study system (at 3,500 m elevation in the Rocky Mountains). Two datasets are collected across 100 vegetation plots: (a) annual whole-community demography (survival, size change (growth), fecundity, recruitment) for all individuals including seedlings of all 20 co-occurring species, including georeferencing; and (b) annual remotely sensed multispectral imagery of all plots, obtained during peak flowering, that can be used to increase dataset size via machine learning. To address (Q1), the project will carry out additional seed bank and seed rain studies, then use these data and the Core Data to test hypotheses about species interactions. To address (Q2), the project will build integral projection models and individual based models for all species taking into account density dependence, species interactions, and temporally variable biotic and abiotic context. To address (Q3), the project will then provide falsifiable forecasts with uncertainties for community dynamics under multiple climate change scenarios.

The postdoctoral researcher's responsibilities will include:

- Collecting the Core Data as part of a field team each year;
- Designing and implementing the seed bank and seed rain project components;
- Co-mentoring 1-2 undergraduate researchers each year;
- Building integral projection models and/or individual-based models based on project data;
- Working on a team to coordinate data entry, quality control, and archiving;
- Presenting research findings at one conference per year;
- Preparing manuscripts for publication, as lead author.

Mentoring
The postdoctoral researcher would be based in the research laboratory of PI Dr. Blonder on the UC Berkeley campus. They would also be co-mentored remotely by Dr. Ian Breckheimer (co-PI and staff scientist, Rocky Mountain Biological Laboratory) and Dr. Roberto Salguero-Gomez (associate

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professor, University of Oxford). They would receive additional support from collaborators Dr. Stephen Ellner (professor, Cornell University) and Dr. Courtenay Ray (postdoctoral researcher, University of Wyoming).

The postdoctoral researcher would meet regularly with the PI and the project team, and would participate in regular goal-setting and development plan activities. They would have the opportunity to participate in campus data science, wilderness first aid, faculty development, and other professional development opportunities. They would have the opportunity to guest lecture in the PI's undergraduate ecology class, and to mentor undergraduate research students. They would be able to use project funds to attend one USA-based conference each year.

The PI's group provides a supportive work environment that recognizes and supports people of diverse identities and needs. There are currently ~6 people in the group; lab meetings and peer mentoring occur regularly, as do social activities. The PI has had leadership roles in departmental anti-racism and field safety committees and will ensure that these themes are also priorities in the research group.

Working at Berkeley
Berkeley is on Ohlone land. The area has a mild year-round climate and offers an opportunity to be close to the diverse communities in Oakland, San Francisco and other nearby cities. The Berkeley campus is directly accessible from the SFO and OAK international airports by public transit (BART trains), and car-free daily living is possible. The ecological diversity of California is also readily accessible from the city.

Fieldwork in Colorado
The field site is located on a high alpine ridgeline on Mt. Baldy in the Gunnison National Forest on traditional Ute lands, a few miles from the Maroon Bells / Snowmass Wilderness Area. Access to the field site is via a scenic hike; the field station itself is located in a valley surrounded by high peaks, with numerous outdoor recreation opportunities within walking distance .The field station typically hosts 100+ people each summer and provides additional community and support to researchers.

Qualifications
Basic qualifications (required at time of application)

- PhD (or equivalent international degree) or enrolled in a PhD degree program (or equivalent international degree)

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Additional qualifications (required at time of start)

- PhD (or equivalent international degree) by the start date
- No more than three years of post-degree research experience by start date

Preferred qualifications

- PhD in ecology, evolution, plant biology, demography, mathematics, statistics, or a related field
- Prior experience doing ecological fieldwork
- Prior experience fitting population or community models to empirical datasets
- Availability for 2 weeks of team-based fieldwork in early August each summer, requiring living at the Rocky Mountain Biological Laboratory in Gothic, Colorado; expectation of 5-6 days/week fieldwork with pre-sunrise departures
- Availability for 3-5 days similar fieldwork in mid June and mid October each year
- Ability to walk 6 miles (1500 ft elevation gain) each field day
- Valid United States driver's license

Application Requirements

Document requirements

- Curriculum Vitae - Your most recently updated C.V.
- Cover Letter

Reference requirements

- 3 required (contact information only)

Apply link: https://aprecruit.berkeley.edu/JPF04677

Help contact: benjamin.blonder@berkeley.edu

About UC Berkeley

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UC Berkeley is committed to diversity, equity, inclusion, and belonging. The excellence of the institution requires an environment in which the diverse community of faculty, students, and staff are welcome and included. Successful candidates will demonstrate knowledge and skill related to ensuring equity and inclusion in the activities of their academic position (e.g., teaching, research, and service, as applicable).

The University of California, Berkeley is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, or protected veteran status.

Please refer to the University of California's Affirmative Action Policy and the University of California's Anti-Discrimination Policy.

In searches when letters of reference are required all letters will be treated as confidential per University of California policy and California state law. Please refer potential referees, including when letters are provided via a third party (i.e., dossier service or career center), to the UC Berkeley statement of confidentiality prior to submitting their letter.

As a University employee, you will be required to comply with all applicable University policies and/or collective bargaining agreements, as may be amended from time to time. Federal, state, or local government directives may impose additional requirements.

Job location
Berkeley, CA

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Contact Information

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Contact

N/A

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