

EDUCATION

University of California, Berkeley | Berkeley, CA

June 2023

Ph.D. candidate in Materials Science and Engineering

Graduate Certificate in Applied Data Science, Certificate in Teaching and Learning in Higher Education

Carnegie Mellon University | Pittsburgh, PA

May 2016

Bachelor of Science in Materials Science and Engineering with an additional major in Biomedical Engineering

INDUSTRY EXPERIENCE

Consulting | Berkeley, CA

May 2020 – July 2022

- **BenAn Energy:** Evaluated the viability of an aqueous battery chemistry and summarized relevant literature
- **Madden EChem Consulting:** Assessed proposal and read literature for a novel Li-ion battery recycling process

Aquion Energy | Pittsburgh, PA

June 2016 – Feb 2018

Junior Materials Scientist

- Improved material electrochemical characterization methods to increase repeatability and accuracy
- Designed and conducted experiments to characterize causes of capacity loss in aqueous hybrid ion batteries and recommended appropriate mitigations for increasing battery cycle life
- Established current collector degradation mechanisms to inform options for increasing corrosion resistance
- Led efforts to disassemble and examine cycled batteries for causes of failure including developing procedures
- Automated data processing for Bio-Logic and MTI battery testing equipment using Matlab

ACADEMIC RESEARCH

University of California Berkeley Materials Science and Engineering | Berkeley, CA

July 2018 – May 2023

Graduate Student Researcher, Advisor: Prof. Kristin A. Persson

- Identified next-generation magnesium battery cathodes by applying first-principles calculations and high-throughput computational screening methods on 1000s of materials to evaluate stability, energy density, and transport properties
- Mentored 4 undergraduate students on computational projects related to magnesium intercalation cathodes

Carnegie Mellon University College of Engineering | Pittsburgh, PA

Sep 2015 – May 2016

Senior Honors Research Project, Advisor: Prof. Jay F. Whitacre

- Assessed the influence of oxygen availability during the synthesis of LiMn_2O_4 on its material properties and correlations with stable electrochemical performance as a cathode in aqueous ion battery systems

Carnegie Mellon University Materials Science and Engineering | Pittsburgh, PA

Jan 2013 – May 2015

Research Assistant, Advisor: Prof. Jay F. Whitacre

- Evaluated enhancing electrochemical performance of $\text{NaTi}_2(\text{PO}_4)_3$ and TiP_2O_7 as anode active materials in aqueous ion systems with various processing conditions, carbon additives, and electrolytes

Imperial College Department of Materials | London, England

May – Aug 2014

Summer Research Experience, Advisor: Prof. Natalie Stingelin

- Optimized the processing conditions for casting a series of new functionalized block copolymers
- Casted polymer thin films and evaluated samples by characterizing their optical and electronic properties

TEACHING EXPERIENCE

Graduate Student Instructor, UC Berkeley

- Supervised metallography & corrosion labs for **Experimental Materials Science and Design** (MATSCI 130, F22)
- Provided feedback on engineering capstone projects for **Communications for Engineering Leaders** (E295, S23)

Instructor & Helper | Materials Project Workshop, Lawrence Berkeley National Lab

Aug 2019, Aug 2020, Aug 2021

- Developed instructional materials and led live python coding demonstration for automated density functional theory lesson which was designed to be accessible for a general scientific audience of ~100 workshop participants
- Provided individual assistance to workshop participants by troubleshooting code issues and answering questions

TECHNICAL SKILLS

Software: Python (including Jupyter Notebooks), High-Performance Computing (HPC) using Portable Batch Systems (PBS), MATLAB, Vienna Ab initio Simulation Package, GitHub, familiar with Unix, Ruby, Minitab, and LAMMPS

Experimental: Battery Testing, Cyclic Voltammetry (CV), Electrochemical Impedance Spectroscopy (EIS), Powder X-ray Diffraction (XRD), Scanning Electron Microscopy (SEM), Small Format Cell Building, Solid State Ceramic Synthesis, Spin Coating, Thermogravimetric Analysis (TGA), UV-Vis Spectrometry, Wire Bar Coating

HONORS AND AWARDS

William S. Floyd, Jr. Graduate Student Fellowship | UC Berkeley College of Engineering

2018 – 2019

Biomedical Engineering Design Project Award | CMU Department of Biomedical Engineering

May 2016

College of Engineering Outstanding Senior Woman Award | Carnegie Mellon Women's Association

April 2016