CODDY A. CASH

1400 Hollman Drive College Station, Texas c625002439@tamu.edu, (832-974-9754)

SUMMARY

PhD candidate in chemistry focused on Electrochemistry and Mass Spectrometry.

RESEARCH INTERESTS

Utilize the combination of Electrochemistry and Mass Spectrometry for environmental monitoring, detecting pollutants through their Electrochemical signatures and Mass Spectrometric profiles.

EDUCATION

Texas A&M University College Station, Texas

Doctor of Philosophy in Chemistry (GPA: 3.75/4.0) — May 2028

Supervisor: Professor Lane A. Baker

Prairie View A&M University, Texas

Master of Science Degree in Chemistry — May 2023

Supervisor: Professor Gina Chiarella

Bachelor of Science Degree in Chemistry (Conc Forensic Science) — December 2020

CURRENT RESEARCH

Title: Integrated Electrochemical Scanning Flow Cell–Mass Spectrometry (EC-SFC-MS)
Advisor: Prof. Lane A. Baker, Department of Chemistry, Texas A&M University | 2023–present

- Objective: Integrate electrochemistry with mass spectrometry to achieve real-time, product-specific analysis of electrochemical reactions, enabling identification of intermediates and complex pathways that are not accessible by electrochemistry alone.
- Approach: Employ a scanning flow cell with continuous inlet/outlet channels in a two-electrode configuration (working electrode and quasi-reference counter electrode QRCE), coupled directly to a mass spectrometer at the outlet for real-time quantitative and qualitative analysis.

PUBLICATIONS

1. **Coddy Cash**, Hashini N. K. Herath, Harshica Fernando, Gina M. Chiarella*, Lihong Zhang, Liang Yang, Hua-Jun S. Fan* CCDC 2288361: Experimental Crystal Structure Determination. **2023** https://doi.org/10.5517/CCDC.CSD.CC2GT73N.
2. Okereke, S. C.; Esiaba, R. I.; Nwaogwugwu, C. J.; Friday, A. C.; Nwankwo, V. C.; **Cash, C. A**.; Chukwuemeka, I. Phytochemical Evaluation and Protective Effect of Tithoniadiversifolia (Hemsl.) Leaf Extract Against Aspirin-Induced Ulcer in Wistar Rats. **2023**.

PRESENTATIONS & POSTERS

- Oral presentation: Integrated Scanning Flow Cell Mass Spectrometry. Society of Electroanalytical Chemistry (SEAC) Student Session at Pittcon 2026, San Antonio, TX, March 2026. Speaker.
- Poster (Best Poster Award): Integrated Scanning Flow Cell Mass Spectrometry. Pittcon Conference, San Antonio, TX, March 2026. Co-authors: Hugo Y. Samayoa-Oviedo; Yunong Wang; Lane A. Baker. Presenter. Award: Best Poster.
- Oral presentation: Synthesis and Characterization of Histidine Metal Complexes. Energy Science: Experimental & Modeling Research Symposium, Morehouse College, Atlanta, GA, September 2022. Speaker.
- Poster: Synthesis and Characterization of Histidine Metal Complexes. Energy Science: Experimental & Modeling Research Symposium, Morehouse College, Atlanta, GA, September 2022. Co-authors: Hashini Herath; Gina Chiarella. Presenter.

RESEARCH EXPERIENCE

Prairie View A&M University — Graduate Research Assistant | Aug 2021 – May 2023
Project: Microwave-assisted synthesis of bis-histidinato nickel(II) complex and its luminescence properties.

- Performed synthesis and crystallization of histidine with Ni(II) in methanol and water.
- Optimized reactions using a microwave synthesizer.
- Characterized crystal formation using SEM and X-ray diffraction to assess structure, phase, and composition.

TEACHING EXPERIENCE

Texas A&M University — Graduate Teaching Assistant, Analytical Instrumentation Lab (CHEM 434)
Jan 2024 – Dec 2024

- Managed laboratory environment and enforced safety protocols.
- Demonstrated data acquisition/analysis for FTIR, Cyclic Voltammetry, GC, CE, HPLC, and AAS.
- Reviewed/modified course content; offered structured office hours; provided prompt feedback on assessments.

Texas A&M University — Graduate Teaching Assistant, General Chemistry Lab (CHEM 119)
Aug 2023 – May 2024

- Enforced lab safety and prepared materials for effective experimentation.
- Guided students through experiments and calculations; demonstrated proper techniques.
- Graded and recorded quizzes and lab reports; held weekly office hours.

INDUSTRY EXPERIENCE

LabCorp, Dublin, OH — Microbiology (Pre-Analytical) Summer Intern | May 2022 – Aug 2022

- Performed QuantiFERON whole-blood testing for tuberculosis; conducted specimen swab/stool plating; performed acid-fast bacillus (AFB) testing for Tuberculosis and other mycobacterial infections.

TECHNICAL SKILLS

Voltammetry, Chronoamperometry, Capillary Electrophoresis (CE), Fourier Transform Infrared Spectroscopy (FTIR), Gas Chromatography (GC), Atomic Absorption Spectroscopy, Mass Spectrometry, High Performance Liquid Chromatography (HPLC), Scanning Electron Microscopy (SEM), Ultraviolet-Visible Spectroscopy (UV-Vis), Microwave synthesizer, Project Management/Development, Effective Communication, Teamwork

AWARDS & HONORS

- Best Poster Award, Pittcon Conference, San Antonio, TX, 2026.
- Honor Roll Student

PROFESSIONAL MEMBERSHIPS & LEADERSHIP

- Society of Electroanalytical Chemistry;
- Chemistry Club (Prairie View A&M University).
- Prairie View A&M University Marching Storm Band Captain / Lead trumpeter
- Member, Omega Psi Phi Fraternity, Inc.

COMMUITY & SERVICE

- Member of a Junkanoo organization as a Music arranger/composer (Bahamas)
- Church of God of Prophecy band Trumpeter
- Launched an online tutoring session for children struggling in science (Bahamas)