

Joshua C. Fowler

Curriculum vitae

Department of Biology
University of Miami
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(he/him/his)

Employment

Postdoctoral Research Associate

2023–present

- Department of Biology, University of Miami
- Supervisors: Michelle Afkhami and Chris Searcy

Education

Ph.D in Ecology and Evolutionary Biology

2018–2023

- **Rice University**, Houston, TX

BS in Ecology and Evolutionary Biology and BA in French

2013–2017

- **University of Arizona**, Tucson, AZ

National Student Exchange Program

2015–2015

- **Université de Montréal**, Montréal, Québec, Canada

Submitted manuscripts

Bachelot B, Compagnoni A, Brandão-Diaz PFP, Carter SK, Donald ML, **Fowler JC**, Gorczynski D, Grupstra CGB, Neale ZR, Zhang L, Rudgers JA, Zhu K, Miller TEX (in review). Sensitivity to climate variability in North American plant and animal populations.

Publications

2024

Fowler JC, Ziegler S, Whitney KD, Rudgers JA, Miller TEX (2024). Microbial symbionts buffer hosts from the demographic costs of environmental stochasticity. *Ecology Letters*, 27,e14438. Available from: <https://doi.org/10.1111/ele.14438>

2022

Fowler JC, Donald ML, Bronstein JL, Miller TEX (2022). The geographic footprint of mutualism: How mutualists influence species' range limits. *Ecological Monographs*: e1558. doi: [10.1002/ecm.1558](https://doi.org/10.1002/ecm.1558)

2021

Dong T, Zhang R, Liu J, **Fowler JC**, Miller TEX, Xu X (2021). Warming alters sex-specific responses in leaf defense against insect herbivory in *Populus cathayana*. *Environmental and Experimental Botany*, 104557. doi: [10.1016/j.envexpbot.2021.104557](https://doi.org/10.1016/j.envexpbot.2021.104557)

2020

Liu J, Zhang R, Xu X, **Fowler JC**, Miller TEX, Dong T (2020). Effect of summer warming on growth, photosynthesis and water status in female and male *Populus cathayana*: implications for sex-specific drought and heat tolerances. *Tree Physiology*, 40(9), 1178-1191. doi: [10.1093/treephys/tpaa069](https://doi.org/10.1093/treephys/tpaa069)

2018

Evans MEK, Gugger PF, Lynch AM, Guiterman CH, **Fowler JC**, Klesse S, Riordin EC (2018) Dendroecology meets genomics in the common garden: new insights into climate adaptation. *New Phytologist*, 218(2):401–403. doi: [10.1111/nph.14968](https://doi.org/10.1111/nph.14968)

Presentations and Posters

2024

Fowler JC, Ziegler S, Whitney KD, Rudgers JA, Miller TEX (2024, April) Microbial symbionts buffer hosts from the demographic costs of environmental stochasticity. Contributed presentation for the 12th annual Yosemite Symbiosis Workshop, Wawona, Yosemite National Park

2023

Fowler JC, Moutouama, JK, Miller TEX (2023, August) Increasing prevalence of plant-fungal symbiosis over two centuries of climate change. Contributed presentation for the annual meeting of Ecological Society of America, Portland

Fowler JC, Moutouama, JK, Miller TEX (2023, June) Increasing prevalence of plant-fungal symbiosis over two centuries of climate change. Virtual presentation for Seed Microbiome Working Group bi-monthly meeting.

2022

Fowler JC, Donald ML, Bronstein JL, Miller TEX (2022, August) The geographic footprint of mutualism; How mutualists influence species' range limits. Invited to Organized Oral Session on *Theory and Big Data for Species on the Move* at the 2022 Annual meeting of the Ecological Society of America, Montreal.

2021

Fowler JC, Dufresne LR, Segal EC, Miller TEX (2021, January) Using museum specimens to assess the response of grass-fungal endophytes to climate change. Contributed virtual presentation at 2021 Houston Regional Ecology and Evolution Symposium.

Fowler JC, Dufresne LR, Segal EC, Miller TEX (2021, January) Using museum specimens to assess the response of grass-fungal endophytes to climate change. Contributed virtual presentation at American Society of Naturalists 2021 Virtual Asilomar Meeting.

2020

Fowler JC, Ziegler S, Whitney KD, Rudgers JA, Miller TEX (2020, August) Demographic buffering by context-dependent host-microbe interactions in stochastic environments. Poster session presented at Ecological Society of America 2020 Virtual Annual Meeting.

2019

Fowler JC, Whitney KD, Rudgers JA, Miller TEX (2019, January) Vertically transmitted symbionts buffer host demographic variability. Poster session presented at the Sixth Annual Evolutionary Demography Society Meeting, University of Miami, Coral Gables, FL.

Academic Awards, Grants and Scholarships

2025-2028	Postdoctoral Research Fellowship in Biology	Nat. Sci. Foundation (\$240,000)
2024	David S. Maehr Florida Wildlife Corridor Applied Science Fellowship	Archbold Biological Station (\$25,000)
2023	2023 Annual Meeting Registration Grant	Ecological Society of America
2023	Outstanding EEB PhD Thesis Award	Rice, Dept. of BioSciences
2022	PPE Student Travel Award	Plant Pop. Ecology Section, ESA (\$600)
2022	Graduate Student Travel Award	Rice, Dept. of BioSciences (\$300)
2022	Joe Davies Prize for Outstanding Service as a TA	Rice, Dept. of BioSciences
2022	Texas Ecolab Program Grant	(\$2000)
2021	EEB Peter Savvas Nelson Award	Rice, Dept. of BioSciences
2021	Texas Ecolab Program Grant	(\$4855)
2020	NSF Graduate Research Fellowship	Honorable Mention
2020	Texas Ecolab Program Grant	(\$6147)
2019	Student Travel Award	EvoDemo Society Meeting (\$150)
2018	East-DeMarco Graduate Student Academic Scholarship	Rice, Dean of Natural Sciences (\$2000)
2018	First Year Graduate Student Scholarship	Rice, Dean of Graduate Studies (\$2000)
2013–2017	National Merit Finalist Scholarship, Dean's List	University of Arizona

Mentoring and Teaching Experience

Courses taught

2023	Guest Lecture (Population Ecology)	Ecology (University of Miami)
2022	Teaching Assistant	Coral Reef Ecosystems (Rice University)
2020	Coordinator	BioSciences Professional Development Series (Rice University)
2019	Teaching Assistant	Advanced Communication in Biological Science (Rice University)
2018	Teaching Assistant	Ecology (Rice University)
2017	Undergraduate Preceptor	Conservation Biology (University of Arizona)

Undergraduate research mentorship

2024–present	Christian Fulmer (U. of Miami)	Undergrad. Ind. Res.
2024–present	Veronica Jiang (U. of Miami)	Undergrad. Ind. Res.
2024–present	Gwen Pohlmann (U. of Miami)	Post-bacc research
2023–present	Zoe Meador (U. of Miami)	Undergrad. Ind. Res.
2024	Kate Novakovic (U. of Miami)	Undergrad. Ind. Res.
2023	Lucy Xu (U. of Miami)	Undergrad. Ind. Res.
2023	Anastasia Chiarini (U. of Miami)	Undergrad. Ind. Res.
2023	Esequiel Gonzalez (U. of Miami)	Undergrad. Ind. Res.
2022–present	Mallory Tucker (Rice U.)	Undergrad. Ind. Res.
2022	Emma Scales (Rice U.)	Undergrad. Ind. Res.
2021	Ava Johnson (Rice U.)	Undergrad. Ind. Res.
2021	Arinze Appio-Riley (Rice U.)	Rice Summer Undergraduate Research Fellow
2020–2021	Ella Segal (Rice U.)	Undergrad. Ind. Res. /Miller Lab REU
2020	Bella Gutierrez (Rice U.)	Undergrad. Ind. Res.
2019–2020	Lani Dufresne (Rice U.)	Undergrad. Ind. Res. /Miller Lab REU
2019	Kyle Dickens (Rice U.)	Miller Lab REU

Other teaching experience

2015	Tutor	Strategic Alternative Learning Techniques Center, University of Arizona
2014–2015	French Counselor	Les Voyageurs, Concordia Language Villages, Bemidji, Minnesota

Community Involvement and Service

Positions held

2024–2025	Board Member	U. of Miami Postdoc Association
2020–2021	President	EEB Graduate Student Association
2019–2020	Treasurer	EEB Graduate Student Association
2019–2021	President	Rice University Cycling and Triathlon

Scientific journal reviews

2024	<i>Ecography, npj Biofilms and Microbiomes, Journal of Ecology</i>
2023	<i>Ecology, Ecology Letters, Proceedings B., Ecological Modeling</i>
2020	<i>Proceedings B., Oecologia</i>

Science outreach

10/2023	Univ. of Miami BioReach Outreach Program - Presenting local science topics to Miami area middle school students
02/2022	Deakey High School Annual Scientific Symposium - STEM career outreach event about succeeding in college and graduate school
2019–2023	Rice EEB Owls Outreach Program - Engaging underserved Houston area middle and high school students in hands-on science learning
12/2018	Houston Science Olympiad Exam writer - Writing questions for the herpetology exam Houston's Science Olympiad competition