Natalie Queally

Department of Ecology & Evolutionary Biology, UCLA
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Education

Ph.D., Forestry — August 2024
University of Wisconsin, Madison
Dissertation: "Investigating functional trait compositions in response to a changing world: Imaging spectroscopy applications"
Advised by: Dr. Phil Townsend

B.A. Geography and Environmental Studies — 2016
Minors: Conservation Biology, GIS&T
University of California, Los Angeles

Research Appointment

Postdoctoral Scholar, Department of Ecology & Evolutionary Biology, University of California, Los Angeles — Sep 2024 – Present

Publications

Queally, N., Zheng, T., Ye, Z., Kovach, K. R., Pavlick, R., Shafron, E., Schneider, F.D., & Townsend, P. A. (2025). Functional traits from imaging spectroscopy inform patterns of forest mortality during Sierra Nevada drought. *Global Change Biology*, *31*(5), e70246.

Chadwick, K. D., Davis, F.W., Miner, K.R., Pavlick, R., Reynolds, M., Townsend, P. A., ..., **Queally, N.**, ..., & Schimel, D. (2025). Unlocking ecological insights from sub-seasonal visible-to-shortwave infrared imaging spectroscopy: The SHIFT campaign. *Ecosphere*, *16*(3), e70194.

Greenberg, E., Thompson, D. R., Jensen, D., Townsend, P. A., **Queally, N.**, Chlus, A., Fichot, C.G., Harringmeyer, J.P., & Simard, M. (2022). An improved scheme for correcting remote spectral surface reflectance simultaneously for terrestrial BRDF and water-surface sunglint in coastal environments. *Journal of Geophysical Research: Biogeosciences*, *127*(3), e2021JG006712.

Queally, N., Ye, Z., Zheng, T., Chlus, A., Schneider, F., Pavlick, R. P., & Townsend, P. A. (2022). FlexBRDF: A flexible BRDF correction for grouped processing of airborne imaging spectroscopy flightlines. *Journal of Geophysical Research: Biogeosciences*, *127*(1), e2021JG006622.

In review

Berman, L., Schneider, F.D., Pavlick, R., Peery, M.Z., Wood, C.M., Zheng, T., Shafron, E., Ye, Z., **Queally, N.**, Dean, M., Tagliabue, G., Winiarski, J.M., Kramer, A., & Townsend, P.A. Remote sensing and bioacoustics reveal avian niche partitioning and habitat filtering. In review: *PNAS.*

Gilbert, N., **Queally, N.**, Cooper, J.C., Eyster, H.N., Williams, P.J. Evenness of bird assemblages at continental scale. In review: *Global Ecology and Biogeography*.

Braghiere, R. K., Wang, Y., Liu, K., Chadwick, K. D., Brodrick, P. G., Shiklomanov, A. N., Schneider, F.D., Ferraz, A., Zheng, T., **Queally, N.**, Townsend, P.A., Schimel, D., & Frankenberg, C. Shifting from plant functional types to traits: Enhancing biodiversity representation in Earth system models. In review: *Ecosphere*.

In preparation

Queally, N., Johny, M., Zheng, T., Chadwick, K.D., & Townsend, P.A. High frequency imaging spectroscopy data show phenological changes in trait expression in grazed landscapes. In preparation: *Ecological Applications*.

Data Publications

Queally, N., Davis, F.W., Chadwick, K.D., Ade, C., Anderegg, L., Angel, Y., … & Schimel, D.S. (2024). *SHIFT: Vegetation Plot Characterization, Santa Barbara County, CA 2022.* ORNL DAAC, Oak Ridge, Tennessee, USA. https://doi.org/10.3334/ORNLDAAC/2295

Queally, N., Davis, F.W., Chadwick, K.D., Ade, C., Anderegg, L., Angel, Y., … & Schimel, D.S. (2024). *SHIFT: Vegetation Plot Photos, Santa Barbara County, CA 2022.* ORNL DAAC, Oak Ridge, Tennessee, USA. https://doi.org/10.3334/ORNLDAAC/2334

Fellowships and Awards

Future Investigators in NASA Earth and Space Science and Technology (FINESST) ($100,000)	2022 – 2024
Student Research Grants Competition ($3000 combined)	2022, 2023
Joon Lee Award (for outstanding paper in F&WE Department) ($1000)	2022
National Science Foundation Graduate Research Fellowship Program (GRFP) ($138,000)	2018 – 2021

Other Research Experience

Research scientist, NASA Jet Propulsion Laboratory	Jan 2018 – Aug 2018
NASA DEVELOP Intern, NASA Jet Propulsion Laboratory	Sep 2016 – Nov 2017

Teaching

Co-Instructor, Forest Ecology | UW-Madison	Fall 2022
Instructor, Forest Ecology Lab | UW-Madison	Fall 2022
Guest Lecturer, Environmental Sensing Technologies | UW-Madison	Spring 2020

Trainings

Queally, N. Spatially correlated functional ANOVA (scFANOVA) for comparing groups of time series. (2024). *NSF Biology Integration Institute Summer Training*.

Queally, N. Introduction to airborne imaging spectroscopy: Topographic and BRDF corrections. (2023). *NSF Biology Integration Institute Summer Training.*

Mentoring

Hudson Billock	Undergraduate, UCLA	2025
Nikita Burger	Undergraduate, UCLA	2025
Bec Chenoweth	Undergraduate, UCLA	2025
Nate Trux	Undergraduate, UCLA	2024-2025
April Martinez	Undergraduate, UCLA	2024-2025
Cecilia Vanden Heuvel	Undergraduate, UW-Madison	2023-2024

Presentations and Posters (denotes mentee)

Queally, N., Johny, M., Zheng, T., Chadwick, K.D., Townsend, P.A. High frequency imaging spectroscopy data from SHIFT show phenological changes in trait expression in grazed landscapes. (2025). *Point Conception Institute & La Kretz Research Center Joint Science Symposium*.

Trux, N., **Queally, N.**, DeRanek, C., Zapata, F., Ordway, E. Evolution from the sky: Assessing the phylogenetic signal of Southern California plant communities from airborne VSWIR imagery (poster). (2025). *UCLA Ecology and Evolutionary Biology Research Day*.

Vanden Heuvel, C., **Queally, N.**, Zheng, T., Berman, L., Townsend, P.A. Characterizing Forest and functional trait response to wildfire and climate extremes in the Sierra Nevada (poster). (2024). *Sierra Nevada Science Symposium*.

Queally, N., Johny, M., Brodrick, P.G., Townsend, P.A. High frequency imaging spectroscopy data from SHIFT show phenological changes in trait expression in grazed landscapes (poster). (2023). *American Geophysical Union Fall Meeting.*

Queally, N. Detecting disturbance legacy effects in functional trait phenology using imaging spectroscopy. (2023). *NASA Biodiversity and Ecological Conservation Team Meeting*.

Queally, N., Zheng, T., Ye, Z., Kovach, K., Schneider, F., Pavlick, R. P., & Townsend, P. A. Trade-offs in functional investments and tree dieback during the 2012 – 2016 California drought. (2023). *Ecological Society of America Annual Meeting*.

Queally, N., Zheng, T., Ye, Z., Kovach, K., Schneider, F., Pavlick, R. P., & Townsend, P. A. Trade-offs in functional investments influence tree mortality during 2012 – 2016 California drought (poster). (2022). *American Geophysical Union Fall Meeting*.

Queally, N., Schimel, D., Turner, W., Reynolds, M., Davis, F., Miner, K., Chadwick, K. D., Gierach, M., Townsend, P. A., Pavlick, R. P., Brodrick, P. G. Imaging spectroscopy applications with SHIFT: SBG High Frequency Times Series. (2022). *Point Conception Institute Initiatives Workshop*.

Queally, N., Ye, Z., Kovach, K., Pavlick, R.P., Schneider, F., Townsend, P.A. BRDF correction of ABoVE AVIRIS-NG flightlines using FlexBRDF. (2021). *ABoVE Science Team Meeting* (online).

Queally, N., Ye, Z., Zheng, T., Chlus, A., Schneider, F., Pavlick, R.P., & Townsend, P.A. Automated BRDF Correction of Multiple Adjacent Flightlines in Complex Landscapes. (2020). *American Geophysical Union Fall Meeting* (online).

Queally, N., Foster, K., & Nickmeyer, A. California drought implications: Analyzing AVIRIS fraction of alive vegetation cover and climatic trends. (2017). *HyspIRI Mission Concept Science and Applications Workshop.*

Activities and Service

Service to the profession

Peer review: IEEE Transactions on Image Processing, IEEE J-STARS, Nature Communications Earth & Environment, Earth's Future, New Phytologist

Invited review panelist: NASA 2023

Service to the university

Forest ecologist faculty search committee member 2023

Graduate student representative 2019 – 2021

University of California Education Abroad Program scholarship reader 2018 – Present

Professional Engagement

Member, NSF Biology Integration Institute (BII): Advancing Spectral biology in Changing ENvironmnets to understand Diversity (ASCEND) 2021 – 2025