

CURRICULUM VITAE

ERIN LOUISE SAUER

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I am a wildlife disease ecologist interested in how host behavior and environmental change influence host susceptibility and disease severity across organizational levels. I seek a home department where I can continue expanding my research program while supporting graduate and undergraduate students and furthering inclusive practices in science and beyond.

EDUCATION

- 2018 Ph.D. Ecology and Evolution, University of South Florida
Dissertation: Behavioral thermoregulation and thermal mismatches influence disease dynamics in amphibians. Advisor: Dr. Jason Rohr. Dec. 2018
- 2013 B.S. Biology. University of South Florida, Tampa, Florida. Department of Integrative Biology

RESEARCH APPOINTMENTS

- 2021- Postdoctoral Researcher, Department of Biological Sciences, University of Arkansas. Supervisor: Dr. Sarah DuRant
- 2019-2020 Postdoctoral Researcher, Department of Forest and Wildlife Ecology, University of Wisconsin – Madison. Supervisor: Dr. Daniel Preston
- 2019 Postdoctoral Researcher, Department of Integrative Biology, University of South Florida, Department of Integrative Biology. Supervisor: Dr. Jason Rohr
- 2012-2013 NSF REU Student Researcher, Department of Integrative Biology, University of South Florida. Supervisor: Dr. Gordon Fox
- 2011-2013 Undergraduate Research Assistant, Department of Integrative Biology, University of South Florida. Supervisor: Dr. Matthew Venesky.
- 2011-2012 Research Intern – Fisheries Independent Monitoring Program, Florida Fish and Wildlife Conservation Commission. Supervisor: Jenna Tortorelli, M.S.

PUBLICATIONS

¹undergraduate mentee; ²advised graduate student; ³dissertation chapter; ⁴postdoctoral project

In review/In revisions (additional preprints available upon request)

W. Kirkpatrick², E. Sauer, R. Carroll, J. Cohen, C. Davis, S. Fuhlendorf, S. DuRant. Critical reproductive behaviors in Scaled Quail and Northern Bobwhite are affected by thermal variability and mean temperature. In review at Thermal Biology. [Preprint here](#).

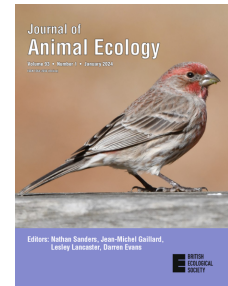
B. Shayhorn, C. Ramsay, K. Medina¹, E. Sauer, J. Rohr. Do host-consumed resources increase endoparasitic but decrease ectoparasitic infections? *Submitted*. [Preprint here](#).

Peer reviewed publications In Press or Published (h-index: 12)

20. A. Waddle², S. Clulow, A. Aquilian, E. Sauer, S. Kaiser, C. Miller, J. Flegg, P. Campbell, H. Gallagher, I. Dimovski, Y. Lambregts, L. Berger, L. Skerratt, R. Shine. Hotspot shelters enable frogs to survive chytridiomycosis and stimulate resistance. *In press*. [Nature](#).

19. E. Sauer⁴, M. Venesky, T. McMahon, J. Cohen, S. Bessler, L. Brannelly, F. Brem, N. Halstead, O. Hyman, P. Johnson, C. Richards-Zawacki, S. Rumschlag, B. Sears, J. Rohr. Resolving competing hypotheses: are novel or locally adapted pathogens more devastating? *In press*. [Ecology Letters](#). [Preprint here](#).

18. **E. Sauer**⁴, C. Connelly¹, W. Perrine, A. Love, S. DuRant. 2023. Male pathology regardless of behaviour drives transmission in an avian host-pathogen system. Journal of Animal Ecology. **Featured on cover.**
17. E. Crone², **E. Sauer**, D. Preston. 2023. Nonnative fish facilitate nonnative snails and alter food web structure in experimental pond communities. Functional Ecology.
16. D. Trovillion², **E. Sauer**, G. Shay¹, E. Crone, D. Preston. 2023. Habitat complexity, connectivity, and introduced fish drive pond community structure along an urban to rural gradient. Ecological Applications. **Featured on cover.**
15. **E. Sauer**⁴, J. Cruz, E. Crone, C. Lewis¹, E. Plumier¹, B. Cwynar¹, D. Drake, B. Herrick, D. Preston. 2022. Multiscale drivers of amphibian community occupancy in urban ponds. Urban Ecosystems. **Featured in [The Atlantic](#), [LTER Network](#), and on [Wisconsin Public Radio](#).**
14. E. Crone², **E. Sauer**, B. Herrick, D. Drake, D. Preston. 2022. Effects of invasive jumping worms (*Amyntas* spp.) on microhabitat and trophic interactions of native herpetofauna. Biological Invasions.
13. D. Preston, E. Crone, A. Miller-ter Kuile, C. Lewis¹, **E. Sauer**, D. Trovillion. 2021. Nonnative freshwater snails: A global synthesis of invasion status, mechanisms of introduction, and interactions with natural enemies. Freshwater Biology.
12. J. Cohen, **E. Sauer**, O. Santiago¹, S. Spencer¹, J. Rohr. 2020. Divergent impacts of warming weather on wildlife disease risk across climates. Science.
11. D. Preston & **E. Sauer**. 2020 Infection pathology and competition mediate host biomass overcompensation from disease. Ecology.
10. **E. Sauer**³, J. Cohen, T. McMahon, M. Lajeunesse, D. Civitello, S. Knutie, K. Nguyen, E. Roznik, B. Sears, S. Bessler, B. Delius, N. Halstead, N. Ortega, M. Venesky, S. Young, J. Rohr. 2020 A meta-analysis reveals temperature, dose, life stage, and taxonomy influence host susceptibility to a fungal parasite. Ecology. **Featured on cover.**
9. **E. Sauer**³, N. Trejo¹, J. Hoverman, J. Rohr. 2019. Behavioral fever reduces ranavirus infection in toads. Functional Ecology. **Featured at [Functional Ecology](#) and [The Wildlife Society](#).**
8. J. Cohen, T. McMahon, C. Ramsay, E. Roznik, **E. Sauer**, S. Bessler, D. Civitello, B. Delius, N. Halstead, S. Knutie, K. Nguyen, N. Ortega, B. Sears, M. Venesky, S. Young, J.R. Rohr. 2019. Impacts of thermal mismatches on disease prevalence are moderated by life stage, body size, elevation and latitude. Ecology Letters. **Featured on cover.**
7. **E. Sauer**³, R. Fuller, C. Richards-ZawackI, J. Sonn, J. Sperry, J. Rohr. 2018 Variation in individual temperature preferences, not behavioural fever, affects susceptibility to chytridiomycosis in amphibians. Proceedings of the Royal Society B. **Featured at [Amphibia Web](#).**
6. J. Cohen, M. Venesky, **E. Sauer**, D. Civitello, T. McMahon, J. Rohr. 2016. The thermal mismatch hypothesis explains outbreaks of an emerging infectious disease. Ecology Letters. **Featured on cover and in [Nature](#).**
5. **E. Sauer**³, J. Sperry, J. Rohr. 2016. An efficient and inexpensive method for measuring long-term thermoregulatory behavior. Journal of Thermal Biology.
4. J. Cohen, D. Civitello, A. Brace, E. Feichtinger, N. Ortega, J. Richardson, **E. Sauer**, J. Rohr. 2016. Spatial scale modulates the strength of ecological processes driving disease distributions. Proceedings of the National Academy of Sciences.
3. D. Civitello, J. Cohen, H. Fatima, N. Halstead, J. Liriano, T. McMahon, N. Ortega, **E. Sauer**, T. Sehgal, S. Young, J. Rohr. 2015. Reply to Salkeld et al.: Diversity-disease patterns are robust to study design, selection criteria, and publication bias. Proceedings of the National Academy of Sciences.
2. D. Civitello, J. Cohen, H. Fatima, N. Halstead, J. Liriano, T. McMahon, N. Ortega, **E. Sauer**, T. Sehgal, S. Young, J. Rohr. 2015. Biodiversity inhibits parasites: broad evidence for the dilution effect. Proceedings of the National Academy of Sciences. **Featured in [PNAS](#) and [Science](#) and at [NPR](#), [ScienceDaily](#), [Earth Island Journal](#)**



I. M. Venesky, X. Liu, E. Sauer, J. Rohr. 2013. The Dilution Effect: Linking Experiments to Field Data and Evaluation its Relative Strength. Journal of Animal Ecology.

FUNDED & SUBMITTED GRANTS (TOTAL AWARDED: \$58,750)

Submitted 2022 Australian Research Council, LP220100157, Manipulating amphibian behaviour to fight a wildlife pandemic. Co-PI, Lead PI: Dr. Richard Shine. Submitted July 2022; highly ranked but not funded. Total requested: \$761,868 AUD

2014-2016 Department of the Army, EF-1241889, Thermoregulatory behavior of southeastern amphibians following exposure to the chytrid fungus *Batrachochytrium dendrobatidis*. Authored by E. Sauer, Lead PI: J. Rohr
Total awarded: \$58,750

FELLOWSHIPS & AWARDS (TOTAL AWARDED: \$15,900 & £1000)

2018 Sigma Xi Honors Society, University of South Florida. One of 20 graduate students nominated and inducted. Included a monetary award.

2018 Mushinsky Award, University of South Florida. (Annual award for outstanding research.)

2017 VectorBiTE RCN travel funds to the 2017 workshop at Royal Holloway University, United Kingdom, National Institute of Health

2015-2016 Charlotte Magnum Funds, Society of Comparative and Integrative Biology

2013-2018 Intramural travel grants, University of South Florida

2012 REU stipend, National Science Foundation

2011 All Children's Hospital Scholarship

2009-2013 Florida Bright Futures Scholarship

INVITED RESEARCH SEMINARS

2023 Department of Fisheries and Wildlife Sciences, New Mexico State University

2022 Department of Biological Sciences, Duquesne University

2022 School of Natural Resources and the Environment, University of Arizona

2021 Department of Biological Sciences, University of Arkansas

2021 Department of Biological Sciences, Boise State University

2020 Department of Biological Sciences, Northern Illinois University

2020 Biology Department, University of Tampa

2017 Biology Department, University of Tampa

2015 Herpetology Club, University of South Florida

OTHER INVITED TALKS

2021 Picture a Scientist event at a public high school in South Plainfield, New Jersey

2018 *Florida birding and eBird*. Main Branch, St. Petersburg Public Library, FL

2018 *Modern threats to reptiles & amphibians*, Florida Native Plant Society-Suncoast chapter

2014 Conservation biology interactive lecture, Camp Wai Lani Marine Science Lab, Girl Scouts of West Central Florida

2014 *How to get into grad school*. Biology Club, University of South Florida

CONFERENCE PRESENTATIONS

Invited Talks

- 2022 E. Sauer. Temperature variability and amphibian disease. Part of the organized session: Breaking Out the Average: Discussing Biological Responses to Neglected Climate Change Phenomena. Ecological Society of America & Canadian Society for Ecology and Evolution Joint Meeting, Montreal, Canada

Contributed Talks & Posters

- 2024 E. Sauer, S. Roberts, J. Novotny, W. Perrine, M. Sudnick, S. DuRant. Maternal behavior and disease history interact to influence offspring immune phenotypes. Society for Integrative and Comparative Biology, Seattle, WA
- 2023 E. Sauer, C. Connelly, W. Perrine, A. Love, S. DuRant. Male-biased disease dynamics of *Mycoplasma gallisepticum*. Society for Integrative and Comparative Biology, Austin, TX
- 2020 E. Sauer, E. Crone, C. Lewis, E. Plumier, B. Cwynar, D. Drake, B. Herrick, D. Preston. Amphibian communities in human-modified landscapes: Are urban ponds oases or ecological traps? The Wildlife Society, Regional Meeting, Wisconsin Rapids, WI
- 2020 E. Sauer, J. Cohen, T. McMahon, M. Lajeunesse, D. Civitello, S. Knutie, K. Nguyen, E. Roznik, B. Sears, S. Bessler, B. Delius, N. Halstead, N. Ortega, M. Venesky, S. Young, J. Rohr. A meta-analysis reveals temperature, dose, life stage, and taxonomy influence host susceptibility to a fungal parasite. 9th World Congress of Herpetology, Dunedin, New Zealand
- 2019 E. Sauer, D. Preston. Amphibian communities in human modified landscapes: Are stormwater ponds oases or ecological traps? Water Symposium, University of Wisconsin – Madison (poster)
- 2018 E. Sauer, J. Hoverman, N. Trejo, and J. Rohr. Behavioral fever reduces ranaviral infections in toads. Southeastern Ecology and Evolution Conference, Miami, FL
- 2017 E. Sauer, R. Fuller, C. Richards-Zawacki, J. Sonn, J. Sperry, J. Rohr. Some like it hot: thermoregulation and amphibian disease and decline. Ecological Society of America, Portland, OR
- 2016 E. Sauer, J. Hoverman, J. Sperry, J. Rohr. Influence of temperature preference and behavioral thermoregulation on disease resistance. World Congress of Herpetology, Hangzhou, China
- 2016 E. Sauer, J. Hoverman, J. Sperry, J. Rohr. Some like it hot: thermoregulation and amphibian disease and decline. Society of Comparative and Integrative Biology, Portland, OR
- 2015 E. Sauer, J. Sperry, J. Rohr. Interactions between behavioral thermoregulation and *Batrachochytrium dendrobatidis* infections in amphibians. Society of Comparative and Integrative Biology, West Palm Beach, FL
- 2013 M. Venesky, X. Liu, E. Sauer, and J. Rohr. The Dilution Effect: Linking Experiments to Field Data and Evaluation its Relative Strength. Society of Comparative and Integrative Biology, San Francisco, CA. (poster)

Student Presentations

presenter name is bolded; ¹advised undergraduate student; ²advised graduate student

- 2024 **M. Sudnick²**, E. Sauer, A. Love, S. DuRant. Partial immunity after first infection is long lasting and reduces MG transmission. Society of Comparative and Integrative Biology, Seattle, WA (talk)
- 2023 **M. Sudnick²**, E. Sauer, A. Love, S. DuRant. Partial immunity after first infection is long lasting and reduces MG transmission. American Ornithological Society, London, Canada (talk)
- 2023 **W. Perrine²**, E. Sauer, A. Love, A. Morris, S. DuRant. Diet composition effects on *Serinus canaria* infected with *Mycoplasma gallisepticum*. American Ornithological Society, London, Canada (talk)
- 2023 **C. Connolly¹**, E. Sauer, W. Perrine, A. Love, S. DuRant. Sex differences in host resistance and tolerance to the common avian pathogen *Mycoplasma gallisepticum*. University of Arkansas Undergraduate Research Week Poster Competition, Fayetteville, AR (poster)
- 2023 **W. Perrine²**, E. Sauer, A. Love, A. Morris, S. DuRant. Diet composition effects on *Serinus canaria* infected with *Mycoplasma gallisepticum*. Society of Comparative and Integrative Biology, Austin, TX (talk)
- 2023 **M. Sudnick²**, E. Sauer, S. DuRant. Influence of a previous infection on *Mycoplasma gallisepticum* transmission in canaries. Society of Comparative and Integrative Biology, Austin, TX (poster)
- 2023 **C. Carter¹**, E. Sauer, W. Kirkpatrick, S. DuRant. Sex-differential growth and development in Eastern Bluebird nestlings. Society of Comparative and Integrative Biology, Austin, TX (poster)

- 2023 **D. Guillory**¹, E. Sauer, M. Sudnick, S. DuRant. Effect of maternal disease severity on transfer of antibodies to offspring. Society of Comparative and Integrative Biology, Austin, TX (poster)
- 2019 **C. Lewis**¹, E. Sauer, D. Preston. Assessment of Invasive Chinese Mystery Snails in Dane County. WISCIENCE Symposium, University of Wisconsin – Madison (poster)
- 2018 J. Cohen, E. Sauer, **O. Santiago**¹, **S. Spencer**¹, J. Rohr. Divergent impacts of warming weather on wildlife disease risk across climates. Southeastern Ecology and Evolution Conference, Miami, FL (poster)

TEACHING EXPERIENCE & TRAINING

Positions

- 2020 **Co-instructor**. Freshwater Conservation (FWE 375/875), Forest and Wildlife Ecology, University of Wisconsin-Madison. Spring 2020
- 2017 **Teaching Assistant**. Human Anatomy and Physiology II Lab (BSC 2094C), Integrative Biology, University of South Florida. Spring 2017

Guest Lecturers

- 2022 Direct human-causes of bird mortality, Ornithology, University of Arkansas
- 2020 Behavioral drivers of disease, Disease Ecology, University of Tampa
- 2016 Learning and cognition, Animal Behavior, University of South Florida
- 2016 Amphibian declines, Introductory Biology II, University of Tampa
- 2014 Amphibian declines, Introductory Biology II, University of Tampa

Training

- 2022 Ecological Society of America Workshop: Assess What's Important: Creating Assessments That Show How Students Use Their Ecological Knowledge.
- 2022 University of Arkansas Faculty Teaching Camp: Motivating and Engaging Students. Session topics included: active learning, facilitating group projects, learning assessment, teaching small classes, and technology in the classroom.

MENTORING

Graduate Students: As a postdoctoral researcher, I have mentored two MS students at UW – Madison and two MS students at UArk - training them in various field and lab techniques and advising them on experimental and field survey design as well as data management, analysis, and manuscript writing. For six months during the 2022-23 academic year, I temporarily took on all PI duties for Dr. Sarah DuRant while she was on parental leave. Part of this responsibility involved directly supervising her two PhD students and MS student along with my two Honors Thesis students and organizing and preparing six student presentations for the 2023 SICB conference.

Undergraduate Mentees

¹Publication co-author; ²Student presented at conference; ³ student submitted grant for independent research funding

- 2023-present Vansh Singhal (University of Arkansas) Honors Thesis Mentee
- 2023-present Salvador Barraza (University of Arkansas) Honors Thesis Mentee
- 2022-2023 ²Destiny Guillory (University of Arkansas – Pine Bluff) NSF REU Scholar
- 2022-2023 ²Christopher Carter (University of Arkansas – Pine Bluff) NSF REU Scholar
- 2021-2023 ^{1,3}Sakura Roberts (University of Arkansas) Honors Thesis Mentee
- 2021-2023 ^{1,2,3}Chloe Connelly (University of Arkansas) Honors Thesis Mentee
- 2021 ¹Johnathan Novotny (University of Arkansas)
- 2019-2020 ^{1,2,3}Catherine Lewis (University of Wisconsin – Madison) WISCIENCE Scholar
- 2019-2020 ¹Gabriella Shay (University of Wisconsin – Madison)
- 2019-2020 ¹Ethan Plumier (University of Wisconsin – Madison)
- 2019-2020 ¹Blake Cwynar (University of Wisconsin – Madison)
- 2018 ^{1,2}Olivia Santiago (University of South Florida) Co-advised NSF REU Scholar

2018 ^{1,2}Samuel Spencer (University of South Florida) Co-advised NSF REU Scholar
 2015-2016 Samantha Glazer (University of South Florida)
 2014-2016 Anil Bhairo (University of South Florida)
 2014-2016 Gabriella Goldring (University of South Florida)
 2014-2016 Amber Styf Dvorak (University of South Florida)
 2014-2016 ¹Kristi Medina (University of South Florida) Honors Thesis Mentee
 2014-2015 ¹Nadia Trejo (University of South Florida)

High School Student Mentee

2016-2019 Diana Medina (Chamberlain High School, Tampa, FL). I mentored Diana as part of the Hillsborough Education Foundations' Take Stock in Children scholarship program. This is a need-based college scholarship and high school mentoring program. We met weekly to discuss schoolwork, life, and her future. In addition to tutoring and helping her plan for college, we would often discuss the unique challenges she faces and the difficulty of navigating those challenges while maintaining her schoolwork.

SCIENTIFIC & SOCIETY SERVICE

I. REVIEWING ACTIVITIES (# of manuscripts)

I have reviewed 26 manuscripts for: Ecology (3), Scientific Reports (3), Oikos (3), Nature Communications (2), Ecology Letters (2), Proceedings of the Royal Society B (2), Ichthyology and Herpetology (formally Copeia; 2), Trends in Ecology and Evolution (1), Journal of Animal Ecology (1), Environmental Science & Technology (1), Journal of Thermal Biology (1), Conservation Physiology (1), Journal of Wildlife Diseases (1), Ecological Processes (1), Diversity (1), Microbes and Infection (1)

II. PROFESSIONAL MEMBERSHIP

Ecological Society of America, Society for Integrative and Comparative Biology, Sigma Xi

III. UNIVERSITY SERVICE

2021-present Founder & Coordinator – Bird Safe UArk Initiative. I developed a bird window strike monitoring citizen science program at the University of Arkansas. I am actively working with university administration on targeted mitigation based on the data I have collected to reduce window strikes on campus.
 2021-2022 Co-Coordinator – Having it all: A STEM work-life workshop. I am part of a team of four researchers organizing semesterly workshops at the University of Arkansas that provide insight and guidance on navigating obstacles known to limit the advancement of underrepresented groups in STEM.
 2017-2018 Title IX Committee Member - University of South Florida
 2017-2018 Graduate Council Ex-officio Member - University of South Florida.
 2017-2018 President – USF Graduate Assistants United, United Faculty of Florida.
 2017 Panelist representing graduate student researchers at the University of South Florida. “Attacks on science: where do we go from here?” I spoke to high-level university administrators, faculty, graduate students, research staff, and the media about how USF can improve science communication. Other panel members included the Senior VP for Research and the Assoc. Dean for Research. This event was covered by the [Tampa Bay Times](#) and I was interviewed live by a local radio station [88.5 WMNF](#) prior to the panel.
 2016-2017 Treasurer – USF Graduate Assistants United, United Faculty of Florida.
 2015-2018 United Faculty of Florida Senator & Diversity and Leadership Committee member
 2014-2016 Vice President, Biology Graduate Student Organization, University of South Florida
 2013-2014 Social Event Chair, Biology Graduate Student Organization, University of South Florida
 2011-2013 Co-founder – Biology Club, University of South Florida

IV. SCIENCE COMMUNICATION & COMMUNITY SERVICE

- 2023 Interviews for [The Atlantic](#), the Hoosier Herpetological Society, and live on air with [Wisconsin Public Radio](#) (WNPR) about using your backyard for urban amphibian conservation.
- 2019-2021 Founder & coordinator - Feminist Bird Club – Madison, WI Chapter. I founded the Feminist Bird Club chapter in Madison, Wisconsin. Our club is a bird watching group dedicated to promoting diversity in birding and providing a safe opportunity to connect with the natural world while fundraising to protect the rights of LGBTQIA+ people, women, and people of color.
- 2018 Laboratory tour guide, University of South Florida STEM Academy
- 2017 Field Guide, BioBlitz event at Leaning Gate Community School
- 2016 Section Captain/Judge - Animal Science, Hillsborough Regional STEM Fair
- 2016 Field guide for GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) fieldtrip, full day of hiking and learning with middle schools students from two Hillsborough County Public Schools.
- 2015 Section Captain/Judge – Environmental Science, Hillsborough Regional STEM Fair
- 2014-2018 Volunteer, Sweetwater Organic Community Farm. I volunteered at an environmental education focused non-profit urban organic farm located in a neighborhood of Tampa, FL that would otherwise be classified as a food desert.
- 2014 Science educator, Jane Goodall's Roots and Shoots event in Tampa, FL