

Summary

Accomplished scientist with 5+ years of expertise in small-molecule drug discovery. Skilled in protein engineering, purification, characterization, and assay development. Proficient in troubleshooting experiments, mentoring junior scientists, and managing projects within dynamic, multidisciplinary environments. Committed to fostering innovation and delivering impactful research outcomes.

Experience

R&D Group Leader, BellBrook Labs

March 2025 - Present

- Supervise a team of scientists while managing R&D goals and projects.
- Investigate novel assay platform and therapeutic targets, including using phage display to select protein binding domains for assay development.

Senior Scientist, BellBrook Labs

March 2022 – March 2025

- Developed and optimized functional assays for a diverse range of proteins, contributing to the successful launch of 10+ assay products and 30+ applications.
- Led an internal drug discovery program, performing HTS, hit triage, evaluating selectivity and residence time of hit compounds.
- Streamlined tech transfer and product launch processes, enhancing operational efficiency and effectiveness.
- Supervised scientists in designing, executing experiments, and analyzing data.
- Authored technical documentation such as SOPs, product user protocols, peer-reviewed journal articles, and marketing literature.
- Provided technical support to customers, addressing inquiries and ensuring successful implementation of assays.

Postdoctoral Research Associate, University of Illinois at Chicago

May 2020 – March 2022

- Engineered a cholesterol depletion system to regulate intracellular cholesterol levels, enabling the study of its functional roles in live cells. This system combines a bacterial cholesterol oxidase with modified membrane-binding activity and a chemical-induced dimerization system for site-specific targeting.
- Employed a variety of laboratory techniques to investigate the phosphoinositide-binding activity of Smad2, revealing its critical role in Smad-dependent TGF- β signaling.
- Performed ultracentrifugation to isolate cell organelles, followed by mass spectrometry and treatment with cholesterol oxidase to quantify cholesterol levels in the inner and outer layers of intracellular membranes.

Graduate Research Assistant, University of Illinois at Chicago

August 2014 – May 2020

- Designed a lanthanide-based FRET (LRET) biosensor toolkit for live-cell imaging and high-throughput cell-based assays.
- Established stable cell lines expressing genetically-encoded biosensors.
- Leveraged the biosensors to investigate the activity and inhibition of various protein-protein interactions.
- Investigated the translocation and endocytosis of cell-penetrating peptides, utilizing them to deliver dye cargos for labeling intracellular proteins.

Chemistry Lab Coordinator, University of Illinois at Chicago

August 2017 – December 2020

- Led discussions; coordinated activities in the chemistry lab; procured materials, services and facilities necessary for science instruction.
- Collaborated in writing a laboratory manual for the course, which has been used by hundreds of students.

Undergrad Researcher, Vietnam National University

September 2010 – May 2014

- Discovered an optimal one-pot method to synthesize a series of novel aza-14-crown-4 ethers with a γ -arylpyridine. The synthesized compounds possess anticancer activity predicted by PASS and confirmed by cell-based assays.

Intern, National University of Singapore

Spring 2014

- Synthesized potassium ion sensors and characterized their chemical properties by spectroscopy assay.

Intern, University of Illinois at Urbana-Champaign

Summer 2013

- Studied the complex undulatory swimming patterns of Zebrafish by analyzing quantitatively the fish swimming and developing the fish locomotion models using NEURON software.

Technical Skills

- **Biochemical Assays:** Enzyme activity assays, Immunoassays, Fluorometric assays (FP, FI, TR-FRET, Luminescent, AlphaLISA), Colorimetric assays
- **Biophysical Assays:** Thermal Shift Assay, CETSA, SPR
- **Cell-based Assay:** ELISA, Genetically-encoded biosensors, Luciferase reporter assay, Cell viability, Cell migration
- **Molecular Cloning:** Mutagenesis, Restriction enzyme-based cloning, Infusion cloning
- **Protein Techniques:** Protein expression and purification, Gel electrophoresis, Western blot, Protein labeling
- **Cell Culture Techniques:** Transfection, Stable cell line generation, siRNA knockdown, Cell microinjection, Cell imaging, Flow cytometry
- **Instrumentation:** Plate readers and automated dispensers, Nicoya SPR, Microscopy (Time-gated epifluorescent, Confocal, TIRF), Wes ProteinSimple, Bio-Rad qPCR, Spectrometers, Ultracentrifuge
- **Software:** GraphPad Prism, ImageJ, KaleidaGraph, PyMOL, bioRender, MS Office.

Education

University of Illinois at Chicago, USA

August 2014 - May 2020

Ph.D. in Biochemistry

Vietnam National University, Vietnam

September 2009 - June 2014

B.S. in Chemistry

Patents

- Le A., Soldatenkov T., Nguyen P., To T., Truong H., Pham H., 2013. Synthesis of (γ -arylpyridino)-dibenzoaza-14-crown-4 ether derivatives and their cytotoxicity on four cancer cell lines. Patent No. VN 19514.

Selected Publications

- [Ha Pham](#), Meera Kumar, Anibal Ramos Martinez, Mahbbat Ali, and Robert G. Lowery, Development and validation of a generic methyltransferase enzymatic assay based on an SAH riboswitch, *SLAS Discovery*, Volume 29, Issue 4, 100161, 2024.
- [Ha Pham](#), Indira Singaram, Jiachen Sun, Arthur Ralko, Madalyn Puckett, Ashutosh Sharma, Alice Vrielink, and Wonhwa Cho, Development of a novel spatiotemporal depletion system for cellular cholesterol, *Journal of Lipid Research*, Volume 63, Issue 3, 100178, March 01, 2022.
- [Ha Pham](#), Mona Hoseini Soaee, Andrei V Karginov, Lawrence W Miller FRET and LRET Biosensors for Cell-based Imaging and Screening of Rac1 Activation, *Scientific Reports* 12, no. 1 (2022): 5291.
- [Ha T Pham](#), Lawrence W Miller, Lanthanide-based resonance energy transfer biosensors for live-cell applications, *Methods in Enzymology*, Volume 651, 2021, Pages 291-311.
- Ting Chen, [Ha T Pham](#), Ali Mohamadi, Lawrence W Miller, Single-chain lanthanide luminescence biosensors for cell-based imaging and screening of protein-protein interactions, *iScience*, Volume 23, Issue 9, 2020.

Awards and Honors

- Postdoctoral Small Scholarship Award, UIC, 2020.
- Travel award to attend and give a talk at the ACS 2020 meeting, UIC, 2020.
- Teaching Assistant of the year, Department of Chemistry, UIC, 2016.
- POSCO scholarship, Posco T.J.Park Fund Foundation, 2011-2013.
- The prominent young students of VNU University of Science, 2013.