

Henry Wu

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EDUCATION

University of Michigan – Ann Arbor

Doctoral in Chemistry
July 2019 - present

Ann Arbor, MI
expected June 2024

Portland State University

Bachelor of Science in Biochemistry
GPA: 3.46 · Chemistry Honors

Portland, OR
September 2015 – June 2019

AWARDS & HONORS

GRC – Electrochemistry Support (\$454)

Fall 2022

Rackham Travel Award (\$900)

Spring 2021

ACS-Portland Research Symposium – Second Place in Materials Chemistry Section (\$100)

Fall 2018

Chemistry Travel Award (\$500)

Spring 2018

BUILD EXITO Research Support (\$27,000)

Fall 2016 – Winter 2018

RESEARCH EXPERIENCE

University of Michigan – Ann Arbor, Prof. Stephen Maldonado

Graduate Student – PhD Candidate

Portland, OR
January 2020 – Present

- Performed and investigated the electrodeposition of various metals (Pd, Pt, Ag, etc.) in liquid metal systems (Hg, Ga)
 - Investigated the synthesis of Pd-intermetallics via ec-LLS method using liquid Hg_{1-x}In_x electrodes
 - Elucidating the effects of electrochemical and chemical properties of the setup has on the resulting intermetallic phase obtained
- Exploring, developing, and refining procedures to synthesize epitaxial films of semiconductors via the ec-LLS method
- Characterized various semiconductors and intermetallic materials using x-ray diffraction, scanning electron microscopy and transmission electron microscopy

Portland State University, Research Assistant Prof. Marilyn Mackiewicz

Undergraduate Research Assistant

Portland, OR
August 2017 – June 2019

- Synthesized silver nanoparticles with various surface coating/ligands for anti-viral and toxicity studies for collaborators
- Performed and investigated the physiochemical properties of nanomaterials through UV-Vis spectroscopy and transmission electron microscopy
- Assisted in training new undergraduate research assistants on lab protocols and instrumentation
- Volunteered and demonstrated research in scientific outreach events to promote the laboratory

PUBLICATIONS

Wu, H. and Maldonado, S.* Electrodeposition of Pd Intermetallics using Hg-In by the Electrochemical Liquid-Liquid-Solid Method. *J. Electrochem. Soc.*, 2022, 196, 112514

Engstrom, A.M.; **Wu, H.**; Mackiewicz, M. R.*; Harper, S.L.* Controlling Silver Ion Release of Silver Nanoparticles with Hybrid Lipid Membranes with Long-Chain Hydrophobic Thiol Anchors Decreases *in-vivo* Toxicity, *IJERA*, 2020, 10, 12-28

PRESENTATIONS

51st Gordon Research Conference - Electrochemistry Ventura, CA
Title: *Synthesis of Palladium and Platinum Intermetallic Compounds via ec-LLS* Fall 2022

ACS 2022 National Meeting Chicago, IL
Title: *Synthesis of Palladium and Platinum Intermetallic Compounds via ec-LLS* Summer 2022

257th ACS National Meeting Orlando, FL
Title: *Tearing Apart Specific Features of AgNPs Related to Toxicity* Spring 2019

ACS-Portland Poster Symposium 2018 Portland, OR
Title: *Tuning the Surface Architecture of AgNPs for Use as Anti-Viral Agents* FALL 2018

256th ACS National Meeting Boston, MA
Title: *Tuning the Surface Architecture of AgNPs for Use as Anti-Viral Agents* Summer 2018

73rd ACS NORM 2018 Poster Presenter Richland, WA
Title: *Tuning the Surface Architecture of AgNPs for Use as Anti-Viral Agents* Summer 2018

TEACHING EXPERIENCE

Graduate Student Instructor - Chemistry Ann Arbor, MI
Computational Chemistry Lab Fall 2020 & Fall 2021
Organic Chemistry Lab Fall 2019 & Winter 2021
Physical Analysis Lab Winter 2020

COMMUNITY OUTREACH

Logan Elementary School Science Fair Ann Arbor, MI
Judge/Demonstrator April 2023

- Judged and engaged students on their science fair projects
- Performed scientific demonstrations for students

Portland State University Science Fair Portland, OR
Demonstrator July 2018

- Performed science demonstrations of lab research to students, kids, and parents
- Promoted lab research and the importance of STEM

OTHER WORK EXPERIENCE

Killifish Caretaker for Research – Prof. Jason E. Podrabsky Portland, OR
Caretaker November 2016 – January 2019

- Maintained health of killifish specimens and embryos for research work
- Performed maintenance in aquatic systems to keep comfortable conditions for killifish

VOLUNTEER WORK EXPERIENCE

Adventist Medical Center Portland, OR
Patient Transporter and Supplies Delivery August 2013 – December 2018

- Escort patients of various backgrounds to different departments depending on patient needs

- Trained and mentored new volunteers on patient protocols, etiquette, and emergency procedures
- Assisted in transport of important items, medical supplies, and equipment to multiple departments

PROFESSIONAL AFFILIATIONS

American Chemical Society (ACS) – Colloidal Division 2018 – 2019 & 2022 - *Present*

CERTIFICATIONS

UHS General Safety Training July 2019 – July 2019
Radiation Safety Training September 2018 – October 2018
UHS Laboratory Safety Training November 2017 – November 2017
Research with Animals, (fish: killifish) Care, and Ethics Training November 2015 – December 2015

SKILLS & INTERESTS

Lab Technical Skills:

Electrochemical Analysis:

- Cyclic Voltammetry, Chronoamperometry, Linear Sweep Voltammetry

Materials Synthesis:

- Electrodeposition, Chemical Reduction

Materials Characterization:

- UV-Vis Spectroscopy, Dynamic Light Scattering, Raman Spectroscopy, X-ray Diffraction, Scanning Electron Microscopy, Transmission Electron Microscopy

Programs Skills: Microsoft Office Suite, Adobe Illustrator, Origin