



Shiyuan Zhou

Postdoctoral Scholar, Materials Science and Engineering

Bio

BIO

Shiyuan Zhou is a recipient of the 2026 Stanford Energy Postdoctoral Fellowship. He received his Ph.D. in Energy Chemistry in 2024 through a joint doctoral program between Xiamen University and Argonne National Laboratory, under the supervision of Prof. Shi-Gang Sun, Dr. Gui-Liang Xu, and Dr. Khalil Amine.

His research advances the frontiers of battery chemistry through the development of multimodal operando electrochemical scanning/transmission electron microscopy (EC-S/TEM) integrated with synchrotron X-ray characterization, enabling direct observation of real-time electrochemical and structural dynamics in energy materials. Trained as both a materials chemist and microscopist, his work focuses on visualizing highly sensitive and previously inaccessible electrochemical processes in batteries.

During his doctoral research, he developed in situ liquid-cell transmission electron microscopy techniques to probe real-time reaction dynamics in lithium–sulfur batteries. Following his Ph.D., he continued at Argonne as a postdoctoral fellow, where he expanded his research to multimodal and multiscale imaging approaches, integrating advanced electron microscopy with transmission X-ray microscopy to study all-solid-state batteries. His research has been recognized as one of China's Top 10 Scientific Advances of 2023, and he has received the Tan Kah Kee Medal as well as the Argonne Impact Award.

STANFORD ADVISORS

- Yi Cui, Postdoctoral Faculty Sponsor

LINKS

- Google Scholar: <https://scholar.google.com/citations?user=T78aNmIAAAAJ&hl=zh-CN>
- LinkedIn: <https://www.linkedin.com/in/shiyuan-zhou-487672287/>
- Lab Site: https://web.stanford.edu/group/cui_group/members.htm