

YARA SKAF

1700 SW 16th Court, Unit B21
Gainesville, FL 32608
yaranskaf@gmail.com
(724) 561 - 9898

EDUCATION

- University of Florida School of Medicine** - Gainesville, FL May 2020 - Present
MD/PhD Student
Area of Concentration - Mathematics
Major Advisor - Reinhard Laubenbacher, PhD
- University of Connecticut School of Medicine** - Farmington, CT August 2017 - April 2020
MD/PhD Student
Area of Concentration - Systems Biology
Major Advisor - Reinhard Laubenbacher, PhD
- University of Pittsburgh** - Pittsburgh, PA August 2011 - April 2016
B.S. in Mathematics, Molecular Biology, & Chemistry

PROFESSIONAL EXPERIENCE

- Epic Systems Corporation** - Madison, WI June 2016 - June 2017
Software Developer

RESEARCH

- Laubenbacher Laboratory** - UConn Health October 2019 - Present
Graduate Research Assistant
Topological Data Analysis

My graduate thesis work is aimed toward the development and application of a computational topology framework to predictive models in the context of healthcare. Developing this framework involves programmatically implementing tools from theoretical mathematics within the context of patient-centered research questions. In particular, we are working to use this analysis to predict outcomes and assess trade-offs in patient care using data from electronic health record (EHR) and insurance claims databases.

- LaFramboise Laboratory** - University of Pittsburgh October 2015 - May 2016,
Undergraduate Researcher December 2010 - September 2011
Computational Genomics

Dr. William LaFramboise works primarily in the field of clinical genomics with a particular focus on stem cell and genomic sequencing techniques. In his laboratory, I implemented a copy number analysis algorithm that was applied to the output of targeted genetic sequencing of patient tissue samples. The algorithm searches for copy number variations (increase or decrease relative to normal) of genes in tumor samples versus a pool of normal samples.

Wipf Laboratory - University of Pittsburgh
Undergraduate Researcher
Synthetic Organic Chemistry

May 2014 - August 2014

Dr. Peter Wipf focuses his research on developing novel synthetic methods for producing heterocycles and other medically applicable organic compounds. In his laboratory, I worked on a project centered around the synthesis of dihydropyrimidinones. These compounds are used pharmaceutically as calcium channel blockers. In particular, I worked to optimize a Biginelli reaction producing such a product using various Indium and Bismuth catalysts.

PUBLICATIONS & PRESENTATIONS

Publication - University of Connecticut April 2020
Zeng J, Platig J, Cheng T, Ahmed S, Skaf Y, Potluri L, Schwartz D, Steen H, Moody D, Husson R.
(2020) Protein kinases PknA and PknB independently and coordinately regulate essential *Mycobacterium tuberculosis* physiologies and antimicrobial susceptibility. PLOS Pathogens 16(4): e1008452.
<https://doi.org/10.1371/journal.ppat.1008452>

Research Talk - University of Connecticut December 2019
Topological Data Analysis: A Framework for Modeling Health Outcomes
Department of Systems Biology seminar

Biochemistry Lecture - University of Pittsburgh March 2016
Nucleic Acids and DNA Sequencing: Organic Chemistry of the Human Genome
Lecture given to Organic Chemistry 2 undergraduate students

TEACHING

Hartford Health Education - University of Connecticut September 2018 - January 2019
Health class instructor for 8th grade students in Hartford public schools

Undergraduate Teaching Assistant (UTA) - University of Pittsburgh August 2012 - April 2016
Organic Chemistry 1 & 2, Biology 1 & 2, Algebra, Trigonometry courses

Head UTA - University of Pittsburgh August 2014 - April 2016
Composed course materials & mentored other UTAs for Biology 1 & 2

Undergraduate Laboratory Instructor - University of Pittsburgh August 2013 - April 2015
Organic Chemistry 1 & 2 Laboratory courses

PROFESSIONAL & EXTRACURRICULAR ACTIVITIES

CT-JSHS Poster Judge - University of Connecticut March 2020
Connecticut Junior Science and Humanities Symposium Competitive Poster Judge
Evaluated presentations of scientific research by high school students to select winners for the competitive poster event

MD/PhD Student Interviewer - University of Connecticut September 2019 - Present
UConn MD/PhD Admission Committee Student Interviewer
Interview MD/PhD applicants and compose recommendation for acceptance or rejection

Medical Tent Volunteer for Hartford Marathon - University of Connecticut October 2019
 Triaged, assessed, & treated patients seeking care at stations throughout the marathon course

Emergency Medicine Interest Group (EMIG) - University of Connecticut May 2018 - May 2019
 Board member, Webmaster
 Organized EMIG events, participated in board meetings, & maintained/updated the EMIG website

South Park Clinic Volunteer - University of Connecticut July 2018
 Medical Student Volunteer
 Assessed and treated homeless patients seeking care at South Park Clinic

Migrant Farm Worker Clinic Volunteer - University of Connecticut February 2018
 Medical Student Volunteer
 Assessed and treated patients seeking care at Migrant Farm Worker Clinic

Pitt Mathematics Club - University of Pittsburgh January 2014 - April 2016
 Co-president (2015-2016) and member
 Attended weekly talks as a member; organized events, fundraising, & speakers as co-president

Safety Course Design Project - University of Pittsburgh May 2015 - December 2015
 Assisted under Dr. Ericka Huston in designing a course in chemical safety for lab teaching assistants

Clinical Volunteering - University of Pittsburgh Medical Center May 2015 - December 2015
 Undergraduate Volunteer
 Provided conversation, activities, & encouragement to long-term hospital inpatients

Mathematics Assistance Center Tutor - University of Pittsburgh September 2013 - April 2015
 Undergraduate Tutor
 Tutored math courses including algebra, calculus, differential equations, & theoretical mathematics

Saturday Science Volunteer - University of Pittsburgh September 2013 - April 2015
 Instructor of general chemistry lessons to female & minority students from Pittsburgh public schools

REFERENCES

Reinhard Laubenbacher, PhD - University of Connecticut laubenbacher@uchc.edu
 Director of Center for Quantitative Medicine, Connecticut Pain Consortium
 Professor of Cell Biology, Computational Biology, Jackson Laboratory for Genomic Medicine

Jason Cory Brunson, PhD - University of Florida brunson@uchc.edu
 Research Assistant Professor at the Laboratory for Systems Medicine

Carol Pilbeam, MD/PhD - University of Connecticut pilbeam@uchc.edu
 Director of University of Connecticut MD/PhD Combined Degree Program
 Professor of Medicine and Orthopedics

Ericka Huston, PhD - University of Pittsburgh ceder@pitt.edu
 Director of Undergraduate Organic Chemistry Laboratories
 Senior Lecturer

William LaFramboise, PhD - Allegheny Health Network laframboisewa@upmc.edu
 Chief Genomics Technology Officer