Michelle E. St. John

Curriculum Vitae
2025

University of Oklahoma
School of Biological Sciences
Norman OK, 73019 U.S.A.

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EDUCATION

2022	Ph.D., Integrative Biology, University of California, Berkeley
2017	M.S., Animal Biology, University of Illinois, Urbana-Champaign
2012	B.S., Integrative Biology, University of Illinois, Urbana-Champaign

PROFESSIONAL APPOINTMENTS

2024-Present	Postdoctoral Researcher. Bentz, Marske, & Stein Labs. School of Biological Sciences, University of Oklahoma
2022-2024	National Science Foundation Postdoctoral Fellow (DBI-2209219). Stein Lab. School of Biological Sciences, University of Oklahoma

PUBLICATIONS

* Undergraduate Author, † Co-first Authorship

In Revisions McCarthy, J. R., **M. E. St. John**, and L. R. Stein. "Trust myself or trust my friends? Exploring the effect of sex on social information use in *Poecilia wingei*". *Behavioral Ecology and Sociobiology*.

In Revisions **St. John**, **M. E.** and L. R. Stein. "The cost of construction noise: A case study on soundscape alteration and survival in pupfish (*Cyprinodon variegatus*)". *Journal of Fish Biology*.

2024 Dunker*†, J. C., **M. E. St. John**†, and C. H. Martin. "Phenotypic covariation predicts diversification in an adaptive radiation of pupfishes". *Ecology and Evolution* 14.8, e11642. DOI: 10.1002/ece3.11642.

2024 Merritt*, A. E., **M. E. St. John**, F. Leri, and L. R. Stein. "Sensory cues of predation risk generate sex-specific changes in neural activity and behavior, but not hormones, in Trinidadian guppies". *Hormones and Behavior* 166, p. 105635. DOI: 10.1016/j.yhbeh.2024.105635.

2024 **St. John**, **M. E.**, J. C. Dunker*, E. J. Richards, S. Romero*, and C. H. Martin. "Parallel evolution of integrated craniofacial traits in trophic specialist pupfishes". *Ecology and Evolution* 14.7, e11640. DOI: 10.1002/ece3.11640.

2024 Tan*, A., **M. E. St. John**, D. Chau, C. Clair, H. Chan, R. Holzman, and C. H. Martin. "A multi-peak performance landscape for scale biting in an adaptive radiation of pupfishes". *Journal of Experimental Biology* 227.16, jeb247615. DOI: 10.1242/jeb.247615.

2022 Galvez, J. R., **M. E. St. John**, K. McLean, C. Dening Touokong, L. N. Gonwouo, and C. H. Martin. "Trophic specialization on unique resources despite limited niche divergence in a celebrated example of sympatric speciation". *Ecology of Freshwater Fish*. DOI: 10.1111/eff.12661.

2021 Richards, E. J., J. A. McGirr, J. R. Wang, **M. E. St. John**, J. W. Poelstra, M. J. Solano, D. C. O'Connell, B. J. Turner, and C. H. Martin. "A vertebrate adaptive radiation is assembled from an ancient and disjunct spatiotemporal landscape". *Proceedings of the National Academy of Sciences* 118, e2011811118. DOI: 10.1073/pnas.2011811118.

2020 **St. John**, **M. E.**, K. E. Dixon*, and C. H. Martin. "Oral shelling within an adaptive radiation of pupfishes: Testing the adaptive function of a novel nasal protrusion and behavioural preference". *Journal of Fish Biology* 97.1, pp. 163–171. DOI: 10.1111/jfb.14344.

2020 **St. John**, **M. E.** and R. C. Fuller. "Asymmetric reinforcement in Lucania killifish: assessing reproductive isolation when both sexes choose". *Current Zoology*. DOI: 10.1093/cz/zoaa049.

2020 **St. John**, **M. E.**, R. Holzman, and C. H. Martin. "Rapid adaptive evolution of scale-eating kinematics to a novel ecological niche". *Journal of Experimental Biology* 223.6, jeb.217570. DOI: 10.1242/jeb.217570.

2019 Martin, C. H., J. A. McGirr, E. J. Richards, and **M. E. St. John**. "How to Investigate the Origins of Novelty: Insights Gained from Genetic, Behavioral, and Fitness Perspectives". *Integrative Organismal Biology* 1.1, obz018. DOI: 10.1093/iob/obz018.

2019 **St. John**, **M. E.** and R. C. Fuller. "The effects of experimental design on mating preferences and reproductive isolation in killifish". *Behavioral Ecology* 30.1, pp. 92–100. DOI: 10.1093/beheco/ary150.

2019 **St. John**, **M. E.**, J. A. McGirr, and C. H. Martin. "The behavioral origins of novelty: did increased aggression lead to scale-eating in pupfishes?" *Behavioral Ecology* 30.2, pp. 557–569. DOI: 10.1093/beheco/ary196.

GRANTS AND AWARDS

Grants and Fellowships

2024 *Using high-speed film to make evolutionary inferences about feeding biomechanics*
Co-PI: L.R. Stein. Data Institute for Societal Challenges Postdoctoral Fellowship. University of Oklahoma ($5,000)

2022 *Searching for mechanisms: How short-term plastic responses produce long-term evolutionary change*
National Science Foundation Postdoctoral Fellowship (DBI-2209219). University of Oklahoma ($138,000)

2021 Annie M. Alexander Fellowship. University of California, Berkeley ($13,500)

2021 Karl Koford Fund. University of California, Berkeley ($1,500)

2021 GRAC Research Grant. University of California, Berkeley ($300)

2020 SMART Fellowship. University of California, Berkeley ($10,000)

2020 Karl Koford Fund. University of California, Berkeley ($2,000)

2017 Francis M. and Harlie M. Clark Research Support Grant. University of Illinois, Urbana-Champaign ($1,000)

2017 The Odum-Kendeigh Award. University of Illinois, Urbana-Champaign ($1,000)

Awards

2025 Museum of Vertebrate Zoology 40 under 40. University of California, Berkeley

2018 ComSciCon-Triangle. University of North Carolina, Chapel Hill

2017 Thomas Frazzetta Award for Outstanding Teaching in Animal Biology. University of Illinois, Urbana-Champaign ($400)

2016 Named to the list of teachers ranked as excellent by their students. University of Illinois, Urbana-Champaign

2015 Named to the list of teachers ranked as excellent by their students. University of Illinois, Urbana-Champaign

Sponsored Students' Grants and Awards

* Undergraduates

2025 *In the belly of the beast: Investigating how diet and evolutionary history impact the microbiome*
PI: Isa Alejandro*, Co-PIs: **M.E. St. John**, L.R. Stein. Undergraduate Research Opportunities Program. University of Oklahoma ($1,000)

2024 *Do short-term mechanisms of behavioral changes mirror those at an evolutionary scale?*
PI: Patricia Gribbin*, Co-PIs: **M.E. St. John**, L.R. Stein. Undergraduate Research Opportunities Program. University of Oklahoma ($800)

2022 Awardee: Julia Dunker*. Herpetology and Zoology Award. University of California, Berkeley

CONFERENCE ACTIVITY

Upcoming **St. John**, **M. E.**, J. Kaur, and A. B. Bentz. "Microglia, behavior, and the brain: neuroimmune regulation of social behavior in house sparrows". The Society for Integrative and Comparative Biology. Portland, OR.

2024 **St. John**, **M. E.** and L. R. Stein. "Friends and Food: Investigating Neural Mechanisms of Behavior Across Contexts in Pupfish". The Animal Behavior Society. London, ON Canada.

2023 **St. John**, **M. E.** and C. H. Martin. “Parallel genetic changes underlie novel trophic specialization in an adaptive radiation of pupfishes”. The Society for Integrative and Comparative Biology. Houston, TX.

2021 **St. John**, **M. E.** and C. H. Martin. “The effects of novelty on aggression, feeding kinematics, and mate choice within a radiation of pupfishes”. The Animal Behavior Society. Virtual Conference.

2021 **St. John**, **M. E.** and C. H. Martin. “The effects of novelty on aggression, feeding kinematics, and mate choice within a radiation of pupfishes”. Ecological and Evolutionary Ethology of Fishes. Virtual Conference.

2021 **St. John**, **M. E.** and C. H. Martin. “The specialists’ guide to the novel niche—How shifts in aggression, feeding behavior, and mate preference contribute to scale- and snail-eating in pupfishes”. The Society for the Study of Evolution. Virtual Conference.

2021 **St. John**, **M. E.** and C. H. Martin. “The specialists’ guide to the novel niche—How shifts in aggression, feeding behavior, and mate preference contribute to scale- and snail-eating in pupfishes”. The Society for Integrative and Comparative Biology. Virtual Conference.

2020 **St. John**, **M. E.** and C. H. Martin. “A tale of scales and snails: behaviorally mediated traits drive the evolution of novelty in a radiation of Cyprinodon pupfishes”. The Society for Integrative and Comparative Biology. Houston, TX.

2019 **St. John**, **M. E.** and C. H. Martin. “The cascading effects of aggression on novelty and reproductive isolation within a radiation of pupfishes”. The Animal Behavior Society. Chicago, IL.

2019 **St. John**, **M. E.** and C. H. Martin. “The cascading effects of aggression on trophic innovation and reproductive isolation within an adaptive radiation of pupfishes”. The Society for Integrative and Comparative Biology. Tampa, FL.

2017 **St. John**, **M. E.** and R. C. Fuller. Graduate Students in Ecology and Evolution. Urbana-Champaign, IL.

TEACHING EXPERIENCE

University of Oklahoma

2023 Co-Instructor: Novelty in Science and Society. Co-developed and taught course (3 credits)

University of California, Berkeley

2021, 2022 Co-Instructor: Seeing yourself in Science. Co-developed and taught course (2 credits)

2021 Teaching Assistant: Evolution, Ecology, and Organismal biology

2020 Teaching Assistant: Ichthyology

University of North Carolina, Chapel Hill

2017 Teaching Assistant: Genetics

2016 Teaching Assistant: Ichthyology

University of Illinois, Urbana-Champaign

2016 Teaching Assistant: Evolution

2015 Teaching Assistant: Animal Biology

MENTORING EXPERIENCE

*Undergraduate, ◇Graduate, •High School

University of Oklahoma

2025-Present Isa Alejandro *, Honors Thesis

2023-Present Patricia Gribbin *, Independent Study

2024 Isa Alejandro *, First Year Research Experience

2023-2024 Anna Merritt ◇, Master's Committee Member, Bowling Green State University

University of California, Berkeley

2021-2022 Graduate Assistant: Summer Research Experience for Undergraduates, National Science Foundation

2021-2022 Julia Dunker *, Honors Thesis

2020 Julia Dunker *, SURF SMART Research

University of North Carolina, Chapel Hill

2018-2019 Kristi Dixon *, Independent Study

University of Illinois, Urbana-Champaign

2016 Jalen Knox *, Animal Biology Summer Research

2016 Merit Fellows Program*, Integrative Biology

2015-2016 Mentor Matching Engine•, Illinois Science & Technology Coalition

RESEARCH EXPERIENCE

University of California, Berkeley

2019, 2020, 2021 Research Assistantship

University of North Carolina, Chapel Hill

2018, 2019 Research Assistantship

University of Illinois, Urbana-Champaign

2016, 2017 Research Assistantship: Developed biology curricula for grades K-12 aligned with the Next Generation Science Standards for the Progressing through the Ages: Global change, Evolution and Societal well-being program.

SERVICE TO PROFESSION

Reviewer

American Naturalist
Biological Journal of Linnean Society
Ecology and Evolution
Integrative Organismal Biology
Journal of Experimental Biology

DEPARTMENTAL AND UNIVERSITY SERVICE

2020-2021 DEI Administrative Committee

2020-2021 Undergraduate Recruitment Working Group

2020-2021 Interactions Working Group

2020-2021 Graduate Student Association

COMMUNITY INVOLVEMENT AND OUTREACH

2025-Present Curiosiday. Sam Noble Museum, University of Oklahoma

2025-Present Ichthyology Collection. Sam Noble Museum, University of Oklahoma

2025 COSTEM Outreach Program. OU Biological Station, University of Oklahoma

2025 Summer Explorers. Sam Noble Museum, University of Oklahoma

2025 Twilight at Water's Edge. Sam Noble Museum, University of Oklahoma

2022-2023 Letters to a Pre-Scientist.

2020-2022 Expanding Your Horizons Workshop. Integrative Biology, University of California

2021 Popping the Science Bubble. Berkeley Public Library, Berkeley

2020 Cal Day. Museum of Vertebrate Zoology, University of California

PROFESSIONAL MEMBERSHIPS

Animal Behavior Society
Evolution
Society for Integrative and Comparative Biology