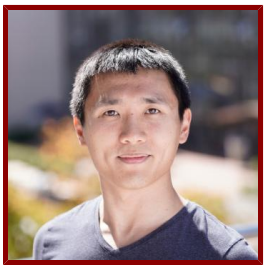
Stanford



# Enze Chen

Lecturer, Materials Science and Engineering

## Bio

### BIO

Enze (he/him, '18) is a Lecturer in Materials Science and Engineering (MSE) who teaches a variety of undergraduate MSE courses spanning structure, characterization, energy, computing, and communication. Midway through undergrad, he was introduced to the world of computational materials science and hasn't looked back, completing a PhD in MSE that applied computational tools to study planar defects and materials informatics education. Enze is excited to be back on The Farm and to help advance student success through instruction, advising, and research.

### ACADEMIC APPOINTMENTS

- Lecturer, Materials Science and Engineering

### PROFESSIONAL EDUCATION

- Ph.D., University of California, Berkeley , Materials Science and Engineering (2023)
- M.S., Stanford University , Computational and Mathematical Engineering (2018)
- B.S., Stanford University , Materials Science and Engineering (2018)

### LINKS

- Personal website: https://enze-chen.github.io/
- Google Scholar: https://scholar.google.com/citations?hl=en&user=MMkofM4AAAAJ&view_op=list_works&sortby=pubdate

## Teaching

### COURSES

**2026-27**

- Introduction to Materials Science, Biomaterials Emphasis: ENGR 50M, MATSCI 50M (Aut)
- Materials Science Research Advising: MATSCI 231 (Aut)
- Materials Scientists in Training: MATSCI 131 (Spr)
- Solar Cells, Fuel Cells, and Batteries: Materials for the Energy Solution: MATSCI 156 (Spr)
- Solar Cells, Fuel Cells, and Batteries: Materials for the Energy Solution: MATSCI 256 (Spr)
- Undergraduate Internship Experience: MATSCI 169 (Spr)
- Visual Communication in Materials Science: MATSCI 122, MATSCI 222 (Win)

**2025-26**

- Curricular Practical Training: MATSCI 99 (Aut, Win, Spr, Sum)

- Introduction to Materials Science, Biomaterials Emphasis: ENGR 50M, MATSCI 50M (Aut)
- Materials Scientists in Training: MATSCI 131 (Spr)
- Materials Structure and Characterization: MATSCI 143 (Aut)
- Solar Cells, Fuel Cells, and Batteries: Materials for the Energy Solution: MATSCI 156 (Spr)
- Solar Cells, Fuel Cells, and Batteries: Materials for the Energy Solution: MATSCI 256 (Spr)
- Undergraduate Internship Experience: MATSCI 169 (Aut, Spr)
- Visual Communication in Materials Science: MATSCI 122, MATSCI 222 (Win)

**2024-25**

- Materials Scientists in Training: MATSCI 131 (Spr)
- Materials Structure and Characterization: MATSCI 143 (Aut)
- Solar Cells, Fuel Cells, and Batteries: Materials for the Energy Solution: MATSCI 156 (Spr)
- Solar Cells, Fuel Cells, and Batteries: Materials for the Energy Solution: MATSCI 256 (Spr)
- Visual Communication in Materials Science: MATSCI 122 (Win)

**2023-24**

- Materials Structure and Characterization: MATSCI 143 (Win)
- Solar Cells, Fuel Cells, and Batteries: Materials for the Energy Solution: MATSCI 156 (Spr)
- Solar Cells, Fuel Cells, and Batteries: Materials for the Energy Solution: MATSCI 256 (Spr)

### STANFORD ADVISEES

**Master's Program Advisor**

Devan Agrawal, Oses Akintunde, Pedro Alcázar Morales, Charm Feng Ang, Arielle Breuninger, Perry Ann Brody, Jiale Cao, Kelly Chao, Yu-Hao Chao, Sandy Chen, Ying-Ting Chen, Lo-Chueh Chu, William Cusato, Ruihao Dai, Wenyang Dai, Devansh Dhabhai, Keshav Dhir, Barbara Ferrusca, Indira Gadhvi, Zora Gao, Julia Going, Hayden Hamilton, Abigail Herrera Ruiz, Weston Hicks, Chiamaka Ifiegbu, Luca Ionescu, Avani Ghanshyam Jakasania, Clora Kang, Jua Lee, Kai-Fang Lee, Kuan-Yi Lee, Catherine Li, Tianshu Li, Brian Lin, Chia-Yu Lin, Guanxi Lin, Cindy Liu, Guantong Liu, Maxwell Lo, Jessica Lu, Junyu Lu, Cynthia Melendrez, Paige Mountanos, Tejus Rohatgi, Corina Salvador, Asmi Sathe, Chi-Chen Shih, Rhythem Sood, Brandan Taing, Josh Thaosatien, Edmund Totah, Maya Tovar, Eason Tung, Aditya Udgaonkar, Ivan Velazquez, Harry Voorhis, Isabella Walter, Benjamin Wang, Kris Wang, Xiaoqin Wang, Kenneth Wu, Jenn Xiang, Jenny Xiong, Haolin Yang, Jinxuan Yu, Runyang Yu, Jennifer Yulfo, Michelle Zeng, Jiawen Zhang, Xinyu Zhang, Jeanette Zhou, Ruby Zhou

## Publications

### PUBLICATIONS

- **Quasiaperiodic grain boundary phases of E5 tilt grain boundaries in refractory metals** *PHYSICAL REVIEW B*
  Chen, E., Frolov, T.
  2025; 112 (6)
- **Hierarchy of defects in near-Σ15 tilt grain boundaries in copper studied by length-scale bridging electron microscopy** *ACTA MATERIALIA*
  Ding, H., Akbari, A., Chen, E., Roesner, H., Frolov, T., Divinski, S., Wilde, G., Liebscher, C. H.
  2025; 287
- **Topological grain boundary segregation transitions.** *Science (New York, N.Y.)*
  Devulapalli, V., Chen, E., Brink, T., Frolov, T., Liebscher, C. H.
  2024; 386 (6720): 420-424
- **Grand canonically optimized grain boundary phases in hexagonal close-packed titanium.** *Nature communications*

Chen, E., Heo, T. W., Wood, B. C., Asta, M., Frolov, T.
2024; 15 (1): 7049

- **ARTIFICIAL INTELLIGENCE IN MATERIALS EDUCATION: A ROUNDTABLE DISCUSSION** *JOM*
  Tyler, K., Chen, E., Meredig, B., Sparks, T.
  2023; 75 (7): 2083-2085
- **Educating current industrial workforce to embrace data-driven materials development** *MRS BULLETIN*
  Chen, E., Igbineweka, O., Kubie, L., Peerless, J. S.
  2022; 47 (10): 981-985
- **Using Jupyter Tools to Design an Interactive Textbook to Guide Undergraduate Research in Materials Informatics** *JOURNAL OF CHEMICAL EDUCATION*
  Chen, E., Asta, M.
  2022
- **Modeling antiphase boundary energies of Ni<sub>3</sub>Al-based alloys using automated density functional theory and machine learning** *NPJ COMPUTATIONAL MATERIALS*
  Chen, E., Tamm, A., Wang, T., Epler, M. E., Asta, M., Frolov, T.
  2022; 8 (1)
- **Stitch It Up: Using Progressive Data Storage to Scale Science**
  Lofstead, J., Mitchell, J., Chen, E., IEEE
  IEEE.2020: 52-61
- **Transferable Kinetic Monte Carlo Models with Thousands of Reactions Learned from Molecular Dynamics Simulations.** *The journal of physical chemistry. A*
  Chen, E., Yang, Q., Dufour-Decieux, V., Sing-Long, C. A., Freitas, R., Reed, E. J.
  2019