

Renjie Li (李人杰)

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EDUCATION:

- Ph. D., The Hong Kong Polytechnic University, Industrial and Systems Engineering, 2021-2024
- M.S., Hainan University, Materials Science and Engineering, 2016-2019
- B.S., Hainan University, Applied Chemistry, 2011-2015

WORKING EXPERIENCE:

- Research Associate, The Hong Kong Polytechnic University, Industrial and Systems Engineering, Oct. 2024-present
- Assistant Engineer, Songshan Lake Materials Laboratory (Pearl River Delta Branch, Institute of Physics, CAS), Jul. 2019- Aug. 2021

RESEARCH EXPERIENCE:

Ph.D. Program at The Hong Kong Polytechnic University

- Explored organic molecular crystals as electrode materials for aqueous Ca-ion batteries.
- Investigated phosphates as high-voltage and high-capacity cathodes for Ca-ion batteries.

Master's Program at Hainan University

- Employed solid-state reaction, electrospinning technology, and hydrothermal methods to synthesize novel Nb-based oxide materials as anodes for lithium-ion batteries.
- Integrated in-situ XRD with Rietveld refinement to compute volume changes during lithiation.

Assistant Engineer at Songshan Lake Materials Laboratory

- Investigated the mechanism of Mg-Li dual-ion batteries using HAADF images.

SELECTED PUBLICATIONS:

1. **Renjie Li**, Youngsu Lee, Huijun Lin, Xiangli Che, Xiangjun Pu, Yuyang Yi, Feiyang Chen, Jingya Yu, Kang Cheung Chan, Kyu-Young Park, Zheng-Long Xu, K_xVPO_4F ($x \sim 0$): a new high-voltage and low-stain cathode material for ultrastable calcium rechargeable batteries, *Adv. Energy Mater.* 2024, 14, 2302700. (Front cover paper) [IF=24.4, Chemistry, Physical, Q1, 6/178, top 3.3%]
2. **Renjie Li**, Jingya Yu, Feiyang Chen, Yaqiong Su, Kang Cheung Chan, Zheng-Long Xu, High-power and ultrastable aqueous calcium-ion batteries enabled by small organic molecular crystal anodes, *Adv. Funct. Mater.* 2023, 33, 2214304. [IF=18.5, Chemistry, multidisciplinary, Q1, 10/230, top 4.3%]
3. **Renjie Li**, Guisheng Liang, Xingzhen zhu, Qingfeng Fu, Yongjun Chen, Lijie Luo, Chunfu Lin, $Mo_3Nb_{14}O_{44}$: a new Li^+ container for high-performance electrochemical energy storage,

- Energy Environ. Mater.* 2021, 4, 65. [IF=13, Materials science, multidisciplinary, Q1, 35/438, top 7.9%]
4. **Renjie Li**, Yiran Pu, Jian Xu, Qingfeng Fu, Guisheng Liang, Xiangzhen Zhu, Lijie Luo, Yongjun Chen, Chunfu Lin, Novel GaNb₄₉O₁₂₄ microspheres with intercalation pseudocapacitance for ultrastable lithium-ion storage, *Ceram. Int.* 2019, 45, 12211. [IF=5.1, Materials science, ceramics, Q1, 3/31, top 9.6%]
 5. **Renjie Li**, Chunfu Lin, Ning Wang, Lijie Luo, Yongjun Chen, Jianbao Li, Zhanhu Guo, Advanced composites of complex Ti-based oxides as anode materials for lithium-ion batteries, *Adv. Compos. Hybrid Mater.* 2018, 1, 440. (Cover paper) [IF=23.2, Materials science, composites, Q1, 1/35, top 2.8%]
 6. **Renjie Li**, Xiangzhen Zhu, Qingfeng Fu, Guisheng Liang, Yongjun Chen, Lijie Luo, Chunfu Lin, Renbo Wei, Zhanhu Guo, Nanosheet-based Nb₁₂O₂₉ hierarchical microspheres for enhanced lithium storage, *Chem. Commun.* 2019, 55, 2493. [IF=4.3, Chemistry, multidisciplinary, Q2, 72/231, top 31.2%]
 7. **Renjie Li**, Yi Qin, Xin Liu, Liang Yang, Chunfu Lin, Ran Xia, Shiwei Lin, Yongjun Chen, Jianbao Li, Conductive Nb₂₅O₆₂ and Nb₁₂O₂₉ anode materials for use in high-performance lithium-ion storage, *Electrochim. Acta* 2018, 266, 202. [IF=5.5, Electrochemistry, Q1, 11/45, top 13.7%]
 8. Xiaoming Lou[#], **Renjie Li**[#], Xiangzhen Zhu, Lijie Luo, Yongjun Chen, Chunfu Lin, Hongliang Li, Xiu Song Zhao, A new anode material for lithium-ion batteries: aluminum niobate (AlNb₁₁O₂₉), *ACS Appl. Mater. Interfaces* 2019, 11, 6089. (Contribution equally) [IF=8.5, Materials science, multidisciplinary, Q1, 68/439, top 15.4%]

OTHER INFORMATION:

- Citation: 1124, H-index: 17 (by Google Scholar on 14 March 2025).
- ORCID: 0000-0003-1714-9939
- Specialties: *In-situ* electrochemical characterization methods and analysis (*in-situ* XRD, Raman, TEM), Rietveld refinement, STEM (HAADF, iDPC), DFT calculations, electrochemical characterization and analysis, structure-performance relationships of electrode materials.