

Huy Vo Huynh

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EDUCATION

Institution: St. Olaf College

Anticipated graduation: May 2025

Academic advisor: Cassandra M. Joiner

Major: Chemistry and Biology

Concentration: Biomolecular Science

Cumulative GPA: 3.98 / 4.00, **Chemistry GPA:** 4.00 / 4.00, **Biology GPA:** 3.96 / 4.00

Honors: Dean's List: Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023

RESEARCH INTERESTS

My current research interest is using biochemistry, chemical biology, and molecular biology tools to investigate protein-protein or nucleic acid-protein interactions in different signaling pathways as well as designing small molecules to target certain enzymes in human diseases. My plan after graduation is to attend graduate school and pursue a Ph.D. degree in Chemical Biology.

COURSEWORK

Chemistry: General Chemistry I/II, Organic Chemistry I/II, Organic Synthesis I/II, Biochemistry I/II, Organometallic Chemistry, Analytical Chemistry, Physical Chemistry, Bioanalytical Chemistry, Independent Research

Biology: Biodiversity Foundation, Cell Biology, Genetics, Microbiology, Human Anatomy & Physiology, Developmental Biology, Independent Research

Physics: Principles of Physics I/II

Mathematics: Linear Algebra, Differential Equations I, Statistics for Sciences

MANUSCRIPTS

Molecular Basis of Allosteric Regulation and Pharmaceutical Targeting of Protein Kinase C β . *Co-author*

Intracellular asymmetry is controlled by JanA-1, a polo-like kinase involved in chiral patterning within the unicellular protist, *Tetrahymena thermophila*. *Co-author*

OFF-CAMPUS RESEARCH EXPERIENCES / TIMESTAMPS

Mayo Clinic Summer Undergraduate Research Fellow (SURF), Mayo Clinic, Rochester, MN – *Summer 2023*

- Mentor: Dr. Matthew J. Schellenberg (Department of Biochemistry and Molecular Biology)
- Objective: Test inhibition potency of several estrogen receptor modulators (SERMs) on catalytic activity of protein kinase C (PKC) to have insights into their binding mechanism.
- Presentation: Mayo Clinic SURF 2023 Closing Symposium, Rochester, MN.
- Publication: Manuscript for submission

ON-CAMPUS RESEARCH EXPERIENCES / TIMESTAMPS

Academic Year Independent Research (IR), Chemistry St. Olaf College – *Fall 2023 / Spring 2024*

- Mentor: Dr. Cassandra M. Joiner (Department of Chemistry)
- Objective: Use UV-irradiation to covalently capture the crosslinking between OGT Bpa-incorporated library and CARM1 – adaptor of interest. Visualize via western blotting.
- Academic credit: 0.25 (Fall), 1.0 (Spring)

Academic Year Independent Research (IR), Biology St. Olaf College – *Fall 2023*

- Mentor: Dr. Eric S. Cole (Department of Biology)
- Objective: Use polo-like kinase inhibitor on janusA protein in *Tetrahymena thermophila* to pharmacologically reproduce the mirror-duplication mutant phenotype. Localize janusA protein during *Tetrahymena thermophila*

conjugation with GFP-tagging and fluorescence microscopy.

- Academic credit: 1.0
- Presentation: April 2024 Midwest Protozoology Society, Knox College, IL.
- Publication: Manuscript for submission

Directed Undergraduate Researcher (DUR), Chemistry St. Olaf College – *Spring 2023*

- Mentor: Dr. Cassandra M. Joiner (Department of Chemistry)
- Objective: Use affinity chromatography and size-exclusion chromatography to purify the library of OGT Bpa-incorporated mutants.
- Academic credit: 0.5

Summer Collaborative Undergraduate Researcher (CURI), Chemistry St. Olaf College – *Summer 2022*

- Mentor: Dr. Cassandra M. Joiner (Department of Chemistry)
- Objective: Use affinity chromatography, size-exclusion chromatography, and western blotting to capture Bpa (unnatural amino acid) incorporation along the tetratricopeptide (TPR) domain of OGT.
- Presentation: St. Olaf CURI Closing Symposium, Northfield, MN.

STUDENT EMPLOYMENT

Supplemental Instruction Leader, Academic Success Center, St. Olaf College – *Fall 2022 to present*

- BIO 150 (Biodiversity Foundations) – *Fall 2022*
- CHEM 122 (Introductory Chemistry I) – *Spring 2023*
- CHEM 247 (Organic Chemistry I) – *Fall 2023*
- CHEM 126 (Introductory Chemistry II) – *Spring 2024*

Lab Teaching Assistant, St. Olaf College – *2022-23 Academic Year*

- CHEM 125 (General Chemistry I) – *Fall 2022*
- BIO 233 (Genetics) – *Fall 2022*
- CH/BI 126 (Integrated Chem/Bio II) – *January 2023*

Student Grader, St. Olaf College – *January 2022 to present*

- MATH 220 (Linear Algebra) – *January/Spring 2022*
- CHEM 248 (Organic Chemistry II) – *Spring 2024*

Chemistry Stockroom Worker, St. Olaf College – *2021-22 Academic Year*

- Wash glassware, prepare lab materials for multiple lab sections, and provide chemical equipment as needed.

SKILLS

Genetics: Site-directed mutagenesis, genetic code expansion, PCR, RT-PCR, DNA gel electrophoresis, DNA miniprep

Biochemical: Bacterial transformation, transfection, cell culture, affinity chromatography, size-exclusion chromatography

Bioanalytical: SDS-PAGE, western blotting, Z-LYTE kinase assay, proteolysis assay, mass spectrometry, protein crystallography.

Spectroscopy: GFP-tagged fluorescence microscopy, immunofluorescence microscopy

Technical: R (Programming Language), Mathematica, Microsoft Office

EXTRACURRICULAR ACTIVITIES

American Society of Biochemistry and Molecular Biology (ASBMB) – Member

Society of Chemistry Students (SOCS) – Class of 2025 Representative

Tri Beta (Biology Club) – Member

Society of Industrial and Applied Mathematics (SIAM) – Member