

Analisa A. Milkey

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(650) 575-5579

Education

PhD candidate, Ecology & Evolutionary Biology

expected graduation 2026

University of Connecticut

GPA 4.0

Advisor: Dr. Paul Lewis

Dissertation title: Sequential Monte Carlo Applications in Phylogenetics

Bachelor of Science, Biological Sciences

June 2020

University of California, Davis

University Honors Program

GPA 3.88

Honors thesis advisor: Dr. Peter Wainwright

Skills

Experience with C++, R, Python, bash, git

Experience with RevBayes and BEAST software.

Experience with Access and Symbiota databases.

Publications

Li, A., Liu, P. Y., Wang, Y. B., **Milkey, A.**, Lewis, P., & Chen, M. H. (2025). A comparison of Monte Carlo based marginal likelihood estimators. (Under review at *WIREs Computational Statistics*.)

Milkey, A., Chen, M. H., Wang, Y. B., Li, A., & Lewis, P. (2025). The sequential multispecies coalescent. *bioRxiv*, 2025-01. (Under review at *Systematic Biology*.)

Wang, Y. B., **Milkey, A.**, Li, A., Chen, M. H., Kuo, L., & Lewis, P. O. (2023). LoRaD: Marginal likelihood estimation with haste (but no waste). *Systematic Biology*, 72(3), 639-648.

Hodge, J. R., Song, Y., Wightman, M. A., **Milkey, A.**, Tran, B., Stajner, A., Roberts, A. S., Hemingson, C. R., Wainwright, P. C., & Price, S. A. (2021). Constraints on the ecomorphological convergence of zooplanktivorous butterflyfishes. *Integrative Organismal Biology*, 3(1), obab014.

Software

Milkey A., Korte E., Lewis P.O. (2023). *lorad: Lowest Radial Distance Method of Marginal Likelihood Estimation*. R package version 0.0.1.0, <https://CRAN.R-project.org/package=lorad>.

Invited Presentations *denotes undergraduate mentee

Milkey, A., Chen, J.⁺, Lewis, P. How much information is there about the species tree even if gene trees are known without error? Invited talk at Society of Systematic Biologists symposium:

Machine learning and new inference algorithms: expanding what is possible in evolutionary biology and phylogenetic analysis. Oral presentation at Evolution 2025 meeting (Annual joint meeting of the American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists.) Athens, GA. June 2025.

Conference Presentations *denotes equal contribution

Milkey, A., Lewis, P. How much information is there about the species tree even if gene trees are known without error? Oral speed talk at UConn Ecology and Evolutionary Biology Graduate Student Symposium, Storrs, CT. March 2025.

Milkey, A., Lewis, P. Testing the sequential multispecies coalescent. Oral presentation at Evolution 2024 meeting (Annual joint meeting of the American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists.) Montreal, Canada. July 2024.

Milkey, A., Lewis, P. Testing the sequential multispecies coalescent. Oral speed talk at UConn Ecology and Evolutionary Biology Graduate Student Symposium, Storrs, CT. February 2024.

Milkey, A., Lewis, P. The sequential multispecies coalescent. Oral presentation at Evolution 2023 meeting (Annual joint meeting of the American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists.) Albuquerque, NM. June 2023.

Milkey, A., Lewis, P. The sequential multispecies coalescent. Oral presentation at UConn Ecology and Evolutionary Biology Graduate Student Symposium, Storrs, CT. February 2023.

Wang, Y. B., **Milkey, A.**, Li, A., Chen, M., Kuo, L., Lewis, P. LoRaD: marginal likelihood from a single posterior sample. Poster presentation at Evolution 2022 meeting (Annual joint meeting of the American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists.) Cleveland, OH. June 2022.

Wang, Y. B., **Milkey, A.**, Li, A., Chen, M., Kuo, L., Lewis, P. LoRaD method for marginal likelihood estimation. Oral presentation delivered on zoom at UConn Ecology and Evolutionary Biology Graduate Student Symposium, Storrs, CT. February 2022.

Milkey, A., Hodge, J., Wainwright, P.C. Coral feeding shapes behavior in butterflyfishes (Chaetodontidae). Oral presentation delivered through video at UC Davis Undergraduate Research Conference, Davis, CA. April 2020.

Deshmukh*, R., **Milkey*, A.** The effects of early home environment on young Mexican American mothers' ethnic identity. Oral presentation delivered through video at Western Regional Psychology Association Conference, San Francisco, CA. October 2020.

Leung*, T., **Milkey*, A.**, Rusit*, X. Elongation in Eupercaria. Oral presentation delivered at UC Davis Undergraduate Research Conference, Davis, CA. April 2018.

Awards

The EEB Graduate Student Fund to the Department of Ecology and Evolutionary Biology and Connecticut State Museum of Natural History (\$494)	April 2025
Schaefer Fund and the CBC Endowment to the Department of Ecology and Evolutionary Biology and Connecticut State Museum of Natural History (\$1215)	April 2024
EEB Headship Award (\$500)	May 2023
The Bamford Fund to the Department of Ecology and Evolutionary Biology and Connecticut State Museum of Natural History (\$520)	May 2023
NSF Graduate Research Fellowship (\$147,000)	Aug 2023 - July 2026
The Ecology and Evolutionary Biology Graduate Student Research Endowment Fund for Research to the Department of Ecology and Evolutionary Biology (\$1245)	April 2022
Department Citation, UC Davis College of Biological Sciences	June 2020
Law Family Award, UC Davis Herbarium (\$250)	April 2020
Goldwater Scholarship (\$7500)	April 2019
UC Davis Regents' Scholarship (\$30,000)	Sept 2016 - June 2020

Teaching Experience

Teaching Assistant; Workshop on Molecular Evolution	May 2023, 2024
Graduate Teaching Assistant; University of Connecticut	
Lab Instructor, EEB5249, Phylogenetics	Jan 2024 - May 2024
Teaching Assistant, EEB2245, Evolutionary Biology	Jan 2023 - May 2023
Lab Instructor, BIOL1108, Principles of Biology II	Aug 2021 - Dec 2022
College Essay Writing Tutor; The Princeton Review	June 2020 - July 2021
Teaching Assistant; Greentech Education and Employment	March 2018 - Feb 2019

Service

UConn EEB NSF GRFP Peer Reviewer	2025
Letters to a Pre-Scientist, STEM professional	2023 - present
UConn EEB Graduate Student Outreach Committee	2022 - present
Natchaug Elementary School Guest Scientist	2022 - present

Other Experience

Curatorial Assistant; UC Davis Herbarium	April 2018 - June 2021
Driver; Yolo Food Bank	March 2020 - June 2020

Academic Organizations

Phi Beta Kappa Honor Society	April 2019 - present
UC Davis Regents' Scholars Society	Sept 2016 - June 2020