

James Ho

Materials Science Researcher

Education

Honors B.S Chemical Engineering
Oregon State University

June 2023

- Areas of Specialization: Bioengineering and Material Science
- Areas of Interest: Nanomaterials and Heterogeneous Catalysis

Research Experience

Subramanian Research Group

February 2021-Current

- Utilized traditional solid-state synthesis techniques for various solid solutions
- Performed properties characterization including X-ray Diffraction (XRD), Dielectric, Colorimetry, Optical and Magnetic

Materials and Discovery Lab

May 2021-Current

- Synthesized novel metal-organic frameworks (MOFs) for applications of chiral drug separations and carbon dioxide transformation.
- Performed characterization through use of Powder XRD, Fourier Transform Infrared Spectroscopy, thermogravimetric analysis, BET isotherm and UV/Vis.
- Performed qualitative data for organic solutions including NMR and Circular Dichroism
- Presented research monthly in group meetings

Electroceramics Research Group

November 2021-June 2022

- Collaborated with a company overseas in development of new ceramic capacitor in cellphones
- Performed ceramic synthesis and characterization techniques such as XRD and SEM
- Characterized for impedance, low temperature dielectric, and electric field measurements

Publications and Class Projects

- James Ho, Makenzie T. Nord, Jared P. Stafford, and Kyriakos C. Stylianou
Active Ruthenium-based Metal-Organic Framework Catalyst for CO₂ Fixation onto Epoxides;
Accepted to Catalysis Science & Technology: October 15th, 2022;
<https://doi.org/10.1039/D2CY01170K>
- Review Paper for CH615: Special Topics in Inorganic Chemistry:
Homochiral Metal-Organic Frameworks for Chiral Drug Separations

Teaching Experience

- Teaching Assistant for General Chemistry CH 231 (2 sections total) Fall 2020, 2022
- Teaching Assistant for General Chemistry CH 232 (2 sections total) Winter 2021, 2022
- Teaching Assistant for General Chemistry CH 233 (3 sections total) Spring 2021, 2022
- Teaching Assistant for General Chemistry CH 261 (2 sections total) Fall 2020, 2022
- Teaching Assistant for General Chemistry CH 262 (3 sections total) Winter 2020, 2022
- Teaching Assistant for General Chemistry CH 263 (1 section total) Spring 2021
- Learning Assistant
 - MTH 251: differential Calculus September 2020-December 2020

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- CHE 331:Transport Phenomena I September 2022-Current
 - Two guest lectures for COMSOL software introduction
- Honors College Tutor for General and Organic Chemistry November 2021-Current

Honors and Awards

- Barry Goldwater Scholarship & Excellence in Education Foundation Nomination January 2022
- Dean's List

Relevant Courses

Graduate

- CH 615: Selected Topics in Inorganic Chemistry
- CHE 541: Catalysis

Undergraduate

- General Chemistry
- Organic Chemistry
- Physical Chemistry
- Biochemistry
- Introduction to Materials Science
- Thermodynamics
- Transport Phenomena