JULIANA M. CALIXTO

(602) 366-5529 | Portland, OR | jmcalixt@asu.edu

EDUCATION

Arizona State University — **Tempe, AZ**

Ph.D. Candidate in Biology — Expected June 2026

- Dissertation: Coping with thermal challenges - individual and social thermoregulation mechanisms in desert seed-harvester ants
- Relevant coursework: Biometry, Genomics and Genetics of Behavior, Building Team Science, Scientific Teaching

Federal University of Parana (Universidade Federal do Parana) — **Curitiba, Brazil**

M.Sc. in Biological Sciences — 2016

- Scholarship recipient: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Brazilian Federal Agency for Support and Evaluation of Graduate Education)

B.Sc. in Biological Sciences — 2013

TEACHING EXPERIENCE

Teaching Associate | **Arizona State University**

General Biology I & II (BIO181/BIO182) | **In-Person & Online** — 2020, 2025

- Delivered instructional support for large-enrollment courses (~300 students), facilitating student understanding of core concepts, including the chemistry of life, cellular metabolism, molecular genetics, and population ecology
- Facilitated hands-on laboratory instruction for 48 students weekly, leading demonstrations on microscopy and experimental design while ensuring strict adherence to safety protocols
- Managed high-volume assessment workflows via Learning Management Systems (LMS), delivering timely, actionable feedback to monitor student progress and improve retention in introductory STEM tracks
- Provided targeted supplemental instruction during office hours, translating complex biological theories into accessible, "real-world" applications for a diverse student population

Human Anatomy and Physiology I (BIO201) | **In-Person** — 2024

- Instructed two weekly laboratory sections (48 students total), delivering hands-on demonstrations and contextualizing anatomical concepts through clinical case studies, supervising safe laboratory practices
- Facilitated laboratory sessions utilizing anatomical models and human cadavers to reinforce musculoskeletal, nervous, and integumentary system identification
- Provided academic support during weekly office hours, resulting in improved student comprehension of complex physiological systems

Animal Physiology Laboratory (BIO361) | **In-Person & Online** — 2021 - 2025

- Developed and implemented POGIL (Process Oriented Guided Inquiry Learning) activities to increase student engagement and improve knowledge in complex physiological topics for in-person sections
- Led laboratory studies on physiological mechanisms, experiments, guided students through animal dissections, and data acquisition using electromyograph-Arduino and BIOPAC systems
- Assisted faculty in transitioning course materials for over 200 students, including the moderation of discussion boards (e.g., Yellowdig) to maintain student community in online environments
- Supervised and trained new Teaching Associates on laboratory protocols, equipment maintenance, and pedagogical techniques

Animal Physiology (BIO360) | **In-Person & Online** — 2021

- Facilitated weekly recitation sections for ~100 students, implementing active-learning exercises and leading whole-class discussions to deepen understanding of complex biological concepts
- Managed classroom activities that encouraged peer-to-peer dialogue, guiding students through problem-solving sets and critical analysis of course material
- Delivered guest lecture on core physiological principles, utilizing interactive questioning and real-world examples to engage a large enrollment audience
- Mentored students through final research projects, providing technical guidance on experimental design, data interpretation, and the communication of scientific findings

Conceptual Approaches to Life Sciences I (BIO281) | **In-Person** — 2019

- Taught inquiry-based laboratory sessions for two sections each week, guiding 48 students through experimental design and data analysis
- Led lab preparation and execution, ensuring a safe and productive environment for hands-on scientific discovery
- Evaluated student performance through rigorous grading of lab reports and quizzes, offering actionable feedback to improve scientific writing skills
- Mentored two Undergraduate Teaching Assistants, providing guidance on laboratory instruction, safety protocols, and effective student engagement strategies

Teaching Associate | **Federal University of Parana (Universidade Federal do Parana)**

Field Biology (BIO006) | **In-Person** — 2015

- Facilitated weekly lectures and field-based laboratory sections, coordinating logistics and safety protocols for off-campus excursions and ecological surveys

SKILLS AND TECHNICAL TOOLS

Pedagogy & Instruction

- POGIL, Flipped Classroom Models, Case-Based Learning, Culturally Responsive Teaching, Formative/Summative Assessments, Remediation of Course Materials (WCAG, ADA)

Laboratory & Discipline-Specific Skills

- Anatomical Models & Human Cadaver, Animal Dissection (Invertebrates and small amphibians), Histological Identification, BIOPAC, EKG/ECG, Respirometry, EMG, PCR, DNA sequencing, Microscopy, Aseptic Techniques, Insect Ecophysiology Research, Laboratory Safety Standards, Hazardous Waste Management

Education Technology & Technical Tools

- Canvas, Blackboard, McGraw-Hill (Anatomy & Physiology), Poll Everywhere, Kahoot!, Zoom/Teams (Hybrid & Online Instruction)

Software & Data Analysis

- RStudio, Python, ArcGIS, Database Management, Microsoft Office Suite, Bioinformatics tools (FastQC, Bowtie)

Languages

- English (Fluent/Professional), Portuguese (Native), Spanish (Advanced)

SELECTED AWARDS & FELLOWSHIPS

Inclusive Teaching Fellowship | Summer Innovators | SOLS Teaching and Learning Center (TLC) 2025

- Identified, remediated, and enhanced Introductory Biology course materials for accessibility (WCAG AA standards)

Graduate Research Support Program (GRSP): Independent Research 2024

Inclusive Teaching Fellowship | SOLS Teaching and Learning Center (TLC) 2024

- Created and updated materials for the Animal Physiology course Canvas shell to improve accessibility

WORK & LEADERSHIP EXPERIENCE

Arizona State University

Lead Researcher | School of Life Sciences (SOLS) Present

- Conducted physiological, behavioral, and ecological experiments on desert organisms to analyze mechanisms that allow them to cope with the environmental stress and the effects of climate change on their populations (e.g., thermotolerance, respirometry)
- Supervised and mentored 7 students and staff, managing projects, tasks, timelines, and safety training requirements
- Presented complex research findings at scientific conferences and effectively translated data and concepts to non-specialized audiences and diverse staff
- Coordinated laboratory operations, including budget oversight, equipment ordering, and inventory

Department Representative | SOLS Charter Initiative Task Force (previous DEI committee) 2023

- Collaborated with a 12-person team to audit organizational policies, using quantitative data to identify non-conformances and propose systemic improvements

Volunteer | Open Door ASU & Annual Undergraduate Research Poster Symposium 2019 - 2025

- Collaborated with students and faculty to organize the exhibits and activities to teach the local community about science
- Evaluated posters and research presentations

Program Development & Mentorship | HIVED | SOLS 2020- 2021

- Co-founded and administered a Summer Scholar program in partnership with The School of Life Sciences Undergraduate Research (SOLUR) to secure funding and research internships for underrepresented students
- Curated a professional development series focused on inclusive mentorship, equipping faculty and graduate students with the skills to foster belonging and retention among underrepresented student populations in the department

Seminar Coordinator | Social Insect Research Group 2019- 2020

- Coordinated and facilitated weekly seminars featuring renowned scientists
- Managed annual budget of $3000

Department Representative | Graduate Women Association 2019 - 2020

- Facilitated workshops and community outreach to promote equity in STEM

Federal University of Parana (Universidade Federal do Parana)

Researcher & Undergraduate Research Assistant | Zoology Department 2012 -2016

- Collected and analyzed biological data on ant species populations from the Atlantic rainforest, documenting diurnal and nocturnal diversity and abundance
- Trained and supervised undergraduate students

Undergraduate Research Assistant | Zoology Department 2010 -2012

- Conducted research in insect systematics and museum management

- Cataloged, inventoried, and maintained detailed records of insect collections

SELECTED CONFERENCES & INVITED PRESENTATION

Calixto, J.M., Fewell, J. H., Harrison, J. F. How do seasonal changes in environmental temperature affect the thermal tolerance of workers of *P. californicus*? Social Insect Research Group (SIRG) seminar. 2024. Tempe, AZ, USA (oral presentation)

Calixto, J.M., Baudier, K. M., Fewell, J. H. Is caste associated with critical thermal limits in desert seed-harvester ants? Oral presentation. International Union for the Study of Social Insects (IUSSI) 2022. San Diego, CA, USA. (invited speaker)

Calixto, J.M., IBPOC women in Myrmecology. Diversity, Inclusion, and Equity in Myrmecology. First Ibero-American Symposium on Myrmecology. 2020. Online event (invited speaker)

PUBLICATIONS

Calixto, J.M., Baudier, K.M., Fewell, J.H. & Harrison, J.F. Population genomics and climate change vulnerability in desert ants (*in prep*.)

Calixto, J.M., Baudier, K.M., Fewell, J.H. & Harrison, J.F. Seasonal plasticity of thermal tolerance in desert seed-harvester ants (*in prep*.)

Calixto, J.M., Baudier, K.M., Ostwald, M. M., & Fewell, J.H. Castes thermal tolerance limits in monogyny and polygyny colonies of desert seed-harvester ants (*in prep*.)

Robles López, K. Y., Sosa-Calvo, J., **Calixto, J. M.,** Zoppas de Albuquerque, E., & Baudier, K. M. (2024). One ant's trash is another ant's treasure: Army ant middens provide resources for diverse ant assemblages. Biotropica, 56(1), 58-70

Ostwald, M. M., Tretter, S., Buellesbach, J., **Calixto, J. M.**, Fewell, J. H., Gadau, J., & Baudier, K. M. (2023). Body mass and cuticular hydrocarbon profiles, but not queen number, underlie worker desiccation resistance in a facultatively polygynous harvester ant (*Pogonomyrmex californicus*). Journal of Comparative Physiology B, 193(3), 261-269

Baudier, K. M., Ostwald, M. M., Haney, B. R., **Calixto, J. M.,** Cossio, F. J., & Fewell, J. H. (2022). Social factors in heat survival: multiqueen desert ant colonies have higher and more uniform heat tolerance. Physiological and Biochemical Zoology, 95(5), 379-389