

# Stanford

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## Guangmin Zhou

Postdoctoral Research Fellow, Materials Science and Engineering

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#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, Chinese Academy Of Sciences (2014)
- Doctor, Institute of Metal Research, Chinese Academy of Sciences , Materials Science (2014)
- Bachelor of Engineering, Nanjing University of Science and Technology , Materials Science and Engineering (2008)

#### STANFORD ADVISORS

- Yi Cui, Postdoctoral Faculty Sponsor

### Publications

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#### PUBLICATIONS

- **Improving a Mg/S Battery with YCl<sub>3</sub> Additive and Magnesium Polysulfide** *ADVANCED SCIENCE*  
Xu, Y., Zhou, G., Zhao, S., Li, W., Shi, F., Li, J., Feng, J., Zhao, Y., Wu, Y., Guo, J., Cui, Y., Zhang, Y.  
2019; 6 (4): 1800981
- **An Interconnected Channel-Like Framework as Host for Lithium Metal Composite Anodes** *ADVANCED ENERGY MATERIALS*  
Wang, H., Lin, D., Xie, J., Liu, Y., Chen, H., Li, Y., Xu, J., Zhou, G., Zhang, Z., Pei, A., Zhu, Y., Liu, K., Wang, et al  
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- **Mitigation of Shuttle Effect in Li-S Battery Using a Self-Assembled Ultrathin Molybdenum Disulfide Interlayer** *ACS APPLIED MATERIALS & INTERFACES*  
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- **Realizing stable lithium deposition by in situ grown Cu<sub>2</sub>S nanowires inside commercial Cu foam for lithium metal anodes** *JOURNAL OF MATERIALS CHEMISTRY A*  
Huang, Z., Zhang, C., Lv, W., Zhou, G., Zhang, Y., Deng, Y., Wu, H., Kang, F., Yang, Q.  
2019; 7 (2): 727–32
- **Direct electrochemical generation of supercooled sulfur microdroplets well below their melting temperature.** *Proceedings of the National Academy of Sciences of the United States of America*  
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2019
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2018; 138: 18–25
- **A non-nucleophilic mono-Mg<sup>2+</sup> electrolyte for rechargeable Mg/S battery** *ENERGY STORAGE MATERIALS*

- Xu, Y., Li, W., Zhou, G., Pan, Z., Zhang, Y.  
2018; 14: 253–57
- **Core-Shell Nanofibrous Materials with High Particulate Matter Removal Efficiencies and Thermally Triggered Flame Retardant Properties.** *ACS central science*  
Liu, K., Liu, C., Hsu, P., Xu, J., Kong, B., Wu, T., Zhang, R., Zhou, G., Huang, W., Sun, J., Cui, Y.  
2018; 4 (7): 894–98
  - **Vertically Aligned Lithophilic CuO Nanosheets on a Cu Collector to Stabilize Lithium Deposition for Lithium Metal Batteries** *ADVANCED ENERGY MATERIALS*  
Zhang, C., Lv, W., Zhou, G., Huang, Z., Zhang, Y., Lyu, R., Wu, H., Yun, Q., Kang, F., Yang, Q.  
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  - **Quantitative investigation of polysulfide adsorption capability of candidate materials for Li-S batteries** *ENERGY STORAGE MATERIALS*  
Wu, D., Shi, F., Zhou, G., Zu, C., Liu, C., Liu, K., Liu, Y., Wang, J., Peng, Y., Cui, Y.  
2018; 13: 241–46
  - **Morphology and property investigation of primary particulate matter particles from different sources** *NANO RESEARCH*  
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  - **A Nacre-Like Carbon Nanotube Sheet for High Performance Li-Polysulfide Batteries with High Sulfur Loading** *ADVANCED SCIENCE*  
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  - **An Aqueous Inorganic Polymer Binder for High Performance Lithium-Sulfur Batteries with Flame-Retardant Properties** *ACS CENTRAL SCIENCE*  
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  - **Nanoporous polyethylene microfibrils for large-scale radiative cooling fabric** *NATURE SUSTAINABILITY*  
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  - **In Situ Investigation on the Nanoscale Capture and Evolution of Aerosols on Nanofibers** *NANO LETTERS*  
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  - **Facilitation of sulfur evolution reaction by pyridinic nitrogen doped carbon nanoflakes for highly-stable lithium-sulfur batteries** *ENERGY STORAGE MATERIALS*  
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  - **Catalytic Effects in Lithium-Sulfur Batteries: Promoted Sulfur Transformation and Reduced Shuttle Effect** *ADVANCED SCIENCE*  
Liu, D., Zhang, C., Zhou, G., Lv, W., Ling, G., Zhi, L., Yang, Q.  
2018; 5 (1): 1700270
  - **Design of Complex Nanomaterials for Energy Storage: Past Success and Future Opportunity Published as part of the Accounts of Chemical Research special issue "Energy Storage: Complexities Among Materials and Interfaces at Multiple Length Scales"** *ACCOUNTS OF CHEMICAL RESEARCH*  
Liu, Y., Zhou, G., Liu, K., Cui, Y.  
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  - **Stretchable Lithium-Ion Batteries Enabled by Device-Scaled Wavy Structure and Elastic-Sticky Separator** *ADVANCED ENERGY MATERIALS*  
Liu, W., Chen, J., Chen, Z., Liu, K., Zhou, G., Sun, Y., Song, M., Bao, Z., Cui, Y.  
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  - **Air-stable and freestanding lithium alloy/graphene foil as an alternative to lithium metal anodes** *NATURE NANOTECHNOLOGY*  
Zhao, J., Zhou, G., Yan, K., Xie, J., Li, Y., Liao, L., Jin, Y., Liu, K., Hsu, P., Wang, J., Cheng, H., Cui, Y.

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- **Reactivation of dead sulfide species in lithium polysulfide flow battery for grid scale energy storage** *NATURE COMMUNICATIONS*  
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- **Sulfiphilic Nickel Phosphosulfide Enabled Li2S Impregnation in 3D Graphene Cages for Li-S Batteries** *ADVANCED MATERIALS*  
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- **Self-healing SEI enables full-cell cycling of a silicon-majority anode with a coulombic efficiency exceeding 99.9%** *ENERGY & ENVIRONMENTAL SCIENCE*  
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- **S Impregnation in 3D Graphene Cages for Li-S Batteries.** *Advanced materials*  
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- **In Situ Electrochemically Derived Nanoporous Oxides from Transition Metal Dichalcogenides for Active Oxygen Evolution Catalysts** *NANO LETTERS*  
Chen, W., Liu, Y., Li, Y., Sun, J., Qiu, Y., Liu, C., Zhou, G., Cui, Y.  
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- **Metallurgically lithiated SiOx anode with high capacity and ambient air compatibility** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
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- **Efficient solar-driven water splitting by nanocone BiVO4-perovskite tandem cells.** *Science advances*  
Qiu, Y., Liu, W., Chen, W., Chen, W., Zhou, G., Hsu, P., Zhang, R., Liang, Z., Fan, S., Zhang, Y., Cui, Y.  
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- **3D Porous Sponge-Inspired Electrode for Stretchable Lithium-Ion Batteries** *ADVANCED MATERIALS*  
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Tao, X., Wang, J., Liu, C., Wang, H., Yao, H., Zheng, G., Seh, Z. W., Cai, Q., Li, W., Zhou, G., Zu, C., Cui, Y.  
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- **Highly Nitridated Graphene-Li<sub>2</sub>S Cathodes with Stable Modulated Cycles** *ADVANCED ENERGY MATERIALS*

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