

Ethan P. Wolfe

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I am a curious, driven undergraduate in my fourth year at Michigan State University. I enjoy using big data analysis tools to answer fundamental questions in biology. With over three years of research experience in bioinformatics, my goal is to pursue a PhD in this field after earning my Bachelor of Science in Biochemistry and Molecular Biology.

Key Competencies

R/Python Programming
HPC
GitHub

Machine Learning
Linux/Unix
Presentation Skills

Scientific Writing
Collaboration
Beta Testing

Project Organization
Peer Mentoring
Time Management

Education

Michigan State University, *East Lansing, MI* | Anticipated Graduation: May 2025

Bachelor of Science

Major: Biochemistry & Molecular Biology

Minors: Pharmacology & Toxicology; Computational Mathematics, Science, & Engineering; Spanish

GPA: 4.000 / 4.000 | Dean's List (5 of 5 semesters) | Honors College

University of Virginia in Valencia, *Valencia, Spain* | Study abroad | Sep–Dec 2022

Spanish Language, Literature, and Culture.

Salem High School, *Salem, NH* | Graduation: 2021

GPA: 4.000 / 4.000; 4.347 / 4.000 (weighted)

Class Rank: 1 / 269; 2 / 269 (weighted)

Employment

Professorial Assistant, JRaviLab | PI: Dr. Janani Ravi

Michigan State University, *East Lansing, MI* | Sep 2021 – Jul 2022

University of Colorado Anschutz Medical Campus, *Aurora, CO* | Aug 2022 – present [full-time intern summer 2023]

Projects:

- Developing computational methods to study the coevolution and physical interactions of effector-metaeffector pairs in *Legionella pneumophila*. Collaborator: Dr. Stephanie Shames
- Building comparative genomic and machine learning models to predict antimicrobial resistance in ESKAPE pathogens.

Presentations:

- 2024, 2022: Intelligent Systems for Molecular Biology (ISMB), the flagship conference of the International Society for Computational Biology (ISCB)
 - 2024: Talk, *Montréal, Canada*
 - 2022: Poster, *Madison, WI* | Received honorable mention for Evolution and Comparative Genomics track
- 2022 – 2024: University Undergraduate Research and Arts Forum (UURAF), *East Lansing, MI* | Won first place for Cell Biology, Genetics, and Genomics track; received cash award.
- 2023: Midwest Microbial Pathogenesis Conference (MMPC), *Chicago, IL*
- 2022 – 2023: Mid-Michigan Symposium for Undergraduate Research Experiences (Mid-SURE)

Publications: [*Co-primary]

- Krol JD*, Burke JT*, Chen SZ*, Sosinski LM*, Alquaddoomi FS, Brenner EP, **Wolfe EP**, Rubinetti VP, Amolitos S, Reason KM, Johnston JB, Ravi J. (2024). MolEvolvR: A web-app for characterizing proteins using molecular evolution and phylogeny. [bioRxiv Webapp](#).
- **Wolfe EP**, Burke JT, Shames SR, Ravi J. Characterizing effector-metaeffector pairs in *Legionella pneumophila*. *In preparation*.
- Ghosh A*, Vang CK*, **Wolfe EP***, Brenner EP*, Krol JD, Manpearl KR, Burke JT, Sridhar V, Bilodeaux JMR, Jongnarangsins K, Majlessi EJ, Ravi J. Leveraging machine learning models to predict antimicrobial resistance in ESKAPE pathogens. *In preparation*.

Student Intern, Genialis, Inc. | Mentor: Dr. Josh Wheeler | Remote | May – Aug 2024

Explored the utility of single cell RNA sequencing in tumor biomarker development lifecycles

Retail Associate, Lake Street Garden Center, *Salem, NH* | 2018 – present (select dates in spring only)

Contribute to store upkeep by stocking, organizing, and caring for plants.

Piano Teacher, self-employed | 2019 – 2021

Taught weekly piano lessons to three students.

Honors and Awards

- First Place Award in Cell Biology, Genetics, and Genomics, Section 2 | University Undergraduate Research and Arts Forum (UURAF) | poster presentation (Apr 2024)
- Honorable mention for poster presented at the Intelligent Systems for Molecular Biology (ISMB) conference, Evolution and Comparative Genomics track (July 2022)
- MSU Professorial Assistantship (2021–2023; awarded to top 200 incoming undergraduates)
- MSU College of Natural Science Undergraduate Research Scholarship (Spring 2022)
- MSU Honors Excellence Scholarship (applicable Sep 2021 – May 2025)
- MSU Non-Resident (President's) Scholarship (applicable Sep 2021 – May 2025)
- MSU Presidential Study Abroad Scholarship (Nov 2020)
- SHS Class Valedictorian (May 2021)
- SHS Science Department Award across all 250+ seniors (May 2021)
- SHS Excellence in AP Calculus Award (May 2021)
- University of Rochester – Bausch + Lomb Honorary Science Award (May 2020)

Activities

- Alpha Chi Sigma – Alpha Upsilon chapter | Professional chemistry fraternity | Constitution and Bylaws Chair | Sep 2023 – present | volunteering, professional development, networking, and social engagement
- MSU Outdoors Club (Jan 2022–Apr 2022)
- Planted and maintained 2,500 ft² vegetable garden; donated >500 lbs of produce to local food pantry (2020)

Updated: 2024-11-24