

Research project and supervisory team

Supervisory Team	Prof. Xiaolei Fan Dr. Fathima Jerosha Ifthikar Ahmed Dr. Xiaoxia Ou
Short introduction & description of research project	The catalytic conversion of CO ₂ into value-added hydrocarbons is a pivotal strategy for carbon neutrality. This project focuses on the rational design of high-performance catalysts for CO ₂ hydrogenation. By precisely controlling the properties of catalysts, the research aims to achieve high conversion efficiency and product selectivity. In situ DRIFTS, TEM, XAFS, and other advanced characterization techniques will reveal dynamic structure-function relationships and underpin mechanistic understanding. The expected outcomes include high-performance catalysts, high-impact publications, and potential patents, bridging fundamental science with sustainable industrial application.
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