Sara Bahri

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EDUCATION

Georgia Institute of Technology (Provost Scholarship) Atlanta, GA

Bachelor of Science in Biochemistry, *Computer Science Minor*, *Biology Minor* May 2024

Relevant Coursework: Data Structures and Algorithms, Intro to Object-Oriented Programming, Biostatistics, Quantitative Analysis, Objects and Design, Biochemistry I & II, Analytical Chemistry

RESEARCH EXPERIENCE

The Ramprasad Group, **Georgia Tech (Material Science and Engineering)** Atlanta, GA

UNDERGRADUATE RESEARCHER May 2023 - Present

- Optimizing fingerprints of 5000+ small molecules with Python implementation of multiple fingerprinting methods.
- Engineering precise machine learning models utilizing Autogluon for the prediction of small molecule toxicity, incorporating advanced techniques in dimensionality reduction to enhance model accuracy and robustness.

The Lieberman Lab, Georgia Tech (Chemistry and Biochemistry) Atlanta, GA

UNDERGRADUATE RESEARCHER August 2021 - Present

- Wu, Y., Thomas, G. M., Thomsen, M., Bahri, S., & Lieberman, R. L. (2023). Lipid environment modulates processivity and kinetics of a presenilin homolog acting on multiple substrates in vitro. *Journal of Biological Chemistry*, 105401. doi.org/10.1016/j.jbc.2023.105401
- Performed molecular docking simulations of protein-ligand interactions in AutoDock Vina, SwissDock, and Haddock to identify active residues in binding sites with comparison to acquired NMR binding data.
- Purified cNW9 nanodiscs to structurally characterize acid β-glucosidase, a key protein in Gaucher disease, and its interactions with its activator protein, using size exclusion, affinity chromatography, SDS-PAGE, and Western Blot analysis.

The Andersen Lab, Weill Cornell Medical College (Physiology and Biophysics) New York City, NY

UNDERGRADUATE RESEARCHER May - August 2022

- Conducted spectrofluorometric research on tyrocidine's ability to potentiate the pore-forming ability of linear gramicidins with Dr. Olaf S. Andersen using the Gramicidin-based Fluorescence Assay.
- Performed 200+ runs of single-mixing and sequential stopped-flow spectrofluorometry to assess the bilayer-modifying potency of detergents of various charge on charged and uncharged membranes.
- Skilled at extrusion, sonication, dynamic light scattering, zeta potential, and complex lipid vesicle preparation.
- Analyzed the rates of fluorescence quenching using Python scripts and Excel.

RESEARCH VOLUNTEER July - September 2019

- Quantified elasticity changes in aminoglycoside antibiotics in neutral and negative vesicles with 430+ runs of single-mixing stopped-flow spectrofluorometry, revealing bilayer elasticity as a novel mechanism for detecting toxicity.

WORK EXPERIENCE

Georgia Tech Office of Undergraduate Education (GTOUE) Atlanta, GA

SOCIAL MEDIA INTERN August 2022 - Present

- Create compelling content to boost awareness of GTOUE's diverse programs, highlighting unique offerings for the undergraduate community and conduct in-depth analytics to refine content strategy and enhance audience engagement.

LEADERSHIP EXPERIENCE

Student Affiliates of the American Chemical Society (SAACS), VICE-PRESIDENT March 2021 – Present

- Empower students interested in chemistry by facilitating their pursuit of graduate school and research through biweekly interactive events and presentations, while also coordinating collaborations with faculty, clubs, and organizations.

Student Advisory Board (SAB), MEMBER August 2023 - Present

- Strategically facilitate open dialogues between undergraduates and the Vice Provost's office, fostering an environment where concerns were effectively addressed, and solutions were collaboratively developed.

American Physician-Scientist Association at Georgia Tech, CO-FOUNDER August 2020 - May 2023

- Created undergraduate network with current physician-scientists, faculty, and MD-PhD trainees to foster professional development and enhance mentorship with doctors and researchers through networking nights and socials.

SKILLS

Programming Languages: Java, Python, MATLAB, and R Program; Microsoft Suite; RDKit

HONORS AND AWARDS

Petit Undergraduate Research Scholar January 2023

Office of Minority Education and Development (OMED) Tower Awards Sustained Silver April 2023

Order of the Omega Honor Society Inductee (Alpha Phi Iota Mu Member) April 2023

Regeneron Student Talent Search Scholar January 2020