Giao Vu

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# Education

**Ph.D Emory University**, *Physical Chemistry* Fall 2023 - Present

Atlanta, GA

Related coursework: Molecular Spectroscopy, Thermodynamics Kinetics & Modelling, Modern Technique in Computational and Theoretical Chemistry, and Molecular Quantum Mechanic

**BS Temple University**, *Chemistry* January 2020 - December 2022

Philadelphia, PA

Related coursework: Advanced Inorganic Chemistry, Crystallography and Diffraction, and Inorganic Synthesis

**Montgomery County Community College**, *Health Science* August 2017 - May 2019

Blue Bell, PA

# Military Experience

**United States Army**, Fort Leonard Wood MO May 2019 – November 2019

***Private First Class,*** *Echo Company 2-10th Infantry Honorably Discharged Due to Injury*

* Led a platoon as a leader to complete orders under very stressful situations daily
* Completed mentally and physically challenging task while maintain high discipline

# Research Experience

**Ph.D Graduate Research Program,** Emory University, Atlanta, GA Fall 2023 - Present

***Principal Investigator:*** *Michael Heaven*

* Study the bonding of lanthanide and actinide in gas phase using laser-induced fluorescence (LIF) and dispersed laser-induced fluorescence (DLIF) for nuclear energy enhancement applications
* Analyze electronic transitions of NdO and NdF in a high vacuum and low temperature chamber with an Nd:YAG ablation laser and a dye laser

**Undergraduate Research Program,** Temple University, Philadelphia, PA February 2022 – May 2023

***Principal Investigator:*** *Eric Borguet*

* Performed first fundamental investigation on defects and binding sites within new metal-organic frameworks (MOFs) using acetonitrile, acetone, and ammonia
* Analyzed new MOFs ability to adsorb and desorb industrial toxic gases using temperature programmed infrared spectroscopy (TP-IR) and temperature programmed desorption mass spectroscopy (TPD-MS) under ultra-high vacuum (UHV) for various gas storage applications

**Sigmapharm Laboratory**, Bensalem PA May 2022 – July 2022

***R&D Lab Intern****, Lab Advisor: Athan-Jeed Bandoy*

* Studied drug development from the small scale of pre-formulation early stages to the larger batches in manufacturing development process
* Prepared daily solutions such as buffers, media, and mobile phases independently
* Performed and analyzed dissolution, HPLC, and UV-Vis data in compliance with SOPs, FDA, and OSHA regulations

**ITW Performance Polymers**, Montgomeryville PA May 2021 – August 2021

***R&D Lab Intern,*** *Lab Advisor:**John Kenneweg*

* Saved the company $14 million by leading and assisting seven projects
  + Projects: Epoxy offset resins evaluation, high thermal conductivity silicones developing, raw material consolidation, crystalline silica replacement for health safety
* Developed new coating products and qualified raw materials for use in adhesive formulations by analytical testing
* Drove organic growth of more than two product lines through mechanical and electrical testing of high-profile clients’ products
* Qualified finished goods and raw materials to reach key performance indicators (KPIs) goals through quality control
* Interacted with cross-functional teams outside the R&D lab such as engineers, QC, technical service to develop ideas
* Solved customers’ issues by working closely and proficiency with distributors and technical engineers

# Work Experience

**Temple University Chemistry Department**, Philadelphia PA Spring – Summer 2023

***General Chemistry Laboratory Adjunct Instructor,*** *Coordinator: Dr. John Michel*

* Taught up to a hundred student in general chemistry labs
* Prepared weekly lecture and videos for students
* Tutored and mentored students with their questions outside of class

**Temple University General Education**, Philadelphia PA February 2020 – December 2022

***Philadelphia Experience (PEX) Content Manager,*** *Coordinator: Donnell Powell*

* Collaborate with PEX, Philadelphia Experience, partners up to four events such as art exhibitions, poetry, and music performance per semester for students
* Work with PEX ambassadors to spread out general information about opportunities to more than a hundred student per semester
* Organize and create contents for PEX IG which helped grow the number of followers by 200% in a month

**Thomas Jefferson Hospital**, Abington PA February 2021 – September 2021

***Radiologist Assistant,*** *Manager: Janell Godwin*

* Monitored system, EPIC, for critical reports and facilitated cross-departmental collaboration
* Provided patients with radiology images when requested acquiring all necessary consents and form completion
* Fulfilled radiology requests from healthcare providers for patient reports conforming to PHI and HIPAA policies and procedures

# Presentations

**Temple University**, Philadelphia PA November 2022

***Poster Presentation,*** *Temple University Open House*

***Title***: “Determination How Thermal Activation Affects Binding Distributions of Acetonitrile Probe in a Metal-Organic Framework (MOF) Under an Ultra High Vacuum (UHV) Condition”

**Philadelphia Inorganic Colloquium**, Philadelphia PA October 2022

***Poster Presentation,*** *Inorganic Research Colloquium*

***Title***: “Fundamental Study of the New Metal-Organic Frameworks’ (MOFs) Defects Using Temperature-Programmed Desorption Mass Spectrometry (TPD-MS) and Infrared Spectroscopy (IR)”

**Temple University**, Philadelphia PA September 2022

***Poster Presentation,*** *Undergraduate Research Symposium*

***Title***: “Investigating Defects and Binding Sites in Microporous Metal-Organic Frameworks (MOFs) Using Acetonitrile”

**College of Science and Technology, Temple University**, Philadelphia PA April 2022

***Oral Presentation,*** *First Generation in Science Panel*

***Title***: “Personal Adversity and Perseverance as a First-Generation Student”

# Professional Affiliations

**Temple University Chemistry Society**, Philadelphia PA May 2021 – May 2022

***Secretary***

* Coordinated weekly club meeting agendas and events such as career fairs, professional advising, and lab meetings for more than twenty students
* Created monthly newsletters using Mailchimp for club members to keep everyone updated about club information

**Green Chemistry Committee**, Temple University, Philadelphia PA May 2021 – May 2022

***Member***

* Hosted and helped with green chemistry seminars to educate and provide environmental research which were related to clean energy, sustainable materials, and other to students
* Collaborated with the Office of Sustainability at Temple University to help spread awareness about reuse, reduce, and recycle lifestyles to students on campus
* Connected with Philadelphia EHRS in order to reduce waste, trash, and energy problems in the chemistry building such as lighting reduction, fume hood use, and gloves waste

# Professional Service

**Temple University General Education**, Philadelphia PA September 2022 – Present

***Undergraduate Research Ambassador***

* Create effective methods to courage and engage undergraduate students with research opportunities
* Mentor three undergraduate students per semester who want to get involved in research by helping them exploring their interests, research fields, and career path
* Connect mentees to research faculty and guide them to apply for grants, choose advantageous classes, and plan research goals

# Professional Activities

Member of Phi Alpha Chemical Society August 2023 - Present

Member of American Chemical Society August 2020 – Present

Member of Young Chemistry Committee, Philadelphia PA August 2021 – May 2023

Member of The Society of Flavor Chemists, Inc January 2021 – May 2023

# Community Service

**Emory GIVE,** Decatur GA August 2023 - Present

***Volunteer***

* Participate in monthly activity to help the local community:
  + Emory Autism Center
  + Atlanta Science Festival
  + Atlanta Chocolate Run
  + Clairmont Place Retirement Home

**Saint Maria Goretti Parish,** Hatfield PA August 2018 – April 2019

***Catechist***

* Designed lesson plans and taught about religion to multiple age groups (Kindergarten, Elementary and Middle school) in accordance with parish and church programs and agreements

***Vietnamese Teacher***

* Taught Vietnamese language and culture to Vietnamese children and people who were born in the United States to help them engaging with the community and family

**Women in Science,** Blue Bell PA March 2019

***Volunteer***

* Inspired girls in middle school who were underrepresented into STEM by using Kerbal Space Program and doing science technology activities such as colors mixing, small rockets shooting, coding, and more

# Technical Skills

·       Laser-Induced Fluorescence (LIF)

·       Dispersed LIF

·       Hardness Testing

·       Solvent Extraction

·       Drugs Dissolution

·       DNA Extraction

·       Thin-Layer Chromatography (TLC)

·       Gas Chromatography

·       High-Performance Liquid Chromatography (HPLC)

·       Fourier-Transform Infrared Spectroscopy (FT-IR)

·       Temperature-Programmed Desorption Mass Spectroscopy (TPD-MS)

·       Ultraviolet Visible Spectroscopy (UV-Vis)

·       X-ray Diffraction Machine (XDR)

# Computer Skills

**Programming**: Igor, Igor Macro, Origin, Apex 3, Olex, Gaussian, Mercury, Mathematica and Python

**Applications**: Spartan, Jmol, ChemDraw, and MathLab

**Platforms**: Canva, Wix, Wordpress, and Mailchimp

# Honors and Awards

**Women in Natural Science Fellowship** 2023 - Present

Awarded from Laney Graduate School - Emory University for outstanding academic achievement in graduate education where women have been historically underrepresented

**Quayle New Graduate Student Award** 2023

Awarded from College of Arts and Science – Emory University for exceptional research promise based on past experiment and excellent preparation for graduate school

**Florence R. Berg Endowed Scholarship** 2022

Awarded from College of Science and Technology - Temple University for conducting fulltime summer research

**Charlotte W. Newcombe Scholarship** 2021 - 2022

Awarded from Disability Resources and Services - Temple University

**Outstanding Member** 2020 - 2021

Awarded from Temple University Chemical Society

**Leading Women Scholarship** 2018 - 2019

Awarded from Montgomery County Community College for outstanding academic achievement in science majors