

# Caitlin My Hanh Le

Souderton, PA 18964

215.290.6942 | [Caitlin.My.Hanh.Le@temple.edu](mailto:Caitlin.My.Hanh.Le@temple.edu)

## EDUCATION

### Temple University, Philadelphia PA

Expected: May 2024

College of Science and Technology, Honors College

Bachelor of Science, Biochemistry; Minor, Mathematics; 3.8 GPA

### North Montco Technical Career Center, Lansdale PA

September 2019 – June 2020

Biotechnology Research Laboratories

## LABORATORY TECHNIQUES

- **Purification:** Extraction: solid-liquid / liquid-liquid; chromatography: column, thin-layer, gas; crystallization; recrystallization; distillation: simple, fractional
- **Laboratory/Research Instruments:** Spectroscopy: H NMR, UV/Vis; microscopy: bright field, phase contrast, dark field, fluorescence; centrifuges; incubators; volumetric glassware; balances: triple-beam, analytical
- **Biotechnology:** SDS-PAGE; polymerase chain reaction; genomic DNA isolation; microbial cell culture; mammalian cell culture; gram stain; restriction enzyme digestion; blue-white assay
- **Software:** IGOR, Spartan Molecular Modeling, Fiji

## RESEARCH EXPERIENCE

### Undergraduate Research Chemist

December 2021 – Present

### Temple University, Philadelphia PA

### Principal Investigator – Dr. Eric Borguet

~ 12 hours/week

- Study the catalytic activity of covalent-organic frameworks and metal-organic frameworks targeted towards chemical warfare agent simulants, peptides, and similar substrates
- Review and write scientific reports, design and perform experiments, analyze data from NMR and UV/Vis spectroscopy, and present research to answer interesting and important questions
- Collaborate directly with a team of 9 undergraduate, graduate, and post-doctoral colleagues

## POSTER PRESENTATIONS

1. Presentation: “Zirconium oxyhydroxide catalyzed oxidation of cysteine,” *American Physician Scientists Association (APSA) x Grey Matters Symposium*. Temple University, Philadelphia, PA, April 2023.
2. Presentation: “Zirconium oxyhydroxide catalyzed oxidation of cysteine,” *Philadelphia Inorganic Colloquium*. The College of New Jersey, Ewing Township, NJ, April 2023.

## ORAL PRESENTATIONS

1. Presentation: “Zirconium oxyhydroxide catalyzed oxidation of cysteine,” *Intercollegiate Student Chemists Convention (ISCC)*. Lebanon Valley College, Annville, PA, April 2023.
2. Presentation: “Zirconium oxyhydroxide catalyzed oxidation of cysteine,” *American Chemical Society (ACS) Fall 2023*. Moscone Center, San Francisco, CA, August 2023.

## PUBLICATIONS

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1. [Gene-Based Therapies for Neurodegenerative Diseases](#). Shan, V.; Le, C.; Arruda, T.; Nakahara, K.; Becker, C.; Zeid, D. *Temple University Grey Matters Journal*, 2023.
2. Zirconium oxyhydroxide catalyzed oxidation of cysteine. Le, C.; Devulapalli, V.S.D.; Bhattacharyya, A.; Dhar, S.; Sekhar, P.; Vaidhyanathan, R.; Borguet, E.  
Manuscript in Preparation.

## WORK EXPERIENCE

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### **STEM Tutor – Temple University Philadelphia, PA**

**August 2023 – Present**

- STEM tutor at Temple University, specializing in chemistry, biology, physics, and math, to provide one-on-one instruction to students in challenging courses
- Review and explain course content and concepts to enhance students' understanding and comprehension
- Assist in completing homework assignments, guide through problem-solving techniques, and develop personalized study plans with a focus on effective time management to prepare students for major exams

### **Freelance Artist – Self Employed Souderton, PA**

**January 2016 – Present**

- Develop a portfolio of over 35 realistic, graphite portraits that showcase technical art skills to potential customers
- Sold 3 customized commissions at the Souderton-Telford Rotary Auction, resulting in \$2,075 donated to the community
- Manage supplies and materials, client portfolio, and budget across the sale of 40+ commissions

### **Manager, Receptionist, Nail Technician – Revive Nail Bar Hatfield, PA**

**January 2018 – September 2022**

- Organize daily schedules manually for 10+ nail technicians, resulting in increased online and word of mouth reviews
- Resolve disputes with customers and manage daily appointments for 100+ clients, resulting in wait time reductions
- Monitor inventory levels to ensure timely restocking and maintenance of financial records
- Deliver consistent service excellence with professional nail drills and specialize in producing advanced nail art designs

## HEALTHCARE EXPERIENCE

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### **Dental Assistance and Observation – Borguet Main Line Dental Implants and Perio Narberth, PA**

**May 2023 – Present**

- Assisted and observed in various procedures, including osseous surgery, connective tissue grafts, implants, scaling and root planning, and impressions under the close supervision of a skilled periodontist
- Worked closely with patients and the periodontist, actively participating in care and ensuring comfort throughout dental procedures
- Acquired proficiency in dental practice management software by effectively utilizing it to manage patient records, streamline administrative tasks, and produce advanced imaging

### **Observation – Coby Orthodontics Quakertown, PA**

**March 2023**

- Followed and learned the general operations of an orthodontist's practice and the varying challenges encountered

- Studied the creativity, manual dexterity, and precision demonstrated in the artistic process of forming braces for a highly customized experience

**Observation – Elverson Dental Care**  
**Morgantown, PA**

**March 2023**

- Observed patient interactions and learned effective communication skills with patients of all ages
- Shadowed general dentists during consultations and treatment planning sessions
- Gained knowledge of dental equipment, instruments, and procedures such as fillings, extractions, and implants

**Observation – Weaver, Reckner & Reinhart Dental Associates**  
**Harleysville, PA**

**January 2023**

- Observed a team of dental assistants, hygienists, general dentists, orthodontists, and oral surgeons to understand general operations of each role and the workflow of a large office
- Studied patient care, office routines, sterilization procedures, and advanced equipment such as X-ray

**COMMUNITY SERVICE**

**Volunteer Data Coordinator – Robotics for All**

**July 2023 – Present**

**Remote**

- Spearhead the organization's data management efforts by maintaining and overseeing the volunteer database on Google Sheets, ensuring up-to-date and accurate records of all volunteers across the nation
- Collaborate with other executive board members and the technology division to develop streamlined processes for data collection and administration, enhancing data integrity and efficiency
- Synchronize Google and Slack groups with the volunteer database, enabling seamless communication and coordination among team members and volunteers
- Conduct comprehensive audits of Slack channels and removal of inactive volunteers from the database, optimizing resource allocation and maintaining an engaged volunteer network

**Debate and Chess Camp Counselor – After School Activities Partnerships**  
**Carver High School, Philadelphia, PA**

**July 10, 2023 – July 21, 2023**

- Facilitated speech and debate sessions, offering one-on-one coaching to students to develop their communication and public speaking skills, resulting in noticeable improvements in their delivery and confidence
- Instructed elementary students in the fundamentals of chess, providing personalized guidance to enhance their strategic thinking, problem-solving abilities, and overall chess proficiency
- Assisted in judging speech tournaments for students, ensuring fair and constructive evaluations while encouraging them to refine their public speaking techniques

**Lead Instructor – Robotics for All**

**March 2023 – Present**

**Remote**

- Conduct synchronous classes twice a week to teach Code.org and the fundamentals of computer science
- Review homework, consistently communicate with parents, and manage classrooms to provide STEM education for elementary students from underserved communities
- Debug technical issues and problem solve to assist children and ensure smooth curricula

**Crisis Counselor – Crisis Text Line**

**January 2023 – Present**

**Remote**

- Commitment of 200+ hours to produce high-quality, text-based mental health support and crisis intervention to seek creative and innovative solutions

- Promote mental well-being, invest in authentic dialogue, and center equity for a safe environment
- Practice cultural competence, empathy, responsiveness, and humility to build rapport with texters and work collaboratively to discover next steps for managing emotions

#### **Scrabble Club Leader – After School Activities Partnerships**

**January 2023 – Present**

##### **Jay Cooke Elementary School, Philadelphia, PA**

- Raise awareness of the dangers of the after-school hours for unsupervised youth and serve as a role-model that children can trust
- Lead lessons and games once a week to teach important lessons about teamwork and sportsmanship
- Celebrate teamwork and inspire joy for wordplay through the reinforcement of reading, vocabulary, dictionary, and math skills for youth

#### **Scrabble Tournament Judge – After School Activities Partnerships**

**May 9, 2023**

##### **Weitzman National Museum of American Jewish History, Philadelphia, PA**

- Provided crucial support as a Scrabble Judge at a tournament for underrepresented children in the Philadelphia region by resolving word disputes and challenges, ensuring fair gameplay, and promoting healthy sportsmanship

#### **Volunteer – Love Run**

##### **Philadelphia, PA**

**March 25, 2023**

- Ensured guests were greeted upon entrance and provided directions or information regarding event details
- Provided technological assistance to find runners' bib numbers and directed them towards locating their products

#### **Volunteer – Red Cross Blood Drive**

##### **Health Link Society, Temple University, Philadelphia, PA**

**January 23, 2023**

- Greeted and checked-in donors by recording their information and communicating details about their donation
- Created a warm and welcoming presence by informing donors of after-care steps and providing snacks

### **AFFILIATIONS**

#### **Co-President and Safety Officer – Tennis Club**

**August 2021 – Present**

##### **Temple University, Philadelphia, PA**

- Management and design of practices, fund raisers, and club schedules for 30+ team members
- Delegate tasks and support the roles of all other executive board members through organization and communication of responsibilities
- Lead in the qualification for Tennis on Campus 2023 National Championships in Surprise, Arizona

#### **Community Affairs Director – Chemical Society**

**January 2023 – Present**

##### **Temple University, Philadelphia, PA**

- Develop and implement community engagement strategies to increase awareness and participation in the club's activities and events
- Collaborate with club leadership and members to execute community service projects and volunteer initiatives through events like Setting the Spike for Science and Homework Sessions
- Track and report on community engagement metrics to measure the success of outreach events

#### **Scientific Reviewer – Grey Matters Journal**

**January 2023 – Present**

##### **Temple University, Philadelphia, PA**

- Maintain the informational integrity of articles to foster better communication and understanding between the scientific community and the general public

- Aide designated author in their writing process by editing, refining, and developing their work
- Inspect sources regarding accuracy and how author utilized them, create and edit APA citations, and clarify confusing scientific information
- Communicate and collaborate with a group of 7 team members to produce an article on Gene-Based Therapies for Neurodegenerative Disease for timely publication of the journal

#### **Social Media Committee for Mentorship – Dental Shadows**

**May 2023 – Present**

- Serve as a Social Media Committee Member in a nationwide organization dedicated to supporting students in their pre-dental journey by acting as designated liaison between the Social Media Committee and the Mentorship Committee
- Create visually appealing social media posts using Canva to promote the mentorship program and engage with the organization's target audience
- Conduct biweekly meetings with the committee and other executive board members to discuss strategies, brainstorm ideas, and provide updates on social media initiatives

#### **Member – Pre-Dental Health Society**

**January 2023 – Present**

##### **Temple University, Philadelphia, PA**

- Partake in general body meetings to connect with admissions committees from different schools, attend guest speakers, and receive faculty support
- Expand connections with faculty and peers and participate in service events to strengthen the community

#### **Member – K-Pop Club**

**January 2023 – Present**

##### **Temple University, Philadelphia, PA**

- Partake in general body meetings to connect with students that share a similar ethnic and cultural background
- Meet and collaborate with ethnic peers from universities within the region and explore Korean culture through activities, fund-raising, games, and events such as K-Pop night and choreographing dances to popular Korean songs

### **PROFESSIONAL ACTIVITIES**

Member of American Student Dental Association (ASDA)

January 2023 – Present

Member of American Chemical Society (ACS)

January 2023 – Present

### **CERTIFICATIONS**

American Red Cross – ARC Adult and Pediatric First Aid/CPR/AED

February 2023

University of Pennsylvania – Introduction to Dental Medicine Course

March 2023

### **AWARDS / SCHOLARSHIPS**

Temple University Creative Arts, Research, and Scholarship (CARAS) Travel Grant

July 2023

86<sup>th</sup> Intercollegiate Student Chemists Convention: First Place Award in Inorganic Chemistry

April 2023

Temple University Founder's Scholar

Fall 2020 – Present

Bucks County Erin Elizabeth Prediger Scholarship

Fall 2020 – Present

Dean's List

Fall 2020 – Spring 2021, Spring 2022, Spring 2023

### **REFERENCES**

Dr. Eric Borguet, Principal Investigator of Research and Professor of Chemistry, Temple University

[eborguet@temple.edu](mailto:eborguet@temple.edu)

Giovanni Gravina, Professor of Mathematics, Temple University [giovanni.gravina@temple.edu](mailto:giovanni.gravina@temple.edu)

