

# Curriculum Vitae

## PERSONAL

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## EDUCATIONAL EXPERIENCES

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9/2016-6/2020 **B.S., Northeastern University** **Shenyang, China**

- Review of research progress on high-strength Mg alloys in recent years
- Research on the influence mechanism of Ca, Ce, and Sm on the mechanical properties of Mg alloys
- Prospects for the future development of alloying to improve the strength of Mg alloys

9/2020-6/2023 **M.S., China University of Petroleum (East China)** **Qingdao, China**

- Preparation of MOF membranes by electrodeposition method
- Morphology optimization of the MOF membranes
- Preparation of HOF-derived carbon molecular sieve membrane for CO<sub>2</sub>/CH<sub>4</sub> separation

1/2024-NOW **Ph.D., The Hong Kong University of Science and Technology (Guang Zhou)** **Guangzhou, China**

- Electrochemical synthesis of porous materials-based membranes
- Structure tuning and pore design
- Gas separation under simulated industrial conditions

## PUBLICATIONS

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- 1、 **Shuo Liu**, Zixi Kang, Lili Fan\*, Xuting Li, Bingchen Zhang, Yang Feng, Hongyan Liu, Weidong Fan, Rongming Wang, Daofeng Sun. Carbon Molecular Sieve Membranes Derived from Hydrogen-bonded Organic Frameworks for CO<sub>2</sub>/CH<sub>4</sub> Separation. *Journal of Membrane Science*, 2023, 678, 121674.
- 2、 Bingchen Zhang, **Shuo Liu**, Haochen Li, Bo Wang, Wenpei Kang\*, Daofeng Sun. Confined Assembly of Hydrated Vanadium Oxide into Hollow Mesoporous Carbon Nanospheres for Fast and Stable K<sup>+</sup> Storage Capability. *Small*, 2023, 2208228.
- 3、 Lili Fan\*, Xiaofei Wei, Xuting Li, Zhanning Liu, Mengfei Li, **Shuo Liu**, Zixi Kang, Fangna Dai, Xiaoqing Lu, Daofeng Sun\*. Phosphorus-doped iron-nitrogen-carbon catalyst with penta-coordinated single atom sites for efficient oxygen reduction. *Nano Research*, 2023, 16, 1810-1819.
- 4、 Xiaolei Cui, Zixi Kang\*, Weidong Fan, Jia Pang, Yang Feng, Caiyan Zhang, Liting Yu, **Shuo Liu**, Xiuxian Tang, Lili Fan, Rongming Wang, Daofeng Sun\*. Assembling ionic liquids in MOF “Monomer” based membranes to trigger CO<sub>2</sub>/CH<sub>4</sub> separation. *Materials Chemistry Frontiers*, 2022, 6, 3555-3566
- 5、 Mengfei Li, Lili Fan\*, Yuming Zhang, Xuting Li, **Shuo Liu**, Zixi Kang, and Daofeng Sun. Constructing Porous Carbon Electrocatalysts from Cobalt Complex-Decorated Micelles of Mesoporous Silica for Oxygen Reduction/Evolution Reaction. *Inorganic Chemistry*, 2021, 60, 14892-14903.
- 6、 Xuting Li, Lili Fan\*, Ben Xu, Yanxue Shang, Mengfei Li, Ling Zhang, **Shuo Liu**, Zixi Kang, Zhanning Liu, Xiaoqing Lu, and Daofeng Sun\*. Single-Atom-like B-N<sub>3</sub> Sites in Ordered Macroporous Carbon for Efficient Oxygen Reduction Reaction. *ACS Applied Materials & Interfaces*, 2021, 13, 53892-53903.

## Patents

- 1、 The preparation method of carbon molecular sieve membranes derived from hydrogen-bonded organic framework UPC-HOF-6 and its application in gas separation. **CN116272420A**.