Suong B. A. Tran

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Education

Dickinson College *Jan 2021 - Present*

Bachelor degree - Expected Graduation Date: May 2024
Majors: Chemistry (with honors) and Data Analytics
Minor: Mathematics
Cumulative GPA: 3.97/4.00
Honor Thesis (Accepted May 2023): Toward multicomponent bioluminescence imaging via statistical modeling and tuning emission wavelength

Research Projects

Tuning the Emission Wavelength of Bioluminescence via Peptide-fluorophore conjugates *Dickinson College, Carlisle, PA*

Undergraduate Researcher for Professor Colin Rathbun of Chemistry Department — Jan 2022 - Present

- Independently proposed and designed experiments to tune emission wavelength of bioluminescence for multicomponent imaging.
- Synthesized peptides and fluorophore-peptides as easy-to-use probes to study cellular interactions *in vivo*.
- Assessed synthesized probes for enhanced tissue-permeability on mimic tissues.

Synthesis of Piperazic Acid Derivative for Total Synthesis of (−)-Himastatin *MIT, Cambridge, MA*

Summer Research Intern in Professor Mohammad Movassaghi's lab of Chemistry Department — Jun 2023 - Aug 2023

- Successfully executed a 9-step synthesis of piperazic acid derivative, a crucial compound in the advancement of novel derivatives of (−)-Himastatin.
- Analyzed 1D and 2D NMR spectroscopy to ensure the characterization of synthesized compounds.

Applying Statistical Model to Find Orthogonal Bioluminescent Probes for Multiplexed Imaging *Dickinson College, Carlisle, PA*

Collaborative Research with Professor Colin M. Rathbun and Professor Eren Bilen of Chemistry and Data Analytics Departments — Sep 2022 - Present

- Processed sequencing data from Deep Mutational Scanning to ensure data quality and integrity.
- Interpreted and evaluated various statistical and machine learning models to determine the most appropriate model for the given data set.
- Designed and conducted experiments to investigate and characterize the effects of predicted mutations on the binding affinity.
- Identified single-mutations of the luciferase enzyme's subunit, leading to different binding preferences with its ligands.

Selected Presentations

Tran, S., Rathbun, C., McGahan, A., Akrong, R. "Tuning the Emission Wavelength of Bioluminescence via Peptide-fluorophore conjugates for Multicomponent Imaging." *The Middle Atlantic Region of the American Chemical Society*, New York, NY, June 9, 2023 (Oral)

Tran, S., Rathbun, C., McGahan, A., Akrong, R. "Tuning the Emission Wavelength of Bioluminescence via Peptide-fluorophore conjugates for Multicomponent Imaging." *The 86th Annual Intercollegiate Student Chemists Convention*, Annville, PA, April 15, 2023 (Oral)

Tran, S., Rathbun, C., "Using Machine Learning to Finding Orthogonal Bioluminescent Probes for Multiplexed Imaging." *Dickinson Science Symposium 2023*, Carlisle, PA, April 20, 2023 (Poster)

Tran, S., Rathbun, C., "Tuning the Emission Wavelength of Bioluminescence via Peptide-fluorophore conjugates." *Gulf Coast Undergraduate Research Symposium*, Houston, TX, Oct 10, 2023 (Oral)

Tran, S., Rathbun, C., "Tuning the Emission Wavelength of Bioluminescence via Peptide-fluorophore conjugates." *Dickinson Summer Research Seminar*, Carlisle, PA, July 20, 2022 (Oral)

Awards and Honors

May 2023	**The Wellington A. Parlin Science Award** - Dickinson College
May 2023	**2023 Undergraduate Award in Physical Chemistry** - American Chemical Society
Nov 2022	**Second Place Prize in Biosynthetic Chemistry** - The 86th Annual Intercollegiate Student Chemists Convention
May 2022	**Outstanding First-year Chemistry Student** - Dickinson College
May 2022 - Present	**Horace Elton Rogers Scholarship** - Dickinson College
Jan 2021 - Present	**Benjamin Rush President Scholarship** - Dickinson College

Technical Skills

Programming Languages	R, Python, LaTex, HTML, SQL Vietnamese, English, French
Research Skill	Organic Synthesis, High-performance liquid chromatography (HPLC), prep HPLC, Liquid Chromatography - Mass Spectroscopy (LC-MS), 1D and 2D NMR, UV-Vis Spectrophotometer, Microplate reader, Gas Chromatography - Mass Spectroscopy(GC-MS)

Teaching Experiences

Lab Teaching Assistant *Dickinson College*

Chemistry Department and Math Department Jan 2022 - May2023

- Supervised laboratory experiments, maintained safety protocols, and provided technical assistance with lab equipment operation.
- Multivariable Calculus (I,II) lab - Spring 2022
- General Chemistry lab, Multivariable Calculus (I,II) lab - Fall 2022
- Analytical Chemistry lab, Organic Chemitry lab - Spring 2023

Quantitative Reasoning Center *Dickinson College*

Quantitative Reasoning Tutor Sep 2021 - Present

- Worked with professor to assist, mentor, and tutor students in Calculus (I,II), Probability and Statistic (I,II), General Chemistry, Organic Chemistry, Analytical Chemistry, Biochemistry, R and Python (Programing).
- Hold weekly tutor sessions at the Quantitative Reasoning Center.

Leadership Experiences

Dickinson Residence Life Office *Carlisle, PA*

Resident Advisor Aug 2023 - Present

- Fostered a supportive and inclusive residential community, promoting a positive living environment for fellow residents.
- Mentored residents and provided guidance, resolving conflicts, and organizing engaging activities to enhance the overall resident experience.

Aromyth *aromyth.com*

Founder, Podcaster, Web developer March 2023 - Present

- Hosted and produced podcast focused on fragrance looking from science perspectives.
- Managed all aspects of podcast production, including researching, scripting, recording, editing, and distribution.
- Developed and maintained podcast website.

Vietnamese Student Association at Dickinson College *Dickinson College*

Head of Event Sep 2021 - Sep 2022

- Elevated the event experience by implementing innovative strategies, resulting in increased student engagement and overall satisfaction.
- Coordinated events, liaised with influential guest speakers and coaches, and ensured flawless technical execution.