

# Suong B. A. Tran

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## Education

### Dickinson College

Jan 2021 - Present

Bachelor degree - Expected 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** R, Python, LaTeX, HTML, SQL

**Developer tools** LaTeX, Git, VSCode

**Languages** 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

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### Lab Teaching Assistant

Chemistry Department and Math Department

- Oversaw lab experiments, ensure safety, and assisted using lab equipment.
- General Chemistry, Multivariable Calculus (I,II) - Fall 2021
- Analytical Chemistry, Organic Chemistry lab - Spring 2022

*Dickinson College*

Sep 2021 - Present

### Quantitative Reasoning Center

Quantitative Reasoning Tutor

- 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 (Programming).
- Hold weekly tutor sessions at Quantitative Reasoning Center.

*Dickinson College*

Sep 2021 - Present

## Leadership Experiences

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### Dickinson Residence Life Office

Resident Advisor

- 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.

*Carlisle, PA*

Aug 2023 - Present

### Aromyth

Founder, Podcaster, Web developer

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

*[aromynth.com](https://aromynth.com)*

March 2023 - Present

### Vietnamese Student Association at Dickinson College

Head of Event

- Spearhead dynamic event promotion, captivating the student body and driving high attendance rates.
- Orchestrated seamless event coordination, liaising with influential guest speakers and coaches, and ensuring flawless technical execution.
- Elevated the event experience by implementing innovative strategies, resulting in increased student engagement and overall satisfaction.

*Dickinson College*

Sep 2021 - Sep 2022