

# Owen Hale

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Ph.D. Candidate

Department of Biological Sciences · Vanderbilt University · Nashville, TN

✉ Owen.F.Hale@Vanderbilt.edu

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## Education

**Vanderbilt University**, Nashville, TN 2021 - Present  
Ph.D. Biological Sciences | ASPIRE Path in Molecular Medicine

**Georgia Institute of Technology**, Atlanta, GA 2021  
B.S. Biology | Research Option | Integrative Biology Certificate

## Research

**Graduate Research Assistant** 2021 - Present  
PI: Dr. Megan Behringer  
*Ecology & evolution in the microbiome.*  
Department of Biological Sciences, Vanderbilt University, Nashville, TN

**Undergraduate Research Assistant** 2018 - 2021  
PI: Dr. Amit Reddi  
*Heme homeostasis in mycobacteria.*  
School of Chemistry & Biochemistry, Georgia Institute of Technology, Atlanta, GA

**Microbiome Engineering Co-op** 2020  
*Engineering crop microbiomes for food security and sustainability.*  
Indigo Agriculture, Inc., Boston, MA

**Undergraduate Research Assistant** 2019  
PI: Dr. Gilles Martin  
*Electrophysiology of alcohol use disorder.*  
Department of Neurobiology, University of Massachusetts Medical School

## Teaching

**Instructor** Spring 2025  
M&IM 8334 *Introduction to Bioinformatics*, 1 Section, 12 Students  
Vanderbilt University, Nashville, TN

**Teaching Assistant** Fall 2023  
BSCI 1510L *Biological Sciences Laboratory*, 2 Sections, 30 Students  
Vanderbilt University, Nashville, TN

**Course Assistant** Maymester 2023  
BSCI 3228 *Corals, Koalas, and Cassowaries: Biodiversity of Australia*, 17 Students  
Immersive course taught in Australia | Vanderbilt University, Nashville, TN

<b>Guest Lecturer</b> BSCI 3101/6101 <i>Human Anatomy and Physiology II</i>   <i>The human microbiome</i> Vanderbilt University, Nashville, TN	Spring 2023
<b>Teaching Assistant</b> BSCI 1511L <i>Biological Sciences Laboratory</i> , 2 Sections, 24 Students Vanderbilt University, Nashville, TN	Spring 2023
<b>Guest Lecturer</b> BSCI 3890/6890 <i>History of Life</i>   <i>Introduction to phylogeny</i> Vanderbilt University, Nashville, TN	Fall 2022
<b>Teaching Assistant</b> BIOS 3451 <i>Cell &amp; Molecular Biology Lab</i> , 2 Sections, 23 Students Georgia Institute of Technology, Atlanta, GA	Spring 2021
<b>Team Leader</b> COS 2000 <i>Introduction to Research</i> , 1 Section, 4 Students Georgia Institute of Technology, Atlanta, GA	Spring 2019
<b>Teaching Assistant</b> COS 2000 <i>Introduction to Research</i> , 1 Section, 4 Students Georgia Institute of Technology, Atlanta, GA	Fall 2018

## Awards & Funding

Flash Talk Travel Award   \$800 Lactic Acid Bacteria Biology, Symbioses & Applications GRC, Ventura, CA	2023
Evolutionary Studies Initiative Pilot Research Grant   \$5000 <i>Understanding the diversity of uroprotective traits in bladder commensal bacteria</i> Vanderbilt University, Nashville, TN	2023
Evolutionary Studies Initiative Trainee Travel Grant   \$500 Vanderbilt University, Nashville, TN	2023
Graduate School Travel Grant   \$1,000 Vanderbilt University, Nashville, TN	2023
McCallum Award for Publication of Outstanding Undergraduate Research   \$1,000 School of Biological Sciences, Georgia Institute of Technology, Atlanta, GA	2021
Dean's Scholarship   \$82,384 College of Sciences, Georgia Institute of Technology, Atlanta, GA	2017 - 2021
President's Undergraduate Research Award   \$1,600 Georgia Institute of Technology, Atlanta, GA	2019

## Service & Outreach

Outreach Team, Evolutionary Studies Initiative Vanderbilt University, Nashville, TN	2022 - Present
Social Chair, Biological Sciences Student Association Vanderbilt University, Nashville, TN	2022 - 2023
Team Leader, Center for Education Integrating Science, Mathematics, & Computing Georgia Institute of Technology, Atlanta, GA	2021
Undergraduate Research Ambassador, Office of Undergraduate Education Georgia Institute of Technology, Atlanta, GA	2020 - 2021
Student Advisor, School of Biological Sciences Georgia Institute of Technology, Atlanta, GA	2019 - 2021
Community Ambassador, College of Sciences Georgia Institute of Technology, Atlanta, GA	2018 - 2021

## Presentations

<i>Evolution of urinary bacterial pathogens in children and young adults with spina bifida</i> Brendan Frainey, Seth A. Reasoner, <b>Owen Hale</b> , Elise Turner, Douglass Clayton, Maria Hadji-frangiskou Submitted Conference Abstract American Urological Association Meeting, Las Vegas, NV and European Society for Paediatric Urology Congress Vienna, Austria	2025
<i>The rate and spectrum of spontaneous mutations in anaerobically cultured lactic acid bacteria</i> <b>Owen F. Hale</b> , Michelle Yin*, Megan G. Behringer Poster Presentation Third Joint Congress on Evolutionary Biology, Montreal, Canada	2024
<i>The rate and spectrum of spontaneous mutations in anaerobically cultured lactic acid bacteria</i> <b>Owen F. Hale</b> , Michelle Yin*, Megan G. Behringer Poster Presentation ASM Microbe, Atlanta, GA	2024
<i>Circovaginal carriage of the uropathogen Staphylococcus saprophyticus is common in pregnant women, as observed by a novel screening strategy</i> Amelia Dodds, Gerry Van Horn, Maddie Spradley, <b>Owen Hale</b> , Grace Morales, Seth Reasoner, Jonathan Schmitz Poster Coauthor ASM Microbe, Atlanta, GA	2024
<i>The rate and spectrum of spontaneous mutations in anaerobically cultured lactic acid bacteria</i> <b>Owen F. Hale</b> , Michelle Yin*, Megan G. Behringer Flash Talk & Poster Presentation Lactic Acid Bacteria Biology, Symbioses & Applications GRC, Ventura, CA	2023

*The rate and spectrum of spontaneous mutations in anaerobically cultured Lactobacillus crispatus* 2023  
**Owen F. Hale**, Michelle Yin\*, Megan G. Behringer  
Poster Presentation  
VI4 Research Symposium, Nashville, TN

*Changes in heme bioavailability in mycobacterial infection* 2019  
Poster Presentation  
Georgia Tech Undergraduate Research Symposium, Atlanta, GA

\* = Undergraduate Mentee

## Publications

*High rates and biased spectra of mutations in anaerobically cultured lactic acid bacteria*  
**Owen F. Hale**, Michelle Yin\*, Megan G. Behringer  
bioRxiv DOI: 10.1101/2025.02.28.639667 2025-02-28

*Exogenously Scavenged and Endogenously Synthesized Heme Are Differentially Utilized by Mycobacterium tuberculosis*  
Rebecca K. Donegan, Yibo Fu, Jacqueline Copeland, Stanzin Idga, Gabriel Brown, **Owen F. Hale**,  
Avishek Mitra, Hui Yang, Harry A. Dailey, Michael Niederweis, Paras Jain, Amit R. Reddi  
Microbiology Spectrum 10.1128/spectrum.03604-22 Google Scholar Citations: 10 2022-10-26

\* = Undergraduate Mentee