TRISTAN HENDERSON
CV FOR SCIENCE – 2024

Department of Biological Sciences
Mississippi State University
Mississippi State, MS 39762
Lab: Harned 015-018

979-236-6837 (cell)
tch318@msstate.edu

Web — Twi — Git — labWeb

Graduate Assistant. Department of Biological Sciences, Mississippi State University. August 2021 - present.
Teaching Assistant. Department of Biological Sciences, Mississippi State University. August 2021 - present.
Research Assistant. Department of Biological Sciences, Mississippi State University. August 2021 - present.

RESEARCH: Discovery-based science, convergent evolution of multicellularity in Eukaryotes, model organism development, terrestrial protist behavior, phylogenomics

EDUCATION:

Ph.D. Biological Sciences (*In progress*)
Mississippi State University, Starkville, Mississippi, USA
Supervisor: Matthew W. Brown, Ph.D.
Mentorship: 13 undergraduates, 2 high school students

B.Sc. Biochemistry/Molecular Biology
Houston Baptist University, Houston, Texas, USA. May 2021
Supervisor: Agnieszka K. Czopik, Ph.D. (Immunology)
Jobs: Teaching Assistant, Tutor, Lab Tech, Mentor

PUBLICATIONS

^ = undergraduate trainee; † = submitted, under revisions

†Alfredo L. Porfirio-Sousa, Alexander K. Tice, Quentin Blandenier, **Tristan Henderson**, Giulia M. Ribeiro, Kenneth Dumack, Nicholas Fry, Felicity Kleitz-Singleton, Yana Eglit, Alastair G. B. Simpson, David Singer, Maria Beatriz Gomes E Souza, Enrique Lara, Matthew W. Brown, Daniel J. G. Lahr. *Updated phylogenomic reconstruction of amoebozoan testate amoebae.* PNAS 2024

Tristan Henderson, Lucia Garcia-Gimeno^, Charles E. Beasley^, Jayden Bess^, Matthew W. Brown. *High above the rest: Standing behaviors in amoebae of Sappinia and Thecamoeba.* European Journal of Protistology, 2024, 10.1016/j.ejop.2024.126082

Nicholas W. Fry, Robert E. Jones, Quentin Blandenier, Alexander K. Tice, Alfredo L. Porfirio-Sousa, Felicity Kleitz-Singleton, **Tristan Henderson**, Matthew W. Brown. *Molecular phylogenetic analyses support the validity of Ceratiomyxa porioides stat. nov. (Amoebozoa, Eumycetozoa) as a species.* European Journal of Protistology, 2024, 10.1016/j.ejop.2024.126083

Alfredo L. Porfirio-Sousa, **Tristan Henderson**, and Matthew Brown. *Effective and efficient cytoskeleton (actin and microtubules) fluorescence staining of adherent eukaryotic cells.* Protocols.io, 2023, 10.17504/protocols.io.kxygxeerzv8j/v2

FUNDING & AWARDS

COMPETITIVE FUNDING:

2024 **ORED Undergraduate Research Grant.** Funding to pay my undergrad trainees for research ($2,000)
2024 **Jungle Bio-Mechanics Lab Internship.** Fieldwork in the Peruvian Amazon Rainforest NSF (~$5,000)
2023 **Mountain Lake Biological Station** Evolutionary Biology Graduate Student Workshop, Pembroke, Virginia. Fully funded through American Society of Naturalists. ($600)
2023 **Holz-Conner Award**. International Society of Protistologists ($1,500)
2023 **Travel Assistance Grant (TAGGS)**. Mississippi State University, Graduate School ($800)
2023 **Biology Faculty Fund**. Mississippi State University, Biological Sciences ($500)
2022 **Texas EcoLab**. co-PI. *Directed sampling of amoeboid microbial eukaryotes from diverse microhabitats in Texas*. Lead-PI: M. Brown, co-PIs: **T. Henderson**. 2 years: 1/1/2022 – 12/31/2024. ($8,400)

ACADEMIC HONORS, AWARDS, FUNDED WORKSHOPS:

2023 **Junior Award 2023** IXth International Society of Protistology/ECOP joint meeting, Vienna, Austria. In recognition of an outstanding oral presentation: *Decoding the Doo-doo Dilemma*. (500 €)
2023 **EukRef PR2 Curation Workshop**. Invited curator for the taxonomy of Amoebozoa. Moore Foundation ($2,000)
2021 **Honorable mention NSF GRFP**. Proposal: *Developing an Adaptable System for Isolating and Characterizing Novel Protists*.
2021 **The outstanding Student in Biochemistry/Molecular Biology**. Houston Baptist University Department of Biology.
2020 **Grace Hopper Scholarship**, Award for high achieving students in STEM. ($5,000)
2020 **Texas TRIO Associations**, Walter O' Mason Scholarship ($1,500)
2021 **SMART Program**. Baylor College of Medicine, Children's Nutrition Research Center.
2019 **Grace Hopper Scholarship**, Award for high achieving students in STEM. ($5,000)

RESEARCH PRESENTATIONS

2024 February – Mississippi State University (Starkvile, Mississippi). Graduate Research Symposium *Decoding the Doo-doo Dilemma: How amoebas in poop create societies.* (Oral) - 3rd place
2023 July – University of Vienna (Vienna, Austria). International Society of Protistology IXth ECOP-ISOP Congress. *Decoding the Doo-doo Dilemma: The Impact of Bacteria on Aggregative Multicellularity in Dung-Inhabiting Amoebae.* (Oral) - Won 500 € award, 3rd place
2023 July – University of Vienna (Vienna, Austria). International Society of Protistology IXth ECOP-ISOP Congress. *Standing above the rest: New Insights into Standing Behavior among Sappinia and Thecamoeba Species.* (Poster)
2022 November – Arizona State University (Biodesign Institute, Tempe, Arizona). Mechanisms of Cellular Evolution Coneference. *Dung environments may have caused the convergent evolution of sorocarpic multicellularity.* (Poster)

GRADUATE⇑ | UNDERGRADUATE⇓

2021 May – Houston Baptist University, (Houston, Texas) *A philosophical journey into the study of microbes*. (Oral)
2021 April – Houston Baptist University, (Houston, Texas) *Man versus microbe: Is it really a competition?* – Oral
2021 April – South-Regional Tri-Beta Convention, Virtual, *The neglect of microbes (and a potentially novel species of antibiotic resistant marine bacteria isolated from blood worms)*. – Oral
2020 October – Gulf Coast Undergraduate Research Symposium, Virtual, Rice University (Houston, Texas) *Hunting Novel Unicellular Relatives of Animals.* – Oral [**International Conference**]
2020 September – Baylor McNair Research Conference, Virtual, Baylor University (Waco, Texas) *What did the first animal look like? Finding novel holozoan protist lineages.* – Oral
2019 September – Under the Microscope Series, Houston Baptist University (Houston, Texas), Feeding schedules and prematurity. Working with pigs and developing muscle immunohistochemistry protocols. **Invited lecture**, Oral
2019 September – TRIO McNair Research Conference, Baylor University (Waco, Texas), *Localization of immune responsive cells in Floridian amphioxi* - Poster
2019 September – TRIO McNair Research Conference, Baylor University (Waco, Texas), *Four dimensional ancient chordates. Paleobiogeography of amphioxi.* – Oral
2019 September - Capital of Texas Undergraduate Research Conference, University of Texas (Austin, Texas) *Four dimensional ancient chordates. Paleobiogeography of amphioxi.* – Oral
2019 July – Baylor College of Medicine, Texas Children's Hospital, Children's Nutrition Research Center, USDA ARS (Houston Medical Center, Texas) - *Determining if myonuclear accretion and satellite cell abundance are impacted by feeding modality in premature pigs* – Oral
2019 April - Houston Baptist University (Houston, Texas), Localization of immune responsive cells in Floridian amphioxi - Poster
2019 April – Regional Tri-Beta Convention (Dallas, Texas), Localization of immune responsive cells in floridian amphioxi - Poster
2019 April – Texas Undergraduate Research Day at the Capitol (Capitol building, Austin, Texas), *Localization of immune responsive cells in floridian amphioxi* – Poster **Invited**
2018 October - Representative at a **Nature** Careers Expo booth for Biomed Careers®
2018 March - Regional Tri-Beta Convention (Dallas, Texas), Creating tools to study amphioxi as model organisms for the emergence of adaptive immunity - Poster
2018 March - Houston Baptist University (Houston, Texas), Creating tools to study amphioxi as model organisms for the emergence of adaptive immunity – Poster

MENTORSHIP & TEACHING

^published their work

Mentored Undergraduate Students

Biological Sciences, Mississippi State University:

Anna Musiienko. Summer 2024. Intern from Ukraine * Genome and symbionts of *Copromyxa protea*
Zoé Ishee. Spring 2024-present. BSc Neuroscience * Designing graphics of life cycles and lab organisms
Charles Beasley^. Spring 2024-present. BSc Biochemistry * Behaviors of *Thecamoeba*
Lucia Garcia^. Spring 2024-present. BSc Biochemistry * Aggregative multicellularity in *Guttulinopsis*
Trinity Johnson. Summer 2023. BSc Biochemistry * Cellular suicide in *Guttulinopsis*
Jay Smith. Summer 2023. BSc Microbiology * Designing life cycle graphics of *Guttulinopsis*
Jayden Bess^. Fall 2022 – current. BSc Microbiology * Describing *Sappinia dangeardi* sp. nov.
Emily Dale. Spring 2022. BSc Microbiology
Michael Cala. Fall 2022 - current. BSc Microbiology
Tajinder Singh. Summer 2022. BSc Biochemistry

Department of Biology, Houston Baptist University:

Julia Younis. Fall 2020 – Spring 2021. BSc Biochemistry/Molecular Biology
Shayan Qurashi. Fall 2020 – Spring 2021. BSc Biochemistry/Molecular Biology
Stephenie Rogers. Fall 2020 – Spring 2021. BSc Biochemistry/Molecular Biology

High School Students

Biological Sciences, Mississippi State University:

Danielle McConnell. Fall 2022-Spring 2023. Mississippi School for Mathematics and Science. Senior
Cratin Quinnelly. Spring 2024-present. Mississippi School for Mathematics and Science. Junior

Trained above students in microbiology, microscopy, and molecular biology laboratory skills: Culturing of microorganisms, DNA and RNA extraction, PCR, Electrophoresis, Cloning. DIC, Phase contrast, TEM, immunofluorescence microscopy.

TEACHING EXPERIENCE:

Teaching Assistant. Fall 2021 - current. Bacterial Genetics Laboratory (MSU: BIO 4442/6442). Upper-level microbiology and techniques for use in a molecular biology laboratory. Parasitology Lab. General Biology 1 Lab.

Teaching Assistant. 2018 - 2021 (3yrs). Houston Baptist University, Department of Biology. General Biology 1 and 2. Immunology.

Senior Tutor. 2018 - 2021 (3yrs). Houston Baptist University, Academic Success Center. TRIO Student Support Services. Chemistry (Introductory, General, Organic). Biology (Introductory, General, Cellular, Genetics, RNA, Immunology, Molecular). Physics (Calculus based: Mechanics, E&M, Optics). Mathematics (Algebra, Calculus). Music theory.

MISCELLANEOUS

PROFESSIONAL ORGANIZATION MEMBERSHIPS:

International Society for Evolutionary Protistology (*ISEP*). 2023-Current.
International Society of Protistologists (*ISOP*). 2021-Current.

FIELD WORK:

July 2023 (1 week). University of Neuchatel, Switzerland. L'Aubier dairy farm. Collected dung samples and isolate the first strain of *Guttulinopsis vulgaris* from outside the United States..

November 2022 (2 weeks). Arizona. Chiricahua Mountains. Coronado National Forest. Aided colleagues with setting mushroom fly traps. Collected bark and moss for the isolation of amoeboid protists. Also collected cow dung samples from University of Arizona field stations.

July 2022 (2 weeks). Texas Hill Country. Texas EcoLab Program. **Lead Organizer, co-PI**. Handled coordination of landowner property sites and planned a successful field expedition to sample leaves, bark, moss, and water on private lands.

August 2021 (2 weeks). Texas Hill Country. Texas EcoLab Program. Sampling of leaves, bark, moss, and water on private lands to find amoeboid organisms (specifically Amoebozoans).