

# James Ho

Graduate student at Northwestern University focused on sustainable materials research and advancing education

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## EDUCATION

### Northwestern University

Present

- Ph.D. Candidate: Chemical and Biological Engineering

### Oregon State University (OSU)

Sept. 2019 – Jun 2023

- Honors Bachelor of Science: Chemical Engineering; *magna cum laude*

## RESEARCH EXPERIENCE

### Materials Discovery Lab · Department of Chemistry, OSU

Spring 2021-Summer 2023

- **Publications:** (1) **James Ho**, Makenzie Nord, Jared Stafford and Kyriakos Stylianou; *Ruthenium-based Metal-Organic Framework Catalyst for CO<sub>2</sub> Fixation onto Epoxides*; **accepted** *Cat. Sci. Tech* 2022  
(2) **James Ho**, Ankit Yadav, Andrezj Gladysiak, Andrew Carpenter, Adrian Henle and Kyriakos Stylianou; *Tuning Enantioselective Drug Adsorption in Isorecticular Homochiral Metal-Peptide Frameworks through Proximity Pore Interactions*; **submitted** *ACS Journal of Chemistry* 2023

### Subramanian Research Group · Department of Chemistry, OSU

Winter 2021- Summer 2023

- Performed solid-state synthesis and characterization of non-stoichiometric solid solutions and double perovskites to better understand thermoelectric structure-property relationships

### Electroceramics Group · Mechanical, Industrial, and Manufacturing Engr, OSU

Fall 2021-Spring 2022

- Collaborated with a company to design a new thermoresistant ceramic capacitor used within cellphones

## TEACHING EXPERIENCE

- **Learning Assistant** · *Chemical, Biological and Environmental Engr (CBEE), OSU* Fall 2022 – Spring 2023
  - Led studios for calculus, transport phenomena and thermodynamics totaling over 150 students
  - 3 guest lectures in computational fluid mechanics and co-instructor for trailer fluid mechanics class
- **Chemistry Tutor** · *Honors College, OSU* Fall 2021 – Spring 2023
  - Created a Discord community, teaching website, tutored 20 students and led group review sessions
- **Supplemental Instructions Leader** · *Academic Learning Services, OSU* Winter 2021 – Spring 2021
  - Led 4-5 chemistry review sessions of 10 students weekly and facilitated collaborative learning
- **Resident Assistant** · *University Housing and Dining Services, OSU* Fall 2020 – Spring 2023
  - Facilitated a sense of community, promoted social justice education, and promoted social and academic events for over 2,000 students in 6 living-learning communities.
- **Teaching Assistant** · *Department of Chemistry, OSU* Fall 2020 – Winter 2023
  - Independently taught 7 labs totaling over 140 students and facilitated learning in 7 lecture sections

## 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 (7 years), website design, pedagogy, science outreach

## HONORS AND AWARDS

- *Erik Muehlenkamp Leadership Award:* Service award for 1 undergraduate in chemical engineering May 2023
- *National Science Foundation GRFP Honorable Mention:* Recognition during undergraduate Apr. 2023
- *Honors College Experiential Scholarship/UHC:* Funding awarded to attend research conference Nov. 2023
- *Barry Goldwater Scholar Nominee:* Nominated to represent OSU for national competition Jan. 2022
- *Dorsey & Aurelia Edwards Scholarship/CBEE:* Academic Scholarship for chemical engineering Sept. 2022
- *Daellenbach Family Scholarship/ENG:* Academic scholarship for College of Engineering students Nov. 2021
- *Honors General Scholarship/UHC:* Grant awarded to fund Honors College research and thesis Sept. 2021
- *Peter & Rosalie Johnson Scholarship/CBEE:* Academic scholarship for chemical engineering Sept. 2021
- *Dianne Finklein Scholarship/UHDS:* Awarded to 1 RA for contribution to residential community May 2021