

James G. DuBose

Graduate Student, Bioinformatics
Department of Biology
Georgia Institute of Technology

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Education

Georgia Institute of Technology
M.S. in Bioinformatics

December 2022

University of Central Arkansas
B.S. in Biology
Minors: Chemistry and Anthropology

May 2021

Research Experience

Georgia Institute of Technology
Principle Investigator: Dr. William Ratcliff
Synopsis: TBD

January 2022

University of Central Arkansas
Principle Investigator: Dr. Tammy Haselkorn

2019-2021

Thesis: *The Ecological and Evolutionary Dynamics of Social Amoeba Microbiomes and Key Symbionts*

Synopsis: In the Haselkorn lab, I broadly investigated symbiont dynamics, including the movement of symbionts along the parasitism-mutualism spectrum and the context dependency of symbiotic relationships. My work aimed to further contextualize the relationship between the social amoeba *D. discoideum* and several of its bacterial endosymbionts. Here, I investigated symbiont transmission, the beneficial and detrimental effects carrying various symbionts, and how environmental factors influence symbiont dynamics in natural social amoeba populations.

Publications

J.G. DuBose., M. Robeson, M. Hoogshagen, H. Olsen, T.S. Haselkorn. 2021. The complexities of inferring symbiont function: Paraburkholderia symbiont dynamics in social amoeba populations and its impact on the amoeba microbiome: doi: 10.1101/2021.08.21.457203 - In review at ISME J

Talks and Presentations

Evolution 2021, Talk
Virtual

06/23/2021

James DuBose, Tamara S. Haselkorn. *The transmission and diversity of Paraburkholderia in natural D. discoideum populations and its impact on the D. discoideum microbiome*

Asilomar 2021, Talk
Virtual

01/08/2021

James DuBose, Tamara S. Haselkorn. *The Domination of Paraburkholderia in the Social Amoeba D. discoideum microbiome and its Impact on the Ecological Relevance of the Farming Symbiosis*

Arkansas INBRE 2020, Talk
Virtual

11/06/2022

James DuBose, Tamara S. Haselkorn. *The Genetic Diversity of Bacterial Symbionts in Dictyostelium discoideum Social Amoeba and Their Effect on the Amoeba Microbiome*

ASM Microbe, Poster
Virtual

07/2022

James DuBose, Hunter Olsen, Tamara S. Haselkorn. *Prevalence and Genetic Diversity of the Burkholderia Bacterial Farming Symbionts in Dictyostelium Discoideum Social Amoeba Populations and their Effect on the Amoeba Microbiome*

ASM South Central Branch, Poster
University of Mississippi, Oxford, MS

11/01/2019

James DuBose, Hunter Olsen, Tamara S. Haselkorn. *Long-term Prevalence Patterns of the Burkholderia Farming Symbiont in Dictyostelium discoideum Social Amoeba Populations*

Grants and Funding Awards

UCA College of Natural Sciences and Mathematics Student Research Funding

2021

Award amount: \$1,000 over one semester

Proposal: *The horizontal transmission of the Paraburkholderia bacterial farming symbiont and its effects on the microbiome of the social amoeba D. discoideum*

Student Undergraduate Research Fellowship (SURF)

2019-2021

Award amount: \$4,000 over two semesters

Proposal: *The effects of the Burkholderia bacterial symbiont on its social amoeba host's fitness and microbiome formation*

Advancement of Undergraduate Research in the Sciences (AURS)

2019

Award amount: \$5,000 over one semester

Proposal: *Ecological relevance of the amoeba farming symbiosis: the prevalence of the Burkholderia bacterial symbiont in natural populations, and its effect on the amoeba microbiome*

Employment

Graduate Research Assistant, Georgia Tech

01/2022-Present

Employed by Georgia Tech on the Computation Biology GRA Award for proposal titled: *A multi-omics approach for comparing the physiological differences between slow and fast-growing bacteria*

Arkansas Department of Health, Public Health Laboratories

03/2021 – 07/2021

Laboratory Technician, Molecular Biology Unit, COVID-19 Unit

University of Central Arkansas Tutoring Center

08/2019 – 05/2021

Tutor students in Biology 1&2, General Chemistry 1&2, Genetics, Organic Chemistry 1&2, Anatomy/Structures and Functions of the Human Body 1&2, Statistics, Algebra, and Calculus, Microeconomics, Macroeconomics

University of Central Arkansas, Biology Department

06/2020-08/2020

Employed on NIH INBRE Research Grant

References

Dr. Tammy Haselkorn
Assistant Professor, Department of Biology
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Dr. Michael Robeson
Assistant Professor, Department of Biomedical Informatics
University of Arkansas for Medical Sciences
Email: MRobseon@uams.edu