



Lauren E. Frankel

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Education

University of Wisconsin-Madison

PhD in Botany

Master of Science in Botany

GPA: 4.00 / 4.00

Madison, WI

2020-2025

2020-2023

Grinnell College

Bachelor of Arts in Biology with Honors

GPA: 3.72 / 4.00

Grinnell, IA

2015-2019

Selected Research Skills

Coding Languages: Julia (advanced), Bash (intermediate), R (intermediate), Python (intermediate)

Phylogenomics: Plastome and targeted sequence capture assembly, alignment, annotation, tree estimation, simulation of networks, trees, & sequences

Research Experience

University of Washington

Postdoctoral Scholar, Tribble Lab

Seattle, WA

October 2025- Present

- Infer phylogenetic relationships and disentangling reticulate evolution between Cheilantheid ferns (Pteridaceae: Cheilanthoideae) from long-read sequence data
- Estimate relationship between niche overlap and hybridization histories in *Calceolaria* (Calceolariaceae)

University of Wisconsin-Madison

PhD Candidate, C. Ané Lab

Madison, WI

January 2021- August 2025

- Simulated the effect of substitution rate variation on hybridization summary statistics, determining most methods tested have high type-1 error in the face of lineage-rate variation
- Evaluated accuracy of complex admixture graph inference from *f*-statistics through simulations
- Assessed the relationship between introgression and trait evolution in Neotropical bellflowers (Campanulaceae: Lobelioideae)

University of Maryland

Data Analyst, Espíndola Lab

College Park, MD

July 2019- July 2020

- Extracted, aligned, and annotated chloroplast genomes in 14 *Calceolaria* (Calceolariaceae) species towards initial phylogenomic work to resolve the clade's backbone
- Estimated backbone genus phylogeny for *Calceolaria* and modeled biogeography evolution

Louisiana State University

Visiting Undergraduate Researcher, Lagomarsino Lab

Baton Rouge, LA

May - August 2018

- Compared the efficacy of herbarium vs. fresh tissue samples in phylogenomic analyses using sequence capture data for Neotropical bellflowers (Campanulaceae: Lobelioideae)
- Evaluated phylogeographic origins of three co-occurring congeners with differing pollination syndromes

Next-Gen Evolutionary Biology REU, Ohio State University

Undergraduate Researcher, Reagon Lab

Columbus, OH

May - July 2017

- Performed ddRAD sequencing and analyzed SNP data to infer population structure of an invasive agricultural weed, Palmer amaranth (*Amaranthus palmeri*)

Teaching Experience

Botany Dept., University of Wisconsin-Madison

Madison, WI

Teaching Assistant

August - December 2024

- Lead three discussion sections for Evolutionary Biology (BOT410) with ~25 students in each section, designing instructional material each week to further understanding of lecture material
 - Develop problem sets, grade assignments and exams, host office hours

Integrative Biology Dept., University of Wisconsin-Madison

Madison, WI

Teaching Assistant

January - May 2021

- Led four discussion sections for Intro Biology (BIO152) with ~22 students in each section, guiding group activities and reviewing homework to reinforce lecture material
- Supervised 14 students as they wrote their semester-long independent research papers

Data Analysis and Social Inquiry Lab, Grinnell College

Grinnell, IA

GIS and R Mentor

April 2016- May 2019

- TAed for Intro GIS course by offering support in class and holding weekly mentor sessions and office hours
- Assisted faculty in creating a class exercise for Politics of Congress course using ArcMap
- Built a Shiny app with R for students to interact with and learn from locally collected biogeochemical data
- Collaborate with professors to produce maps for academic publications, featured in:
 - French, B. M. (2018). *Narratives of Conflict, Belonging, and the State: Discourse and Social Life in Post-War Ireland*. Routledge.
 - Inglis, P. (2019). *Narrow Fairways: Getting By and Falling Behind in the New India*. Oxford University Press.

Natural History Collections Experience

Great Smoky Mountains National Park

Gatlinburg, TN

Natural History Collections Assistant

June - August 2015

- Accessioned, catalogued, and reorganized ~800 birds and lichens
- Rehoused and relabeled ~400 fluid preserved fishes, reptiles, and amphibians

American Museum of Natural History

New York, NY

Mammalogy Intern

September 2014- May 2015

- Identified and databased ~3,000 early Quaternary chiropteran fossils
- Aided in the recuration of carnivoran specimens and improved collections conditions

Publications

(undergraduate mentee indicated with ^)

1. **Frankel, L.** & Ané, C. (2026). Low accuracy of complex admixture graph inference from f-statistics. *Genetics*, 232(1), iyaf259.
2. **Frankel, L.** & Ané, C. (2023). Summary tests of introgression are highly sensitive to rate variation across lineages. *Systematic Biology*, 72(6), 1357-1369.
3. **Frankel, L.**, Murúa, M., & Espíndola, A. (2022). Biogeography and ecological drivers of evolution in the Andes: resolving the phylogenetic backbone for *Calceolaria* (Calceolariaceae). *Botanical Journal of the Linnean Society*, 199(1), 76-92.
4. Lagomarsino, L. P., **Frankel, L.**, Uribe-Convers, S., Antonelli, A., & Muchhala, N. (2022). Resolution despite conflict: Herbarium phylogenomics of Neotropical bellflowers (Campanulaceae: Lobelioideae), a rapid plant radiation. *Annals of Botany*, 129(6), 723-736.

In revision or preparation

5. **Frankel, L.**, Bedoya, A.M., Arango-Gómez, K., Brigida, N.[^], Lagomarsino, L., Ané, C. (2026). Introgression and trait evolution in the Neotropical bellflowers (Campanulaceae: Lobelioideae).
6. Wintermute, T., **Frankel, L.**, Kapsner, S., Connelly, B. & Keefover-Ring, K. (2026). Salicinoid salad: evolution of salicinoids in the Salicaceae tribe Saliceae (*Populus* and *Salix*).

Fellowships/Scholarships (\$235,303)

Graduate Research Fellowship, National Science Foundation (\$141,000)	2020-2025
Demeter Research Assistant Award, UW-Madison Botany (\$5,425)	2025
Allen Graduate Fellowship, UW-Madison Botany (\$17,325)	2024
Croxdale-Tyron Research Assistant Award, UW-Madison Botany (\$7,553)	2021
Trustee Honor Scholarship, Grinnell College (\$64,000)	2015-2019

Grants (\$5,577)

Student Research Grants Competition, UW-Madison Graduate School (\$1,500)	2025
Davis Research Support Award, UW-Madison Botany (\$1,577)	2021
Open Research Grant, Grinnell College (\$2,500)	2018

Awards (\$15,755)

George R. Cooley Award (best early career talk in plant systematics at annual Botany meeting), American Society of Plant Taxonomists (\$500)	2026
Ernst Mayr Award Finalist (outstanding Ph.D. student talk in systematics at annual Evolution meeting), Society of Systematic Biologists	2025
Tulipa et Paeonia Travel Award, UW-Madison Botany (\$1,500)	2025
Davis Travel Award, UW-Madison Botany (\$1,955)	2024
Menzel Award (outstanding talk in the Genetics section), Botany Conference (\$500)	2023
Tulipia et Paeonia Travel Award, UW-Madison Botany (\$2,000)	2023
University of Wisconsin-Madison Welcome Fund (\$5,000)	2020
Undergraduate Research Prize, American Society of Plant Taxonomists (\$300)	2019
Travel Award, Society of Systematic Biologists Meeting (\$500)	2018
Seifert Award (supporting field biology study abroad), Grinnell College (\$5,000)	2017
Dean's List (x3), Grinnell College	2016-2017

Presentations

*Invited presentations (presenter indicated with *, undergraduate mentee with ^):*

1. **Lauren Frankel***, Ana Maria Bedoya, Katherin Arango-Gómez, Nicholas Brigida[^], Laura Lagomarsino, and Cécile Ané. Introgression and trait evolution in the Neotropical bellflowers (Campanulaceae: Lobelioideae). American Society of Plant Taxonomists Webinar Series. 2026
2. **Lauren Frankel***. Challenges in inferring hybridization: impacts of substitution rate variation and network complexity on accuracy. University of Rochester, Rochester, NY. 2025

Contributed presentations

3. **Lauren Frankel***, Ana Maria Bedoya, Katherin Arango-Gómez, Nicholas Brigida[^], Laura Lagomarsino, Cécile Ané. Introgression and trait evolution in the Neotropical bellflowers (Campanulaceae: Lobelioideae). Botany, Tucson, AZ. (Cooley Award winner) 2026
4. **Lauren Frankel*** and Cécile Ané. Low accuracy of complex graph inference from *f*-statistics. Evolution, online + Athens, GA. (Mayr Award finalist). 2025

6. **Lauren Frankel*** and Cécile Ané. Low accuracy of complex graph inference from f -statistics. Botany Informal Talk Series, UW-Madison. 2024
6. **Lauren Frankel*** and Cécile Ané. f -statistics and other summary tests of admixture or introgression are sensitive to rate variation across lineages. Joint Congress on Evolutionary Biology, Montréal, Canada. 2023
7. **Lauren Frankel*** and Cécile Ané. Summary tests of introgression are highly sensitive to rate variation across lineages. Botany Conference, Boise, ID. 2023
8. Cécile Ané* and **Lauren Frankel**. Summary tests of introgression are highly sensitive to rate variation across lineages. Mathematical and Computational Evolutionary Biology, Corsica. 2023
9. **Lauren Frankel*** and Cécile Ané. Summary tests of introgression are highly sensitive to rate variation across lineages. Botany Informal Talk Series, UW-Madison. 2021
10. **Lauren Frankel*** and Anahí Espíndola. Biogeography and ecological drivers of evolution in the Andes: resolving the phylogenetic backbone for *Calceolaria* (Calceolariaceae). Virtual Evolution Meeting. 2020
11. **Lauren Frankel*** and Laura Lagomarsino. The fruit doesn't fall far from the gene tree: Relationship between fruit type and gene tree discordance in Neotropical Lobelioideae. Botany Virtual Conference lightning talk. 2020
12. **Lauren Frankel*** and Anahí Espíndola. Evolutionary history and biogeography of slipperflowers, *Calceolaria* (Calceolariaceae). Botany Virtual Conference. 2019
13. **Lauren Frankel***, Laura Lagomarsino, Simon Uribe-Convers, Monica Carlsen, Alexandre Antonelli, and Nathan Muchhala. Promises and pitfalls of herbarium phylogenomics: A case study in a Neotropical plant radiation. Grinnell College Biology department seminar. 2019
14. Laura Lagomarsino*, Simon Uribe-Convers, **Lauren Frankel**, Monica Carlsen, Alexandre Antonelli, and Nathan Muchhala. Promises and pitfalls of herbarium phylogenomics: A case study in a Neotropical plant radiation. Botany Conference colloquium talk, Rochester, MN. 2018
15. **Lauren Frankel*** and Michael Reagon. Untangling the range expansion of an invasive agricultural weed, Palmer amaranth. Grinnell College Biology department seminar. 2017

*Selected contributed posters (presenter indicated with *):*

1. Tyler Wintermute*, **Lauren Frankel**, Sarah Kapsner, Bryan Connelly, and Ken Keefover-Ring. Salicinoid Salad: Evolution of salicinoids in the Salicaceae tribe Saliceae (*Populus* and *Salix*). Plant Herbivore Interaction Gordon Research Conference, Pomona, CA. 2025
2. **Lauren Frankel*** and Anahí Espíndola. Evolutionary relationships and plastome structure in slipperflowers (Calceolariaceae: *Calceolaria*). Society of Systematic Biologists Meeting, Gainesville, FL. 2020
3. **Lauren Frankel***, Simon Uribe-Convers, Nathan Muchhala and Laura Lagomarsino. Promises and pitfalls of herbarium phylogenomics: A case study in a Neotropical plant radiation. Evolution Meetings, Providence, RI. 2019
4. **Lauren Frankel*** and Michael Reagon. Untangling the range expansion of an invasive agricultural weed, Palmer amaranth. Next-Gen Evolutionary Biology REU Poster Session. 2017

Invited workshop talks:

1. **Lauren Frankel** and Cécile Ané. Comparative methods on networks, Methodological advances in reticulate evolution workshop. Botany Conference, Boise, ID. 2023

Workshops & Trainings Attended

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| Research Mentor Training, University of Wisconsin-Madison | 2024 |
| Midwest Phylogenetics Workshop, University of Minnesota | 2019 |

Society Membership

Society of Systematic Biologists, American Society of Plant Taxonomists

Service

Peer reviewer: *Systematic Biology* (4x), *Evolution* (1x)

Organizer/Leader: Phylogenetics Support Group (UW-Madison Botany Department, 2021- 2024), Friday Afternoon Club (weekly graduate student social, UW-Madison Botany Department, 2022- 2024).

Committees: Awards Review Panel (UW Biology, spring 2026), Awards Committee (UW-Madison Botany Department, 2021- 2025), Student Educational Policy Committee (Grinnell College Biology Department, 2017- 2019; peer elected position), Center for Prairie Studies Board (Grinnell College, 2016- 2019).

Panels: Graduate School Informational Panel (Botany Club of UW-Madison, 2023), Grad School Interview Panel (Latinx in the Marine Sciences, 2021), Strategies for Engaging Undergraduate Researchers (Society of Systematic Biologists Meeting, 2018).

Mentoring: Nicholas Brigida (UW-Madison Computer Sciences undergraduate 2024- 2025), GRFP application mentoring (Botanical Society of America, 2020- 2023)