James Ho

Student leader and materials researcher focused on students' residential, social justice and academic

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EDUCATION

Oregon State University Honors College

- Honors Bachelor of Science; GPA: 3.70 — *Sept. 2019 - Jun 2023*
  - **Major**: Chemical Engineering, **Minor:** (Chemistry)

TEACHING EXPERIENCE

Oregon State University

- **Learning Assistant** · *Department of Math, CBEE Department* — *Fall 2020, Present*
  - Answered questions for 120 students in Differential Calculus students during Zoom and on E-campus.
  - Led studios with 48 students, held office hours and two guest lectures for Fluids Transport Phenomena.
- **Chemistry Tutor** · *Honors College* — *Fall 2021 – Present*
  - Created a Discord server and coded a teaching website for General and Organic chemistry, platforming these services to 5 residential dorms
- **General Chemistry Teaching Assistant** · *Department of Chemistry* — *Fall 2020 - Present*
  - Independently taught 6 labs totaling over 100 students and facilitated learning in 7 lecture sections
- **Resident Assistant** · *University Housing and Dining Services* — *Summer 2020 - Present*
  - Facilitated a sense of community, ensured a safe living environment, and promoted social justice and residential education for over 2,000 students in 9 living-learning communities.

MATERIALS SCIENCE RESEARCH EXPERIENCE

Oregon State University

Materials and Discovery Lab · *Department of Chemistry* — *Spring 2021-Present*

- Projects: Reticular synthesis of chiral MOFs for enantioselective drug separations; value-added carbon dioxide catalysis using ruthenium-MOF (see publication); encapsulating metal-nanoparticles into MOF frameworks for dual-promoting carbon dioxide hydrogenation
- Publication: **James Ho**, Makenzie T. Nord, Jared Stafford and Kyriakos Stylianou (2022); *Ruthenium-based Metal-Organic Framework Catalyst for CO_2 Fixation onto Epoxides*; *Catalysis Science and Technology*. https://doi.org/10.1039/D2CY01170K

Subramanian Research Group · *Department of Chemistry* — *Winter 2021-Present*

- Projects: Assisted a graduate student in synthesizing and characterizing solid solutions to better understand structure-property relationships and assisting in writing a second-author manuscript

Electroceramics Group · *Mechanical, Industrial, and Manufacturing Engineering* — *Fall 2021-Spring 2022*

- Project: Collaborated with an international company to synthesize a new thermoresistant ceramic capacitor within cellphones

SKILLS

- **Laboratory:** materials synthesis, PXRD, TGA, NMR, FT-IR, circular dichroism (CD), UV-Vis, SEM, dielectric measurements, colorimetry, neutron, and optical characterization.
- **Coding languages/software:** Excel, MATLAB, Julia, COMSOL, Origin, HTML, CSS, JavaScript, Python
- **Personal:** American Sign Language (6 years), website design, pedagogy, science outreach

ACTIVITIES

- **LGBTQ-Advocacy:** O-stem (Out in STEM), Trevor Project Crisis Line Operator — *Present*
- **ChemE-Car:** Designing chemical starting reaction for engineered car to compete in AIChE nationals — *Present*

HONORS AND AWARDS

- **Goldwater Scholar Nominee:** Nominated to represent OSU nationally for Goldwaters — *January 2022*
- **Dianne Finklein Scholarship:** Awarded to 1 RA for contribution to their residential community — *May 2021*