

# CHRIS TALBOT | CV

Ph.D. Student in Computational Biology, Cornell University  
National Science Foundation Graduate Research Fellow

**Status:** Ph.D. Student in Computational Biology at Cornell University, Messer Lab  
**Fields:** Population Genetics, Computational Biology, Evolutionary Ecology  
**Interests:** Population genetics, global change, community ecology, stochastic modeling  
**Techs:** Python, R, C++, Rust, TypeScript, SLiM

Ithaca, New York  
chris-a-talbot.com  
christopher.a.talbot@gmail.com  
(269) 751-9444

## Summary

- First-gen academic and biologist with years of experience in lab, field, and computational work.
- Interested in patterns and drivers of ecological organization across spatiotemporal scales under global change.
- Exploring emerging methods for complex systems, including community science and machine learning.

## Education

**Ph.D. Computational Biology** - Cornell University 2025-Present

- Advisor: Dr. Philipp Messer
- Key Funding: National Science Foundation Graduate Research Fellowship Program (2025-2030)

**B.S. Ecology, Evolution, and Biodiversity** - University of Michigan (UMich) - GPA 3.74 2024

- Graduated with **Highest Honors** under the supervision of Dr. Marjorie Weber
- Honors Thesis: Patterns of floral color in communities of common Northeast American wildflowers
- Coursework: Statistics & probability, programming & data structures, genetics, macroevolution, ethnobotany

**Associates of General Studies** - Grand Rapids Community College (GRCC) - GPA 3.9 2020

- Computer Science & Mathematics Concentration
- Coursework: C++ programming, database development, web application programming, information security

## Research

**Doctoral Researcher-Messer Lab** - Cornell University-Computational Biology 2025-Present

**Research Programmer-Bradburd Lab** - UMich-Ecology & Evolutionary Biology (EEB) 2024-2025

- Project: Testing, documenting, and visualizing novel geographic evolutionary inference methods

**Lab Technician-Weber Lab** - UMich-EEB 2022-2025

- Project: "Patterns of floral color in communities of common Northeast American wildflowers"

**Undergraduate Researcher-Márquez Lab** - UMich-EEB 2021-2022

- Project: "Optimizing CRISPR-Cas9 genetic modification in *Phylllobates* poison-dart frogs"

## Publications

### Published:

2025 – Graham, C. D. K., ..., Talbot, C. A., Yerks, A. L., & Weber, M. G. Mite domatia and associated mite density in a North American Eastern Deciduous Forest in Michigan. **Published in *Ecology and Evolution*.**

### Pre-prints/In Review:

2025 – Talbot, C. A., Bradburd, G.S. ARGscape: A modular, interactive tool for manipulation of spatiotemporal ancestral recombination graphs. arXiv:2510.07255 [q-bio.PE]. **Submitted to *Bioinformatics*.**

2025 – Talbot, C. A., Weber, M. G. Opposing seasonal dynamics in phylogenetic and flower color diversity of co-flowering wildflower assemblages. bioRxiv 2025.10.21.683724. **Submitted to *Ecology*.**

### In Prep:

2025 – Talbot, C. A., Bradburd, G. S. Optimizing temporal sampling strategies for spatial population genetic inference using ancestral recombination graphs. **In Preparation for *Genetics*.**

## Software Development

<b>Open-Source Contributor</b> - "SLiM" simulator, Messer Lab, Cornell University	2025-Present
<b>Primary Developer</b> - "ARGscape" software	2025-Present

## Funding

**Total: \$174,280**

<b>Graduate Research Fellowship</b> - National Science Foundation (\$159,000)	2025-2030
<b>Graduate School Dean's Scholar Fellowship</b> - Cornell University (\$2,000)	2025
<b>Chancellor's Fellowship</b> - University of California–Berkeley (Declined)	Offered 2025
<b>Eugene Cota-Robles Fellowship</b> - University of California–Davis (Declined)	Offered 2025
<b>Eugene Cota-Robles Fellowship</b> - University of California–Santa Cruz (Declined)	Offered 2025
<b>Biological Station Student Fellowship</b> - UMich Biological Station (\$1,680)	2023
<b>Student Research Grant</b> - UMich UROP (\$5,000)	2022-2023
<b>Travel Grant</b> - SACNAS (\$2,500)	2022
<b>Biomedical &amp; Life Sciences Summer Fellowship</b> - UMich UROP (\$4,000)	2022
<b>Community College Summer Institute Fellowship</b> - UMich-School of Info (\$100)	2019

## Invited Talks

<b>tskit-dev Seminar</b> - Virtual (Invited Talk)	2025
<b>ARGEvol Conference</b> - Porto, Portugal (Invited Talk)	Upcoming 2025

## Contributed Talks

<b>Third Joint Congress on Evolutionary Biology</b> - Montreal, QC (Talk)	2024
<b>Botany 2024</b> - Grand Rapids, MI (Lightning Talk)	2024
<b>UMich Ecology &amp; Evolutionary Biology</b> - Ann Arbor, MI (Honors Thesis Defense)	2024

## Posters

<b>Third Joint Congress on Evolutionary Biology</b> - Montreal, QC	2024
<b>Botany 2024</b> - Grand Rapids, MI	2024
<b>UMich Undergraduate Research Opportunity Program Symposium</b> - Ann Arbor, MI	2022

## Honors & Awards

<b>President's Scholar</b> - 1 semester, Grand Rapids Community College (GRCC)	2020
<b>Dean's Scholar</b> - 4 semesters, GRCC	2019-2020
<b>Phi Theta Kappa Honors Society</b> - Invited Member, GRCC	2019

## Teaching & Mentoring

<b>Assistant Percussion Manager</b> - Auburn Enlarged City School District, Auburn, NY	2025-Present
<b>Docent (Volunteer Educator)</b> - Matthaei Botanical Gardens & Nichols Arboretum	2023-Present
<b>Test Writer &amp; Proctor, Forestry &amp; Botany (Volunteer)</b> - UMich Science Olympiad	2023-2025

<b>Director of Percussion</b> - Lake Orion Community Schools, Lake Orion, MI	2022-2023
<b>Transfer Student Peer Mentor</b> - UMich-LSA Transfer Bridges Program	2022-2023
<b>Director of Percussion</b> - Spring Lake Public Schools, Spring Lake, MI	2019-2022
<b>Freelance Percussion Instructor &amp; Composer</b> - 8 school districts across Michigan	2018-2022
<b>Professional Peer Tutor</b> - GRCC Drop-in Tutoring Labs - Mathematics, Language Arts	2019-2020

## Professional & Service

<b>Percussionist</b> - Straits of Mackinac Concert Band, Mackinaw City, MI	2024-2025
<b>Co-Founder, President, and Volunteer</b> - Students for Public Power @UM	2023-2025
<b>Shift Leader</b> - Biggby Coffee, Grand Rapids, MI	2021-2023
<b>Seasonal Retail Lead</b> - John Ball Zoo, Grand Rapids, MI	2019

## Languages

<b>R</b> - Advanced	C1
<b>German</b> - Intermediate	B2
<b>C++</b> - Intermediate	B2
<b>Python</b> - Intermediate	B2
<b>TypeScript</b> - Intermediate	B1
<b>Nishnaabemwin (Eastern Ojibwe)</b> - Beginner	A1

## Certifications

<b>Certified Michigan Naturalist</b> - Michigan State University Extension	2024
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## Professional Memberships

<b>American Society of Naturalists</b> - Student Member	2024-Present
<b>Botanical Society of America</b> - Student Member	2024-2025
<b>Society for the Study of Evolution</b> - Student Member	2022-Present

## Extracurriculars

<b>Founding Member</b> - UMich Ecological Restoration Club	2023-2025
<b>Vice President</b> - GRCC Programmers	2019-2020
<b>Ensemble &amp; Section Leader, Performer</b> - Genesis Percussion Ensemble	2014-2020