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EDUCATION

2025 (Expected): PhD in Integrative Life Sciences
Virginia Commonwealth University, Richmond, VA
Area of Concentration: Evolutionary Genetics
Thesis Advisor: Andrew J. Eckert, PhD
Dissertation: *"Sex in plants: birth, death, and trying to survive in changing climates."*

2019 Bachelor of Arts in Biology, Minor in Chinese Language and Culture
New College of Florida, Sarasota, FL
Thesis Advisor: Brad Oberle, PhD
Honors thesis: *"Dynamics of outcrossing, selfing, and inbreeding depression in conjunction with species rarity in* Polygala lewtonii*, an endangered Florida scrub endemic."*

PUBLICATIONS

Meyer, E. M. Galloway, L. F., Eckert, A. J. (2025). The evolutionary dynamics of plant mating systems: how bias for studying 'interesting' plant reproductive systems could backfire, *Annals of Botany* (accepted manuscript), https://doi.org/10.1093/aob/mcaf031

Meyer, E. M., Swift, J. F., Bassüner, B., Smith, S. A., Menges, E. S., Oberle, B., & Edwards, C. E. (2021). Understanding how an amphicarpic species with a mixed mating system responds to fire: A population genetic approach. *AoB PLANTS*, *13*(6). https://doi.org/10.1093/aobpla/plab067

PRESENTATIONS

2024 Botany (talk): Meyer, E.M; Eckert, A.J Using phylogenetic comparative methods to understand the impact of mating and sexual systems on diversification rates: a multi-family approach.

2024 Botany (poster): Meyer, E.M; Eckert, A.J. Selfing in flowering plants: Bias against outcrossing species, dioecious sexual systems, and disproportionate focus on a limited number of families.

2023 Evolution (talk): Meyer, E.M; Rosenberg, M.S; Eckert, A.J, Understanding the evolutionary dynamics of plant mating systems: how bias for studying 'interesting' plant reproductive systems could backfire.

2022 Botany (talk): Meyer, E.M; Eckert, A.J. How do sampling methods impact our understanding of mating system distribution in angiosperms?

2019 Botany (talk): Meyer, E.M; Edwards, C.E; Oberle, B. Patterns of genetic structure and reproductive allocation after fire in *Polygala lewtonii,* a federally endangered Florida endemic plant.

2018 Botany (poster): Meyer, E.M; Swift, J.F; Smith, S.A; Bassüner, B.; Menges, E.; Edwards, C.E. The trajectory of the mating system and factors affecting selfing and outcrossing rates in an amphicarpic species with a mixed mating system, *Polygala lewtonii.*

2017 Calusa Prize Symposium at Marie Selby Botanical Gardens (public event, talk): Meyer, EM. Field guide to the fern genus *Elaphoglossum* of Belize.

AWARDS, HONORS and FUNDING

2024 **Infographics Conference Travel Funding, Virginian Commonwealth University**
Travel support for Botany 2024, provided by a VCU Quest grant awarded to C.M Hulshof. Provided to students who previously completed a graduate-level infographics course and who participated in data collection on research posters created by students.

2022-2024 **Integrative Life Sciences Travel Funding, Virginia Commonwealth University**
Received travel support for conference travel to Botany 2024, Evolution 2023, and registration for Botany 2022.

2018 **Student Travel and Research Grant, New College of Florida**
Highly competitive research and travel grant for New College students funded by the New College Foundation, funding my attendance to Botany 2018.

2018 **Council of Academic Affairs (CAA) Allocation, New College of Florida**
Funding received from the New College CAA to fund fieldwork at Archbold Biological Station and surrounding properties to collect data for my senior thesis.

2017 **Calusa Prize, Marie Selby Botanical Gardens**
Privately funded research prize for students rewarding research and collaboration between Marie Selby Botanical Gardens and New College of Florida. Worked with Selby Gardens professional staff on plant science, conservation and public outreach.

2015 **Isermann Medal, New College of Florida**
Award for academically talented first-year students from outside the state of Florida. Named for Howard P. Isermann, awardees are paired with a New College faculty member for collaborative research during their first year in college.

TEACHING

2025 **Guest Lecturer, Virginia Commonwealth University**
BIOL 475: Capstone Seminar: Genotypes, Phenotypes, & Environments.
Lecture: *The impact of genetics and social factors on mathematical abilities.*

2019 Guest Lecturer, New College of Florida
BIOL 101: Introduction to Biology.
Lecture: How ecological factors drive genetic change: a case study with Polygala lewtonii.

PROFESSIONAL EXPERIENCE

2021-Present: Graduate Teaching Assistant
Virginia Commonwealth University, Richmond, VA

- Teaching assistant instructor for BIOL 151: Introduction to Biological Sciences, an introductory biology lab aimed at majors. Typically, 40-60 undergraduates per semester across two to three sections.
- Independently lead laboratory sections for the course and introduced students of diverse backgrounds to key biological concepts.
- Developed course materials for scientific writing, statistical concepts, and utilizing Excel for data visualization and analysis.
- Implemented a hybrid curriculum to continue engaging students outside the classroom during the COVID-19 pandemic.

2019-Present: Graduate Research Assistant
Virginia Commonwealth University, Richmond, VA

- Member in Andrew Eckert's evolutionary genetics and genomics laboratory at VCU.
- Researched in plant reproductive biology and how mating and sexual systems in plants impact their evolution.
- Assisted with mentoring undergraduate and master's level students, including individually mentoring an undergraduate in data management and introductory programming in R and R Studio.

2023-2024: Master's Program Revision
Virginia Commonwealth University, Richmond, VA

- Worked as part of a team with the Director of Graduate Studies to implement revision to the VCU Biology M.S. program.
- Compiled a new student handbook for the M.S. program: created graphics and logos, assisted with social media management, and worked collaboratively with staff, faculty, and students to facilitate ongoing changes to the program.

June-August 2022: COVES Science Policy Fellow
Virginia Department of Environmental Quality, Richmond, VA

- Policy fellows in the Commonwealth of Virginia Engineering and Science Fellowship (COVES) program are trained in science policy. I placed with the Virginia Department of Environmental Quality (DEQ).
- At DEQ, I worked on the House Bill 206 stakeholder Regulatory Advisory Panel (RAP) for HB 206 ("Small renewable energy projects; impact on natural resources, report".)
- Prepared scientific briefings for policy stakeholders and coordinated with the external facilitation team (Institute for Engagement and Negotiation, University of Virginia) and DEQ to manage research needs throughout the project.

June-August 2018: Field Technician, Flory Lab
University of Florida, Gainesville FL

- Worked in a field team based out of University of Florida on a multi-university research project funded by the Department of Defense's Strategic Environmental Research and Development Program (SERDP).
- Plant identification lead. Identified species in the field to study of the dynamics of tick-borne disease risk, invasion by exotic species, fire management, and climate change.

June-August 2017: NSF-REU Student, Edwards Lab
Center for Conservation and Sustainable Development, Missouri Botanical Garden, St. Louis, MO.

- Examined the effects of fire on the genetic structure of *Polygala lewtonii*, an endangered Florida endemic.
- Performed molecular genotyping for over 200 individuals, conducted data analysis, scientific writing.

January 2016: Independent Study Project, Flora of Occoquan Bay National Wildlife Refuge
Smithsonian National Museum of Natural History, Department of Botany, Washington D.C.

- New College of Florida (NCF) has a January program for independent study projects (ISPs). For this, I worked cataloging plant specimens collected as part of survey work at Occoquan Bay National Wildlife Refuge.
- The work resulted in the accession of specimens to the U.S National Herbarium representing over 200 species. These specimens were collected by myself and my mentor from my 2013 internship.
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June-July 2013, July 2016: Environmental Surveyor
Independent Contractor, Woodbridge, VA.

- Worked under my mentor from the Smithsonian National Museum of Natural History to assist in field survey work for environmental impact assessments focusing on *Isotria medeoloides,* a threatened native orchid species in Virginia.
- Project spanned over several weeks each summer during the growing season for *I. medeoloides.*

May-August 2013: Smithsonian Summer Internship Program
Smithsonian National Museum of Natural History, Department of Botany, Washington D.C.

- Worked on a multi-year project cataloguing, organizing, and databasing the *Bambosa* (bamboo) specimen collection in the U.S National Herbarium, focused on specimens donated from China.
- Utilized my language skills to translate specimen labels and notes from Chinese.

SERVICE AND OUTREACH

2022-Present: Inclusion, Diversity and Equity Committee (IDEC) at VCU
Served as graduate student liaison to the committee. Attended regular meetings, provided input to the committee from a graduate student perspective, and assisted with revision of the committee's bylaws.

2020-2022: Integrative Life Science Student Association
Served as president of the Integrative Life Science Student association at VCU (2019-20), and as member-at-large (2021-22). As president, I organized a virtual research symposium with talks and research posters, with an attendance of ~70 individuals. I also fund allocation funds (>$1000), collaborating with other student organizations, and social media and publicity for the organization.

2020-2023: Skype A Scientist
Participated in science outreach to classrooms through the Skype a Scientist program (https://www.skypeascientist.com/), discussing my research and basic concepts in biology and in botany to classrooms virtually.

2012-2015, Seasonally: **Audubon of Northern Virginia**
Worked as part of a weekly citizen science survey to identify plants and insects in the Occoquan Bay area of Virginia (primarily during the spring/summer). These weekly surveys have been taking place in the Occoquan Bay area for over 30 years, and generate data on insect, plant, bird, and mammal species.

SKILLS AND PROFICIENCIES

Programs: R and RStudio, Adobe Illustrator, ArcGIS, Tableau, Slack, Microsoft Office Suite.
Languages: English (native speaker), Chinese (conversational).