



Postdoctoral position in plant ecology

Position Overview

Position location: [University of Minnesota](https://www.umn.edu), St. Paul, Minnesota USA

Department: [Ecology, Evolution and Behavior](#)

Field research site: [Cedar Creek Ecosystem Science Reserve](#)

Faculty supervisor and lab group: Forest Isbell, [Isbell Biodiversity Lab](#)

Start date: 2021

Source and duration of funding: Three years of funding are available from an NSF award

Research topic: Scaling-up understanding of biodiversity effects on ecosystem functioning

Required qualifications: PhD in Ecology or related discipline at the time of appointment; ability to independently design, conduct, and publish research

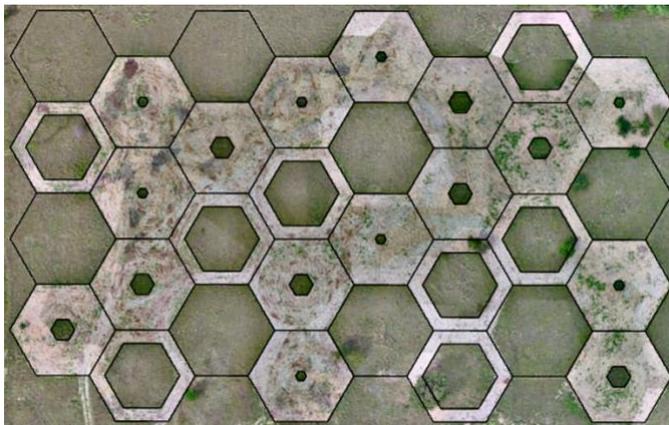
Desired qualifications: field research experience in plant community and ecosystem ecology; experience collecting or analyzing remote sensing data (e.g., visual, hyperspectral, lidar)

Application materials: cover letter; CV; one-page research statement addressing your interests, experiences, and future goals; contact information for three references; and one of your publications

To apply: 1) Visit <https://humanresources.umn.edu/jobs>; 2) Click on the tab in the center of the page that corresponds to your situation; 3) Search Job ID# 339475 - Postdoctoral Associate

Direct questions to: Forest Isbell at isbell@umn.edu

A postdoctoral position is available in the Isbell Biodiversity Lab at the University of Minnesota to collaborate on multiple projects designed to scale-up understanding of effects of biodiversity on ecosystem productivity from local to landscape scales. Biodiversity loss is altering ecosystem functioning and reducing many of nature's contributions to people. Hundreds of local biodiversity experiments have rigorously tested the effects of local species loss on plant productivity and other ecosystem functions. It remains unclear, though, whether and how these results can be extended to larger spatial scales. For example, at landscape scales, productivity can depend not only on local abiotic conditions and species interactions, but also on dispersal processes. A major current effort in our lab is to scale-up knowledge of the effects of biodiversity on ecosystem functioning. We are using field experiments and remote sensing observations to test metacommunity theory and predictions for extinction debts and resultant ecosystem service debts. This builds on our previous related research



on this topic (Isbell et al. 2011 *Nature*; 2015 *Ecol. Lett.*; 2017 *Nature*; 2018 *Ecol. Lett.*; and 2019 *Nature Ecol. Evol.*). We have recently established a new landscape-scale grassland experiment that manipulates dispersal by habitat fragmentation and seed addition treatments (see picture at left). We are sampling this, and other experiments with drones carrying hyperspectral and lidar sensors, allowing observations of biodiversity and ecosystem functioning at multiple scales.



Cedar Creek Ecosystem Science Reserve, the field research site for this project, has many large-scale experimental platforms (some pictured below) and is one of the most active ecological research sites worldwide. This allows early-career researchers to build on an enormous amount of [available data](#) and establish robust networks of research collaborators. Cedar Creek is a member of NSF's Long-Term Ecological Research (LTER) Network and hosts the new ASCEND (Advancing Spectral Biology in Changing ENvironments to understand Diversity) NSF Biology Integration Institute. The Isbell lab contributes to both of these projects, offering many opportunities for collaborations with other research groups. Feel free to also apply for the ASCEND open postdoc positions (UMN Job ID #338565).



The University of Minnesota is a global leader in ecological research. Only three other Universities in the world are ranked as highly in ecology by both the US News and World Report and the Shanghai Rankings. Furthermore, the University of Minnesota has more highly cited researchers in the Ecology/Environment category of the Web of Science than any other institution worldwide. This is truly an exceptional place to advance your career in ecological research.

The Cedar Creek JEDIs for Justice, Equity, Diversity, and Inclusion are working to increase the representational diversity of people at Cedar Creek and create a welcoming and inclusive climate. The Isbell lab is part of the team leading these efforts. Our vision is a future where biodiversity and the full diversity of people thrive. Our commitment is to be an inclusive place for research and community for people of all identities. We seek a postdoc who seeks to contribute to these efforts and who embraces these commitments.

Cedar Creek has also greatly expanded its community engagement programs, now serving more than 14,000 members of the public, including more than 7,000 K-12 students and teachers, each year. This postdoc position would have an opportunity to contribute to these programs and to further develop skills in communicating scientific results beyond the scientific community.

The position responsibilities will include some field research at Cedar Creek Ecosystem Science Reserve but will primarily involve publishing scientific journal articles and analyzing data. The successful applicant will be encouraged to develop independent projects within the broad scope of the project. Please see the Isbell lab website for a more detailed description of expectations and support for postdocs.

There is some flexibility in the start date, but the position will ideally begin by September 2021. Please indicate your preferred start date in the cover letter.