

J. Alex Baecher
Curriculum Vitae

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APPOINTMENTS

Assistant Professor of Applied Ecology <i>Emory University</i> Department of Environmental Science	Aug 2026 – Present
Postdoctoral Fellow in Quantitative Ecology <i>Utah State University</i> Department of Rangeland Resources	July 2025 – July 2026
Postdoctoral Research Associate <i>University of Florida</i> Institute for Food and Agricultural Science	Aug 2024 – July 2025
Doctoral Preeminence Fellow <i>University of Florida</i> Department of Wildlife Ecology	Aug 2019 – Aug 2024
Conservation and Research Technician <i>Memphis Zoo</i> Department of Conservation and Research	Jan 2018 – July 2019
NSF REU Research Coordinator <i>Eastern Kentucky University</i> Department of Biology	May 2017 – Aug 2017
Graduate Teaching Assistant <i>Eastern Kentucky University</i> Department of Biology	May 2015 – Aug 2017
Research Assistant <i>University of Arkansas</i> Department of Biology	Mar 2012 – Mar 2015

EDUCATION

Doctor of Philosophy, Interdisciplinary Ecology <i>University of Florida</i>	Aug 2024
Master of Science, Biology <i>Eastern Kentucky University</i>	Dec 2017
Bachelor of Science, Biology <i>University of Arkansas</i>	May 2014

PUBLICATIONS

Reverse chronological • §Mentee co-author • Citations: 438 • h-index: 8

Published

2026

17. §Akshay, VA, **JA Baecher**, N Burkett-Cadena, J Thorson, §Y Sánchez, §Y Tavares, §A Bauer, RP Guralnick, LP Campbell. **2026**. *Linking hosts, landscapes, and climate to advance zoonotic arbovirus forecasting*. *Scientific Reports* [html](#) [code](#) [preprint](#)
16. Oliveira, BF, et al. [+21 co-authors including **JA Baecher**]. **2026**. *Species range shifts often speed ahead of their climatic niches*. *Proceedings of the National Academy of Sciences* [html](#) [preprint](#) [code](#)
Press: [Nature EcoEvo](#), [Conservation Science Partners](#)

2025

15. **Baecher, JA**, §VA Akshay, RP Guralnick, §AM Bauer, §Y Tavares, §Y Sánchez, LP Campbell. **2025**. *Toward ecological forecasting of West Nile virus in Florida: Insights from two decades of sentinel chicken monitoring*. *Science of the Total Environment* 1000:180308 [html](#) [pdf](#) [code](#)
Press: [Florida Museum of Natural History](#), [The Microbiologist](#)

2024

14. Evans, LJ, **JA Baecher**, BR Scheffers. **2024**. *Invasion risk posed by the pet trade*. *Frontiers in Ecology and the Environment* [html](#) [pdf](#) [data](#)
13. **Baecher, JA**. **2024**. *The environmental filtering paradigm and non-filtering community assembly processes*. *Journal of Biogeography* 51(11):2109–2116 [html](#) [pdf](#)
12. Klinges, DH, **JA Baecher**, JJ Lembrechts, IMD Maclean, J Lenoir, C Greiser, M Ashcroft, LJ Evans, MR Kearney, J Aalto, LC Barrio, P De Frenne, J Guillemot, K Hylander, T Jucker, M Kopecky, M Luoto, M Macek, I Nijs, J Urban, L van den Brink, P Vangansbeke, J Von Oppen, J Wild, J Boike, R Canessa, M Noretto, A Rubtsov, J Sallo-Bravo, BR Scheffers. **2024**. *Proximal microclimate: moving beyond spatiotemporal scale to improve predicted biological responses*. *Global Ecology and Biogeography* 33(7):e1–16 [html](#) [pdf](#) [code](#)
Award: [Wiley's Top 10 Most Cited](#)
11. Lawlor, JA, L Comte, G Grenouillet, J Lenoir, **JA Baecher**, [...], J Sunday. **2024**. *Mechanisms, detections, and impacts of species redistributions under climate change*. *Nature Reviews Earth & Environment* 5:351–368 [html](#) [pdf](#)
5-yr Impact Factor = 71.5, Top 5% Altmetric score
Press: [list of articles](#)
10. Comte, L, R Bertrand, SE Diamond, LT Lancaster, ML Pinsky, BR Scheffers, **JA Baecher**, RMWJ Bandara, I-C Chen, JA Lawlor, NA Moore, BR Oliveira, J Murienne, J Rolland, MA Rubenstein, J Sunday, LM Thompson, F Villalobos, SR Weiskopf, J Lenoir. **2024**. *Bringing traits back in the equation: A roadmap to understand species redistribution*. *Global Change Biology* 30:e17271 [html](#) [pdf](#)

2023

9. **Baecher, JA**, SA Johnson, EA Roznik, BR Scheffers. **2023**. *Experimental evaluation of how invasions and climate change interact to alter the vertical assembly of an amphibian community.* **Journal of Animal Ecology** 92(4):875–888 [html](#) [pdf](#) [code](#)
Press: [Nature Climate Change](#), [Florida Today](#), [Nature Climate Change](#)

2022

8. Basham, EW, **JA Baecher**, DH Klinges, BR Scheffers. **2022**. *Vertical stratification patterns of tropical forest vertebrates: A meta-analysis.* **Biological Reviews** 98(1):99–114 [html](#) [pdf](#) [code](#)
7. Basham, EW, M González-Pinzón, A Romero-Marcucci, N Carl, **JA Baecher**, BR Scheffers. **2022**. *Large, old trees define the vertical, horizontal, and seasonal distributions of a poison frog.* **Oecologia** 199:257–269 [html](#) [pdf](#) [code](#)

2020

6. Swartwout, M, PN Vogrinc, **JA Baecher**, CS Kross, JD Willson. **2020**. *Prey Size and Growth Rate do not Influence Trophic Morphology of Juvenile Water Snakes Nerodia sipedon.* **Herpetologica** 76(1):53–60 [htmlpdf](#)
5. **Baecher, JA**, §E Jones, SC Richter. **2020**. *Tail bifurcation in two species of Desmognathus salamander (Caudata: Plethodontidae) in southeastern Kentucky, USA.* **Herpetological Bulletin** 150:29–30 [html](#) [pdf](#)

2019

4. Hinkson, KM, **JA Baecher**, S Poo. **2019**. *Cryopreservation and hormonal induction of spermic urine in the smooth-sided toad Rhaebo guttatus.* **Cryobiology** 89:109–111 [html](#) [pdf](#)
Press: [The Commercial Appeal](#), [USA Today](#)

2018

3. **Baecher, JA**, SC Richter. **2018**. *Environmental gradients in an old-growth Appalachian Forest predict fine-scale distribution, co-occurrence, and abundance of woodland salamanders.* **Ecology and Evolution** 8(24):12940–12952 [html](#) [pdf](#) [code](#)

2017

2. **Baecher, JA**, PH Vogrinc, JC Guzy, CS Kross, JD Willson. **2017**. *Herpetofaunal Communities in Restored and Unrestored Remnant Tallgrass Prairie and Associated Wetlands in Northwest Arkansas.* **Wetlands** 38:157–168 [html](#) [pdf](#)

2014

1. **Baecher, JA**, PH Vogrinc, JC Guzy, JC Neal, JD Willson. **2014**. *Lithobates areolatus, Predation.* **Herpetological Review** 45(4):681–682 [pdf](#)

Forthcoming

6. **Baecher, JA**, D Klinges, LJ Evans, CA Romagosa, R Fletcher, BR Scheffers. *In revision*. *Isolating what limits the spread of an invasive predator*. **Journal of Applied Ecology** [code preprint](#)
5. Thompson, LM, et al. [+21 co-authors including **JA Baecher**]. *In review*. *The RAD (Resist-Accept-Direct) management of species redistribution under climate change*. **Frontiers in Ecology and the Environment**
4. Klinges, DH, **JA Baecher**, L Soifer, BR Scheffers. *In review*. *Land modification defines climate change as experienced by life on earth*. **Science**
3. Pittman, C, et al., [+12 co-authors including **JA Baecher**]. *Submitted*. *Connecting living and preserved collections: Standardizing and integrating biological data to cultivate information sharing*. **Biodiversity Informatics**
2. **Baecher, JA**, D Klinges, LJ Evans, BR Scheffers. *In prep*. *Informing species range-shifts with global climate and habitat connectivity*. Prepared for **One Earth**
1. **Baecher, JA**, E Stuber, TJ Clark-Wolf. *In prep*. *Mapping range shifts with a novel integrated spatiotemporal N-mixture Bayesian model*. **Methods in Ecology and Evolution**

SELECT PRESENTATIONS

Reverse chronological • †Student mentee presenter • Total presentations: 41 ([see all](#))

12. **Baecher, JA**. 2026. *Ecology of rapid change: From behavior to movements to range dynamics*. **Emory University**, Atlanta, GA [slides](#) [video](#)
11. **Baecher, JA**. 2026. *Spatial structures for ecological models: A tutorial for point-referenced data*. **Utah State University** (hybrid) [slides](#) [online resource](#)
10. **Baecher, JA**. 2025. *Shifting Frontiers: Understanding species abundance range-shifts for informed conservation strategies*. **Pacific Flyway Partners** (hybrid) [slides](#)
9. **Baecher, JA**. 2024. *Influence of Global Change on Species' Behavior, Movement, and Ranges*. **SNRE Seminar Series**, Gainesville, FL [flyer](#)
8. **Baecher, JA**, L Evans, BR Scheffers. 2024. *Toward knowledge co-production in invasion modeling: Developing novel interactive expert-elicitation software*. **Invasive Species Research Institute Conference**, Gainesville, FL [slides](#)
7. **Baecher, JA**, D Klinges, L Evans, BR Scheffers. 2023. *Informing Species Range-shifts with Global Connectivity*. **Species On The Move**, Ft Myers, FL [slides](#)
6. **Baecher, JA**, L Evans, BR Scheffers. 2022. *Predicting the spread of invasive Burmese pythons in Florida*. **SERISCC Network Webinar** (virtual) [slides](#) [video](#)

5. **Baecher, JA**, SB Reichling. **2018**. *Current status of the Louisiana Pinesnake captive breeding program at the Memphis Zoo. **USFWS Working Group Meeting**, Shreveport, LA*
4. **Baecher, JA**, SC Richter. **2018**. *Natural gradients influence the fine-scale distribution and abundance of salamanders in an old growth Appalachian forest. **Joint Meeting of Ichthyology and Herpetology**, Rochester, NY*
3. **Baecher, JA**, P Vongrinc, JD Willson. **2016**. *Herpetofauna of degraded and restored remnant Tallgrass Prairie. **Joint Meeting of Ichthyology and Herpetology**, New Orleans, LA*
2. **Baecher, JA**, DR Leasure, D Lynch, DD Magoulick. **2013**. *Impact of anthropogenic land use and hydrologic disturbance on crayfish assemblages. **Joint Meeting of Aquatic Sciences**. Portland, OR*
1. **Baecher, JA**, J Ortega, SJ Beaupré. **2013**. *Use of stable isotope analysis for determining the diet breadth of the Western Cottonmouth (Agkistrodon Piscivorous). **Society for Freshwater Science Annual Meeting**, Jacksonville, FL*

TEACHING

Instructor of Record

University of Florida | School of Natural Resources and Environment
Environmental Science Lab

Fall 2022 & 2023

Teaching Assistant

Eastern Kentucky University | Department of Biology
Human Anatomy Lab

Spring & Fall 2015 – 2017

Guest Lectures

Utah State University | Department of Wildland Resources
Landscape Ecology

Fall 2025

University of Florida | School of Natural Resources and Environment
Community Science for Ecologists

Spring 2025

University of Florida | School of Natural Resources and Environment
Ecology of Climate Change

Spring 2023

University of Florida | School of Natural Resources and Environment
Wildlife of Florida

Spring 2022

Eastern Kentucky University | Department of Biology
Applied Learning in Biology

Spring 2016

Radford University | Department of Biology
Appalachian Herpetology

Spring 2016

STUDENT MENTORSHIP

Grad student (MS, PhD) • Φ author • Ψ conference • Ω committee • \rightarrow career prep

Eastern Kentucky University

2015 – 2017

Alex Gibson, Emily Jones (Φ , Ψ , \rightarrow MS), Sarah Ashbrook (Ψ), Peyton Blair (Ψ), [Peter Grap](#) (Ψ , \rightarrow MS, \rightarrow PhD), Kelley Hoefler (Ψ), Myesha James (Ψ), [Jacob Peters](#) (Ψ , \rightarrow MS, \rightarrow PhD), [Julia Portmann](#) (Ψ , \rightarrow MS, \rightarrow PhD), [Jocelyn Stalker](#) (Φ , Ψ , \rightarrow MS, \rightarrow PhD)

Rhodes College

2018 - 2019

([Madeline Estes](#), Ψ , Ω , \rightarrow MS)

University of Florida

2019 – 2025

Brittany Arthur, Noah Bowen, Sierra Scauzillo (Ψ , Ω), [V Anand Akshay](#) (Φ , Ψ , PhD), [Amy Bauer](#) (Φ , Ψ , PhD), [Yasmin Tavares](#) (MS, Φ , Ψ , \rightarrow PhD), [Yesenia Sanchez](#) (Φ , Ψ)

Utah State University

2025 – Present

Jack Rasmussen (PhD), [Mallory Sandoval-Lambert](#) (MS), [Adrien Bastidas](#) (PhD)









WORKSHOPS

Reverse chronological

1. Fletcher, RJ, [JA Baecher](#), M Lezzi, A Marx. **2023**. *Application of connectivity modeling to identify and predict movement and range redistribution. **Species on the Move**, Bonita Springs, FL [slides](#)*
2. [Baecher, JA](#), L Evans, BR Scheffers. **2022**. *Expert elicitation of key invasive species habitat requirements, prevalence, and life history attributes. **Austin Cary Forest**, Gainesville, FL [slides](#)*
3. Fletcher, RJ, [JA Baecher](#), M Lezzi, A Marx. **2022**. *Predicting the spread of invasive Burmese pythons in Florida. **Annual Meeting of the International Association of Landscape Ecologists - North America** (virtual) [video](#)*

EDUCATIONAL RESOURCES

Publically available at [Questlab website](#)

<i>Mixed Effects Models in R</i> 	2025
Open source and continuously updated <i>Rshiny</i> tool	
<i>Spatial Structures in Ecological Models</i> Tutorial 	2025
Comprehensive tutorial for spatially-explicit modeling with descriptions	
<i>Intro to R Coding:</i>	
Part 1: the basics (e.g., syntax, operators, functions) 	2022
Part 2: advanced techniques (e.g., data wrangling, visualization, for loops) 	2022
<i>Machine learning the “Tidy” way</i> 	2021
Tutorial for developing AI/ML models with <i>tidymodels</i> and <i>carot</i>	
<i>Linear regression with gradient decent</i> 	2021
Tutorial for developing custom linear models with maximum likelihood and gradient descent	
<i>Mapping ecological flow in R</i> 	2020
Tutorial for connectivity modeling with randomized shortest paths, least cost, and circuit theory	
<i>Empirical Dynamic Models for forecasting</i> 	2016
Tutorial for forecasting non-linear timeseries data	

FUNDING

Reverse chronological

Amount	Organization	Fund Name	Year
\$680,000	Emory University	Lab Start-up Fund	2026
\$130,000	US Geological Survey	Climate Adaptation Postdoctoral Fellows	2025
\$195,000	University of Florida	Doctoral Preeminence Fellowship Award	2019
\$4,000	University of Florida	Robin Nadeau Graduate Research Award	2019
\$5,000	National Science Foundation	Research Experience for Undergraduates	2013
\$5,000	National Science Foundation	Research Experience for Undergraduates	2012
\$1,100	Eastern Kentucky University	Marcia Athey Research Grant	2016
\$800	Eastern Kentucky University	Dept. Biology Travel Grant	2017
\$700	Society Freshwater Science	Instars Fellowship	2014
\$700	Society Freshwater Science	Instars Fellowship	2013
\$500	Soc. Study Amphibians & Reptiles	Grant-in-Aid of Herpetological Research	2016
\$500	Eastern Kentucky University	Dep. Biological Sciences Travel Stipend	2016
\$500	Eastern Kentucky University	Div. Natural Areas Research Grant	2016
\$500	University of Arkansas	Dept. Biology Travel Grant	2013

Total Funding: \$1,024,000 -

PROFESSIONAL ACTIVITIES

Peer Review (Total Requested: **38** | Total Reviewed: **25**)

Biological Conservation, Conservation Science and Practice, Ecography, Ecology, Ecology & Evolution, Frontiers in Ecology and Environment, Herpetological Bulletin, Herpetological Conservation Biology, Herpetological Review, Hydrobiologia, Natural Areas Journal, Nature Ecology & Evolution, Oecologia, Scientific Reports, Wildlife Society Bulletin

Professional Membership

<i>Ecological Society of America</i>	2019 – Present
<i>International Association of Landscape Ecologists – North America</i>	2020 – Present
<i>USGS Climate Adaptation Science Center</i>	
Doctoral Research Fellow Southeastern CASC	2019 – 2024
Postdoctoral Research Fellow Southwestern CASC	2025 – 2026
<i>American Society of Ichthyologists and Herpetologists</i>	2014 – 2021
<i>Southeastern Partners in Amphibian and Reptile Conservation</i>	2014 – 2021
<i>Society for the Study of Amphibians and Reptiles</i>	2014 - 2021
<i>Society of Freshwater Ecology</i>	2012 – 2014
Instars Fellow (2012 & 2013)	

Working Groups

<i>BioShifts</i> (Member, Group Leader)	2022 – Present
<i>DirtClim</i> (Core team)	2019 – Present
<i>National Synthesis for Ecological Analysis and Synthesis</i> (Member)	2025 – Present
<i>ResearchR</i> (President of Scientific Integrity)	2025 – Present
<i>ZooMu Network</i> (Member)	2024 – Present
<i>USGS CAP Fellows National Synthesis Effort</i> (Postdoctoral Fellow)	2025 – Present
<i>Southeast RISCC</i> (Member)	2022 – Present

NON-FUNDED PROPOSALS

Proposals available upon request

Amount	Organization	Decision	Year
\$235,000	NSF: Postdoctoral Research Fellowship – Biology	Meritorious	2024
\$235,000	NSF: Postdoctoral Research Fellowship – Biology	Highly Meritorious	2023
\$25,000	The Wilderness Society: Gloria Barron Fellowship	Declined	2021
\$3,500	American Museum Natural History: Roosevelt Memorial Grant	Declined	2020
\$4,000	Foundation for the Conservation of Salamanders	Declined	2020
\$60,000	Disney Conservation Grant	Inquiry declined	2019
\$10,000	National Park Service: Tanner Memorial Fellowship	Inquiry declined	2019

Total Non-funded: \$572,500

REFERENCES

Since PhD (2019 - Present)

Robert Guralnick, PhD 2019 – Present
Curator of Biodiversity Informatics | *Florida Natural History Museum*
☎: (352) 273-1980 • ✉: robgur@gmail.com • [Guralnick lab](#)

Brett Scheffers, PhD 2019 – Present
Associate Professor | *Dept of Wildlife Ecology, University of Florida*
Director | *Florida Climate Institute, University of Florida*
☎: (352) 846-0570 • ✉: brett.scheffers@ufl.edu • 🌐: [Scheffers lab](#)

Lindsay Campbell, PhD 2024 – Present
Assistant Professor | *Florida Medical Entomology Lab, University of Florida*
☎: (772) 226-6666 • ✉: lcampbell2@ufl.edu • 🌐: [Campbell lab](#)

TJ Clark-Wolf, PhD 2025 – Present
Assistant Professor | *Dept of Wildland Resources & Ecology Center, Utah State University*
✂: email preferred • ✉: t.j.clark-wolf@usu.edu • 🌐: [Clark-Wolf lab](#)

Erica Stuber, PhD 2025 – Present
Assistant Unit Leader | *USGS UT Cooperative Fish and Wildlife Research Unit*
Assistant Professor | *Dept of Wildland Resources & Ecology Center*
✂: email preferred • ✉: erica.stuber@usu.edu • 🌐: [Stuber lab](#)