

Lauren E. Johnson

Pronouns: she, her, hers

Email: johnson.l.e@wustl.edu | lauren@planetjohnson.com

ORCID: 0000-0002-4031-056X

LinkedIn: [linkedin.com/in/lauren-johnson-2021/](https://www.linkedin.com/in/lauren-johnson-2021/)

Website: <http://www.laurenjohnson.org>

Education

2021-present

Ph.D. in Evolution, Ecology & Population Biology

Washington University in St. Louis, Missouri

Dissertation: TBD

Advisor: Dr. Jonathan B. Losos

2021

B.S. in Biology with Honors | Minor in Chemistry

Trinity University, San Antonio, Texas

Summa Cum Laude

3.97 Cumulative GPA

Thesis: *Does testosterone facilitate dynamic relationships in lizard behavior, morphology, and physiology?*

Advisor: Dr. Michele A. Johnson

2019

Semester in Environmental Science

Marine Biological Laboratory, Woods Hole, Massachusetts

Courses: Aquatic & Terrestrial Ecosystems, Microbial Methods, Independent Research, and Science Writing

Project: *Effects of excess nutrients on the carbon metabolism of the macroalga Ulva.*

Advisor: Dr. Javier Lloret

Peer-Reviewed Publications (*co-first author)

in prep

Johnson LE, Anderson G, Odum S, Ivanov BM, Johnson MA (*in prep*). Does testosterone facilitate dynamic relationships in *Anolis* lizard behavior, morphology, and physiology?

in prep

Johnson LE, Ladner JT, Singhal S, Losos JB, Johnson MA (*in prep*). Does lizard display behavior follow the principles of signal efficacy?

in prep

Rosenbloom S*, **Johnson LE***, Yang Y, Grant E, Kasubhai A, Gordon S (*in prep*). Sex mediates the relative influence of genetics, plasticity, and social learning on Trinidadian guppy (*Poecilia reticulata*) behavior.

in prep

Andres KJ, Liu B, **Johnson LE**, Kapuscinski KL, Moerke AH, Ling F, Knouft JH (*in prep*). Life stage and vaccination shape the gut microbiome of hatchery-reared Atlantic salmon (*Salmo salar*).

in review

Johnson LE, Treible LM (*in review*). Hanging under the ledge: Synergistic consequences of UVA and UVB radiation on scyphozoan polyp reproduction and health. *Peer J*.

2022

van der Velde M, Borger MJ, **Johnson LE**, Murphy TG, Komdeur J (2022). No genetic evidence for parent-offspring relatedness in post-breeding social groups of Black-crested Titmouse. *Wilson Journal of Ornithology*.

2020

Borger MJ, **Johnson LE**, Salazar NO, Dreghorn CL, Komdeur J, Murphy TG. (2020). The influence of social-grouping on territorial defense behavior in the black-crested titmouse (*Baeolophus atricristatus*). *Behavioral Ecology and Sociobiology* 74, 141.

Scholarships, Fellowships, Awards

2021

NSF Graduate Research Fellow (\$138,000)

2021

Phi Beta Kappa, Trinity University

2021

Outstanding Senior Biology Student Award, Trinity University

2021

Charlotte Mangum Support Award, Society for Integrative and Comparative Biology

2020

Barry Goldwater Scholar (\$7,500)

2020

Biology Summer Undergraduate Research Fellow, Trinity University (\$4,500)

2020

Charlotte Mangum Support Award, Society for Integrative and Comparative Biology

2019

Associates Prize for Excellence in Independent Research, Marine Biological Laboratory (\$100)

2019

NSF Research Experience for Undergraduates Fellow, Georgia Southern University (\$5,750)

2018

Murchison Research Fellow, Trinity University (\$6,000)

2019-2021	Trinity University Scholar (\$2,000)
2018-2021	McCall Endowed Music Scholar, Trinity University (\$3,000)
2017-2021	Murchison Scholar, Trinity University (\$96,000)
2017	Trinity Tower Award (\$1,000)

Presentations

2023	Johnson LE , Miles DB. Revisiting the Ecological Consequences of Foraging Mode: A Cerebral Perspective. Society for Integrative and Comparative Biology 2023 Annual Meeting. Austin, TX. 3-7 January. [Poster]
2022	Johnson LE . Hormones and behaviors in <i>Anolis</i> lizards. Living Earth Collaborative Fall 2022 Seminar Series. 27 October. [Oral Presentation]
2022	Johnson LE , Ladner JT, Singhal S, Losos JB, Johnson MA. Does lizard display behavior follow the principles of signal efficacy? Society for Integrative and Comparative Biology 2022 Annual Meeting. Phoenix, AZ. 3-7 January. [Oral Presentation]
2021	Johnson LE , Ivanov BM, Johnson MA. Does testosterone facilitate dynamic relationships in lizard behavior, morphology, and physiology? Goldwater Scholar Community 2021 Symposium. Virtual. 7 August. [Oral Presentation]
2021	Johnson LE , Ivanov BM, Johnson MA. Does testosterone facilitate dynamic relationships in lizard behavior, morphology, and physiology? Trinity University Biology Seminar. Virtual. 5 April. [Oral Presentation]
2021	Johnson LE , Ivanov BM, Johnson MA. Does testosterone facilitate dynamic relationships in lizard behavior, morphology, and physiology? Society for Integrative and Comparative Biology 2021 Annual Meeting. Virtual. 3-7 January. [Oral Presentation]
2020	Johnson LE , Ivanov BM, Johnson MA. Does testosterone facilitate dynamic relationships in lizard behavior, morphology, and physiology? The 57 th Annual Conference of the Animal Behavior Society. Virtual. 28-31 July. [Lighting Talk]
2020	Johnson LE , Ivanov BM, Johnson MA. Does testosterone facilitate dynamic relationships in lizard behavior, morphology, and physiology? Trinity University 2020 Summer Symposium. Virtual. 28 July. [Round Table Talk]
2020	Johnson LE , Treible LM. Synergistic effects of UVA and UVB radiation on moon jellyfish proliferation and potential coping mechanisms. Society for Integrative and Comparative Biology 2020 Annual Meeting. Austin, TX. 3-7 January. [Poster]
2019	Johnson LE , Lloret J. Effects of excess nutrients on the carbon metabolism of the macroalga <i>Ulva</i> . Semester in Environmental Science Independent Research Symposium. Woods Hole, MA. 13 December. [Oral Presentation]
2019	Treible LM, Johnson LE . Synergistic effects of UVA and UVB radiation on moon jellyfish proliferation and potential coping mechanisms. Coastal and Estuarine Research Federation (CERF) 25th Biennial Conference. Mobile, AL. 3-7 November. [Oral Presentation]
2019	Johnson LE , Treible LM. Synergistic effects of UVA and UVB radiation on moon jellyfish proliferation and potential coping mechanisms. Research Experiences for Undergraduates Symposium. Arlington, VA. 27-28 October. [Poster]
2019	Johnson LE , Treible LM. Synergistic effects of UVA and UVB radiation on moon jellyfish proliferation and potential coping mechanisms. Georgia Southern University NSF REU Symposium. 26 July. Statesboro, GA. [Poster]
2018	Dreghorn C, Johnson LE , Salazar N, Feng J, Borger M, Murphy T. Pay to Stay: juvenile participation in antipredator behavior in the bird the black-crested titmouse. Trinity University Summer Research Conference. San Antonio, TX. 24-25 June. [Poster]
2018	Borger M, Dreghorn C, Johnson LE , Salazar N, Murphy T. Sizing up opponents' status signals: Crest length is not used alone in estimating territory threats in the black-crested titmouse. Trinity University Summer Research Conference. San Antonio, TX. 24-25 June. [Poster]
2017	Johnson LE , Xu Z, Bajaj M, Edwards K, Cusick-Wetta T, Harris M. Health Benefits of n-3 Fatty Acids. Poster session presented at: 25 th Annual University of Kansas School of Medicine – Wichita Research Forum. Wichita, KS. 20 April. [Poster]

Research Experience

2022	Rotation with Ling Lab Washington University in St. Louis, Missouri Advisor: Dr. Fangqiong Ling
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- Using 16S rRNA gene amplicon sequencing, we characterized the gut microbiome of juvenile and adult salmon from two hatcheries to investigate whether gut microbiome diversity could explain drastic differences in return success of adult Atlantic salmon that were raised in different hatcheries as juveniles.

2021-2022

Rotation with Losos Lab

Washington University in St. Louis, Missouri

Advisors: Dr. Jonathan B. Losos, Dr. Donald B. Miles, Dr. James Stroud, Inbar Mayaan

- Using 3D CT scan data and compiled ecological, behavioral, and environmental data from different databases, we investigated whether lizard brain morphology is associated with different ecological, behavioral, and environmental traits.
- During 4 weeks of field work in Jamaica, we collected tissue and morphological data on over one-thousand lizards to determine the phylogeographic history of *Anolis* lizards in the Jamaican adaptive radiation.
- During 1 week of field work in Miami, we collected tissue, thermal physiology, and morphological data on several species of lizards to determine thermal plasticity of lizards in response to cold snaps.

2021

Rotation with Gordon Lab

Washington University in St. Louis, Missouri

Advisor: Dr. Swanne Gordon

- Using a series of controlled laboratory tests, we investigated the role of plasticity and learning on foraging and mating behaviors in Trinidadian guppies from high predation and low predation environments.
- Using semi-controlled stream mesocosm experiments, we assessed how differences in male guppy harassing behaviors alter ecosystem dynamics.
- I advised two undergraduate students studying female sperm storage and whether females prefer and use sperm from more colorful males than more drab males.

2020-2021

Undergraduate Senior Thesis

Trinity University, San Antonio, Texas

Advisor: Dr. Michele Johnson

- Using a series of controlled laboratory behavioral observations and muscle tissue samples, we investigated whether testosterone facilitated seasonal behavior changes in anole lizards through changes in muscle morphology and physiology.

2019

Semester in Environmental Science Independent Research Project

Marine Biological Laboratory, Woods Hole, Massachusetts

Advisor: Dr. Javier Lloret

- Using a field study, we discovered that both carbon and nitrogen stable isotopes of the macroalga *Ulva lactuca* can be used to identify eutrophic environments.
- Using a laboratory experiment, we determined that carbon diffusion limitation can partially explain why carbon stable isotopes of *Ulva lactuca* shift in eutrophic environments.

2019

Research Experience for Undergraduates Project

Georgia Southern University, Statesboro, Georgia

Advisor: Dr. Laura Treible

- Using a laboratory experiment, we determined that moon jellyfish polyps (*Aurelia aurita*) can cope with damaging ultraviolet B radiation by itself. However, they cannot cope with the combined intensity of ultraviolet B and ultraviolet A radiation.
- We also determined that moon jellyfish polyps do not have either chemical (mycosporine-like amino acids or carotenoids) or behavioral (migration) mechanisms to cope with ultraviolet radiation. Thus, the settlement of planula stage jellyfish may be critical for the success of the benthic polyp stage.

2018-2020

Behavioral Ecology of the Black-Crested Titmouse

Trinity University, San Antonio, Texas

Advisor: Dr. Troy Murphy

- During a series of field studies in 2018, we determined that adult male territory owners were more likely to attack an intruder with a longer crest (which we assumed represented a greater threat) when juvenile titmice were present during the encounter.
- To address the higher-than-expected unrelatedness between juveniles and their territory owner, I led our team in establishing 20 feeders and 100 nest boxes at a new field site to begin a study addressing relatedness among social groups and how relatedness of social groups affects territorial defense.

Teaching Experience

Teaching Assistant

2022 Evolution (BIO 3501), Washington University in St. Louis

Peer Tutor

2021 Integrative Biology (BIO 1311), Trinity University

2020 Genes, Phenotypes, and Evolutionary Dynamics (BIO 3413), Trinity University

Workshops

2022 Efficient, Reflective and Effective Strategies for Grading (10 November)

Center for Teaching and Learning, Washington University in St. Louis

2022 Improving Presentation Skills (26 August)

Center for Teaching and Learning, Washington University in St. Louis

2021 Asking Questions to Improve Learning (18 November)

Center for Teaching and Learning, Washington University in St. Louis

Courses

2021 Teaching Science and Mathematics in Middle and High School (EDUC 3342), Trinity University

Mentoring Experience

2021 Courtney Lasserre (Washington University in St. Louis)

Zombie dads: The effects of male guppy coloration on posthumous reproductive success

2021 Lauren Renna (Washington University in St. Louis)

Effects of gonopodium size on posthumous reproductive success

2021 Avika Kasubhai (Washington University in St. Louis)

Roles of genetics, plasticity, and social learning on guppy foraging behavior

2020-2021 Swathi Ravi (Trinity University)

Does testosterone facilitate dynamic relationships in lizard behavior, morphology, and physiology?

2020-2021 Taylor Black (Trinity University)

Does testosterone facilitate dynamic relationships in lizard behavior, morphology, and physiology?

Professional Development

2022 Attendee, [The Importance of Unpopular Organisms](#), Conservation Forum (6 October)

2022 Women Leaders in Science Summit (16 August)

2022 Graduate Student Roundtable on Diversity and Inclusion (15 April)

2022 Using Python for Basic Data Exploration and Manipulation (20 January)

Washington University in St. Louis

2021 InPrint Adobe Illustrator Intermediate/Advanced Workshop (10 November)

Washington University in St. Louis

Invited Workshop Participant

2023 Winter Urban Eco Evo Net, hosted by the Urban Eco-Evo Network in Seattle, WA (2-4 February)

2022 Fall Urban Eco Evo Net, hosted by the Urban Eco-Evo Network on Zoom (27-28 October)

Academic Service

2022-present EEPB Steering Committee Student Representative

2022 DBBS Barrett Value Assessment Review and Strategic Planning Session Committee Member (11 May)
 2022 EEPB Graduate Student Recruitment Representative (10-11 February, 10-12 March, 15-16 March)

Professional Affiliations

2020-present Society for Integrative and Comparative Biology

Community Science Education & Outreach Events

2022 Ask a Scientist: Introducing Young Girls to STEM-Related Topics, Careers, and Role-Models (19 October)
 2022 Mentoring & Networking with Women in STEM (3 October)
 2022 MonArch Explorer's Gardening Project (24 September)
 2022 MonArch Gardening with Boys and Girls Club at Tyson Research Center (19, 21 July)
 2022 MonArch Gardening with Boys and Girls Club at Litzsinger Road Ecology Center (14 July)

Miscellaneous

2021 Taught Girl Scouts how to conduct ecological experiments in stream mesocosms (12 September)
 Tyson Research Center, Eureka, Missouri
 2018 Taught campers how to capture and measure birds in the wild (14 June)
 Bamberger Ranch Preserve, Johnson City, Texas

Community Involvement

2021-present **Community Engagement Chair**, Division of Biology & Biomedical Sciences Women in STEM (WiSTEM)
 Washington University in St. Louis, Missouri

- Organize outreach opportunities for members (e.g., *Mentoring & Networking with Women in STEM*, *Ask a Scientist: Introducing Young Girls to STEM-Related Topics, Careers, and Role-Models*)
- Collaborate with executive board to execute the mission of WiSTEM

2017-2021 **Clarinetist**, Trinity University Symphonic Wind Ensemble
 2018-2021 **Clarinetist**, Trinity University Symphony Orchestra
 2019-2021 **Mentor**, Trinity Women in Science and Technology (TWIST)
 2018-2019 **Community Partner Coordinator**, Homelessness Outreach Pursuing Education (HOPE) Residence Hall
 Trinity University, San Antonio, Texas

- Coordinated large and small weekly volunteer events for 1 year with the following partners: Haven for Hope, San Antonio; San Antonio Catholic Worker House; San Antonio Children's Shelter; San Antonio Metropolitan Ministries; Travis Park; and Christian Assistance Ministry

2017-2019 **Volunteer (2 hours/week)**, Haven for Hope, San Antonio; San Antonio Catholic Worker House; San Antonio Children's Shelter; San Antonio Metropolitan Ministries

Science Communication

Published Content

2021 Meet a Scientist: Dr. Lisa Whitenack (<https://youtu.be/YhpMY9LI5yk>)
 2021 Meet a Scientist: Dr. Patrice Connors (<https://youtu.be/7Q5JphdLkbw>)

Courses

2022 Communicating Science: Writing for Multiple Audiences (BIO 5866), Washington University in St. Louis

Media Coverage

2022 Online Article, Madeline Freeman. "[Class of '21 Making Their Mark](#)" Trinity University (11 March)
 2021 Online Article, Madison Semro. "[Seven Tigers Win National Science Foundation Graduate Awards](#)" Trinity University (27 April)
 2020 Online Article, Jeremiah Gerlach. "[You've Got Goldwater](#)" Trinity University (3 April)
 2020 Online Article. [Lauren Johnson earns MBL Associates Prize for Excellence](#) The Well: MBL News from the Source (26 February)