

Ethan Robert Hain

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EDUCATION

Ph. D., Program in Chemical and Biochemical Engineering.....05/2020 (expected)
University of Maryland, Baltimore County (UMBC) Baltimore, MD

B.A., Biochemistry (minor in Mathematics) (GPA 3.93/4.00; *Summa cum laude*).....05/2016
St. Mary's College of Maryland (SMCM) St. Mary's City, MD

RESEARCH AND TEACHING EXPERIENCE

Research Assistant.....06/2016-Present
Department of Chemical, Biochemical and Environmental Engineering, UMBC Baltimore, MD

- Developed and implemented a yeast estrogen screen (YES) assay for determination of estrogenic compounds in biological tissues and wastewater samples
- Designed methods for determination of concentration of estrogens in laboratory and wastewater by standard analytical methods (*e.g.* LC-FLD)

Research Assistant.....05/2015-08/2015
University of Pittsburgh Department of Computational Biology Pittsburgh, PA

- Developed and analyzed a novel shape-based virtual screening method for discovery of lead compounds for drug design

Lab Assistant.....08/2014-05/2016
Department of Chemistry and Biochemistry, SMCM St. Mary's City, MD

- Assisted and guided students in their lab techniques
- Prepared equipment and solutions for students

Research Assistant.....01/2014-05/2016
Department of Chemistry and Biochemistry, SMCM St. Mary's City, MD

- Synthesis of a Novel Silaferrocenophane
 - Worked in the laboratory using Schlenk line techniques to synthesize a novel organometallic compound for ring opening metathesis
- Synthesis of a Novel Silylene
 - Synthesized and explored the activity of a novel silylene with catalytic potential for activation of small molecules (*e.g.* NH₃, CH₄, etc.)

Lab Assistant.....08/2013-12/2013
SMCM St. Mary's City, MD

- Assisted and guided students in their lab techniques
- Taught new topics and laboratory skills to students

Research Assistant.....01/2013-05/2015
Department of Biology, SMCM St. Mary's City, MD

- Genomic Architecture of Ecologically-Based Reproductive Isolation
 - Used Unix to process and compile genomic information on two wildflower species, while using Stacks software to organize and analyze the output
- CpG Island Analysis in the Human, Neanderthal, Chimpanzee, Gibbon, and Rhesus Genomes
 - Annotated loci and compiled epigenetic information
- The Effect of Fluoxetine on Habituation to Novelty in *Danio rerio*
 - Regulated feeding and ammonia levels of test subjects and analyzed data

HONORS AND AWARDS

Chi Omega Lambda (American Society of Biochemistry and Molecular Biology)	
Honor Society Member.....	2016
SMCM American Chemical Society (ACS) Student Award.....	2016
Omicron Delta Kappa National Leadership Honor Society Member.....	08/2015-05/2016
TECBio REU @ Pitt.....	05/2015-08/2015
St. Mary's Scholar.....	2015
SMCM ACS Division of Inorganic Chemistry Undergraduate Award.....	2015
Tri-Beta Biological National Honor's Society Member.....	01/2014-05/2016
Dean's List.....	08/2012-05/2016
SMCM Academic Merit Scholarship.....	08/2012-05/2016

PEER-REVIEWED PUBLICATIONS

1. **Hain, E.**, Camacho, C. J., & Koes, D. R. (2016). Fragment oriented molecular shapes. *Journal of Molecular Graphics and Modelling*, 66, 143-154.

PRESENTATIONS

1. **Hain, E.** & Koes, D. R. Fragment oriented molecular shape (FOMS) search: A novel shape-based virtual screening method (Poster). 251st ACS National Meeting & Exposition (San Diego, California) March 15, 2016