

## Zhelong Jiang

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### Publications

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#### PUBLICATIONS

- **Uniform pore structure enables negligible degradation in undoped and uncoated Ni-rich cathodes** *NATURE ENERGY*  
Eum, D., Ramachandran, H., Sun, T., Lee, S. S., Jiang, Z., Park, H., Jung, K., Lee, J., Jo, S., Liang, N. B., Choy, E. L., Lee, J., McCloskey, et al  
2026
- **Eliminating lattice collapse in dopant-free  $\text{LiNi}_{0.9}\text{Mn}_{0.1}\text{O}_2$  cathodes via electrochemically induced partial cation disorder** *NATURE ENERGY*  
Lee, J., Jiang, Z., Liang, N. B., Kwak, J., Nguyen, H., Busse, G. M., Yoo, Y., Ramachandran, H., Lim, K., Csernica, P. M., Li, T., Xu, X., Chung, et al  
2025
- **A formal FeIII/IV redox couple in an intercalation electrode.** *Nature materials*  
Ramachandran, H., Mu, E. W., Lomeli, E. G., Braun, A., Goto, M., Hsu, K. H., Liu, J., Jiang, Z., Lim, K., Busse, G. M., Moritz, B., Kas, J. J., Vinson, et al  
2025
- **Unravelling electro-chemo-mechanical interplay in layered oxide cathode degradation in solid-state batteries.** *Science advances*  
Zheng, X., Xue, Z., Hao, H., Cho, Y., Li, Y., Kim, C., Czaja, P., Lee, S. S., Bone, S., Spielman-Sun, E., Jiang, Z., Gu, X. W., Weker, et al  
2025; 11 (41): eady7189
- **A reversible four-electron Sn metal aqueous battery** *JOULE*  
Wang, J., Catalina, S. K., Jiang, Z., Xu, X., Zhou, Q., Chueh, W. C., Mefford, J.  
2024; 8 (12)
- **Decoupling first-cycle capacity loss mechanisms in sulfide solid-state batteries** *ENERGY & ENVIRONMENTAL SCIENCE*  
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2024
- **Calcination Heterogeneity in Li-Rich Layered Oxides: A Systematic Study of  $\text{Li}_2\text{CO}_3$  Particle Size** *CHEMISTRY OF MATERIALS*  
Busse, G. M., Csernica, P. M., Lim, K., Lee, J., Jiang, Z., Rivera, D. F., Kim, Y., Shapiro, D. A., Gent, W. E., Chueh, W. C.  
2023; 35 (24): 10658-10671
- **Experimental Discovery of a Fast and Stable Lithium Thioborate Solid Electrolyte,  $\text{Li}_6\text{x}[\text{B}_{10}\text{S}_{18}]_{\text{x}}$  (x approximate to 1)** *ACS ENERGY LETTERS*  
Ma, Y., Wan, J., Xu, X., Sendek, A. D. D., Holmes, S. E. E., Ransom, B., Jiang, Z., Zhang, P., Xiao, X., Zhang, W., Xu, R., Liu, F., Ye, et al  
2023; 8 (6): 2762-2771
- **Chemical Amplification of Subthreshold Base Triggers To Drive Sol-Gel Transitions in Polymers** *ACS MATERIALS LETTERS*  
Lai, S., Chaudhary, G., Jiang, Z., Ewoldt, R. H., Braun, P.  
2022; 4 (8): 1503-1510
- **In situ energy-dispersive X-ray diffraction of local phase dynamics during solvothermal growth of  $\text{Cu}_4\text{O}_3$**  *JOURNAL OF APPLIED CRYSTALLOGRAPHY*  
Jiang, Z., Sharma, J., Okasinski, J. S., Chen, H., Shoemaker, D. P.  
2021; 54: 42-53
- **A unique copper coordination structure with both mono- and bi-dentate ethylenediamine ligands** *CRYSTENGCOMM*

- Sharma, J., Jiang, Z., Bhutani, A., Behera, P., Shoemaker, D. P.  
2019; 21 (17): 2718-2726
- **High capacity 3D structured tin-based electroplated Li-ion battery anodes** *ENERGY STORAGE MATERIALS*  
Sun, P., Davis, J., Cao, L., Jiang, Z., Cook, J. B., Ning, H., Liu, J., Kim, S., Fan, F., Nuzzo, R. G., Braun, P.  
2019; 17: 151-156
  - **Phase stability and structural comparison of phases in the Cu-Zn-Sn-S system using solid-state NMR** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*  
Pogue, E. A., Sutrisno, A., Johnson, N. E., Goetter, M. B., Jiang, Z., Johnson, N. E., Shoemaker, D. P., Rockett, A. A.  
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  - **Accessing magnetic chalcogenides with solvothermal synthesis:  $\text{KFeS}_2$  and  $\text{KFe}_2\text{S}_3$**  *JOURNAL OF SOLID STATE CHEMISTRY*  
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  - ***In situ* identification of kinetic factors that expedite inorganic crystal formation and discovery** *JOURNAL OF MATERIALS CHEMISTRY C*  
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2017; 5 (23): 5709-5717
  - **Dynamic Gradient Directed Molecular Transport and Concentration in Hydrogel Films.** *Angewandte Chemie (International ed. in English)*  
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2017; 56 (18): 5001-5006
  - **Capturing Phase Evolution during Solvothermal Synthesis of Metastable  $\text{Cu}_4\text{O}_3$**  *CHEMISTRY OF MATERIALS*  
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  - **Understanding the Role of Nanostructures for Efficient Hydrogen Generation on Immobilized Photocatalysts** *ADVANCED ENERGY MATERIALS*  
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2013; 3 (10): 1368-1380
  - **Enhanced Photocatalytic Hydrogen Production with Synergistic Two-Phase Anatase/Brookite  $\text{TiO}_2$  Nanostructures** *JOURNAL OF PHYSICAL CHEMISTRY C*  
Tay, Q., Liu, X., Tang, Y., Jiang, Z., Sum, T., Chen, Z.  
2013; 117 (29): 14973-14982
  - **Efficient  $\text{Ag@AgCl}$  Cubic Cage Photocatalysts Profit from Ultrafast Plasmon-Induced Electron Transfer Processes** *ADVANCED FUNCTIONAL MATERIALS*  
Tang, Y., Jiang, Z., Xing, G., Li, A., Kanhere, P. D., Zhang, Y., Sum, T., Li, S., Chen, X., Dong, Z., Chen, Z.  
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