Elysa M. Wolf

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Education

Vanderbilt University (Nashville, TN) August 2019 – present
Interdisciplinary Graduate Program Ph.D. student
GPA: 3.93

Calvin College (Grand Rapids, Michigan)
Bachelor of Science in ACS Accredited Biochemistry – minor in Integrative Biotechnology December 2018
Graduated early in 3.5 years
GPA: 3.96

Research Experience

Ph.D. Student, Vanderbilt University (Nashville, TN) August 2019 – present
Program in Cancer Biology
Mentor: Dr. Alyssa Hasty

- "Studying the role of macrophage iron-handling in the context of the tumor microenvironment. Tumor associated macrophages (TAMs) can either be pro-inflammatory and sequester iron or anti-inflammatory and recycle iron depending on their polarization. My goal is to explore how supply of iron from macrophages impacts tumor cell phenotype and tumor growth."

Laboratory Technician, Van Andel Institute (Grand Rapids, MI) January – July 2019
Center for Epigenetics
Mentor: Dr. Peter Laird

- Contributed towards research with an emphasis on understanding the role of epigenetics in colorectal cancer
- Genotyped and dissected mouse models of colorectal cancer
- Optimized protocols for small intestine and colon organoids

Calvin College Student Research Fellowship (Grand Rapids, MI) Summer 2018
Department of Chemistry and Biochemistry
Mentors: Dr. Rachael Baker and Dr. Amy Wilstermann

- Conducted enzymatic assays to test the effectiveness of novel fluoroquinolone compounds as antibiotics
- Designed and executed the development of a moxifloxacin-resistant strain of bacteria to test the novel compounds and to compare mechanisms of resistance between synthetic and environmental strains of bacteria

Calvin College Student Research Fellowship (Grand Rapids, MI) Summer 2017
Department of Chemistry and Biochemistry
Mentor: Dr. David Benson

- Utilized molecular biology tools to express point mutants of our model protein, BF4112, using *E. coli* to further characterize the formation of Cys-Tyr crosslink
- Employed recombinant DNA technology to constitutively express BF4112 in its native bacterium, *Bacteroides fragilis* to determine the physiological function

Animal Care Technician (Grand Rapids, MI) 2016-2018

West Michigan Regional Laboratory – Calvin College/Spectrum Health

- Provided care for laboratory animals including mice, rats, sheep and pigs
- Monitored and recorded animal health, maintained animal housing, and performed other health related tasks for the animals

Awards and Honors

Director's Award – Vanderbilt University 2019
National Barry Goldwater Scholarship Honorable Mention 2018
Presidential Scholarship – Calvin College 2015
Coram Deo Award – Calvin College 2015

Publication

Hromada, S.E.; Hilbrands, A.M.; **Wolf, E.M.**; Ross J.L.; Hegg, T.R.; Roth A.G.; Hollowell, M.T.; Anderson, C.E.; Benson, D.E. "Protein oxidation involved in Cys-Tyr post-translational modification". *J. Inorg. Biochem.* 2017, *176*, 168-174.

Poster Presentations

Wolf, E.M.; Baker, R.A.; Wilstermann A.M. "Combatting Antibiotic Resistance with Novel Fluoroquinolone-Based Compounds". Poster session presented at: West Michigan Regional Undergraduate Science Conference; 2018 November 10; Grand Rapids, MI.

Hilbrands, A.M.; Ross J.L.; **Wolf E.M.**; Benson D.E. "Investigation of Tyrosine-Cysteine Crosslinks in a Model Protein". Poster session presented at: Midwest Enzyme Chemistry Conference; 2017 October 14; Chicago, IL.

Teaching and Mentoring Experience

Laboratory Teaching Assistant, Calvin College (Grand Rapids, MI) 2016-2017

- Aided in facilitation of general and pre-nursing chemistry labs
- Guided students through labs and provided clarification of topics in general chemistry
- Graded student lab reports

Community Involvement

Calvin Knights Varsity Swim Team 2015-2018

- Placed with points on the Scoring Team in each of three consecutive MIAA Conference Championships

Makarios International Summer 2016

- 9-week internship in the Dominican Republic