

YIXUAN CHE

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EDUCATION

- ⦿ Hefei National Research Center for Physical Sciences at the Microscale, USTC Sept 2022 – Ongoing
Ph.D. Candidate in Materials Physics and Chemistry
Advisor: Prof. Xiaojun Wu
Research Interest: Computational Materials Science; Altermagnetism; Spintronics; Applied Machine Learning
Member of **National High-Level Talent Cultivation Center for Chemistry** (2024 – Ongoing)
- ⦿ University of Science and Technology of China Sept 2018 – Jul 2022
B.S. in Materials Chemistry
GPA: 3.48/4.30 Weight Score (All Curricula): 85.86/100
Thesis: Structure and Property Prediction of Two-Dimensional Materials Based on Machine Learning (Grade A)
National Training Program of Innovation: Theoretical Study of MOFs-Based Two-Dimensional Topological Spintronics (Grant No. 202110358035, Completed, Grade A)

PUBLICATIONS

- Che, Y.**; Lv, H.*; Wu, X.*; Yang, J. Bilayer Metal-Organic Framework Altermagnets with Electrically Tunable Spin-Split Valleys. *J. Am. Chem. Soc.* **2025**, Accepted.
- Che, Y.**; Chen, Y.; Liu, X.; Lv, H.*; Wu, X.*; Yang, J. Inverse Design of 2D Altermagnetic Metal-Organic Framework Monolayers from Hückel Theory of Nonbonding Molecular Orbitals. *JACS Au* **2025**, 5, 381–387. (ACS Editors' Choice)
- Che, Y.**; Lv, H.*; Wu, X.*; Yang, J. Realizing Altermagnetism in Two-Dimensional Metal-Organic Framework Semiconductors with Electric-Field-Controlled Anisotropic Spin Current. *Chem. Sci.* **2024**, 15, 13853–13863.
- Chen, W.[†]; **Che, Y.[†]**; Xia, J.; Zheng, L.; Lv, H.; Zhang, J.; Liang, H.; Meng, X.; Ma, D.; Song, W.; Wu, X.*; Cao, C.* Metal-Sulfur Interfaces as the Primary Active Sites for Catalytic Hydrogenations. *J. Am. Chem. Soc.* **2024**, 146, 11542–11552.
- Liang, W.[†]; **Che, Y.[†]**; Cai, Z.; Tang, R.; Ma, Z.; Zheng, X.; Wu, X.*; Li, J.*; Jin, H.*; Zhu, C.; Chen, T.* Surface Decoration Manipulating Zn²⁺/H⁺ Carrier Ratios for Hyperstable Aqueous Zinc Ion Battery Cathode. *Adv. Funct. Mater.* **2024**, 34, 2304798.
- Gu, Y.[†]; Liang, W.[†]; **Che, Y.[†]**; Cai, Z.; Xiao, P.; Yang, J.; Zang, R.; Wang, H.*; Wu, X.*; Chen, T.* Solvent Annealing Enabling Reconstruction of Cadmium Sulfide Film for Improved Heterojunction Quality and Photovoltaic Performance of Antimony Selenosulfide Solar Cells. *Adv. Funct. Mater.* **2024**, 34, 2311577.
- Che, Y.**; Wang, D.; Lv, H.; Wu, X.* Crystal System and Space Group Prediction of Two-Dimensional Materials from Chemical Formula via Deep neural networks. *Mater. Today Chem.* **2023**, 33, 101667.

SCHOLARSHIPS & AWARDS

- ⦿ **Scholarships**

National Scholarship	2024
Scholarship of National High-Level Talent Cultivation for Chemistry	2024
Academic Scholarship for Graduates (First-Class), USTC	2024
Academic Scholarship for Graduates (First-Class), USTC	2023
Academic Scholarship for Graduates (First-Class), USTC	2022
Scholarship for Hefei National Research Center for Physical Sciences at the Microscale (First-Class), USTC	2022
Baosteel Scholarship for Outstanding Students, USTC	2021
Suzhou Educational Scholarship, USTC	2021
Scholarship of Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), CAS	2021
Scholarship of Endeavor, USTC	2020
Scholarship for Outstanding Students (Bronze), USTC	2019
- ⦿ **Awards**

Outstanding Volunteers in Summer Camp, USTC	2024
Best Poster Award of Branch 51 in the 34th CCS Congress	2024
Outstanding Teaching Assistant, USTC	2024
Outstanding Graduate of Ordinary Colleges and Universities in Anhui Province, China	2022
Outstanding Graduate of University of Science and Technology of China	2022

EXPERIENCES

- ⦿ **Teaching Assistant**

Basic Structures of Solid Materials (014007.01)	Fall 2023
Physical Chemistry III (003156.01)	Fall 2021
Optics (022393.01)	Fall 2020