Kenji T. Hayashi

Curriculum Vitae

Ph.D. Candidate
Department of Ecology and Evolutionary Biology
University of California, Los Angeles
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EDUCATION

Ph.D. in Biology 2018 - 2025
University of California, Los Angeles
Dissertation: "Causes and consequences of competition in spatially variable environments for plant coexistence and distributions: a study with California annual plants"
Advisor: Dr. Nathan Kraft

B.S. in Biology 2014 - 2018
Brown University

FUNDING

Grants

Departmental Conference Grant 2023
University of California, Los Angeles
$1,500 to attend Ecological Society of America conference

Departmental Research Grant 2022
University of California, Los Angeles
$650 for dissertation research

Mildred E. Mathias Graduate Student Research Grant 2020 - 2021
University of California Natural Reserve System
$2,000 for fieldwork at UC Santa Barbara Sedgwick Reserve: "Quantifying the effect of competitive interactions on the landscape-scale distributions of annual plant species in a California grassland"

Departmental Research Grant 2020
University of California, Los Angeles
$500 for dissertation research

Departmental Research Grant 2019
University of California, Los Angeles
$2,000 for dissertation research

Fellowships & Scholarships

Vavra Fellowship 2018 - 2022
University of California, Los Angeles

Halde Quarter Fellowship 2022
University of California, Los Angeles

Summer Mentored Research Fellowship 2021
University of California, Los Angeles

Vavra Quarter Fellowship 2021
University of California, Los Angeles

Palevsky Fellowship 2018
University of California, Los Angeles
Awarded to one incoming student in recognition of an outstanding record

Barclay Scholarship 2017
Rocky Mountain Biological Laboratory

BrownConnect LINK Award 2016
Brown University

HONORS & AWARDS

Winner, ESIIL Environmental MosAIc Hackathon 2023
For group project “Biodiversity and ecosystem function: predicting resistance to wildfire from spectral diversity” in the 2023 Environmental Data Science Innovation & Inclusion Lab hackathon

Departmental Graduate Teaching Award 2023
University of California, Los Angeles
For Teaching Assistant roles in EE BIOL 161 (Plant Ecology) and EE BIOL 167 (Natural History Collections in the Biological Sciences)

Honorable Mention, NSF Graduate Research Fellowship 2020
National Science Foundation

Elected to Sigma Xi 2018
Brown University

Honors in the Biological Sciences 2018
Brown University

PUBLICATIONS

* indicates equal contribution

Preprints

1. **Hayashi, KT**, Kraft, NJB. (2024). Spatially variable competition contributes to mismatched responses of plant fitness and occurrence to environmental gradients. *bioRxiv*, 14 November, 2024. https://doi.org/10.1101/2024.07.25.605199

Journal Articles

2. McGuire, RM*, **Hayashi, KT***, Yan, X*, Caritá Vaz, M, Cinoğlu, D, Cowen, MC, Martínez-Blancas, A, Sullivan, LL, Vazquez-Morales, S, Kandlikar, GS. (2022). EcoEvoApps: Interactive apps for theoretical models in ecology and evolutionary biology. *Ecology and Evolution*, 12, e9556. https://doi.org/10.1002/ece3.9556

1. Miller, EC, **Hayashi, KT**, Song, D, Wiens, JJ. (2018). Explaining the ocean's richest biodiversity hotspot and global patterns of fish diversity. *Proceedings of the Royal Society B: Biological Sciences*, 285, 20181314. https://doi.org/10.1098/rspb.2018.1314

PRESENTATIONS

Invited Presentations

2. **Hayashi, KT**. (April 27, 2021). Understanding the distributions of annual plant species in a California grassland. University of California, Santa Barbara, Sedgwick Reserve, Lunch & Learn Seminar (virtual).

1. **Hayashi, KT**. (October 7, 2020). Community assembly and species distributions in a California grassland: insights from population dynamics and functional traits. University of Texas at Austin, Department of Integrative Biology, EcoLunch Seminar (virtual).

Contributed Presentations

5. **Hayashi, KT**, Kraft, NJB. (August 9, 2023). Competition along a water supply gradient: towards scaling competition to species distributions with California annual plants. Ecological Society of America, Portland, OR, USA.

4. **Hayashi, KT**, Kraft, NJB. (August 3, 2021). Spatially-variable competitive interactions shape the performance and distributions of annual plant species in a California grassland. Ecological Society of America (virtual).

3. **Hayashi, KT**, Van Dyke, MN, Kandlikar, GS, Kraft, NJB. (August 3-6, 2020). How does functional composition of the species pool impact plant performance locally? Ecological Society of America (virtual).

2. **Hayashi, KT**. (April 20, 2018). Functional traits, elevation, and the assembly of Rocky Mountain meadow communities. Brown University, Department of Ecology and Evolutionary Biology, Undergraduate Thesis Talks, Providence, RI, USA.

1. **Hayashi, KT**. (August 3, 2017). Assessing plant community assembly along an elevational gradient: a functional trait hypervolume approach. Rocky Mountain Biological Laboratory, Undergraduate Research Symposium, Gothic, CO, USA.

TEACHING & MENTORING

Teaching Assistantships

University of California, Los Angeles

- Genetics, Evolution, and Ecology (LIFESCI 7B) 2025
- Plant Ecology (EE BIOL 161) 2019, 2021 - 2024
- Natural History Collections in the Biological Sciences (EE BIOL 167) 2023
- Plant Physiology (EE BIOL 162) 2020, 2022
- Tropical Ecology (EE BIOL 151A) 2020
- Plant Diversity and Evolution (EE BIOL 103) 2020
- Community Ecology (EE BIOL 155) 2019

Brown University

- Evolutionary Biology (BIOL 0480) 2017
- Conservation Biology (BIOL 1470) 2016
- Intermediate Japanese (JAPN 0040/0050) 2015 - 2016

Guest Lectures

- Plant diversity in ecological communities 2020
  Plant Diversity and Evolution (EE BIOL 103), University of California, Los Angeles

Workshops

- R for Reproducible Scientific Analysis (Software Carpentry) 2021 - 2022
  Instructor and helper, University of California, Los Angeles
- Version Control with Git (Software Carpentry) 2022
  Helper, University of California, Los Angeles
- The Unix Shell (Software Carpentry) 2022
  Helper, University of California, Los Angeles

Mentorship

Undergraduate Students

- Fidel Negrete, University of California, Los Angeles 2022 - 2023
- Julie Yang, University of California, Los Angeles 2021 - 2023
  Awarded the 2022 Departmental Park S. Nobel Prize in Plant Biology
- Soline Grimbert, University of California, Los Angeles 2022
- Jinsuh Jung-Aum, University of California, Los Angeles 2021 - 2022
- Timothy Foster, University of California, Los Angeles 2020 - 2021

Other

- Biology Peer Advisor, Brown University 2017 - 2018

Teaching Certifications

- Instructor, The Carpentries 2022
- Associate, Center for the Integration of Research, Teaching, and Learning at UCLA 2021

OTHER RESEARCH EXPERIENCE

Undergraduate Honors Thesis 2017 - 2018

Brown University

Used functional traits to study plant community assembly along an elevational gradient in the Colorado Rocky Mountains

Research Assistant 2017

Enquist Lab, Rocky Mountain Biological Laboratory

Assisted with collecting, cleaning, and analyzing data on plant community composition, functional traits, and carbon flux in the Colorado Rocky Mountains

Undergraduate Researcher 2016 - 2017

Sax Lab, Brown University

Contributed to collecting and analyzing data on invasive plants and productivity in grasslands

Undergraduate Researcher 2016

Wiens Lab, University of Arizona

(1) Assisted with collecting and analyzing data on marine fish biogeography
(2) Synthesized literature on biogeography of limb morphology in lizards

Research Assistant 2015 - 2016

Sax Lab, Brown University

Assisted with collecting plant occurrence data from herbaria records

Research Assistant 2015

Matter Lab, University of Cincinnati

Assisted with fieldwork and lab experiments on metapopulation dynamics

PUBLIC & PROFESSIONAL SERVICE

Outreach

- Invited use case post for Ocean Biogeographic Information System 2020

Departmental Service

- Co-Organizer, “Hacky Hours” (departmental co-working space) 2019 - 2023

Peer Review

- The American Naturalist
- Functional Ecology

- Plant Ecology

Professional Associations

- Ecological Society of America 2019 - Present
- Sigma Xi 2018 - 2020
- International Biogeography Society 2017