

Amanda Erin Wilson

Department of Biology, Temple University
1900 N. 12th Street Philadelphia, PA 19122

Email: amandaewilson@temple.edu

Website: www.amandaewilson.com

Github: <https://github.com/aewilson96>

Education

Ph.D. in Biology (*Expected Graduation: May 2024*) 2018 - Present

Dissertation: Gene Duplication and Its Evolutionary Role

Advisor: Professor David Liberles

Committee: Professor Sergei Pond, Professor Rachel Spigler

Temple University, Philadelphia, PA

B.S. in Biological Sciences 2014 - 2018

Evolutionary Biology and Ecology Track

Clusters: "Public Health" and "The Performing Musician"

University of Rochester, Rochester, NY

Previous Research Experience

Department of Biology at the University of Rochester:

Research Assistant, Dr. Robert Minckley's Research Group

2017

Evolution and ecology of bees and their floral hosts

Publications

Wilson AE, Liberles DA. Expectations of Duplicate Gene Retention Under the Gene Duplicability Hypothesis. *BMC Ecology and Evolution*, Under Revision.
<https://doi.org/10.21203/rs.3.rs-2379503/v1>

Wilson AE, Liberles DA. (2023) Dosage Balance as a time-dependent selective barrier to subfunctionalization of expression states. *BMC Ecology and Evolution*, 23: 14.
<https://doi.org/10.1186/s12862-023-02116-y>

Henry CN, Piper K, Wilson AE, Miraszek JL, Probst CS, Rong Y, Liberles DA. (2022) WGDTree: A Phylogenetic Software Tool to Examine Conditional Probabilities of Retention Following Whole Genome Duplication Events. *BMC Bioinformatics*, 23: 505.
<https://doi.org/10.1186/s12859-022-05042-w>

Anthony-Regnitz CM, Wilson AE, Sweazea KL, Braun EJ. (2020) Fewer Exposed Lysine Residues May Explain Relative Resistance of Chicken Serum Albumin to In Vitro Protein Glycation in Comparison to Bovine Serum Albumin. *Journal of Molecular Evolution*, 88: 653-661. <https://doi.org/10.1007/s00239-020-09964-y>

Wilson AE, Kosater WM, Liberles DA. (2020) Evolutionary Processes and Biophysical Mechanisms: Revisiting Why Evolved Proteins Are Marginally Stable. *Journal of Molecular Evolution*, 88:415-417. <https://doi.org/10.1007/s00239-020-09948-y>

Conference Talks

Talk: Wilson AE, Liberles DA. *"Expectations of Duplicate Gene Retention Under the Gene Duplicability Hypothesis"*. March 2023

The Journal of Molecular Evolution Advances Meeting 2023, Washington, D.C., USA

Talk: Wilson AE, Liberles DA. *"Dosage Balance as a time-dependent selective barrier to subfunctionalization of expression states"*.

GLAM-Evogen 2022, Buffalo, NY, USA Aug 2022

Talk: Wilson AE. *"Modeling Whole Genome Duplication"*.

GLAM-Evogen 2021, Virtual Conference Aug 2021

Talk: Wilson AE. *"Modeling probabilities of retention of gene copies after consecutive whole genome duplication events"*.

T3 (TelAviv, Toronto, Temple) 2021, Virtual Conference Apr 2021

Talk: Wilson AE. *"Modeling Probabilities of Retention of Duplicated Genes"*.

iGem 2021, Philadelphia, PA, USA - Virtual Conference Apr 2021

Talk: Wilson AE. *"Modeling Probabilities of Retention of Gene Copies after Consecutive Whole Genome Duplication Events"*.

GLAM-Evogen 2020, Rochester, NY, USA - Virtual Conference Jul 2020

Talk: Wilson AE. *"Modeling Probabilities of Retention of Gene Copies after Consecutive Whole Genome Duplication Events"*.

Phylomania 2019, Hobart, TAS, Australia Nov 2019

Conference Posters

Poster: Wilson AE, Liberles DA. *"Dosage Balance as a time-dependent selective barrier to subfunctionalization of expression states"*.

GLAM-Evogen 2022, Buffalo, NY, USA Aug 2022

Poster: Wilson AE, Liberles DA. *"Modeling Probabilities of Retention of Gene Copies after Consecutive Whole Genome Duplication Events"*.

SMBE 2021, Virtual Conference Jul 2021

Poster: Wilson AE, Miraszek J, Liberles DA. *"Whole Genome Duplication Events drive diversification of the myostatin pathway in Salmonidae"*.

Evolution in Philadelphia Conference (EPiC) 2019, Philadelphia, PA, USA Sep 2019

Teaching Experience

Department of Biology at Temple University:

Intro to Organismal Biology (BIOL1111), Laboratory Teaching Assistant Spring 2020
Intro to Cell and Molecular Biology (BIOL2112), Laboratory Teaching Assistant Fall 2019
General Biology II (BIOL1012), Laboratory Teaching Assistant Spring 2019
General Biology I (BIOL1011), Laboratory Teaching Assistant Fall 2018

Department of Biology at the University of Rochester:

Animal Behavior (BIO260), Teaching Assistant Fall 2017
Introductory Biology Lab II (BIO117P), Teaching Assistant Summer 2017

Department of Chemistry at the University of Rochester:

Organic Chemistry II: Lab (CHM208), Teaching Assistant Spring 2017
Organic Chemistry I: Lab (CHM207), Teaching Assistant Fall 2016

Scientific Involvement

Journal of Molecular Evolution

Social Media Coordinator Feb 2022 - Feb 2023

Compose and post summaries of new publications on social media

Write blog posts on Nature Ecology and Evolution Community page

Center for Computational Genetics and Genomics (CCGG) Journal Club 2018 - Present

Attend weekly Journal Club meetings

Present a recent publication each semester

Scientific Journal Peer Review

G3; Journal of Molecular Evolution; PLOS Computational Biology; Molecular Biology and Evolution; BMC Ecology and Evolution

Professional Society Membership

Society for Molecular Biology and Evolution (SMBE)

Leadership and Service

University of Rochester Symphony Orchestra 2015 - 2018

Cellist

Eye to Eye - Rochester Chapter 2015 - 2018

Mentor middle school students with learning disabilities

Leadership Roles: Secretary and Publicity Chair