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郭光辉，教授，硕士生导师。2006年毕业于武汉大学化学与分子科学院，现任煤转化与新型炭材料湖北省重点实验室副主任。主要从事锂离子电池电极材料，精细化工产品的制备，腐蚀电化学以及固体废弃物的回收与资源化利用等研究。近年来主持和参加湖北省自然科学基金、湖北省教育厅自然科学基金以及校企合作等资助的科研项目 8 项。 目前发表学术论文 20 余篇，其中在国外 SCI 英文源刊杂志《Solid State Ionics》，《Journal of Alloys and Compounds》，《Journal of Nanoparticle Research》，《Journal of Solid State Electrochemistry》，《Separation and Purification Technology》上发表了多篇期刊论文。

## 学科专业

应用化学

## 现有研究方向

锂离子电池电极材料、腐蚀电化学、固体废弃物的回收与资源化利用、精细化学品的制备。

## 研究生培养

在读硕士研究生 6 名。

## 主要发表的论文

[1] Ningshen Zhang, **Guanghui Guo**, Bowen He, Jiaxin Zhu, Jie Wu, Jiahua Qiu.

Synthesis and research of MnO<sub>2</sub>-NiO composite as lithium-ion battery anode using spent Zn-Mn batteries as manganese source. Journal of Alloys and Compounds,2020,838:15578-15586.

- [2] Ningshen Zhang, **Guanghai Guo**, Bowen He, Jiabin Zhu, Jie Wu, Jiahua Qiu. Study on the performance of MnO<sub>2</sub>-MoO<sub>3</sub> composite as lithium-ion battery anode using spent Zn-Mn batteries as manganese source, Journal of Solid State Electrochemistry,2020,24(3):591-599.
- [3] Bowen He, **Guanghai Guo**, Ningshen Zhang, Jiabin Zhu, Jie Wu, Jiahua Qiu. Synthesis and research of MnO<sub>2</sub>-NiO composite as lithium-ion battery anode using spent Zn-Mn batteries as manganese source, International Journal of Electrochemical Science,2020,15(7):6920-6929.
- [4] Zehui Zhang, Min Yu, Bin Yang, Chaozheng Jin, **Guanghai Guo**, Jianghu Qiu. Regeneration of Al-doped LiNi<sub>1/3</sub>Co<sub>1/3</sub>Mn<sub>1/3</sub>O<sub>2</sub> cathode material via a sustainable method from spent Li-ion batteries. Materials Research Bulletin. DOI: 10.1016/j.materresbull.2020.110855
- [5] Zehui Zhang, Jianghu Qiu, Min Yu, Chaozheng Jin, Bin Yang, **Guanghai Guo**. Performance of Al-doped LiNi<sub>1/3</sub>Co<sub>1/3</sub>Mn<sub>1/3</sub>O<sub>2</sub> synthesized from spent lithium ion batteries by sol-gel method. Vacuum. DOI:10.1016/j.vacuum.2019.109105
- [6] Min Yu, Zehui Zhang, Feng Xue, Bin Yang, **Guanghai Guo**, Jianghu Qiu. A more simple and efficient process for recovery of cobalt and lithium from spent lithium-ion batteries with citric acid. Separation and Purification Technology,2019(215):398-402.
- [7] Jianghu Qiu, Min Yu, Zehui Zhang, Xing Cai, **Guanghai Guo**. Synthesis of Co<sub>3</sub>O<sub>4</sub>/nitrogen-doped carbon composite from metal-organic framework as anode for Li-ion battery. Journal of Alloys and Compounds,2019,775:366-371.
- [8] Xin Cao, **Guanghai Guo**, Fangfang Liu, Yong Zhou, Songshan Zhang. The Properties of LiMn<sub>2</sub>O<sub>4</sub> Synthesized by Molten Salt Method Using MnO<sub>2</sub> as

Manganese Source Recycled from Spent Zn-Mn Batteries. International Journal of Electrochemical Science, 2015,10,3841-3847.

[9] Shan Chen, **Guanghai Guo**, Fangfang Liu. Study on the performance of  $\text{LiCo}_x\text{Mn}_{2-x}\text{O}_{4-y}\text{F}_y$  using spent alkaline Zn-Mn batteries as manganese source. Solid State Ionics, 2014,161,59-66.

[10] Shan Chen, **Guanghai Guo**, Fangfang Liu. Study on the performance of  $\text{LiMn}_2\text{O}_4$  using spent Zn-Mn batteries as manganese source. Journal of Solid State Electrochemistry, 2014,18(6):1495-1502.