

PROFESSIONAL APPOINTMENTS

2023 – Present	Assistant Professor Department of Biology and Biochemistry University of Houston
2021 – 2023	Postdoctoral Scholar Utah State University Advisor: Dr. Molly Womack
2019-2021	Postdoctoral Scholar Northeastern University Marine Science Center Advisors: Dr. Katie Lotterhos, Dr. Geoff Trussell
2018-2019	Postdoctoral Scholar East Carolina University Advisor: Dr. Michael McCoy

EDUCATION

2013-2018	Ph.D. East Carolina University Interdisciplinary Doctoral Program in Biological Sciences Dissertation Director: Dr. Michael W. McCoy
2009-2011	M.S. East Carolina University Department of Biology Thesis Director: Dr. Heather Vance-Chalcraft
2003-2007	B.S. University of Mary Washington Department of Biology, Department of American Studies

PEER-REVIEWED PUBLICATIONS

† Undergraduate mentee

14. **Albecker M.A.**, and McCoy M.W. 2023. Responses to saltwater exposure vary across species, populations, and life-stages in anuran amphibians. <https://doi.org/10.1093/conphys/coad062> *Conservation Physiology*.
13. **Albecker, M.A.**, Strobel, S.M.K., and Womack, M.C. 2023. Developmental plasticity in anurans: Meta-analysis reveals effects of larval environments on metamorphosis timing and body size. DOI:10.1093/icb/icad059. *Integrative and Comparative Biology*.
12. McCoy MW, Hamman, E., **Albecker, M.A.**, Wodjak, J. Vonesh, JR, Bolker, BM. 2022. Incorporating nonlinearity with generalized functional responses to simulate multiple predator effects. *PeerJ*. DOI. 10.7717/peerj.13920.

11. **Albecker, M.A.**, Trussell, G.C., Lotterhos, K.E. 2022. A novel quantitative approach for co-gradient variation and countergradient variation. *Ecology Letters*. DOI. 10.1111/ele.14020
10. Lotterhos, K.E., **Albecker, M.A.**, Trussell, G.C. 2021. Evolution in Changing Seas. *Proceedings of the Royal Academy of Science, Biology*.
Editorial for Special Issue on *Evolution in Changing Seas*.
<https://doi.org/10.1098/rspb.2021.2443>.
9. **Albecker, M.A.*** Wilkins, L.*, Krueger-Hadfield, S.A., Bashevkin, S., Sewell, M.A., Hare, M., Hahn, M., Lotterhos, K.E., Kindsvater, H., & Reitzel, A. 2021. Does a complex life cycle promote or constrain adaptation to environmental change? Genome-informed approaches and insights for characterizing selection across stages of a life cycle. *Proceedings of the Royal Academy of Science, Biology*.
Special Issue on *Evolution in Changing Seas*. 288: 20212122.
<https://doi.org/10.1098/rspb.2021.2122> *Co-first authors
8. **Albecker, M.A.**, Stuckert, A.M.M., Balakrishnan, C.N., McCoy, M.W. 2021. Functional genomics of local adaptation to saltwater environments in an amphibian. *Molecular Ecology*. <https://onlinelibrary.wiley.com/doi/abs/10.1111/mec.15867>
7. **Albecker, M.A.**, † M. Pahl, † M. Smith, † J.G. Wilson, M.W. McCoy. 2020. Influence of density and salinity larval development of salt-adapted and salt-naïve frog populations. *Ecology and Evolution*. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/ece3.6069>
6. Walker, D.M., Hill, A.J., **Albecker, M.A.**, McCoy, M.W., Grisnik, M., Romer, A., Grajal-Puche, A., Camp, C., Kelchear, C., Wooten, J., Rheubert, J., Graham, S.P., 2019. Variation in the slimy salamander (*Plethodon* spp.) skin and gut microbial assemblages is explained by geographic distance and host affinity. *Microbial Ecology*. 1-13. <https://doi.org/10.1007/s00248-019-01456-x>
5. **Albecker, M.A.** and McCoy, M.W. 2019. Local adaptation for enhanced salt tolerance reduces non-adaptive plasticity caused by osmotic stress. *Evolution*. doi:10.1111/evo.13798
4. **Albecker, M.A.**, Belden, L.K., and McCoy, M.W. 2018. Comparative analysis of anuran skin microbiome in freshwater and saltwater invaded wetlands. *Microbial Ecology*, 78 (2), 348-360.
3. **Albecker, M.A.**, † Brantley Jr., W.B., and M.W. McCoy. 2018. Habitat salinity alters dietary content and nematode infection in the American Green Treefrog, *Hyla cinerea*. *Southeastern Naturalist*, 17(1), 155-165.

2. **Albecker, M.A.** and McCoy, M.W. 2017. Adaptive responses to salinity stress across multiple life stages in anuran amphibians.
Frontiers in Zoology. 14 (1), 40. <https://doi.org/10.1186/s12983-017-0222-0>
1. **Albecker, M.A.** and Vance-Chalcraft, H.D. 2015. Mismatched anti-predator behavioral responses in predator-naïve larval anurans.
PeerJ. 3:e1472; DOI 10.7717/peerj.1472

GRANTS AND AWARDS

2023	NSF: Collaborative Research: Organismal Responses to Climate Change Saltwater Rising: Understanding how sea level rise affects coastal amphibians.	\$375,842.00
2019	Darwin Fellowship, University of Massachusetts Amherst (<i>Declined</i>)	
2019	Recipient of ECU Life Sciences Doctoral Dissertation Award	
2017	NSF Doctoral Dissertation Improvement Grant	\$19,175.00
2017	Ecology Society of America Aquatic Section Travel Award	\$200.00
2016	Pitt County Wildlife Club Scholarship	\$1,500.00
2016	Graduate Women in Science Student Fellowship	\$6,321.00
2016	Garden Club of America Scholarship	\$5,000.00
2015	ECU Undergraduate Research and Creativity Award to Sarah Gill	\$1,000.00
2014	Coastal Maritime Council Research Grant	\$1,000.00
2013	North Carolina Sea Grant	\$76,415.00
2013	Explorer's Club Grant	\$2,500.00
2013	North Carolina Herpetological Society Grant	\$780.00
2011	Martha N. Jones Scholarship	\$500.00

INVITED TALKS

2024	Sam Houston University, Dept. of Biology, Huntsville TX
2023	Rice University, Ecology and Evolution, Houston TX
2023	North American Comparative Endocrinology Meeting Saltwater Tolerance in Amphibians Symposium
2022	University of Houston Department of Biology, Ecology and Evolution, Houston TX
2022	University of North Florida Department of Biology, Jacksonville FL
2021	Utah State University Department of Biology seminar series, Logan UT
2021	Northeastern University Marine Science Center seminar series, Boston MA
2019	Ecology and Evolution Seminar: University of Massachusetts, Amherst
2018	EEBio Seminar: University of Virginia, Charlottesville, VA

TEACHING

Instructor of Record

2024	U. Houston – OneHealth and the Exposome (Biology 4397/6397)
2023/2024	U. Houston – Evolution (Biology 3306)
2017-2018	ECU - Principles of Biology I (2 semesters)
2015	ECU - Principles of Ecology (1 semester)

Workshop Instructor

2020	NU - Generalized Linear Mixed Effects Modeling Workshop (Virtual)
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MENTORING AND OUTREACH

2024	TeachHOUSTON (Research experience mentor)
2024	Stem Research Inquiry Summer Enrichment Program (Stem RISE – mentor)
2021	Native American Summer Mentorship Program at USU (mentor)
2019-2021	Thesis committee member for master's student at ECU
2019	Northeastern University BEACHES program (mentor) “Bridging Each Applicant’s Chance for Higher Education Success”
2017	Ecological Society of America SEEDS program (mentor)
2014-2016	Invite-A-Scientist • Bayboro Middle School
2013-2017	SciRen Teaching Network contributor/presenter

Undergraduate/High School Mentorship

2024	Jessica Nguyen – University of Houston * Awarded PhiKappaPhi study abroad grant and GalapaGo! Scholarship
	Judy Koussayer – University of Houston * Awarded Provost’s Undergraduate Research Scholarship
	Dani Delgado – University of Houston * Awarded Katharine Cominsky Scholarship
	Anna Oliva – Carnegie Vangaurd High School AP Biology Capstone Project Faculty advisor
2021	Alia Donley, Austin John – Utah State University
2020-2021	Dylan F. Titmus – Northeastern University Honors Thesis: Inter- and intra-specific variation in survival of <i>Littorina spp.</i> marine snails after exposure to hot and cold extremes
2015-2016	Sarah Gill – East Carolina University Honors Thesis: Osmoregulatory Adaptations of <i>Hyla cinerea</i> in coastal wetlands * <i>Undergraduate Research and Creative Activity Award: \$1,000.00</i>
2016-2018	Ben Brantley – East Carolina University Honors Thesis: Diet and nematode infection differ between coastal and inland populations of green tree frogs (<i>Hyla cinerea</i>)

* *Published in Southeastern Naturalist*

- 2017-2018** **Matt Pahl, Melanie Smith, Jefferson Gray Wilson** – East Carolina University
Performed laboratory work for “Influence of density and salinity larval development of salt-adapted and salt-naïve frog populations”
* *Co-authors on manuscript published in Ecology and Evolution*
- 2015-2016** **Anisah Nwokolo, Hannah Bergman** – East Carolina University
- 2013-2015** **Tara McFarland, Christopher Thaxton** – East Carolina University

SERVICE

Peer Reviewer: *Global Change Biology, Functional Ecology, Aquatic Ecology, Ecology and Evolution, Biotropica, Oecologia, Behavioral Ecology, Ecological Entomology, Scientific Reports, J. of Herpetology, Evol. Applications, Int. and Comp. Biology, Microbial Ecology*

- 2024** World Congress of Herpetology – Symposium Co-organizer
Symposium on Integrative biology of amphibian salt tolerance
- 2024** NSF Panel- reviewer
- 2022** Panelist for Research Coordination Network Workshop on Meta-analysis
- 2021** Co-Editor for *Proc. Royal Soc. Biol.* Special Issue on *Evolution in Changing Seas*
- 2020-2021** Coordinator of Research Coordinated Network for Evolution in Changing Seas (RCN-ECS) readings discussion series
- 2019-2021** Diversity and inclusion committee member for RCN-ECS
- 2016-2018** Panel Member: Graduate student funding workshop
- 2016-2017** Graduate Student Rep., Rho Tau Chapter of Graduate Women in Science
- 2016** Founding member of Rho Tau Chapter of Graduate Women in Science
- 2016** Research in Progress seminar Series: Graduate Student Funding Panelist at ECU
- 2015** Vice President of Biology Graduate Student Association
- 2014** Treasurer of Biology Graduate Student Association

SELECTED PRESENTATIONS

- 2024** Hopkins, GR, Albecker MA, Lorrain-Soligon L. World Congress of Herpetology
- 2023** Albecker MA, Trussell GC, Lotterhos KE. American Society of Naturalists Meeting.
- 2023** Albecker MA, Womack, MW. North American Comparative Endocrinology Meeting
- 2022** Albecker, MA, Wilkins, L, Krueger-Hadfield, SA, Bashevkin, S, Sewell, M.A., Hare, M., Hahn, M., Lotterhos, K.E., Kindsvater, H., & Reitzel, A.
Research Coordination Network for Evolution in Changing Seas Workshop
- 2021** Albecker, MA, Trussell, GC, Lotterhos, KE.
Virtual Evolution: Society for Study of Evolution Annual Meeting
- 2021** Albecker, MA, Lotterhos, KE, Trussell, GC.
Virtual Asilomar: American Society of Naturalists Meeting
- 2018** Albecker, MA, McCoy, MW.
Ecological Society of American annual conference: New Orleans, Louisiana

- 2018** Albecker, MA, Peniston, J, Barfield, M, Holt, RD, McCoy, MW.
American Naturalist Annual Meeting: Asilomar, California
- 2017** Albecker, MA, McCoy, MW.
Research in Progress Seminar: East Carolina University
- 2017** Albecker, MA, Peniston, J, Barfield, M, Holt, RD, McCoy, MW.
Ecological Society of America annual conference: Portland, Oregon
- 2017** Albecker, MA, Beldon LK, McCoy, MW.
Research and Creative Week: East Carolina University
** Winner – Best Presentation for Doctoral Oral Natural Sciences*
- 2016** Albecker, MA, McCoy, MW.
Three-minute Thesis competition: East Carolina University.
**Finalist*
- 2016** Albecker, MA, McCoy, MW. Lightning talk.
American Naturalist Annual Meeting: Asilomar, California
- 2016** Albecker, MA, Beldon LK, McCoy, MW.
Ecological Society of America annual conference: Fort Lauderdale, Florida
- 2015** Albecker, MA, McCoy, MW.
Ecological Society of America annual conference: Baltimore, Maryland

POSTER PRESENTATIONS

- 2017** Graduate Education Day – North Carolina Legislative Building
- 2014** Climate Change Symposium hosted by NC State and NOAA
- 2014** NC Sea Grant Poster Reception
- 2014** NC Sea Grant Funded Research Symposium

PROFESSIONAL MEMBERSHIPS

- 2016-Present** Society of Integrative and Comparative Biology
- 2017-Present** Society for Study of Evolution
- 2017-Present** American Society of Naturalists
- 2017-2019** Ecological Society of America
- 2016-2018** Graduate Women in Science
- 2013-2017** The Coastal Society
- 2013-2017** North Carolina Herpetological Society
- 2013-2018** ECU Biology Graduate Student Association

MEDIA HIGHLIGHTS

- 2017** **Video Interview by WRAL (NC)**
Tree Frogs Adapt to Saltwater Intrusion
<https://www.wral.com/sea-change-/16961739/>
- 2017** **Blog Post for NC Sea Grant Website by Molly Albecker**
Indicators of Hope: Coastal green treefrogs develop salt tolerance
<https://ncseagrant.ncsu.edu/currents/2017/10/indicators-of-hope-coastal-green-treefrogs-develop-salt-tolerance/>
- 2016** **Virginian-Pilot Article by Jeff Hampton**
Amphibians don't like salt water... until now, and the little green treefrog in N.C.
https://www.pilotonline.com/news/environment/article_f01c993f-3ddc-5543-ae22-f00c86a97d29.html
- 2016** **CoastWatch Magazine article by Janna Sasser**
Leaping out of the lab: Green treefrogs show adaptation, offer inspiration.
<https://ncseagrant.ncsu.edu/coastwatch/previous-issues/2016-2/spring-2016/leaping-out-of-the-lab-green-tree-frogs-show-adaptation-offer-inspiration/>
- 2015** **Wildlife Society Article by Joshua Rapp Learn**
How frogs cope with road salt and brackish water
<https://wildlife.org/how-frogs-cope-with-road-salt-and-brackish-water/>
- 2015** **East Carolina News Article by Doug Boyd**
#Science: Graduate students share research on social media
<https://biology.ecu.edu/graduate-students-share-research-on-social-media/>