William P. Dwyer

Biology Ph.D. Student | Knight-Hennessy Scholar

🏠 phytowill.io   🔗 linkedin/phytowill.com   ✉ phytowill@gmail.com   📞 +1(646)530-1820

Work Experience

THE GOOD SCIENTISTS | Lead Editor
May 2023 – Present | Wageningen University, Netherlands

- ➔ Curating a monthly online newsletter featuring guest writers working at the interface of science and society.

CARNEGIE INSTITUTION FOR SCIENCE | Research Assistant
June 2020 – June 2023 | Stanford, CA

- ➔ Spearheaded cloning, vector assembly, and genotyping efforts for experimental projects in S. bicolor and A. thaliana.
- ➔ Generated, curated and maintained novel species-specific metabolic databases as part of the Plant Metabolic Network (PMN).
- ➔ Generated and incorporated a library of 80,000+ modeled protein structures into enzyme function prediction algorithms to improve performance.

VASSAR COLLEGE, BIOCHEMISTRY DEPT | Teaching Assistant
September 2019 – May 2020 | Poughkeepsie, NY.

- ➔ Led weekly workshop sessions and held office hours for students enrolled in Introductory Biology (fall) and Biochemistry courses (spring) .
- ➔ Assisted undergraduate-level students with benchwork during laboratory sessions.

Selected Publications

TOWARDS BUILDING A SORGHUM CELL ATLAS   Karia, Dwyer et al. | In Prep
- ➔ Experimentally localized hundreds of Sorghum bicolor enzymes to build a comprehensive map of the crop's metabolic network.
- ➔ Received funding for a successful Joint Genome Institute grant to support gene synthesis and cloning efforts.

ARABIDOPSIS THALIANA RHAMNOSE CONDENSATE FORMATION DRIVES UDP-RHAMNOSE SYNTHESIS   Field, Dorone, Dwyer et al. | In Prep, Science
- ➔ Spearheaded confocal microscopy and cloning work to probe the function of rhamnose-biosynthesis phase-separating compartments.

RENAMING INDIGENOUS CROPS AND ADDRESSING COLONIAL BIAS IN SCIENTIFIC LANGUAGE   Dwyer et al. | Trends in Plant Science
Published September 2022

- ➔ Proposed a renaming of 'orphan crop' to 'indigenous crops' to address existing colonial bias in scientific terminology.
- ➔ Reviewed existing research on indigenous crops and emphasized the importance of local communities' knowledge and guardianship in future studies of these crops.

PLANT METABOLIC NETWORK 15: A RESOURCE OF GENOME-WIDE METABOLISM DATABASES FOR 126 PLANTS AND ALGAE   Hawkins et al. | JIPB
Published August 2021

- ➔ Conducted metabolic domain enrichments from pathway and reaction multiple component analysis data contained within PMN.
- ➔ Assisted senior biocurators with the development, curation and maintenance of PMN's databases.

Education

STANFORD UNIVERSITY
Ph.D. Biology
Sep 2023 - Present

VASSAR COLLEGE
B.A. Biochemistry
Aug 2016 - May 2020 | Poughkeepsie, NY
Cum. GPA: 3.80 / 4.0, Dept Honors

Honors

KNIGHT-HENNESSY SCHOLARSHIP
2023 Cohort
Stanford University

CHURCHILL FELLOWSHIP
Nominee and Finalist
Accepted at Cambridge University, Dept of Plant Sciences

Skills

COMPUTATIONAL
Python • R • Matlab • Unix • Git • Geneious • Weebly • PyMol

LABORATORY:
ICP-MS • CRISPR-Cas9 • Licor 6800 • Cloning • Biolistics • Microscopy • Protoplasting

LANGUAGE:
French (native) • English (fluent) • Spanish (conversational)

References

Sue Rhee, Director, Plant Resilience Institute
✉ rheeseu6@msu.edu

Alison Keimowitz, Chair of Chemistry, Vassar College
✉ alspodek@vassar.edu

Jennifer Kennell, Associate Professor of Biology, Vassar College
✉ jekennell@vassar.edu