卢桂霞 硕士生导师

职　　称：讲师

职　　务：

研究方向：纳米功能材料

通信地址：青岛市黄岛区嘉陵江东路 777 号

联系方式：lgxia1988@163.com

个人简介

• 卢桂霞，女，青岛理工大学土木工程学院教师，硕士生导师，2015 年毕业于山东大学获工学博士学位，2018 年获批国家留学基金委“青年骨干教师出国研修项目”，赴澳大利亚新南威尔士大学公派访学一年。长期从事电池材料的制备和性能表征、功能高分子材料制备等相关研究工作。

• 主持山东省自然科学基金、山东省高校科研计划、青岛市博士后基金、校高层次人才项目各一项，教育部产学研合作项目 2 项；作为主要负责人获得国家级一流课程 1 门，山东省一流课程 1 门；作为主要网络课程建设负责人，建设并维护国家资源共享课 1 门、山东省研究生教育优质课程 1 门，山东省省课联盟平台课程 1 门，山东省名校工程课程体系中 3 门；作为唯一负责人完成并投入使用了“复合材料”网络课程 1 门；作为副主编参与完成了“十三五”国家重点图书 1 本，新世纪普通高等教育土木工程类课程规划教材 1 本，参与编写教材 1 本；指导学生获得国家大学生创新创业项目、山东省大学生创新创业项目、校科技立项项目等多项；在国内外学术刊物 Sensors Actuat B-Chem、Electrochim Acta、Nano Energy、ACS Appl. Mater. Interfaces 等杂志上发表收录论文四十余篇，授权国家发明专利 9 项。多次担任《Chemical Physics Letters》、《Applied Surface Science》、《Ionics》等多家国际国内期刊的审稿人。

• 获得“全国高等学校建筑材料青年教师讲课比赛”三等奖，“校十一届中青年讲课比赛”三等奖、“2017 院青年教师讲课比赛”一等奖、“智慧教学实践教师”荣誉称号、“2016 校三八红旗手称号”，“院优秀毕业设计指导教师”，“校优秀班主任”等。

学习经历

- 2004.09-2008.06，青岛理工大学土木工程学院，材料科学与工程专业，工学学士
- 2008.09-2011.03，沈阳建筑大学材料科学与工程学院，材料物理与化学专业，工学硕士
- 2011.09-2015.06，山东大学材料科学与工程学院，材料科学与工程专业，工学博士

工作经历

- 2015.07-至今，青岛理工大学土木工程学院，讲师
- 2019.12-2021.01，澳大利亚新南威尔士大学化学工程学院，访问学者

教科研项目

- 2016.11-2018.11，基于多层次修饰的氧化铁纳米复合材料的电化学性能研究，山东省自然科学基金，主持
- 2017.05-2019.05，智慧交通用金属粒子修饰及氮掺杂碳包覆氧化锌的电化学性能研究，山东省高校科研计划项目，主持

学术成果

代表性著作、论文：

[1] Li Dawei, Pang Yanan, Yan Xilu, Gu Xin, **Lu Guixia**, Zong Peijie, Tian Yuanyu. Facile conversion of micron/submicron Si particles into Si/C composites with excellent cycle performance[J]. ***Journal of Energy Storage, 2023,,73:***109142.

[2] Shi Huifa, Sun Weiyi, Cao Jiakai, Han Sa, **Lu Guixia**, Zahid Ali Ghazi, Zhu Xiaoyang, Lan Hongbo, Lv Wei. Challenges and Solutions for Lithium–Sulfur Batteries with Lean Electrolyte[J]. ***Advanced Functional Materials, 2023,*** 33(42): 2306933.

[3] Shi Huifa, Cao Jiakai, Han Sa, Sun Weiyi, Zhu Xiaoyang, **Lu Guixia**, Lan Hongbo, Yang Huicong, Niu Shuzhang. Hierarchical carbon hollow nanospheres coupled with ultra-small molybdenum carbide as sulfiphilic sulfur hosts for lithium-sulfur batteries[J]. ***RSC Advances, 2023,*** 13(30): 20810-20815.

[4] Zhao Xiaona, Liu Yanyan, Chen Yan, Su Xuewei, Feng Yuhao, Lu Chenggang, Ma Yong, **Lu Guixia**, Ma Mingliang. Research progress of novel magnetic two-dimensional carbon composites in photocatalytic degradation of pollutants: a review[J]. ***Environmental Science and Pollution Research International, 2023,*** 30.(27): 69774-69795.

[5] Feng Yuhao, Su Xuewei, Chen Yan, Liu Yanyan, Zhao Xiaona, Lu Chenggang, Ma Yong, **Lu Guixia**, Ma Mingliang. Research progress of graphene oxide-based magnetic composites in adsorption and photocatalytic degradation of pollutants: A review[J]. ***Materials Research Bulletin, 2023,*** 162: 112207.

[6] Han Zejun, Tang Yunxiang, **Lu Guixia**, Qi Yuan, Wu Hao, Yang Zhengyi, Han Hecheng, Zhang Xue, Wu Lili, Wang Zhou, Liu Jiurong, Wang Fenglong. Transition metal elements-doped SnO_2 for ultrasensitive and rapid ppb-level formaldehyde sensing[J]. ***Heliyon, 2023,*** 9(2) : e13486.

[7] Hao Shuyan, Han Hecheng, Yang Zhengyi, Chen Mengting, Jiang Yanyan, **Lu Guixia**, Dong Lun, Wen Hongling, Li Hui, Liu Jiurong, Wu Lili, Wang Zhou, Wang Fenglong. Recent advancements on photothermal conversion and antibacterial applications over MXenes-based materials[J]. ***Nano-Micro Letters, 2022,*** 14(11) : 113-148.

[8] Han Zejun, Tang Yunxiang, **Lu Guixia**, Qi Yuan, Wu Hao, Yang Zhengyi, Han Hecheng, Zhang Xue, Wu Lili, Wang Zhou, Liu Jiurong, Wang Fenglong. PtCu-SnO_2 nanocomposites for ultrasensitive and rapid ultra-low formaldehyde sensing[J]. ***ChemPhysMater, 2022,*** 1(3): 227-236.

[9] Chen Xiaoyan, Wang Shichao, Qiao Gaoqun, Wang Xiaohu, **Lu Guixia**, Cui Hongzhi, Wang Xinzhen. Sepiolite/amorphous nickel hydroxide hierarchical structure for high capacitive supercapacitor[J]. ***Journal of Alloys and Compounds, 2021,*** 881:160519.

[10] Li Dawei, Zhang Xiaoxiao, Wang Yu, Yan Xilu, Zong Peijie, **Lu Guixia**, Tian Yuanyu. Activation of rice hull char with steam to improve lithium storage performance of SnO_2/C[J]. ***Journal of Analytical and Applied Pyrolysis, 2021,*** 157: 105185.

[11] Li Dawei, Zhang Xiaoxiao, Wang Yu, Zong Peijie, Zhang Li, Zhang Zongbo, Gu Xin, Qiao Yingyun, Lu Guixia, Tian Yuanyu. Adjusting ash content of char to enhance lithium storage performance of rice husk-based SiO_2/C [J]. Journal of Alloys and Compounds, 2021, 854: 156986.

[12] Chen Xiaoyan, Wang Shichao, Quo Gaoqun, **Lu Guixia**, Cui Hongzhi, Wang Xinzhen. Fabrication of Three-Dimensional Porous NiO/Amorphous $Ni(OH)_2$ Composites for Supercapacitors[J]. ***Energy Fuels, 2020,*** 34(12): 16783-16790.

[13] Han Zejun, Qi Yuan, Yang Zhengyi, Han Hecheng, Jiang Yanyan, Du Wenjing, Zhang Xue, Zhang Jizhi, Dai Zhengfei, Wu Lili, Fletcher Cameron, Wang Zhou, Liu Jiurong, **Lu Guixia**, Wang Fenglong. Recent advances and perspectives on constructing metal oxide semiconductor gas sensing materials for efficient formaldehyde detection[J]. ***Journal of Materials Chemistry C, 2020***, 8(38) : 13169-13188.

[14] Le Kai, Gao Mengjiao, Xu Dongmei, Wang Zhou, Wang Guanwen, **Lu Guixia**, Liu Wei, Wang Fenglong, Liu Jiurong. In situtransformation of ZIF-67 into hollow $Co_2V_2O_7$ nanocages on graphene as a high-performance cathode for aqueous asymmetric supercapacitors[J]. ***Inorganic Chemistry Frontiers, 2020***, 7(19) : 3646-3656.

[15] Du Wenjing, Si Wenxu, Zhao Jinbo, Wang Fenglong, Han Zejun, Wang Zhou, Liu Wei, **Lu Guixia**, Liu Jiurong, Wu Lili. Mesoporous Fe-doped In_2O_3 nanorods derived from metal organic frameworks for enhanced nitrogen dioxide detection at low temperature[J]. ***Ceramics International, 2020,*** 46(12): 20385-20394.

[16] Wang Xinzhen, Liu Fengjun, Chen Xiaoyan, **Lu Guixia**, Song Xiaojie, Tian Jian, Cui Hongzhi, Zhang Guosong, Gao Kuidong. SnO_2 core-shell hollow microspheres co-modification with Au and NiO nanoparticles for acetone gas sensing[J]. ***Powder Technology, 2020,*** 364: 159-166.

[17] **Lu Guixia**, Liu Jiurong, Huang Weibo, Wang Xinzhen, Wang Fenglong. Boosting the electrochemical performance of $Li_4Ti_5O_{12}$ through nitrogen-doped carbon coating[J]. ***Applied Organometallic Chemistry, 2019,*** 33(7): e4957.

[18] Liu Fengjun, Huang Guoxin, Wang Xinzhen, Xie Xiang, Xu Guogang, **Lu Guixia**, He Xuanmeng, Tian Jian, Cui Hongzhi. High response and selectivity of single crystalline ZnO nanorods modified by In_2O_3 nanoparticles for n-butanol gas sensing[J]. ***Sensors Actuators: B. Chemical***, 2018,277: 144-151.

[19] **Wang Yiran**, Clancey Joel, **Lu Guixia**, Liu Jiurong, Liu Lili, Chaudhuri Jharna, George Steven, Xie Ming, Wei Suying, Guo Zhanhu. Enhanced Methanol Oxidation with Annealed Atomic Layer Deposited Platinum Nanoparticles on Carbon Nanotubes[J]. ***Journal of the Electrochemical Society, 2016,*** 163(2) : F1-F10.

[20] Hu Chenxi, Qiu Song, **Lu Guixia**, Gao Huili, Lv Hailong, Guo Shimei, Liu Jiurong. Enhanced electrochemical performance of barium hexaferrite nanoplates by Zn^{2+} doping serving as anode materials[J]. ***RSC Advances, 2015,87: 70749-70757.***

[21] Lv Hailong, Qiu Song, **Lu Guixia**, Fu Ya, Li Xiaoyu, Hu Chenxi, Liu Jiurong. Nanostructured Antimony/carbon Composite Fibers as Anode Material for Lithium-ion Battery[J]. ***Electrochimica Acta, 2015,*** 151: 214-221.

[22] Fu Ya, Gu Hongbo, Yan Xingru, Liu Jiurong, Wang Yiran, Huang Jiangnan, Li Xiaoyu, Lv Hailong, Wang Xinzhen,

Guo Jiang, **Lu Guixia**, Qiu Song, Guo Zhanhu. Chromium(III) oxide carbon nanocomposites lithium-ion battery anodes with enhanced energy conversion performance[J]. ***Chemical Engineering Journal, 2015,***277: 186-193.

[23] Li Xiaoyu, Gu Hongbo, Liu Jiurong, Wei Huige, Qiu Song, Fu Ya, Lv Hailong, **Lu Guixia**, Wang Yiran, Guo Zhanhu. Multi-walled carbon nanotubes composited with nanomagnetite for anodes in lithium ion batteries[J]. ***RSC Advances, 2015,10*** :7237-7244.

[24] **Lu Guixia**, Qiu Song, Lv Hailong, Fu Ya, Liu Jiurong, Li Xiaoyu, Bai Yu-Jun. Li-Ion storage performance of MnO nanoparticles coated with nitrogen-doped carbon derived from different carbon sources[J]. ***Electrochimica Acta, 2014,*** 146: 249-256.

[25] Guo Shimei, **Lu Guixia**, Qiu Song, Liu Jiurong, Wang Xinzhen, He Cuizhu, Wei Huige, Yan Xingru, Guo Zhanhu. Carbon-coated MnO microparticulate porous nanocomposites serving as anode materials with enhanced electrochemical performances[J]. ***Nano Energy, 2014,*** 9: 41-49.

[26] Hu Chenxi, Guo Shimei, **Lu Guixia**, Fu Ya, Liu Jiurong, Wei Huige, Yan Xingru, Wang Yiran, Guo Zhanhu. et al. Carbon coating and Zn^{2+} doping of magnetite manorods for enhanced electrochemical energy Storage[J]. ***Electrochimica Acta, 2014,*** 148: 118-126.

[27] **Lu Guixia**, Qiu Song, Liu Jiurong, Wang Xinzhen, He Cuizhu, Bai Yu-Jun. Enhanced electrochemical performance of Zn-doped Fe_2O_3 with carbon coating[J]. ***Electrochimica Acta, 2014,*** 117: 230-238.

[28] Wang Xinzhen, Qiu Song, **Lu Guixia**, Liu Jiurong, He Cuizhu, Luan Liqiang, Liu Wei. Fabrication of porous MnO microspheres with carbon coating for lithium ion battery application[J]. ***CrystEngComm***, ***2014***, 16(9): 1802-1809.

[29] Zeng You, **Lu Guixia**, Wang Han, Du Jinhong, Ying Zhe, Liu Chang. Positive temperature coefficient thermistors based on carbon nanotube/polymer composites[J]. ***Scientific reports, 2014,*** 4(1): 6684.

[30] Qiu Song, Wang Xinzhen, **Lu Guixia**, Liu Jiurong, He Cuizhu. Facile synthesis of MnO and nitrogen-doped carbon nanocomposites as anode material for lithium ion battery[J]. ***Materials Letters,2014,*** 136: 289-291.

[31] Wang Xinzhen, Qiu Song, Liu Jiurong, He Cuizhu, **Lu Guixia**, Liu Wei. Synthesis of mesoporous SnO_2 spheres and application in gas sensors[J]. ***European Journal of Inorganic Chemistry,*** 2014,5: 863-869.

[32] **Lu Guixia**, Wang Xinzhen, Liu Jiurong, Qiu Song, He Cuizhu, Li Bo, Liu Wei. One-pot synthesis and gas sensing properties of ZnO mesoporous architectures[J]. ***Sensors Actuators: B. Chemical,2013,*** 184: 85-92.

[33] Wang Xinzhen, Qiu Song, He Cuizhu, Lu Guixia, Liu Wei, Liu Jiurong. Synthesis of Au decorated SnO_2 mesoporous spheres with enhanced gas sensing performance[J]. ***RSC Advances, 2013,*** 41: 19002-19008.

[34] Zeng You, Zhao Lijia, Wu Wendong, **Lu Guixia**, Xu Feng, Tong Yu, Liu Wenbin, Du Jinhong. Enhanced adsorption of malachite green onto carbon nanotube/polyaniline composites[J]. ***Journal of Applied Polymer Science,2012,*** 127(4) : 2475-2482.

代表性专利：

[1]曾尤， **卢桂霞**，吴文栋，赵丽佳，甄影，佟钰， 一种耐大电流的热敏电阻聚合物复合材料及其制备方法[P]，中国发明专利 ZL 2010 1 0558096.5，

[2]石会发，史佩佐，孙伟议，曹佳凯，韩飒，**卢桂霞**，一种 3D 打印可拉伸水系锌离子电池及其制备方法[P]，中国发明专利，ZL 202310332088.6

[3] 石会发，曹佳凯，孙伟议，韩飒，**卢桂霞**，一种水系锌离子电池的电极、其制备方法及应用[P]，中国发明专利， ZL 202310306206.6