Emily M. Wollmuth

Ph.D. Student | Department of Microbiology | Cornell University
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SUMMARY

Strong verbal and written communicator. Experienced researcher with knowledge of biology— particularly microbiology and bioinformatics— and professional writing. Educator passionate about implementing active learning and evidence based teaching practices.

EDUCATION

Expected 2025 — **Doctor of Philosophy**, Microbiology
Cornell University, Ithaca, New York

May 2017 — **Bachelor of Science**, Biology, minor in Chemistry
Bachelor of Arts, English with a Professional Writing Concentration
Hamline University, Saint Paul, Minnesota
Student athlete varsity tennis; maintained 3.78 GPA; member of Phi Beta Kappa honor society; president of biology club; completed departmental honors projects in biology and English

Fall 2015 — **Study Abroad**, Department of English and Related Literature
University of York in England, United Kingdom

WORK EXPERIENCE

2019 – present — **Graduate Research and Teaching Assistant**
Department of Microbiology, Cornell University
Graduate student in Dr. Esther Angert's lab studying genomics of bacterial gut symbionts of marine herbivorous fish

2017 – 2019 — **Assistant Editor, BMC Series Journals**
Springer Nature
Responsible for a portfolio of biology and medical journals; performing initial submissions checks and final pre-publication checks to ensure research ethics standards and submission guidelines are met; facilitating peer review; and liaising with authors, editors and reviewers; training of new Assistant Editors and mentoring new staff

2016 – 2017 — **Technical Aide**
3M Company
Assisted in product development by performing formulation preparation, microbiological assays, and data analysis; contributed to patented work and commented on and copy-edited scientific publications

2014 – 2017 — **Student Researcher**
Department of Biology, Hamline University

Research with Dr. Presley Martin focusing on antibiotic resistant bacteria and antibiotic resistance genes in soil; trained new student researchers on lab methods; funded by HHMI Undergraduate Education Grant Summer 2014, 2015

2014 – 2017 **Laboratory Assistant**
Department of Biology, Hamline University
Prepared lab materials for courses including Human Anatomy and Physiology, Plant and Animal Physiology, Microbiology, Molecular Cell Biology, and Biochemistry

Summer 2016 **NSF REU Student Researcher**
Department of Microbiology, Cornell University
Research in the lab of Dr. Esther Angert on the role of thiaminase I, an enzyme involved in the breakdown of vitamin B1, production in bacterial competition

2012 – 2013 **Student Researcher**
Department of Biology, Augsburg University
Research with Dr. Jennifer Bankers-Fulbright focusing on the role of normal human lung secretions in inhibiting the growth of *P. aeruginosa* for potential benefit to cystic fibrosis patients; attended Twin Cities Regional Science and Engineering Fair 2012 and Minnesota State Science Fair 2013; named alternate and attended International Science and Engineering Fair (ISEF) 2013

TEACHING & MENTORING EXPERIENCE

2019 – present **Graduate Teaching Assistant**
Department of Microbiology, Cornell University
Spring 2020: BIOMI 2900, General Microbiology Lectures
Fall 2019: BIOMI 2500, Public Health Microbiology

Fall 2017 **Head Coach, Girls' Tennis B-Team**
Cretin-Derham Hall High School
Responsible for coaching and mentoring over 25 high school athletes ranging from beginner to intermediate level players; organized practices and team activities; coordinated with players, parents, and Junior Varsity and Varsity coaches

Summer 2015, 2017 **Youth Tennis Coach**
Saint Paul Urban Tennis, City of Saint Paul
Worked with diverse groups of children spanning various socioeconomic classes and cultural backgrounds; awarded Alison McKee Memorial Award for an outstanding coach in 2017

2015 – 2016 **Undergraduate Teaching Assistant**
Department of Biology, Hamline University
Fall 2016: BIOL 1800, Ecology and Evolution, with lab
Spring 2016: BIOL 1820, Plant and Animal Physiology, with lab
Spring 2015: BIOL 1820, Plant and Animal Physiology, with lab

Summer 2013 **Youth Tennis Instructor**
City of Savage, Department of Parks and Recreation

SERVICE & LEADERSHIP EXPERIENCE

- Executive Board Member, Cornell Graduate Womxn in Science
    - Treasurer, 2020-present
    - Community Outreach Chair, 2019-2020
- Copy Editor and Sports Editor, *The Oracle* Student Newspaper Hamline University, 2014-2016
- Volunteer, Inpatient Pharmacy, University of Minnesota Medical Center, 2015
- Volunteer, Pediatric ER, Transport Pool, and Pre/Post Same Day Surgery Desk, Fairview Ridges Hospital, 2010-2014
    - Volunteered over 250 hours, trained in HIPPA and patient confidentiality

GRANTS & FELLOWSHIPS

- Cornell Center for Teaching Innovation Graduate Teaching Fellowship, 2020-present

AWARDS & HONORS

- Cornell College of Agriculture and Life Sciences Outstanding Graduate Teaching Assistant, 2019-2020
- Phi Beta Kappa, 2017 Inductee
- Kenyon Award, for an outstanding senior majoring in biology, 2017
- First Place Lund Speaking Competition, research speaking competition on research in the Natural Science Division at Hamline University, 2017
- Semi-finalist, Fulbright U.S. Student Program, 2017-2018
- Varsity Collegiate Tennis Team, MIAC Academic All-Conference, 2014-2017
- Alison McKee Memorial Award, for an outstanding coach, Saint Paul Urban Tennis, 2017
- Hamline University Honors Program Graduate, for excellence in research, community service, lifelong learning, and academics
- Kenyon Scholarship, awarded for excellence in biology, 2016
- Hoffman Scholarship, awarded for promise in professions in healthcare or teaching, 2015
- Omicron Delta Kappa, Leadership Honor Society Inductee, 2015
- Beta Beta Beta, National Biological Honors Society Inductee, 2015
- Hamline Science Scholarship, for interest and aptitude in STEM fields, 2013
- The President's Volunteer Service Award, 2013

PATENTS

A.C. Engler, K.F. Wlaschin, H.C. Cohen, Y. Yang, T.T. Ton, J. Yang, J.D. Oxman, **E.M. Wollmuth**, inventors; 3M Innovative Properties Company, assignee. Oral Articles and Methods of Use, World patent WO/2020/136606, 2020 July 7.

CONFERENCE PRESENTATIONS

Wollmuth, E.M., Martin, P.F. (2017) A Survey of Beta-lactam Antibiotic Resistance in Minnesota Soils, *Presented at the National Conference for Undergraduate Research 2017*, Memphis, Tennessee, USA.

Wollmuth, E.M., Deffenbacher, K. (2017) Misapplications of Darwin's *Origin of Species*: Nazi Germany and the Eugenics Movement, *Presented at the National Conference for Undergraduate Research 2017*, Memphis, Tennessee, USA.

Wollmuth, E.M., Sannino, D., Angert, E.R. (2016) The impact of thiaminase I on fitness and survival in bacterial interactions, *Presented at the Cornell Summer Institute for Life Sciences Sixth Annual Undergraduate Symposium 2016,* Ithaca, New York, USA.

Wollmuth, E.M., Martin, P.F. (2016) A Survey of Beta-lactam Antibiotic Resistance in Minnesota Soils, *Presented at the National Conference for Undergraduate Research 2016*, Asheville, North Carolina, USA.

Wollmuth, E.M., Thrun, L.A., Martin, P.F. (2015) Ampicillin Resistance in Gram-negative and Gram-positive Bacteria, *Presented at the National Conference for Undergraduate Research 2015*, Cheney, Washington, USA.

Wollmuth, E.M., Thrun, L.A., Martin, P.F. (2014) Ampicillin Resistance in Gram-negative and Gram-positive Bacteria, *Presented at the Seven Rivers Undergraduate Research Symposium 2014*, La Crosse, Wisconsin, USA.

THESES

Wollmuth, Emily M., "A Survey of β-lactam Antibiotic Resistance Genes and Culturable Ampicillin Resistant Bacteria in Minnesota Soils" (2017). *Departmental Honors Projects*. 53.
https://digitalcommons.hamline.edu/dhp/53

Wollmuth, Emily M., "Darwinian Evolutionary Theory and Constructions of Race in Nazi Germany: A Literary and Cultural Analysis of Darwin's Works and Nazi Rhetoric" (2017). D*epartmental Honors Projects*. 67.
https://digitalcommons.hamline.edu/dhp/67

BLOGS

Wollmuth, Emily, Highlights of the BMC Series: January 2019. BMC Series blog, 14 Feb. 2019, https://blogs.biomedcentral.com/bmcseriesblog/2019/02/14/highlights-bmc-series-january-2019/

SKILLS

- **Computation:** genome assembly, genome annotation, phylogenetic reconstruction, data parsing, data visualization, data management, version control using GitHub/git
    - **Languages:** Python, Bash/Unix shell, Markdown, R
- **Laboratory:** aerobic/micro-aerobic bacterial culturing, bacterial transformation, PCR, nucleic acid isolation