Joel F. Swift

NSF Postdoctoral Research Fellow
Kansas Biological Survey & Center for Ecological Research
The University of Kansas
Lawrence, KS 66045 USA
Email: joel.swift@ku.edu

Education

2022	Ph.D. Biology, Saint Louis University (St. Louis, MO) Dissertation: "The root of it all: Factors controlling the assembly of plant-associated microorganism communities in *Vitis*" Advisor: Dr. Allison J. Miller
2014	B.S. Integrative Biology, University of Central Missouri (Warrensburg, MO)
2012	A.A. State Fair Community College (Sedalia, MO)

Appointments

2023 - Present	NSF Postdoctoral Research Fellow (PRFB), University of Kansas (Lawrence, KS) Sponsoring Scientist: Maggie R. Wagner
2024 - Present	National Microbiome Data Collaborative Champion (Department of Energy) https://microbiomedata.org/community/championsprogram/
2023 – 2024	National Microbiome Data Collaborative Ambassador (Department of Energy) https://microbiomedata.org/ambassadors/
2022 – 2023	Postdoctoral Researcher, University of Kansas (Lawrence, KS) PI: Maggie R. Wagner
2020 – 2022	Research Assistant, Saint Louis University (St. Louis, MO) PI: Allison J. Miller
2017 – 2020	NSF Graduate Research Fellow, Saint Louis University (St. Louis, MO) PI: Allison J. Miller
2015 – 2017	Research Lab Technician, Missouri Botanical Garden (St. Louis, MO) PI: Christy E. Edwards

Fellowships and Awards

2024	University of Central Missouri Distinguished Alumni Award for Early Achievement LINK
2024	University of Kansas Postdoc Association Travel Award ($500)
2023-2026	NSF NPGI Postdoctoral Research Fellowship in Biology ($249,000)
2023	National Microbiome Data Collaborative Ambassador Honorarium ($1,000)

2021	Donald Danforth Plant Science Center Committee for Scientific Training and Mentoring Professional Development Award ($100)
2017 – 2022	NSF Graduate Research Fellowship ($102,000)
2019	Biology Department Travel Award ($1,000)
	Graduate Student Association Travel Award ($300)
2018	Graduate Student Association Travel Award ($300)
2014	NSF REU Mentor-Student Travel Grant ($3,000)
2014	University of Central Missouri Biology Foundation Scholarship ($500)
2014	University of Central Missouri Student Leadership Award

Publications

{Google Scholar Profile}

20 Dylan H. Jones, Juan C. Baca Cabrera, Dominik Behrend, Darren M. Wells, **Joel F. Swift**, Jonathan Atkinson, Guillaume Lobet, Meredith T. Hanlon, and Hannah M. Schneider. The Rapid Anatomics Tool (RAT): A low-cost root anatomical phenotyping pipeline reveals changes in root anatomy along the root axis. *Under review Plant Phenomics.* Preprint.

19 **Joel F. Swift**, Desi Thimesch, Lucas Bengfort, Shahzaib Asif, and Maggie R. Wagner. Between Two Extremes: Tripsacum dactyloides Root Anatomical Responses to Drought and Waterlogging. *Plant Direct (2025)*. Open Access.

18 Matthew Kolp, Madison Marcello, Anna Holt, Katelyn Rossi, Camryn Zurawski, Kelsie Cancelliere, Savannah Telemeco, **Joel F. Swift**, Kathryn Purple, and Charles Faulkner. Evidence of Canine Intestinal Parasites and Associated Fecal Bacteria Among Urban and Rural Dog Parks in Central Appalachia US. *Veterinary Parasitology: Regional Studies and Reports (2025)*. Open Access.

17 Julia M. Kelliher, Francisca E. Rodriguez, Leah Y. D. Johnson, Simon Roux, Montana Smith, Alicia Clum, Wendi Lynch, Candace Hope Bias, Sarai S. Finks, Ishi Keenum, E. Anders Kiledal, Heng-An Lin, Reid Longley, Ryan McDonald, Thomas M. Pitot, Josué Rodríguez-Ramos, Jiaxian Shen, Daniel D. Sprockett, **Joel F. Swift**, Archana Yadav, Emiley A. Eloe-Fadrosh. Quantifying the impact of workshops promoting microbiome data standards and data stewardship. *Scientific Reports* (2025). Open Access.

16 Zoë Migicovsky, **Joel F. Swift**, Mani Awale, Zachary Helget, Laura L. Klein, Leah Pinkner, Karoline Woodhouse, Peter Cousins, Anne Y. Fennell, Allison Miller, Daniel H Chitwood. Terroir and rootstock effects on leaf shape in California Central Valley vineyards. *Plants, People, Planet (2024).* Open Access.

15 **Joel F. Swift**, Matthew R. Kolp, Amanda Carmichael, Natalie E. Ford, Paige M. Hansen, Benjamin A. Sikes, Manuel Kleiner, Maggie R. Wagner. Legacy effects of precipitation and land use impact maize growth and microbiome assembly under drought stress. *Plant and Soil (2024).* Access.

14 Zoë Migicovsky, **Joel F. Swift**, Zachary Helget, Laura L. Klein, Anh Ly, Matthew Maimaitiyiming, Karoline Woodhouse, Anne Fennell, Misha Kwasniewski, Allison J. Miller, Daniel H. Chitwood, Peter Cousins. Grapevine leaf size influences vine canopy temperature. *ONEO one 58.2 (2024).* Open Access.

13 **Joel F Swift**, Zoë Migicovsky, Grace E. Trello, Allison J. Miller. Grapevine bacterial communities display compartment-specific dynamics over space and time within the Central Valley of California. *Environmental Microbiome 18.1 (2023):* Open Access

12 Zoë Migicovsky, Michelle Y. Quigley, Joey Mullins, Tahira Ali, **Joel F. Swift**, Anita Rose Agasaveeran, Joseph D. Dougherty, Brendan Michael Grant, Ilayda Korkmaz, Maneesh Reddy Malpeddi, Emily L. McNichol, Andrew W. Sharp, Jackie L. Harris, Danielle R. Hopkins, Lindsay M. Jordan, Misha T. Kwasniewski, R. Keith Striegler, Asia L. Dowtin, Stephanie Stotts, Peter Cousins, Daniel H. Chitwood. "X-ray imaging of 30 year old wine grape wood reveals cumulative impacts of rootstocks on scion secondary growth and harvest index." *Horticulture Research 10.1 (2023): uhac226*. Open Access

11 Richard F. Lance, Xin Guan, **Joel F. Swift**, Christine E. Edwards, Denise L. Lindsay, and Eric R. Britzke. Multifaceted DNA Metabarcoding of Guano to Uncover Multiple Classes of Ecological Data in Two Different Bat Communities. *Evolutionary Applications 15.7 (2022): 1189-1200.* Open Access

10 Zoe Migicovsky, **Joel F. Swift**, Zachary Helget, Laura L. Klein, Anh Ly, Matthew Maimaitiyiming, Karoline Woodhouse, Anne Fennell, Misha Kwasniewski, Allison J. Miller, Peter Cousins, Daniel H. Chitwood. Increases in vein length compensate for leaf area lost to lobing in grapevine. *American Journal of Botany, 109.7 (2022): 1063-1073.* Open Access

9 Zachary N. Harris, Laura L. Klein, Mani Awale, **Joel F. Swift**, Zoë Migicovsky, Niyati Bhakta, Emma Frawley, Daniel H. Chitwood, Anne Fennell, Laszlo G. Kovacs, Misha T. Kwasniewski, Jason P. Londo, Qin Ma, Allison J. Miller. Root system influence on high dimensional leaf phenotypes over the grapevine growing season. *GigaScience 10.12 (2021): giab087*. Open Access

8 Elena M. Meyer*****, **Joel F. Swift**, Burgund Bassüner, Stacy A. Smith, Eric S. Menges, Brad Oberle, and Christine E. Edwards. Understanding how an amphicarpic species with a mixed mating system responds to fire: a population genetic approach. *AoB Plants* 13.6 (2021): plab067. ***REU intern** Open Access

7 Rebekah A. Mohn*****, Nora H. Oleas, Adam B. Smith, **Joel F. Swift**, George A. Yatskievych, and Christine E. Edwards. "The phylogeographic history of a range disjunction in eastern North America: the role of post-glacial expansion into newly suitable habitat." *American Journal of Botany 108.6 (2021): 1042-1057.* ***REU intern**

6 Christine E. Edwards, Brooke C. Tessier*, **Joel F. Swift**, Burgund Bassüner, Alexander G. Linan, Matthew A. Albrecht, and George A. Yatskievych. Conservation genetics of the federally threatened plant species *Physaria filiformis* (Missouri bladderpod) reveals strong genetic structure and a possible cryptic species. *PLOS ONE 16.3 (2021)*. ***REU intern** Open Access

5 **Joel F. Swift**, Megan E. Hall, Zachary N. Harris, Misha T. Kwasniewski, Allison J. Miller. Grapevine Microbiota Reflect Diversity among Compartments and Complex Interactions within and among Root and Shoot Systems. *Microorganisms 9.1 (2021): 92*. Open Access

4 Christine E. Edwards, **Joel F. Swift**, Richard F. Lance, Thomas A. Minckley, and Denise L. Lindsay. Evaluating the efficacy of sample collection approaches and DNA metabarcoding for identifying the diversity of plants utilized by nectivorous bats. *Genome* 62.1 (2018): 19-29. Genome Publication Award 2019

3 **Joel F. Swift**, Richard Lance, Xin Guan, Eric R. Britzke, Denise L. Lindsay, and Christine E. Edwards. Multifaceted DNA metabarcoding: validation of a non-invasive, next-generation monitoring approach to measure critical population parameters in bats. *Evolutionary Applications 11.7 (2018): 1120-1138.* Open Access

2 Denise L. Lindsay*, **Joel F. Swift***, Michael G. Jung, Richard F. Lance, and Christine E. Edwards. A comparison of patterns of genetic structure in two co-occurring *Agave* species (Asparagaceae) that differ in the patchiness of their geographical distributions and cultivation histories. *Botanical Journal of the Linnean Society 186.3 (2018): 361-373.* ***Equal authorship**

1 **Joel F. Swift**, Stacy A. Smith, Eric S. Menges, Burgund Bassüner, & Christine E. Edwards. Analysis of mating system and genetic structure in the endangered, amphicarpic plant, Lewton's polygala (*Polygala lewtonii)*. *Conservation genetics 17.6 (2016): 1269-1284.*

Grants

2023 NSF National Plant Genome Initiative Postdoctoral Research Fellowship. "Genomic and Metagenomic Mechanisms of flood Tolerance in Maize and Tripsacum dactyloides" **PI: Joel F. Swift**. ($249,000) | Award link

2018 Missouri Grape and Wine Institute. "Impacts of grafting and irrigation on above and below ground microbial communities" PI: Allison J. Miller; Co-PIs: Megan Hall, Misha Kwasniewski, and **Joel F. Swift**. ($14,024)

Presentations

Invited Talks

2025 **Swift, J. F.** From Roots to Shoots: Exploring Tripsacum dactyloides diversity across the Central United States. University of Kansas, Lawrence, KS, Kansas Biological Survey - Departmental Seminar.
Swift, J. F. Surviving the Elements: The Interplay Between Plants, Microbes, and Stress. University of Central Missouri, Warrensburg, MO, Departmental Seminar.

2024 **Swift, J. F.** Plant Microbiomes in a Changing World. University of Central Missouri, Warrensburg, MO, Departmental Seminar.
Swift, J. F. Too much or too little: The Impact of Water Stress on Roots and the Microbiome. Gordon Research Conference – Multiscale Plant Vascular Biology. University of Southern Maine, Portland, ME.
Swift, J. F., Ginnan, N., Kural, C., Ellis, M., Ford, N., Thimesch, D., Bengfort, L., Asif, S., and Wagner, M. *Tripsacum dactyloides*: A model for exploring plant form, function, and the microbiome in an ever-changing global climate. Botany 2024, Grand Rapids, MI (New Roots for Restoration Symposium).

2023 **Swift, J. F.** and Finks, S. **(Co-led workshop)** Standardizing Metadata and Bioinformatics Workflows in Microbiome Research. Pennsylvania State University, One Health Microbiome Center, State College, PA.
Swift, J. F. (Workshop) Microbiome Metadata Best Practices. New Roots for Restoration-Biodiversity Integration Institute.

2022 **Swift, J. F.** From roots to shoots, the impact of grafting on Vitis microbiota. University of Missouri, Show Me Grape and Wine Symposium.

2021 **Swift, J. F.** Putting together the pieces: Grafted grapevine microbiomes. Saint Louis University, Biology Department Retreat.
Swift, J. F., Hall, M. E, Harris, Z. N., Kwasniewski M. T., and Miller, A. J. Grafting and Vitis Microbiota. "Vitismeet" (Grapevine research working group). Virtual presentation.

2017 **Swift, J. F.,** Lance, R. F., Guan, X., Britzke, E., Lindsay, D., and Edwards, C. E. Multifaceted DNA Metabarcoding for Noninvasive Studies of Bats. International Barcode of Life Conference, Kruger National Park, South Africa.

2016 **Swift, J. F.** An introduction to Conservation Genetics. Advocating Translational Genetics/Genomics Conference, Harris-Stowe State University, St. Louis, MO.

2014 **Swift, J. F.**, Smith, S. A., Menges, E. S., Bassüner, B., and Edwards, C. E. Analysis of mating system and genetic structure in the endangered, amphicarpic plant, *Polygala lewtonii*. University of Central Missouri, Warrensburg, MO.

Contributed talks and posters

2023 **Swift, J. F.**, Kolp, M. R., Carmichael, A., Ford, N. E., Hansen, P. M., Sikes, B. A., Kleiner, M., Wagner, M. R. Legacy effects of precipitation and land use impact maize growth and microbiome assembly under drought stress. **Oral Presentation**. Botany 2023, Boise, ID.
Swift, J. F., Kolp, M. R., Carmichael, A., Ford, N. E., Hansen, P. M., Sikes, B. A., Kleiner, M., Wagner, M. R. Utilizing native Kansas soil microbiomes from across the US Great Plains precipitation gradient for improved drought tolerance in maize. **Poster Presentation**. AgBioTech Summit (8th Microbiome Movement), Raleigh, NC.

2022 **Swift, J. F.**, Migicovsky, Z., Trello, G. E., Miller, A. J. Grafted grapevine microbiota varies across space, time, and scion/rootstock combinations. **Oral Presentation**. Botany 2022, Anchorage, AK.

2021 **Swift, J. F.**, Migicovsky, Z., Miller, A. J. Grafted grapevine microbiota across space, time and scion/rootstock combinations. **Poster Presentation**. Nature conference "Harnessing the Plant Microbiome", UC Davis: Virtual Conference.

2020 **Swift, J. F.**, Hall, M., Kwasniewski M. T., Miller, A. J. The root of it all: Factors influencing plant-associated microorganism communities in *Vitis*. **Oral Presentation**. Botany 2020: Virtual conference.

Swift, J. F. and Rubin, M. J. Perennial crops: Untapped variation. **Oral presentation**. North American Raspberry and Blackberry Conference. St. Louis, MO

2019 **Swift, J. F.** How do grapevine roots affect the vine and your wine? **Oral presentation**. St. Louis Science Center, Science Uncorked event, St. Louis, MO.

Swift, J. F., Hall, M., Kwasniewski M. T., Miller, A. J. The root of it all: Factors influencing plant-associated microorganism communities in *Vitis*. **Poster Presentation**. Donald Danforth Plant Science Center 20th Annual Fall Symposium, St. Louis, MO.

Swift, J. F., Hall, M., Kwasniewski M. T., Miller, A. J. The root of it all: Factors influencing plant-associated microorganism communities in *Vitis*. **Poster Presentation**. St. Louis Ecology, Evolution, and Conservation Symposium, St. Louis, MO.

Swift, J. F., Hall, M., Kwasniewski M. T., Miller, A. J. The root of it all: Factors influencing plant-associated microorganism communities in *Vitis*. **Poster Presentation**. 2019 North American Grape Breeders Conference, Springfield, MO.

Swift, J. F., Hall, M., Kwasniewski M. T., Miller, A. J. The root of it all: Factors influencing plant-associated microorganism communities in *Vitis*. **Poster Presentation**. Plant Biology 2019, San Jose, CA.

2018 **Swift, J. F.** & Miller, A. J. To the root of it all: The role of agricultural practices in shaping plant-associated microbial communities in *Vitis*. **Oral Presentation**. St. Louis University Research Colloquium, St. Louis, MO.

Swift, J. F., Lance, R. F., Guan, X., Britzke, E., Lindsay, D., and Edwards, C. E. Multifaceted DNA metabarcoding to address critical data gaps for threatened bat species. **Oral Presentation**. Graduate Student Association St. Louis University, St. Louis, MO.

Swift, J. F., Lance, R. F., Guan, X., Britzke, E., Lindsay, D., and Edwards, C. E. Multifaceted DNA metabarcoding to address critical data gaps for threatened bat species. **Poster presentation**. Joint Genome Institute Genomics of Energy and Environment, San Francisco, CA.

2017 **Swift, J. F.**, Smith, S. A., Menges, E. S., Bassüner, B., and Edwards, C. E. Analysis of mating system and genetic structure in the endangered, amphicarpic plant, *Polygala lewtonii*. **Oral presentation**. Botany 2017, Fort Worth, TX.

Swift, J. F., Lance, R. F., Guan, X., Britzke, E., Lindsay, D., and Edwards, C. E. What goes in must come out? (DNA metabarcoding dietary analysis of *Antrozous pallidus*). **Lighting talk**. Biodiversity and Beers, St. Louis, MO.

2016 **Swift, J. F.,** Bassüner, B., and Linan, A. G. How GIS is used in Conservation Genetics. **Poster and Booth Presentation**. Lindenwood University GIS Day, Saint Charles, MO.

Lindsay, D., **Swift, J. F.**, Jung, M. G., Lance, R. F., and Edwards, C. E. A comparison of the effects of continuous versus patchy geographic distribution on the structuring of genetic variation in two *Agave* species (Agavaceae) with similar life history strategies. **Poster Presentation**. Ecological Genomics, Kansas City, MO.

Lindsay, D., **Swift, J. F.**, Jung, M. G., Lance, R. F., and Edwards, C. E. A comparison of the effects of continuous versus patchy geographic distribution on the structuring of genetic variation in two *Agave* species (Agavaceae) with similar life

history strategies. **Poster Presentation**. St. Louis Ecology, Evolution, and Conservation Symposium, St. Louis, MO.
Lindsay, D., **Swift, J. F.**, Jung, M. G., Lance, R. F., and Edwards, C. E. A comparison of the effects of continuous versus patchy geographic distribution on the structuring of genetic variation in two *Agave* species (Agavaceae) with similar life history strategies. **Poster Presentation**. Botany 2016, Savannah, GA.

2015 **Swift, J. F.** and Bassüner, B. Diverse uses of GIS in Conservation Genetics. **Poster and Booth Presentation**. Lindenwood University GIS Day, Saint Charles, MO.
Swift, J. F., Lance, R. F., Guan, X., Britzke, E., Lindsay, D., and Edwards, C. E. Multifaceted DNA metabarcoding to address critical data gaps for threatened bat species. **Poster Presentation**. Ecological Genomics, Manhattan, KS.
Swift, J. F., Smith, S. A., Menges, E. S., Bassüner, B., and Edwards, C. E. Analysis of mating system and genetic structure in the endangered, amphicarpic plant, *Polygala lewtonii*. **Poster Presentation**. Joint Fall Symposium, From Darwin to Borlaug, St. Louis, MO.
Swift, J. F., Smith, S. A., Menges, E. S., Bassüner, B., and Edwards, C. E. Analysis of mating system and genetic structure in the endangered, amphicarpic plant, *Polygala lewtonii*. **Poster Presentation**. St. Louis Ecology, Evolution, and Conservation Symposium, St. Louis, MO.

2014 **Swift, J. F.**, Smith, S. A., Menges, E. S., Bassüner, B., and Edwards, C. E. Analysis of mating system and genetic structure in the endangered, amphicarpic plant, *Polygala lewtonii*. **Poster Presentation**. Council on Undergraduate Research: Research Experiences for Undergraduates Symposium, Washington D.C.
Swift, J. F., Smith, S. A., Menges, E. S., Bassüner, B., and Edwards, C. E. Analysis of mating system and genetic structure in the endangered, amphicarpic plant, *Polygala lewtonii*. **Poster Presentation**. Systematics Symposium, St. Louis, MO.
Swift, J. F., Smith, S. A., Menges, E. S., Bassüner, B., and Edwards, C. E. Analysis of mating system and genetic structure in the endangered, amphicarpic plant, *Polygala lewtonii*. **Oral and Poster Presentation**. Research Experience for Undergraduates, St. Louis, MO.

Mentoring & Teaching

2025 Kai Sarwinski, Lauren Higgins (University of Kansas) | Trained in sterile techniques for maize cultivation, bacterial culture and colonization assessment, and root imaging and analysis using RhizoVision.

2024 Kara Hooser, Mary Kathryn Johnson (University of Kansas) | Trained in greenhouse cultivation and propagation techniques for *Tripsacum dactyloides*, anatomical sectioning and staining of roots, image analysis using ImageJ, and data analysis in R.

Braxton Grindstaff (University of Kansas) | Assisted in the development of a flow cytometry workflow for conduct ploidy estimations of *Tripsacum dactyloides* accessions.

2023 Lucas Bengfort and Shahzaib Asif (University of Kansas) | Trained in greenhouse cultivation and propagation techniques for *Tripsacum*

	dactyloides, DNA extraction, and data analysis in R. Provided guidance and feedback on independent research projects focusing on phenotyping diverse *T. dactyloides* accessions in a common garden.
	Desi Thimesch (University of Kansas REU Intern from Washburn University) | Project: Phenotypic Effects of Water Stress on Tripsacum dactyloides Roots.
	Dillen Jaros (Summer Research Technician from University of Minnesota) | Trained in greenhouse and growth chamber maize and *Tripsacum dactyloides* propagation techniques, root system phenotyping, DNA extraction, and data analysis in R.
2021	Economic Botany 3450 (Saint Louis University) | Teaching Practicum (w/ Allison Miller) helped to lead a class of 43 upper-level undergraduates. Lead three lectures on various topics related, "Plant Diversity, Distributions, and Conservation", "Agricultural Revolutions, from Vavilov to Borlaug" and "Agave: Ethnobotanical past and present". Assisted in constructing tests and assessment devices to gauge student's grasp of learning objectives.
	Matt Hillz (Saint Louis University), Sam Selby and Toni Johnson (Research Technicians, Miller Lab) | Trained in ionomics sample preparation and grapevine leaf land marking.
	Avonelle Lindon (Collegiate School of Medicine and Bioscience High School) and Eve Rosenblum (Metro Academic and Classical High School) | Summer research interns that spent three weeks with the Miller Lab across various projects. I lead their training in grapevine leaf land marking and supervised their progress.
2019 Fall – 2020 spring	Grace Trello (Saint Louis University) | Trained in molecular lab and data analysis. Conducted DNA extractions, PCR, gel electrophoresis and data analysis in R.
2019 Summer interns	Dalton Gillig (University of Missouri), Zachary Helget (South Dakota State University), Anh Ly (Missouri State University), and Vy Nguyen (Missouri State University) | These interns were trained in field collection techniques and assisted in collections from vineyards across California's central valley for 2 weeks each. They were also exposed to academic and industry experiences (e.g. visits/ tours of Wonderful Nursery and UC Davis Foundation Plant Services).
2018 Summer interns	Leah Brand (Missouri State University), Julie Curless (Missouri State University), and Karoline Woodhouse (South Dakota State University) | These interns were trained in field collection techniques and assisted in collections from vineyards across California's central valley for 2 weeks each. They were also exposed to academic and industry

	experiences (e.g. visits/ tours of Duarte Nursery, USDA Parlier station, and Fresno State Grape Day).
2017 REU intern (co-mentor)	Elena Meyer (New College, FL; Now pursuing PhD in Biology @ Virginia Commonwealth University, VA) | Project: The effect of fire on the genetic diversity in *Polygala lewtonii*.
2016 REU intern (co-mentor)	Brooke Tessier (Winona State University, MN; Now Lab Tech @ STERIS Corporation, Saint Paul, MN) | Project: Conservation genetics of *Physaria globose*.
2016 REU intern (co-mentor)	Caitlyn Foye (Butler University, IN) | Project: Parentage analysis of the *Ziziphus celata.*
2015 REU intern (co-mentor)	Rebekah Mohn (Formerly Miami University, OH; Now pursuing PhD @ University of Minnesota, MN) | Project: Genetic analysis of disjunction in *Delphinium exaltatum*.

Outreach

2024

3rd Annual KU Genomics symposium - Chaired the planning committee for the event, attended by 220 participants. The symposium was organized by postdoctoral researchers from five departments, and featured research presentations, posters, and networking opportunities for diverse career levels. I conducted bi-weekly organizational meetings, facilitating open communication among team members to address any issues and track task progression effectively. This involved creating agendas for and action items from each organizational meeting to ensure continuous progress.

2023

2nd Annual KU Genomics symposium – Planning Committee Member for the event, attended by 180 participants. As the Website and Registration Coordinator, I collaborated with KU IT staff to create registration and abstract submission forms using Qualtrics, designed a feedback survey, and ensured timely updates to the symposium website.

"Move-N-Learn" tour of KU greenhouses – Described the research being conducted on Maize and *Tripsacum* in the Wagner lab.

R workshop - Developed and led a workshop targeted at undergraduates (6 participants), with the goal of decreasing the barrier to beginning data analysis in R. Topics covered the basics of using R, loading and saving datafiles, using an interactive display environment (RStudio), and identifying object and data types. This progressed to practicing with tools and functions for "wrangling" data objects, connecting multiple tools to complete complex tasks, and visualizing results in graphs. Finally, I designed an exercise that they completed on their own to reinforce the skills learned. This workshop was based on the Data Carpentry lesson "Data Analysis and Visualization in R for Ecologist" and is available via GitHub @ LINK

Data Carpentry Genomics Workshop – Served as a helper for workshop; answered questions from learners and troubleshooted issues with various operating systems for learners via breakout room sessions.

2020 Raspberry Pi Jam 2020 (Donald Danforth Plant Science center – Lead children in hands on activities in soldering and setting up Minecraft servers using Raspberry Pi's.

2019 STEM day at Meadows Elementary School – Lead an activity to introduce 4th and 5th graders (approx. 120) to biofilm formation and function (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3867766/).
Raspberry Pi Jam 2019 (Donald Danforth Plant Science center – Lead children in hands on activities in soldering.

2018 Science Uncorked event (St. Louis Science Center)
Grapes at the Garden event (Missouri Botanical Garden)
Missouri Botanical Garden Science and Research Public Open House.
Science on Tap event (St. Louis Science Center)

2017 Botanical Society of America Plant Science Mentor.
Missouri Botanical Garden Science and Research Public Open House.

2016 Missouri Botanical Garden Science and Research Public Open House.
Presentation on Bats and DNA metabarcoding in cooperation with Missouri Botanical Garden Education Division. Multiple Middle and High school groups from the greater St. Louis area.
ECOACT Mentor in cooperation with Missouri Botanical Garden Education Division. Provided resources and advice to a group of high school students working on understanding people's thoughts on/promoting urban pollinator habitats.

2015 Missouri Botanical Garden Science and Research Public Open House.
Podcast interview on Conservation Genetics and *Polygala lewtonii* on the In Defense of Plants Podcast, http://www.indefenseofplants.com/podcast/2015/10/25/ep-32-conservation-genetics

2014 Missouri Junior Academy of Science Poster Judge
College for a Day event; helped lead exercise extracting DNA from strawberries with high school students from the surrounding community.

Journal peer review

- New Phytologist
- Annuals of Botany
- Environmental Microbiome
- Phytobiomes
- PhytoFrontiers
- Functional Ecology
- Plants, People, Planet

- Plant and Soil
- BMC Microbiology
- Polish Journal of Microbiology
- Conservation genetics

Professional Societies

2016 – Present Botanical Society of America

2018 – Present American Association for the Advancement of Science

2019 – Present American Society for Plant Biologists

References

Postdoctoral Research Advisor
Dr. Maggie Wagner
The University of Kansas
1200 Sunnyside Avenue Lawrence, KS 66045
maggie.r.wagner@ku.edu
(785) 864-0074

Collaborator
Dr. Manuel Kleiner
North Carolina State University
4510B Thomas Hall, Raleigh, NC 27695
manuel_kleiner@ncsu.edu
(919) 515-3792

Ph.D. Advisor
Dr. Allison Miller
Danforth Plant Science Center
975 N. Warson Rd.
Saint Louis, MO 63132
Allison.j.miller@slu.edu
(314) 348-8971

Former supervisor
Dr. Christy Edwards
Missouri Botanical Garden
4344 Shaw Blvd.
St. Louis, MO 63110
christy.edwards@mobot.org
(314) 577-9473 x6244

Collaborator
Dr. Richard Lance
Research Biologist
U.S. Army Corps of Engineers
Environmental Laboratory 3909 Halls Ferry Rd. Vicksburg, MS 39180
richard.f.lance@us.army.mil
(601) 634-3971