William P. Dwyer

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Education

2016 – 2020 **B.A. in Biochemistry (Honors)**, *Vassar College*, Poughkeepsie, NY, GPA: 3.80/4.00

Research Experience

Interests Plant Metabolism, Mutualism, Plant-Microbe Interaction, Computational Biology

Jun 2020 - ongoing **Dr. Seung Yon Rhee**, *Carnegie Institution for Science*, Stanford, CA
- Spearheaded experimental projects investigating enzyme localization in *Sorghum bicolor* and phase separation in *Arabidopsis thaliana*. Designed and implemented an enzyme function prediction pipeline with AlphaFold protein structure data. Served as biocurator and admin of the Plant Metabolic Network databases.

May 2019 - May 2020 **Dr. Jennifer Kennell**, *Senior Thesis: Characterizing a Phosphoglycolate Phosphatase Ortholog in Drosophila melanogaster*, Poughkeepsie, NY
- Designed respirometric and behavioral assays in *Drosophila melanogaster* to characterize the function of a newly described gene at the interface of carbohydrate and lipid metabolism.

May 2019 - Aug 2019 **Dr. Sander Houten**, *Mt Sinai SURP*, New York, NY
- Summer undergraduate research fellow at the Icahn School of Medicine at Mt Sinai, in the department of Genomics and Genetic Sciences. Validated enzymatic targets for substrate reduction therapy in a rare genetic disorder called propionic acidemia (PA).

Jan 2017 - Aug 2019 **Dr. Alison Spodek Keimowitz**, *Vassar Department of Chemistry*, Poughkeepsie, NY
- Collected and analyzed sediment cores from lakes in the Catskill mountains to track levels of lead, mercury, and other heavy metals throughout the last 2 centuries. Samples analyzed via inductively coupled plasma mass-spectrometry (ICP-MS).

Teaching Experience

Undergraduate	Academic Intern (all-course TA), Biochemistry Department	*Aug 2019 – May 2020*
	Writing Consultant, Vassar Writing Center	*Aug 2019 – Dec 2020*
	Academic Intern (all-course TA), Biology Department	*Aug 2019 – Dec 2019*
	Teaching Assistant, French Department	*Aug 2018 – May 2019*

Awards, Scholarships, and Fellowships

Undergraduate	Sigma Xi, Inductee	*May 2020*
	Churchill Scholarship, Nominee and Finalist (Accepted at Cambridge University)	*Jan 2020*
	American Society for Biochemistry and Molecular Biology Travel Grant	*Dec 2019*
	Internship Grant Fund, Vassar College	*Nov 2017*

Volunteering and Outreach

Postbac	Organizer, LGBTQ+ Plant Scientists Network	*June 2022 - ongoing*
Undergraduate	Fundraiser, For the Many	*Aug 2018 - ongoing*
	Research Working Group, Vassar Greens, Vassar Transparency Coalition	*September 2016 - May 2017*

Skills

Computational

Proficient Python | Bash

Novice LaTex | R | HTML | CSS | Lisp | Perl | Github

Laboratory

Proficient CRIPSR-Cas9 | Gateway Cloning | Sterile Technique | Biolistics | Confocal Microscopy | Agro-infection | Plant growth and culture | Drosophila rearing

Intermediate ICP-MS | Licor 6800 | TOPO Cloning

Language

Native French | English

Conversational Spanish

Conference Presentations

Talks	Tournée French Film Festival	*Feb 2020*
	Mt Sinai SURP Symposium	*Aug 2019*
Posters	ASPB Annual Meeting	*Jul 2022*
	ASBMB Annual Meeting (cancelled)	*May 2020*
	Vassar Biochemistry Research Symposium	*May 2020*
	Mt Sinai SURP Symposium	*Aug 2019*
	ACS Hudson Chapter Symposium	*May 2019*
Contributor	DOE BER Conference (Poster)	*May 2022*

Refereed Publications

First Author **Dwyer, W.**, Ibe, C., Rhee, SY., (2022) Understudied but not forgotten: renaming Indigenous crops and addressing bias in scientific language. Trends in Plant Science. *Accepted Pending Revision.*

Contributing Hawkins, C., Ginzburg, D., Zhao, K., **Dwyer, W.**, Xue, B., Rice, S., Cole, B., Paley, S., Karp, P., Rhee, SY., (2021) Plant Metabolic Network 15: A resource of genome wide metabolism databases for 126 plants and algae. Journal of Integrative Plant Biology 63(11):1888-1905

Grant Proposals

Awarded	High-Throughput Determination of a Subcellular Metabolic Network Map of Sorghum bicolor	*May 2021*
Rejected	Understanding Thermoadaptation and Engineering Thermotolerance into Bioenergy Crops	*Jul 2022*
	Computational Infrastructure to Enable Annotations of Plant Metabolic Networks	*Jul 2021*

References available upon request.