



Zhi Xu

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Profile

Zhi Xu is a Professor at the School of Chemical Engineering, East China University of Science and Technology. Dr. Xu obtained his Ph.D. degree in Chemical Engineering from the University of Cincinnati in 2015. Before joining the East China University of Science and Technology, Dr. Xu had worked as Postdoc fellow at the University of Cincinnati and the University of Oxford. His work has led to over 50 journal articles in *Nat. Sustain.*, *Nat. Catal.*, *Angew. Chem.*, *AIChE J.*, *J. Membr. Sci.*, *Adv. Func. Mater.*, et al. Dr. Xu is a member of young editorial board of *Engineering journal* and *Advanced Membranes journal*, he is also a member of the editorial board of *Advances in Chemical Engineering and Membrane Science and Technology*.

Research Field

His main research interests focus on the design of advanced membranes (e.g., inorganic membranes, 2D nanosheets-based porous membranes, mixed matrix membranes, catalytic membrane reactors) for energy- and separation-related applications, and on the synthesis of high-performance catalysts for hydrogen production reactions (e.g., water splitting, methanol steam reforming).

Research results and main published thesis

1. Yongsheng Xia, Hongyan Cao, Fang Xu, Yuxin Chen, Yu Xia, Dezhu Zhang, Liheng Dai, Kai Qu, Cheng Lian, Kang Huang, Weihong Xing, Wanqin Jin, Zhi Xu. Aligned zeolite nanosheets assembled in polymer membrane for sustainable energy storage. *Nat. Sustain.*, 2022, 5, 1080-1091.
2. Didi Li, Fang Xu, Xuan Tang, Sheng Dai, Tiancheng Pu, Xianglin Liu, Pengfei Tian, Fuzhen Xuan, Zhi Xu, Israel E. Wachs, Minghui Zhu. Induced activation of the commercial Cu/ZnO/Al₂O₃ catalyst for the steam reforming of methanol. *Nat. Catal.*, 2022, 5, 99-108.
3. Kai Qu, Jipeng Xu, Liheng Dai, Yixing Wang, Hongyan Cao, Dezhu Zhang, Yulin Wu, Weiyi Xu, Kang Huang, Cheng Lian, Xuhong Guo, Wanqin Jin, Zhi Xu. Electrostatic-induced crystal-rearrangement of porous organic cage membrane for CO₂ capture. *Angew. Chem. Int. Ed.*, 2022, e202205481.
4. Liheng Dai, Fang Xu, Kang Huang, Yongsheng Xia, Yixing Wang, Kai Qu, Li Xin, Dezhu Zhang, Zhaodi Xiong, Yulin Wu, Xuhong Guo, Wanqin Jin, Zhi Xu. Ultrafast water transport in two-dimensional channels enabled by spherical polyelectrolyte brushes with controllable flexibility. *Angew. Chem. Int. Ed.*, 2021, 60, 19933-19941.
5. Yu Xia, Yan Wang, Hongyan Cao, Shuhao Lin, Yongsheng Xia, Xiaoxuan Hou, Xiaoxuan Hou, Kang Huang, Yongsheng Xia, Feiyan Mu, Hongyan Cao, Yu Xia, Yulin Wu, Yuqin Lu, Yixing Wang, Fang Xu, Ying Yu, Weihong Xing, Zhi Xu. Fish-scale-like nano-porous membrane based on zeolite nanosheets for long stable zinc-based flow battery. *AIChE J.*, 2022, e17738.