

Jacob I. Levine

Wilkes Postdoctoral Fellow

Wilkes Center for Climate Science and Policy

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APPOINTMENTS

- 2024 - Wilkes Postdoctoral Fellow**
Wilkes Center for Climate Science and Policy, University of Utah
Advised by William R.L. Anderegg
- 2024 - Visiting Scholar**
Department of Environmental Studies, New York University
Hosted by Mingzhen Lu

EDUCATION

- PhD Princeton University, Princeton, NJ USA**
PhD in Ecology and Evolutionary Biology (awarded May 2024)
Advised by Stephen W. Pacala and Jonathan M. Levine
- BS University of California Berkeley, Berkeley, CA USA**
BS with Honors in Forestry and Natural Resources (awarded Dec. 2018)
BS with Honors in Environmental Economics and Policy (awarded Dec. 2018)
Thesis advised by Perry de Valpine and John J. Battles

PEER-REVIEWED PUBLICATIONS

10. **Jacob I. Levine**, Ruby An, Nathan J. B. Kraft, Stephen W. Pacala, Jonathan M. Levine. Why ecologists struggle to predict coexistence from functional traits. *In press. Trends in Ecology and Evolution*. ([link](#)).
9. **Jacob I. Levine**, Stephen W. Pacala, Jonathan M. Levine. Competition for time: evidence for an overlooked, diversity-maintaining competitive mechanism. 2024. *Ecology Letters*. ([link](#)) **Selected as one of the best papers of 2023 by Stanford's Community Ecology Group** ([link](#)).
8. Sebastian Block, Marc-Jacques Maechler, **Jacob I. Levine**, Jake M. Alexander, Loic Pellissier, Jonathan M. Levine. Ecological lags govern the pace and outcome of plant community responses to 21st-century climate change. 2022. *Ecology Letters*. ([link](#)).
7. **Jacob I. Levine**, Brandon M. Collins, Zachary L. Steel, Perry de Valpine, Jonathan M. Levine. Higher incidence of high-severity fire in and near industrially managed forests. 2022. *Frontiers in Ecology and the Environment*. ([link](#)). **Press coverage by LA Times** ([link](#)).
6. **Jacob I. Levine**, Jonathan M. Levine, Theo Gibbs, Stephen W. Pacala. Competition for water and species coexistence in phenologically structured annual plant communities.

2022. *Ecology Letters*. ([link](#)). **Reviewed on Faculty Opinions (formerly Faculty of 1000)** ([link](#)).

5. Robert York, **Jacob I. Levine**, Daniel Forest, Scott L. Stephens, Brandon M. Collins. Silviculture can facilitate repeat prescribed burn programs with long-term strategies. 2022. *California Agriculture*. ([link](#)).
4. Robert York, **Jacob I. Levine**, Kane Russel, Joe Restaino. Opportunities for winter prescribed burning in mixed conifer plantations of the Sierra Nevada. 2021. *Fire Ecology*. ([link](#)).
3. Melissa R. Jaffe, Brandon M. Collins, **Jacob I. Levine**, Hudson Northrup, Francisco Malandra, Daniel Krofchek, Matthew D. Hurteau, Scott L. Stephens, Malcom North. Prescribed fire shrub consumption in a Sierra Nevada mixed-conifer forest. 2021. *Canadian Journal of Forest Research*. ([link](#)).
2. **Jacob I. Levine**, Perry de Valpine, John Battles. Generalized additive models reveal among-stand variation in live tree biomass equations. 2021. *Canadian journal of Forest Research*. ([link](#)).
1. **Jacob I. Levine**, Brandon M. Collins, Robert A. York, Daniel E. Foster, Danny L. Fry, Scott L. Stephens. Forest stand and site characteristics influence fuel consumption in repeat prescribed burns. 2020. *International journal of wildland fire*. ([link](#)).

MANUSCRIPTS IN REVIEW AND IN PREPARATION (AVAILABLE UPON REQUEST)

- A. **Jacob I. Levine**, Jonathan M. Levine, Stephen W. Pacala. Hydraulic diversity in plant communities maintained by competition for water and light. *In review at Ecological Monographs*.
- B. **Jacob I. Levine**, Jonathan M. Levine, Stephen W. Pacala. Expanded plant hydraulic diversity under climate change. *In prep*.
- C. **Jacob I. Levine**, Brandon M. Collins, Michelle Coppoletta, Ryan Tompkins, Scott L. Stephens. Industrial forest management and extreme fire weather interactively increase fire severity. *In prep*.

AWARDS

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| 2024 | ESA Murray F. Buell Award for excellence in ecology
Awarded annually for the best student presentation at the Ecological Society of America Meeting (link). |
| 2023 | Stanford Community Ecology Group's 'best papers of 2023'
Each year the Daru, Peay, and Fukami labs at Stanford select their favorite papers published that year. My paper on 'competition for time' was chosen in 2023 (link). |
| 2018 | Melis Medal, UC Berkeley Rausser College of Natural Resources Honors Program (2017) |

Award given for the best presentation at the annual honors thesis symposium.

2018 Ben Meadows National Academic Award

Awarded annually by the Society of American Foresters to a student who excels in academic and research pursuits.

2018 California Alumni Foresters Scholarship

Awarded to outstanding students who have demonstrated a natural resource management path.

2017 UC Berkeley Rausser College of Natural Resources Honors Program

Undergraduate honors research program for students who demonstrate strong academic performance.

2016 George and Craig Vi Western Timber Award

Awarded to top forestry students based on academic performance.

GRANTS AND FELLOWSHIPS

2024 Wilkes Climate Center Postdoctoral Fellowship

Proposal title: “Investigating the impacts of resource competition on forest resilience to drought” (award: \$136,500)

2021 Hack Graduate Award for Water and the Environment (2021)

Proposal title: “Maintenance of biodiversity in water-limited plant communities” (award: \$10,000)

2019 National Science Foundation Graduate Research Fellowship

Proposal title: “Drivers of increased large-fire occurrence in California” (award: \$138,000)

2018 Berkeley Rausser College Sponsored Projects for Undergraduate Research

Proposal title: “Comparing Markov Chain Monte Carlo sampler efficiency for common ecological problems” (award: \$2,500)

DIVERSITY, EQUITY AND INCLUSION

Princeton Field Ecology Workshop – Co-organizer (2022-Present)

- Helped establish a new field program to provide undergraduates from underrepresented backgrounds with marketable research skills and experience.
- Assisted students in applying to undergraduate research opportunities such as NSF REU, an important steppingstone towards a successful PhD application. ([story about the program](#))

Princeton EEB Scholars Program – Coordinator (2020-2022)

- This program aims to increase the diversity and accessibility of graduate studies in ecology and evolution by inviting a select group of prospective graduate students from underrepresented backgrounds to the Princeton campus each year. Details at ([link](#)).
- As coordinator, I advertised the program, lead application review, curated programming, and organized graduate student and faculty participation in social and academic events.

Princeton EEB Mentors Program – Mentor (2021-2023)

- Mentored four prospective graduate students from underrepresented backgrounds as part of the Princeton EEB Mentors Program, an extension of the EEB Scholars Program.
- I assisted these students in preparing application materials, selecting appropriate advisors, applying for funding, and preparing for campus interviews. ([link](#))

Cientifico Latino Graduate Student Mentorship Initiative – Mentor (2021-2022)

- Mentored a first-generation prospective graduate student in environmental science, helping them prepare their application for graduate school and independent fellowships.
- Also helped guide them through their first months as a graduate student and apply for research funding. ([link](#))

CONTRIBUTED TALKS

Jacob I. Levine, Ruby An, Nathan J.B. Kraft, Stephen W. Pacala, Jonathan M. Levine. Why ecologists struggle to predict coexistence from functional traits. 2024.
Ecological Society of America Annual Meeting

Jacob I. Levine, Stephen W. Pacala, Jonathan M. Levine. Competition for time: rethinking species interactions to understand the biodiversity impacts of global change. 2023.
Ecological Society of America Annual Meeting. **Earned the Murray F. Buell award for excellence in ecology** ([link](#)).

Jacob I. Levine, Stephen W. Pacala, Jonathan M. Levine. Competition for time: evidence for an overlooked, diversity-maintaining competitive mechanism. 2023.
British Ecological Society Annual Meeting.

Jacob I. Levine, Jonathan M. Levine, Theo Gibbs, Stephen W. Pacala. Competition for water and species coexistence in phenologically structured annual plant communities. 2022.
Ecological Society of America Annual Meeting.

Jacob I. Levine, Brandon M. Collins, Zachary L. Steel, Perry de Valpine, Scott L. Stephens. Higher incidence of high-severity fire both on and near industrially managed forests. 2022.
Association for Fire Ecology Annual Meeting.

Jacob I. Levine, Perry de Valpine and John J. Battles. Generalized additive models reveal among-stand variation in live-tree biomass equations. 2020.
Ecological Society of America Annual Meeting.

Jacob I. Levine, Brandon M. Collins, Scott L. Stephens. Stand-level determinants of prescribed fire efficacy in repeat burns. 2019.
Association for Fire Ecology Annual Meeting.

Jacob I. Levine, Perry de Valpine, and John J. Battles. Generalized additive models reveal among-stand variation in live-tree biomass equations. 2018.
Society of American Foresters Annual Meeting.

INVITED TALKS

2024 – New York University

2023 – University of Utah

2023 – University of California, Los Angeles

2023 – University of California, Santa Barbara

2022 – University of Texas, Austin

REFERENCES

Stephen W. Pacala

Professor Emeritus, Department of Ecology and Evolutionary Biology, Princeton University

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