NOAH J. SPENCER

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EDUCATION

2021– **Ph.D. Candidate, Evolutionary Biology**
Arizona State University, Tempe, AZ, USA
(Advanced to candidacy 2024)

2021 **B.S. Biology** (Genomics emphasis), *summa cum laude*
West Virginia University, Morgantown, WV, USA

RESEARCH INTERESTS: Endosymbiosis; evolutionary biology; cell biology; protein, RNA, & membrane trafficking; nonadaptive evoluton; prokaryotic & organellar genomics

RESEARCH EXPERIENCE

2021– **Center for Mechanisms of Evolution, Arizona State University**
Advisor: Dr. John McCutcheon

2017–2021 **Department of Biology, West Virginia University**
Advisor: Dr. Rita Rio

PEER-REVIEWED PUBLICATIONS

2024 McCutcheon JP, Garber AI, **Spencer N,** Warren JM. How do bacterial endosymbionts work with so few genes? *PLOS Biol.* 22(4): e3002577.

Spencer N, Santee M, Wetherhold A, Rio RVM. Draft genome sequence of *Wigglesworthia glossinidia* “palpalis gambiensis” isolate. *Microbiol. Resour. Announc.* E00912-23.

2023 **Spencer N**, Łukasik P, Meyer M, Veloso C, McCutcheon JP. No transcriptional compensation for extreme gene dosage imbalance in fragmented endosymbionts of cicadas. *Genome Biol. Evol.* 15(6), evad100. (*Honorable Mention for* GBE *Best Student Paper 2023)*

2021 Medina Munoz M, Brenner C, Richmond D, **Spencer N**, Rio RVM. The holobiont transcriptome of teneral tsetse fly species of varying vector competence. *BMC Genomics*. 22(1), 400.

2020 Medina Munoz M, **Spencer N**, Enomoto S, Dale C, Rio RVM. Quorum sensing sets the stage for the establishment and vertical transmission of Sodalis praecaptivus in tsetse flies. *PLOS Genet*. 16, e1008992.

GRANTS, FELLOWSHIPS, & AWARDS

2025; 2023–2024; 2022–2023	ASU Graduate College University Grant ($5K/semester × 5 semesters)
2024	Honorable Mention, *GBE* Best Student Paper Award ($100)
2021–2026	National Science Foundation Graduate Research Fellowship ($138K)
2021	WVU Outstanding Senior
2020	WVU Eberly Scholar
2019	WVU Honors EXCEL Grant ($1K)
2019	WVU SURE Enrichment Grant ($500)

CONTRIBUTED PRESENTATIONS

Oral Presentations

2023	Comparing Bacterial Gene Expression Outcomes Under Extreme Genome Erosion and Fragmentation in Cicada Endosymbionts. SMBE Satellite Meeting on Mechanisms of Cellular Evolution. Tempe, AZ.
2023	Cell Biology of a Fragmented Bacterial Endosymbiont of Cicadas. ASU Annual Evolutionary Biology Symposium. Tempe, AZ.
2022	Increases in Genome Complexity Exacerbate Transcript Dosage Imbalance in a Cicada Endosymbiont. 8th Conference on Beneficial Microbes. Madison, WI.

Poster Presentations

2025	Molecular Trafficking Between Symbiont Cells Enables Extreme Gene Loss and Genome Fragmentation. Animal-Microbe Symbioses Gordon Research Conference 2025. Portland, ME.
2024	Loss of Transcriptional Control in an Ancient Endosymbiont. Howard Hughes Medical Institute January–February 2024 Science Meeting. Ashburn, VA.
2023	No Transcriptional Compensation for Extreme Gene Dosage Imbalance In Fragmented Endosymbionts of Cicadas. 2023 EMBL Symposium on the Cellular Mechanics of Symbiosis. Heidelberg, Germany. (*Also presented at Biodesign Fusion 2023. Tempe, AZ.**)
2022	No Transcriptional Compensation for Extreme Gene Dosage Imbalance In Fragmented Endosymbionts of Cicadas. 2022 Annual Symposium for Mechanisms of Cellular Evolution. Tempe, AZ.

CONTRIBUTED PRESENTATIONS (CONTINUED)

Poster Presentations (continued)

2021 Genome Sequencing Provides Insight into Coevolution Between an Insect Vector and Its Microbial Partner. WVU Online Spring Undergraduate Research Symposium.†

2020 Plasmid DNA Sequence Analysis Elucidates Evolution of Species-Specific Tsetse Fly Symbiotic Bacteria. WVU Online Spring Undergraduate Research Symposium.

2019 Characterizing Plasmid Functional Roles Within Tsetse Fly-Associated Symbiotic Bacteria. WVU Summer Undergraduate Research Symposium. Morgantown, WV.‡

*, ‡ Winner, Best Poster in Category
† Runner-up, Best Poster in Category

TEACHING EXPERIENCE

2025 *Guest Lecturer, Molecular Evolution, ASU*

Facilitated a discussion on bacterial population genetics and the evolution of bacterial genome size.

2022–2024 *Volunteer with Prison Biology Education Program, ASU*

2023–2024 *Research Project Coordinator, Prison Biology Education Program, ASU*

Taught in-person, developed course materials and assessments, and coordinated research projects for introductory biology courses offered at Eyman Prison Complex in Florence, AZ.

2023 *Cell Biology Teaching Assistant, ASU*

Taught a lecture, gave an example journal club presentation, fielded student emails, and developed exam questions for an undergraduate course of roughly 100 students.

2018–2021 *Tutor at MindFit Academic Enhancement, WVU*

Provided over 350 hours of sustained, one-on-one academic coaching to students with learning-related difficulties.

2019 *Cell and Molecular Biology Teaching Assistant, WVU*

Provided feedback on over 350 written assignments, held weekly office hours to provide one-on-one support, and assisted with course design.

INVITED PANELS & TALKS

2023 *ASU Science on Tap. Living With a Cellmate: The Light and Dark Sides of Endosymbiosis.*

Grad Student Panel, ASU School of Life Sciences Graduate Recruitment

2022 *Grad Student Panel, Biodesign Institute Summer Internship Program for Community College Students*

WVU ASPIRE Academy Alumni Panel

2021 *WVU Honors EXCEL Seminar: "The Secret of My Success: Learning from Recent Honors EXCEL Graduates"*

WVU Summer Undergraduate Research Symposium panel, "Get the Most from Your Mentor"

2020 *WVU Summer Undergraduate Research Symposium panel, "Get the Most from Your Mentor"*

WVU undergraduate research webinar for incoming freshmen; WVU Honors EXCEL Academy

PROFESSIONAL SERVICE

Manuscript reviewer for *Environmental Microbiology*.

Manuscript reviewer for *mBio*.

Manuscript reviewer for *Genome Biology and Evolution*.