
DELANEY R. CARROLL

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EDUCATION

University of Michigan – Ann Arbor, MI

August 2026 – Present

Candidate for Master of Science in Chemistry

University of Southern California – Los Angeles, CA

August 2022 – May 2026

Bachelor of Science in Chemistry

Cumulative GPA: 3.47

- Minor in Musical Studies on Classical Guitar, Thornton School of Music
- Thematic Option Honors Program
- Dean's List: *Fall 2022, Spring 2023, Spring 2024, Fall 2025, Spring 2026*

RESEARCH EXPERIENCE

University of Michigan – Advisor: Professor Stephen Maldonado

Ann Arbor, MI

Graduate Student Researcher

August 2026 - present

- Project: Photoelectrochemistry

University of Southern California – Advisor: Professor Jahan M. Dawlaty Laboratory

Los Angeles, CA

Undergraduate Researcher

August 2025 – May 2026

- Project: Vibrationally-Resolved Electrochemical Impedance Spectroscopy
- End-to-end contribution to project and paper
- Methods: Attenuated total reflection Fourier transform infrared spectroscopy, Electrochemical impedance spectroscopy, Fourier analysis, Python analysis

Syracuse University – Advisor: Professor Michael B. Sponsler

Syracuse, NY

Research Experience for Undergraduates

Summer 2025

- Project: Formation and investigation of isolated polyacetylene chains in urea inclusion crystals
- Synthesized inclusion crystals and proceeded to photochemically synthesize polyacetylene from precursor molecules within inclusion crystal channels
- Methods: Controlled-cooling crystallization, Raman Microscopy

PUBLICATIONS

Delibas, B.; Sahu, S.; Kutbay, E.; **Carroll, D.**; Dawlaty, J.M. Vibrationally-Resolved Electrochemical Impedance Spectroscopy. *Journal of the American Chemical Society* **2026**; 148 (21): 22016-22024. <https://doi.org/10.1021/jacs.6c03755>.

CERTIFICATIONS

Wilderness Medical Associates International

San Diego, CA

Wilderness First Responder (WFR)

January 2025 - present

- Internationally recognized specialized training in backcountry wilderness medicine, designed for responding to medical emergencies in situations where professional aid is hours or more away
- Includes Cardiopulmonary Resuscitation/Automated External Defibrillator (CPR/AED) and epinephrine auto-injector ("EPI-pen") administration certifications

LEADERSHIP EXPERIENCE

SC Outfitters — Registered Student Organization

Los Angeles, CA

Guide

August 2024 – May 2026

- Guided day-hikes, overnight hikes, and a week-long spring break trip, each alongside one co-guide and eight participants, these being a mixture of undergraduate and graduate students.

Director of Membership

December 2024 – May 2026

- Planned and facilitated social gatherings, volunteer opportunities, and educational sessions for the organization’s member community of over 200 people
- Led weekly Membership Committee meetings, allowing for collaboration and further community-building between members
- Sent a bi-weekly newsletter to the organization’s broader community of over 3500 people

VOLUNTEER EXPERIENCE

The Francis House, a home for the terminally ill

Syracuse, NY

Kitchen Volunteer

December 2024 – present

- Preparing meals for residents with terminal illnesses and their families
- Preparing meals for 24-hour care staff

TECHNICAL SKILLS

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| • Infrared spectroscopy | • Electrochemical impedance spectroscopy | • LASER safety training and compliance |
| • Fourier analysis | • Wet chemistry and synthesis | • Excel |
| • Raman microscopy | | • Python |
| • Cyclic voltammetry | | |