Suong Bach Anh Tran

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Education

Dickinson College *Jan 2021 - Present*

Bachelor's degree

Majors: Chemistry (with honors) and Data Science

Minor: Mathematics

Thesis (Accepted May 2023): Tuning the Emission Wavelength of Bioluminescence via Peptide-fluorophore conjugates for Multicomponent Imaging

Cumulative GPA: 3.97/4.00

Research Projects

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

Undergraduate Researcher for Professor Colin M. Rathbun at Chemistry Department Jan 2022 - Present

- Synthesized peptides and fluorophore-peptides which is an easy-to-use probes for bioluminescence imaging to study cellular interactions *in vivo*.
- Successfully tuned emission wavelength of bioluminescence from blue to near-red which can be utilized for multicomponent imaging.
- Conducted tests on mimic tissues, proving the enhanced tissue-permeability of new probes.

Synthesis of Piperazic Acid for Novel Derivatives of Himastatin *MIT, Cambridge, MA*

Summer Research Intern in Professor Mohammad Movassaghi at Chemistry Department Jun 2023 - Aug 2023

Using Machine Learning to Finding Orthogonal Bioluminescent Probes for Multiplexed Imaging *Dickinson College, Carlisle, PA*

Collaborative Research with Professor Colin M. Rathbun and Professor Eren Bilen at Chemistry and Data Analytics Department Sep 2022 - Dec 2023

- Cleaned and normalized 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.
- Identified single-mutations of the luciferase enzyme's subunit, leading to different binding preferences with its ligands.
- Designed and conducted experiments to investigate and characterize the effects of these mutations on the binding affinity.

Presentations

Tran, S., Movassaghi,M., Amiri, A., McGahan. "Synthesis of Piperazic Acid for Novel Derivatives of Himastatin." *Annual MIT Summer Research Program (MSRP) Poster Session*, MIT, MA, Aug. 4th, 2023 (Poster)

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 15th, 2023 (Oral)

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

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

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

Awards and Honors

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

Technical Skills

Programming R, Python, LaTex, HTML, SQL
Languages Vietnamese, English, French
Equipment HPLC, prep HPLC, LC-MS, 1D and 2D NMR, UV-Vis Spectrophotometer, Microplate reader, GC-MS

Teaching Experiences

Lab Teaching Assistant — *Dickinson College*

Chemistry Department and Math Department — Sep 2021 - Present

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

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 Quantitative Reasoning Center.

Leadership Experiences

Dickinson Resident Life — *Carlisle, PA*

Resident Advisor — Jan 2023 - Present

- Fostered a supportive and inclusive residential community, promoting a positive living environment for fellow residents.
- Mentored 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 a monthly 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.

Vietnamese Student Association at Dickinson College — *Dickinson College*

Head of Event — Sep 2021 - Sep 2022

- 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.