

# Sarah J. Wofford-Mares

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## ACADEMIC APPOINTMENTS

- 2022- Present Visiting Researcher, Department of Biology, University of West Florida
- 2021-2022 Visiting Assistant Professor, Department of Biology, University of West Florida
- 2021-Present Adjunct Professor of Biology, Department of Biology, Jacksonville State University
- 2018-2021 Assistant Professor of Biology, Department of Biology, Jacksonville State University

## EDUCATION

- 2013-2017 **Ph.D. in Biology, Mentor: Dr. Paul A. Moore**  
Bowling Green State University- Bowling Green, Ohio
- 2011-2013 **M.S. in Biology, Mentor: Dr. Paul A. Moore**  
Bowling Green State University- Bowling Green, Ohio
- 2007-2011 **B.S. in Marine Science and Biology**  
University of Alabama- Tuscaloosa, Alabama

## PUBLICATIONS

† denotes undergraduate author

### Peer-Reviewed Articles and Chapters

- Wofford, S.J.** and Tolley-Jordan, Lori R. (IN PREP) Inquiry based learning on a budget: Lessons from general organismal biology and general ecology laboratories.
- Wofford, S.J.** and Moore, P.A. (IN PREP). Lack of chemical information changes mixed sex fight dynamics in crayfish contests.
- Rocco, A.J. and **Wofford, S.J.** (2022). Comparative aggression between a native and invasive crayfish species in Alabama. *Journal of Crustacean Biology*.
- Wofford, S.J.**, LaPlante, P.M.†, and Moore, P.A. (2017) Information depends on context: Behavioral response to chemical signals depends on sex and size of crayfish contests. *Behaviour*. 154 (3): 287-312.
- Wofford, S.J.** and Moore, P.A. Shifting Dominance. (2016) In T.K. Shackelford and V.A. Weekes-Shackelford. (Eds.) *Encyclopedia of Evolutionary Psychological Science*.
- Jurcak, A.M., Lahman, S.E, **Wofford, S.J.**, and Moore, P.A. (2016) Behavior of freshwater crayfish. In M. Longshaw and P. Stebbing (Eds.) *The Ecology and Biology of Freshwater Crayfish*.
- Chibucos, K., **Wofford, S.J.** & Moore, P.A. (2015) Hierarchical decision making: resource distribution exhibits stronger effects on crayfish dominance relationships and shelter occupation than prior social experience and resource ownership. *Behaviour*, 152(7-8): 1063-1082.
- Wofford, S.J.**, Earley, R.L. & Moore, P.A. (2015) Evidence for assessment disappears in mixed-sex contests of the crayfish, *Orconectes virilis*. *Behaviour*, 152(5): 995-1018.

## TEACHING EXPERIENCE

### Instructor of Record, University of West Florida

2021-2022 Ecology Laboratory  
 Concepts in Oceanography and Marine Biology  
 Conservation Biology  
 Directed Studies  
 Biotic Response to Sea Level Change (\*taught at Dauphin Island Sea Lab, scheduled Summer 2022)

### Instructor of Record, Jacksonville State University

2018-Present Introductory Biology II  
 Introductory Biology II CURE: Alabamazon  
 Introductory Biology II Special Topic: Alabamazon  
 Honors Introductory Biology II Laboratory  
 Ecology and Ecology Laboratory  
 Advanced Topics: Intro to Coding with R  
 Ornithology and Ornithology Laboratory  
 Biotic Response to Sea Level Change (\*taught at Dauphin Island Sea Lab)  
 Directed Studies  
 Independent Studies  
 Lab Practicum II  
 Population and Community Ecology (Graduate Course)  
 Physiological Adaptations: Sensory Biology (Graduate Course)  
 Thesis Research (Graduate Course)  
 Laboratory Coordinator, Introductory Biology II Laboratory Course-Based Undergraduate Experience

### Instructor of Record, Bowling Green State University

Fall 2016 Scientific Writing I (Graduate Seminar)

### Graduate Teaching Assistant, Bowling Green State University

2011-2017 Ornithology Laboratory  
 Animal Behavior Laboratory  
 Concepts in Biology I Laboratory  
 Honors Concepts in Biology I Laboratory  
 Environment of Life Laboratory

## MENTORSHIP EXPERIENCE

### Graduate Students Advised – Jacksonville State University

2020-2022	Andrea Adams, M.S.	Thesis title: Do different populations of invasive apple snails have varied chemical landscapes and predator response behaviors?
2020-2021	Bethany Walker, M.S.	Thesis title: Can providing positive interactions with snakes change a person's perception of dangerous wildlife interactions?
2018-2020	Alex Rocco, M.S.	Thesis title: Interspecific interaction dynamics of crayfishes (Family: Cambaridae)
2018-2019	Micah Burns, M.S.	Thesis title: The effects of sleep-deprivation on social memory in an Invertebrate species, <i>Faxonius erichsonianus</i> .

## MENTORSHIP EXPERIENCE (cont.)

### Undergraduate Students Advised – Jacksonville State University

2018-2021	Allison Stanley	Role of odor in sexual selection in crayfish
2018-2021	Austin Reed	Impacts of aquatic noise pollution on crayfish aggression
2019-2020	Rebecca Blair	Predation threat impacts on crayfish contest behaviors
2018-2020	Andrea Adams	Non-consumptive effects on habitat selection in crayfish

### Undergraduate Students Advised – University of West Florida

2021-2022	Ian Barkhuizen	Role of parasite load on crayfish chemical signaling
2021-2022	Leah Strickler	Can <i>A. pallida</i> anemones establish dominance hierarchies?
2021-2022	Anna List	Impacts of artificial reefs and angler practices on sea turtle bycatch
2021-2022	Hunter Brown	Differential chemical communication by male crayfish
2021-2022	Conor Flannigan	Role of parasite load on crayfish aggression

## RESEARCH EXPERIENCE

### Principal Investigator, Behavioral and Sensory Ecology Laboratory

2018-Present Exploring the impacts of shifting environmental and social contexts on aggressive behavior. Past research topics in the lab have focused on ascertaining the influence of sleep deprivation on social recognition and hierarchy establishment and quantifying the impacts of an invasive species on behavioral and ecological displacement of native species. Current projects examine the effectiveness of environmental education programs, chemical landscapes of invasive apple snails, impact of angler practices on sea turtle bycatch, and crayfish chemical communication under varied contexts.

### Bowling Green State University, PhD student, Laboratory of Sensory Ecology

2013-2017 Completed my doctoral dissertation, the focus of which was to examine the mechanisms of differential information use of invasive species under varied environmental and social conditions. Found that males and females of one species uses different sources of information for aggressive social interactions, and that these differences are dependent on surrounding social and environmental context (i.e. information and resource availability).

### University of Michigan Biological Station, Visiting Researcher

2012, 2014, 2016 Carried out graduate research over a two month period at a specialized stream facility at the University of Michigan Biological Station and in rivers and lakes in the surrounding area. Also assisted in research project design and completion for several undergraduate and graduate projects which were also held at the stream facility.

### Bowling Green State University, Masters student, Laboratory of Sensory Ecology

2011-2013 Completed the investigation, design, and publication of independent research on assessment strategies utilized in aggressive social behaviors of aquatic invertebrate, with a specific focus in the novel and unique study of agonism in female crayfish and mixed sex interactions.

**INVITED TALKS**

- 2022 “Hidden Diversity: How do genes influence conservation?” Guest Seminar, *Florida State University Panama City*
- 2022 “Should I stay or should I go? Making decisions under shifting ecological and social conditions” Guest seminar, *University of West Florida*
- 2020 “Figuring out the CURE: The Challenges and Rewards of Integrating Course-Based Undergraduate Research Experiences.” Faculty speaker for Professional Development Series, *Jacksonville State University Faculty Commons*
- 2019 “Escaping the Classroom: Using games to build student understanding and relationships.” Faculty speaker for Exceptional Teacher Series, *Jacksonville State University Faculty Commons*
- “Should I stay or should I go? Making decisions under shifting ecological and social conditions” Guest seminar, *Dauphin Island Sea Lab*
- 2017 “The smell of victory (or defeat): The role of chemical signals in social interactions.” Guest seminar, *Monell Chemical Senses Center*
- “Battle of the Sexes: How do contest resolution strategies differ for males and females?” Biological Sciences Departmental Seminar, *Bowling Green State University*
- 2016 “Invisible Information: The role of chemical communication in competition.” Biological Sciences Departmental Seminar, *Mount Olive University*
- 2015 “Why Fight? How do we measure decision-making during contests?” Game Theory and Biomathematics Seminar, *Florida State University*

**CONFERENCE ACTIVITY AND PRESENTATIONS**

† denotes student presenter, Dr. Wofford-Mares as second author

- 2020 †Battle of the Benthic: Studying agonistic interactions between a native and invasive crayfish species. Oral Presentation, SICB annual meeting, January 3-7, 2020. Austin, Texas.
- †Using a Complex Chemical Landscape to Find an Ideal Habitat under Predation Threat. Poster Presentation, SICB annual meeting, January 3-7, 2020. Austin, Texas.
- †Turn it Down! The effects of Acoustic Stimuli on Contest Dynamics in Crayfish. Oral Presentation, SICB annual meeting, January 3-7, 2020. Austin, Texas.
- Urine for a Fight: Sex-based differences in crayfish contest signaling. Oral Presentation, SICB annual meeting, January 3-7, 2020. Austin, Texas.
- 2019 “Alabamazon: Discovering Alabama’s biodiversity in your own backyard” Education Share Fair. Life Discovery Biology Education Conference. March 21-23, 2019. Gainesville, Florida.
- 2017 “‘Beginner Naturalist’ Booklet and Certificate Program” Group Presentation, Final Project Proposals 2017 Mississippi Master Naturalist Program. October 17, 2017. Biloxi, Mississippi.

- 2017 “Using weak signals to balance human progress with environmental health and sustainability.” Group Presentation, LabEx COTE Summer School. July 7, 2017. Cadillac, Gironde, France.
- “Sense and chemosensory ability: How does blocking olfaction alter contest assessment in crayfish?” Oral Presentation, SICB annual meeting, January 3-7, 2017. New Orleans, Louisiana.
- 2016 “Sniffing out the competition: Examining the role of chemical signals in same sex and mixed sex crayfish contests.” Oral Presentation, SICB annual meeting, January 3-7, 2016. Portland, Oregon.
- 2015 “What’s smell got to do with it? How does blocking chemical communication affect assessment in crayfish (*Orconectes rusticus*)?” Oral Presentation, SICB annual meeting, January 3-7, 2015. West Palm Beach, Florida.

## GRANTS

- 2022 OUR Project award with Ian Barkhuizen entitled “Effects of Parasites on Chemical Signaling and Contest Behavior in Crayfish” [\$500], *University of W. Florida Office of Undergraduate Research*
- OUR Project award with Leah Strickler entitled “Combative interactions between *Aiptasia pallida* individuals in a controlled environment.” [\$500], *University of W. Florida Office of Undergraduate Research*
- 2021 OUR Project award with Anna List entitled “Investigating disproportionate sea turtle catch rate differences at local fishing piers” [\$475], *University of W. Florida Office of Undergraduate Research*
- OUR Project award with Hunter Brown entitled “The effects of differences in signal availability on male crayfish contests.” [\$250], *University of W. Florida Office of Undergraduate Research*
- OUR Project award with Conor Flannigan entitled “The comparative effects of parasite load and increased serotonin levels on crayfish aggression.” [\$450], *University of W. Florida Office of Undergraduate Research*
- Sustainability of Current and Future Shoreline Solutions Under Rising Sea Level Scenarios [\$400,000/3 years], *Grant Proposal for the Alabama Center of Excellence*
- 2020 Faculty Research Grant [\$2000], *Jacksonville State University*
- 2019 Faculty Research Grant [\$3000], *Jacksonville State University*
- 2019 Improving Science Education Initiative Grant entitled “Inquiry based learning using the model of course based undergraduate research experience (CURE) in General Ecology Labs: a lab manual for current and future Biology Majors, Minors, and General Science Education Majors” [\$3000], *School of Science, Jacksonville State University*
- 2018 Improving Science Education Initiative Grant entitled “Using electronic response systems to achieve SLOs in an Introductory Biology Course” [\$2500], *School of Science, Jacksonville State University*
- 2018 Faculty Research Grant [\$3000], *Jacksonville State University*

## AWARDS & HONORS

- 2019 Travel Award, *Ecological Society of America Doing Science Biology Education Conference*  
Invited participant, Weaving the Future of Animal Behavior, *Animal Behavior Society*
- 2017 Distinguished Dissertation Award, *Bowling Green State University*  
Invited participant, COTE Summer School, *Université de Bordeaux*  
Jill Carr Outstanding Graduate Student Award Finalist, *Graduate Student Senate, BGSU*
- 2016 Marian P. and David M. Gates Graduate Student Award, *University of Michigan Biological Station*  
J.P. Scott Center for Neuroscience, the Mind, and Behavior Travel Award, *BGSU*
- 2015 Oman Graduate Scholarship, *Bowling Green State University*  
Charlotte Mangum Travel Award, *Society for Integrative and Comparative Biology*  
J.P. Scott Center for Neuroscience, the Mind, and Behavior Travel Award, *BGSU*
- 2014 Marian P. and David M. Gates Graduate Student Award, *University of Michigan Biological Station*  
Scholarship Award in Ecology and/or Behavior, *The Crustacean Society*  
Charlotte Mangum Travel Award, *Society for Integrative and Comparative Biology*  
J.P. Scott Center for Neuroscience, the Mind, and Behavior Travel Award, *BGSU*

## PROFESSIONAL MEMBERSHIPS & AFFILIATIONS

- 2019-Present Full member, Society for Integrative and Comparative Biology  
2019-Present Animal Behavior Society  
2017-Present Mississippi Extension Master Naturalist

## PROFESSIONAL DEVELOPMENT

- 2021 Participant, High Impact Practices Workshop, *University of West Florida*  
2020 Web-Enhanced Training Program Mentor, *School of Science, Jacksonville State University*  
2019 Weaving the Future of Animal Behavior Workshop, *Animal Behavior Society*  
2019 5<sup>th</sup> Life Discovery Biology Education Conference, *Ecological Society of America*  
2018 Innovative Teacher Series, Faculty Commons, *Jacksonville State University*  
2018 Effective Teacher Series, Faculty Commons, *Jacksonville State University*  
2017 COTE Summer School, *Universite de Bordeaux*

## SERVICE TO PROFESSION

- Faculty mentor, Transitions in Science Panel (hosted by Student and Postdoc Affairs committee, SICB)  
Anonymous Reviewer for *Ethology Journal* (Impact Factor: 1.525)  
Anonymous Reviewer for *Freshwater Science Journal* (Impact Factor: 2.344)  
Anonymous Reviewer for the *Journal of Crustacean Biology* (Impact Factor: 1.254)

## DEPARTMENTAL & UNIVERSITY SERVICE

2021	Faculty Mentor, OUR Explorers, <i>Univ. of West Florida</i>
2021	Faculty Reviewer, Office of Undergraduate Research Project Awards, <i>Univ. of West Florida</i>
2021	Search Committee Chair for Assistant Professor of Biology, <i>Jacksonville State University</i>
2020	Search Committee for Assistant Professor of Biology, <i>Jacksonville State University</i>
2020	Search Committee for Assistant Professor of Geography, <i>Jacksonville State University</i>
2020	Search Committee for Head of Graduate Studies, <i>Jacksonville State University</i>
2019-2021	Graduate Program Chair, Dept of Biology, <i>Jacksonville State University</i>
2019-2021	School of Science Policy Task Force, <i>Jacksonville State University</i>
2019-2020	Mentor, Women's Leadership House, <i>Jacksonville State University</i>
2019	Search Committee for Assistant Professor of Biology, <i>Jacksonville State University</i>
2018-Present	Graduate student mentor, Department of Biology, <i>Jacksonville State University</i>
2018-2021	Undergraduate mentor, Department of Biology, <i>Jacksonville State University</i>
2018-2021	Faculty Committee for CURE Development, Biology Department, <i>Jacksonville State University</i>
2018-2020	Co-founder, STEAMy Ladies working group, <i>Jacksonville State University</i>
2015-2017	Undergraduate mentor, Biological Sciences, <i>Bowling Green State University</i>
2014-2016	Biology Graduate Committee Representative, <i>Bowling Green State University</i>

## COMMUNITY INVOLVEMENT & OUTREACH

2022	Co-Coordinator, University of West Florida Longleaf Pine Project
2022	Guest presenter at West Florida High School of Advanced Technology
2021	Co-Presenter, HerpFest, Anniston Museum of Natural History
2019	Local Zone Coordinator and Volunteer, 31 <sup>st</sup> Alabama Coastal Cleanup
2019	Faculty Volunteer, JSU Move-In Day
2018	Campfire Talk Presenter, DeSoto State Park, Alabama
2018	Volunteer, Kids Zone, Celebrate Jacksonville Arts Fair
2018	Faculty Instructor, JSU Kids College Summer Program
2018	Recycling Coordinator and Volunteer, 30 <sup>th</sup> Alabama Coastal Cleanup
2016-2018	Pen pal, Letters to a Pre-Scientist Program
2016	Co-coordinator, "The Five Senses" at STEM in the Park outreach event, <i>Bowling Green, OH</i>