Dominique H. Pham

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Education

Ph.D in Ecology and Evolutionary Biology **2025 – present**
University of Connecticut, Storrs, CT

- Advisor: Dr. Karolina Heyduk

Bachelor of Science in Biology **2019 – 2023**
summa cum laude, GPA: 3.92, Departmental Honors
Minor in Environmental Studies
University of Richmond, Richmond, VA

- Honors thesis title: Seed bank dynamics and germination under differential light regimes of the emerging invasive species wavyleaf basketgrass (*Oplismenus undulatifolius*). Advisor: Dr. Carrie A. Wu

Research

Doctoral Student **Aug 2025 – Present**
Department of Ecology and Evolutionary Biology, University of Connecticut, CT

Post Baccalaureate Research Assistant **May 2025 – July 2025**
Department of Biology, University of Richmond, VA

- Analyzed complex datasets using statistical software and contributed to manuscript preparation.

Laboratory Technician **Aug 2023 – April 2025**
Donald Danforth Plant Science Center, St. Louis, MO
Abiotic stress response in photosynthetic organisms. PI: Dr. Ru Zhang
Main projects:

- Quantification of reactive oxygen species (ROS) in C_4 land plant *Setaria viridis* using high resolution microscopy.
- Photosynthetic acclimation to high-light stress in *Setaria viridis*.
- Physiology of heat stress memory in *Sorghum bicolor* and *Setaria viridis*.
- Testing hydroponic growth systems with lettuce (*Lactuca sativa*).
- Comparing lettuce (*Lactuca sativa*) and tomato (*Solanum lycopersicum*) growth, photosynthesis, and yield under traditional shade screens and a photovoltaic solar and shade screen developed by Mirai Solar.
- Comparing physiology and growth between soybean (*Glycine max*) varieties.

Undergraduate Research Assistant **Dec 2020 – July 2023**
Department of Biology, University of Richmond, VA

Invasion dynamics of *Oplismenus undulatifolius*, a newly invasive grass in the U.S. mid-Atlantic. PI: Dr. Carrie A. Wu

- Conducted independent research projects examining responses of an invasive grass to changes in light intensity by performing a germination assay and early growth study.
- Conducted surveys of light conditions in eastern deciduous forests.
- Designed and constructed shade structures to simulate three light conditions in forest understories.
- Collected seeds from plants in the field and grown in the lab, and managed the lab seed inventory.
- Executed a pilot study comparing early growth morphology of wavyleaf basketgrass from the invaded and native range.

Main projects:

- Seed bank dynamics and germination of the emerging invasive species wavyleaf basketgrass (*Oplismenus undulatifolius*).
- Morphological plasticity and vegetational growth of wavyleaf basketgrass (*Oplismenus undulatifolius*) under differential light regimes.

Undergraduate Researcher **Summer 2022**
Field Ecology Research Education Program, Rocky Mountain Biological Laboratory, Gothic, CO
Demographics of *Valeriana edulis*, a long-lived, dioecious, and alpine perennial. PI: Dr. Will K. Petry

- Conducted an independent research study investigating inconstancy in the sex-expression of male flowers across populations of Edible Valerian (*Valeriana edulis*) as well as potential drivers of its variation.

- Conducted fieldwork over an elevational gradient, involving measurements of floral and morphological traits

Publications

Pham, DH., & Wu, CA. (2023). Seed longevity and germination of the emerging invasive species wavyleaf basketgrass (*Oplismenus undulatifolius*) under varied light regimes. *Invasive Plant Science and Management,* 16(4):225-232. doi:10.1017/inp.2023.27

Milburn, G., Morris, CM., Kosola, E., Patel-Tupper, D., Liu, J., **Pham, DH.**, Acosta-Gamboa, L., Stone, WD., Pardi, S., Hillman, K., McHargue, WE., Becker, E., Kang, X., Sumner, J., Bailey, C., Thielen, PM., Jander, G., Kane, CN., McAdam, SAM., Lawton, TJ., Nusinow, DA., Zhang, F., Gore, MA., Cheng, J., Niyogi, KK., Zhang, R. (2025). Modification of Non-photochemical Quenching Pathways in the C_4 Model Plant *Setaria viridis* Revealed Shared and Unique Photoprotection Mechanisms as Compared to C_3 Plants. *bioRxiv*, https://doi.org/10.1101/2025.01.12.632622

Professional Presentations

2024 **Pham, D.H.**, Quantification of reactive oxygen species to understand high light acclimation in C_4 *Setaria viridis*, Botany 2024 Conference, Grand Rapids, MI. *Contributed talk*.

2024 **Pham, D.H.**, Quantifying reactive oxygen species in C_4 *Setaria viridis* under high light stress, 18th Annual Scientific Retreat, Donald Danforth Plant Science Center, St. Louis, MO. *Contributed talk*.

2023 **Pham, D.H.**, Seed viability and germination of the emerging invasive species wavyleaf basketgrass (*Oplismenus undulatifolius)* under shade, Botany 2023 Conference, Boise, ID. *Contributed poster*.

2022 **Pham, D.H.**, Wu, C.A., Germination traits of the emerging invasive species wavyleaf basketgrass (*Oplismenus undulatifolius*), 47th Southeastern Population Ecology and Evolutionary Genetics Annual Meeting, Eatonton, GA. *Contributed poster*.

2022 **Pham, D.H.**, Dynamics of male inconstancy in *Valeriana edulis* in the abiotic and mating environment, Summer Research Symposium, Rocky Mountain Biological Laboratory, Gothic, CO. *Contributed talk*.

2022 **Pham, D.H.**, Wu, C.A., Seed bank dynamics of the emerging invasive species wavyleaf basketgrass (*Oplismenus undulatifolius*), 37th Annual A&S Student Symposium, University of Richmond, Richmond, VA. *Contributed poster*.

Awards, Honors, Grants

2025 Impact Scholar fellowship award, The Graduate School, University of Connecticut ($45,000)
2025 Distinguished Graduate Fellow award, The Graduate School, University of Connecticut ($5,000)
2025 Graduate Research Fellowship Program Honorable Mention, National Science Foundation
2025 CSTM Member of the Month, Committee for Scientific Training and Mentoring, Donald Danforth Plant Science Center
2024 Physiological / Ecophysiological Section Best Oral Presentation Award, Botanical Society of America ($250)
2024 Best Talk Award, 2024 Scientific Retreat, Donald Danforth Plant Science Center ($50)
2024 Professional Development Award, Committee for Scientific Training and Mentoring, Donald Danforth Plant Science Center ($1000)
2023 Young Botanist Award, recognizing accomplishments in the botanical sciences, Botanical Society of America
2023 Preparing Leaders and Nurturing Tomorrow's Scientists (PLANTS) Grant (NSF; DEB #2138730), Botanical Society of America (~$2,260)
2023 Betty Ann Dillon Award, Westhampton College, University of Richmond
2023 The Robert F. Smart Award in Biology, Department of Biology, University of Richmond ($5,500)
2023 Senior Achievement Award, Department of Biology, University of Richmond
2023 Service Award, Department of Biology, University of Richmond
2023 Member, Beta Beta Beta National Biology Honor Society, University of Richmond Beta Theta Chapter
2022 Summer research experience full scholarship, Rocky Mountain Biological Laboratory ($8,000)
2022 Rocky Mountain Biological Laboratory Travel Award ($600)
2022 John Neasmith Dickinson Award, Department of Biology, University of Richmond ($5,500; *Declined*)
2022 Cole Memorial Scholarship Award, Department of Biology, University of Richmond
2022 Biology Junior Research Award, Department of Biology, University of Richmond
2022 SEPEEG registration award, supported by the National Science Foundation ($255)
2022 Undergraduate Travel Grant Award, University of Richmond ($750)

2022 Member, Omicron Delta Kappa National Leadership Honor Society, University of Richmond Epsilon Circle
2021 University of Richmond Summer Fellowship ($2,800)
2019–2023 Bonner Scholarship Program, four-year academically grounded civic engagement scholarship, University of Richmond ($15,000 total)

Leadership, Service, and Training

Mentoring Scientist **2024 - present**
PlantingScience, Botanical Society of America.
Provided mentoring and support through asynchronous online conversations to teams of 3-5 students in 6th-12th grade classrooms as students design and carry out a plant-focused scientific investigation in the classroom.

President, National Biology Honor Society **2022–2023**
Beta Beta Beta National Biology Honor Society, University of Richmond Beta Theta Chapter.
Revived the Beta Theta chapter of TriBeta National Biology Honor Society to recognize high achieving students committed to the life sciences as well promote professional development opportunities and help build a safe and productive community. Successfully recruited members, held an induction ceremony, led chapter meetings, streamlined the bylaws, and helped organize community building events.

Bonner Center for Civic Engagement Program Associate **2022–2023**
Center for Civic Engagement, University of Richmond.
Collaborated with CCE staff and other program associates to strengthen community engagement and learning by leading campus-wide programs, supporting the Bonner Scholars Program, and offering personalized advising to all students to get connected to the city of Richmond. My work focused on building community, deepening student commitment to a greater community, and enhancing critical reflection on topics related to community-driven change, civic engagement, and social justice. Served on the Student Engagement Fund Committee and Assessment Initiatives Committee (Spring 2023).

First-Generation Low-Income Peer Mentor **2020–2023**
Student Center for Equity and Inclusion, University of Richmond.
Mentor 1-2 first-year students to promote successful integration into college life, specifically from a FLI perspective, as well as contribute to establishing a sense of community through programming events for the greater FLI community.

Multicultural Student Organization President, Activities Chair **2021–2022**
Asian American Student Union, University of Richmond.
Hosted and lead organization and campus-wide meetings to both advance knowledge on Asian, Pacific Island, Desi, and Arab (APIDA) issues/experiences and foster belonging within the community.

WELL 100 Course Peer Instructor **2021**
Division of Student Development, University of Richmond.

Professional Development Cohort Intern **2020**
Bonner Center for Civic Engagement, University of Richmond.

Multicultural Pre-Orientation and General Orientation Advisor **2020, 2021, 2022**
Division of Student Development, University of Richmond.

Youth Mentor **2019–2020**
Youth Life Foundation of Richmond, Richmond, VA.

Other Professional Experience

Event Server **2024**
St. Louis Country Club
Provide excellent hospitality services for members of the private country club, including cocktailing, event setup, and dining services.

Science Gallery Intern **2019–2022**
Science Museum of Virginia, Richmond, VA.

Researched, developed, and implemented activities to creatively explore methods of scientific communication and actively engage the public in understanding different scientific concepts. Also interpreted and mediated scientific information from exhibits to the general public.

Medical Receptionist **2018–2019**
Back In Motion Physical Therapy, Lorton, VA.