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职称/职务：副教授、博士、硕士生导师

专业：物理化学、材料化学

研究方向：功能材料合成与人工智能材料设计

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个人经历

学习经历

2013.07-2016.10, 意大利米兰比可卡大学, 材料化学, 理学博士

2008.09-2011.06, 中国科学院固体物理研究所, 凝聚态物理, 理学博士

2003.09-2006.06, 新疆大学, 理论物理, 理学硕士

1999.09-2003.06, 新疆大学, 材料物理, 理学学士

工作经历

2006.07-至今, 新疆大学, 副教授

2015.01-2015.12, 美国普林斯顿大学, Research Fellow

主讲课程

本科生：《结构化学》、《结构化学实验》

研究生：《量子化学》、《科技论文写作与学术规范》

研究内容

1. 离子电池正极材料的合成与人工智能材料设计
2. 光、电催化材料的合成与高通量数据库构建
3. 低维纳米碳材料的合成与性能研究
4. 机器学习在材料设计中的应用研究

入选人才计划

1. 国家高层次留学人才回国资助人选, 2019.09-2023.08, 60 万

主持科研项目

1. 国家自然科学基金, 锂离子电池正极材料的数据驱动高通量筛选研究 (22065032), 2021.01-2024.12, 41 万, 主持
2. 固体表面物理化学国家重点实验室课题, 锂离子电池二维层状正极材料的高通量筛选及性能研究 (2020X32), 2021.01-2023.12, 20 万, 主持
3. 国家自然科学基金科学部主任基金, Fe 基锂离子电池正极材料的改性技术研究 (11047032), 2011.01-2013.12, 15 万, 主持
4. 能源材料化学教育部重点实验室开放课题, 新型金属-多孔炭材料的设计合成及电催化性能研究, 2019.01-2020.12, 20 万元, 主持
5. 自治区自然科学基金面上项目, 离子掺杂 $\text{Li}_4\text{Ti}_5\text{O}_{12}$ 锂离子电池负极材料的设计及机理研究 (2018D01C064), 2018.07-2021.06, 7 万元, 主持
6. 新自治区高校科研计划面上项目, 低维纳米碳材料的设计及储能特性研究 (XJEDU2017M004), 2018.01-2020.12, 5 万元, 主持
7. 新疆大学博士科研启动基金, 缺陷和掺杂石墨烯的设计及电化学性能研究 (BS160256), 2017.06-2019.05, 10 万元, 主持

奖励情况:

- 2021 年 6 月获得新疆大学青年教师教学竞赛一等奖
- 2013 年获得意大利米兰比可卡大学一等博士奖学金
- 2010 年获得自治区科技进步一等奖
- 2011 年获得乌鲁木齐市科技进步一等奖

代表性研究成果

1. Ligang Chen, Xin Liang, Xiaotong Li, Jiajing Pei, **He Lin***, Dianzeng Jia, Wenxing Chen, Dingsheng Wang, Yadong Li, Promoting electrocatalytic methanol oxidation of platinum nanoparticles by cerium modification, *Nano Energy*, **2020**, 73, 104784.
2. Murong Xi, Zhenjie Liu, Juan Ding, Wenhua Cheng, Dianzeng Jia, **He Lin***, Saccharin Anion Acts as a "Traffic Assistant" of Zn^{2+} to Achieve a Long-Life and Dendritic-Free Zinc Plate Anode, *ACS Applied Materials & Interfaces*, **2021**, 13, 29631-29640.

3. Yan Lv, Xueyan Wu, **He Lin**, Jiaxin Li, Hongbo Zhang, Jixi Guo*, Dianzeng Jia*, Hongmei Zhang, A Novel Carbon Support: Few-Layered Graphdiyne-Decorated Carbon Nanotubes Capture Metal Clusters as Effective Metal-Supported Catalysts, *Small*, **2021**, 17, 2006442.
4. Wenhui Tian, Jiayao Zhu, Yue Dong, Jing Zhao, Jing Li, Nannan Guo, **He Lin***, Su Zhang, Dianzeng Jia, Micelle-induced assembly of graphene quantum dots into conductive porous carbon for high rate supercapacitor electrodes at high mass loadings, *Carbon*, **2020**, 161, 89-96.
5. 蔺何*, 徐静, 张禹, 化学专业本科与研究生实验教学改革探索, *广东化工*, **2020**, 47, 174.
6. Yan Qiang, Yuting Jiang, **He Lin**, Luxiang Wang, Anjie Liu, Yali Cao, Rui Sheng, Yong Guo, Chengwei Fan, Su Zhang, Dianzeng Jia*, Zhuangjun Fan, Boosting the supercapacitor performance of activated carbon by constructing overall conductive networks using grapheme quantum dots, *Journal of Materials Chemistry A*, **2019**, 7, 6021-6027.
7. Sheng Ding#, **He Lin**#, Yuming Yu, Lang Liu*, Caiming Deng, Jianzhang Zhao, Dianzeng Jia, Molecular orbital delocalization/localization-induced crystal-to-crystal photochromism of schiff Bases ortho-hydroxyl groups, *Journal of Physical Chemistry C*, **2018**, 122, 24933-24940.
8. **He Lin***, Guido Fratesi, Sencer Selçuk, Gian Paolo Brivio, Annabella Selloni, Effects of Thermal Fluctuations on the Structure, Level Alignment and Absorption Spectrum of Dye-Sensitized TiO₂: A Comparative Study of Catechol and Isonicotinic Acid on the Anatase (101) and Rutile (110) Surfaces, *Journal of Physical Chemistry C*, **2016**, 120, 3899-3905.
9. **He Lin***, Guido Fratesi, Gian Paolo Brivio, Graphene magnetism induced by covalent adsorption of aromatic radicals, *Physical Chemistry Chemical Physics*, **2015**, 17, 2210-2215.
10. Anu Baby, **He Lin**, Abhilash Ravikumar, Carla Bittencourt, Hermann A. Wegner, Luca Floreano, Andrea Goldoni, Guido Fratesi*, Lattice mismatch drives spatial modulation of corannulene tilt on Ag(111), *Journal of Physical Chemistry C*, **2018**, 122, 10365-10376.
11. Moritz Müller, Daniel Sánchez-Portal*, **He Lin**, Gian Paolo Brivio, Annabella Selloni, Guido Fratesi, Effect of structural fluctuations on elastic lifetimes of adsorbate states: isonicotinic acid on rutile (110), *Journal of Physical Chemistry C*, **2018**, 122, 7575-7585.
12. Qing-Xia Zeng, Guan-Cheng Xu*, Li Zhang, **He Lin**, Yan Lv, Dian-Zeng Jia, Porous CuO nanofibers derived from a Cu-based coordination polymer as a photocatalyst for the degradation of rhodamine B, *New Journal of Chemistry*, **2018**, 42, 7016-7024.
13. Jin-jin Ban, Guan-cheng Xu*, Li Zhang, **He Lin**, Zhi-peng Sun, Yan Lv, Dian-zeng Jia*, Mesoporous ZnO microcube derived from a metal-organic framework as photocatalyst for the degradation of organic dyes, *Journal of Solid States Chemistry*, **2017**, 256, 151-157.
14. Gui Xu, Guan-Cheng Xu*, Jin-Jin Ban, Li Zhang, **He Lin**, Chun-Lin Qi, Zhi-Peng Sun, Dian-Zeng Jia, Cobalt and cobalt oxides N-codoped porous carbon derived from metal-organic framework as bifunctional

catalyst for oxygen reduction and oxygen evolution reactions, *Journal of Colloid and Interface Science*, **2018**, 521, 141-149.

15. Dengxin Yan, Yudai Huang*, Chengwei Fan, Xingchao Wang, Junfeng Yan, **He Lin**, Dianzeng Jia, Jun Zong, Wei Wang, Guangming Wu, Entrapment of polysulfides by Al₂O₃ modified separator for high energy Li-S redox flow batteries, *Journal of Alloys and Compounds*, **2019**, 770, 1229-1236.

16. Abhilash Ravikumar, Anu Baby, **He Lin**, Guido Fratesi*, Gian Paolo Brivio, Femtomagnetism in graphene induced by core level excitation of organic adsorbates, *Scientific Reports*, **2016**, 6, 24603.

17. Anu Baby*, **He Lin**, Gian Paolo Brivio, Luca Floreano, Guido Fratesi, Core-level spectra and molecular deformation in adsorption: V-shaped pentacene on Al(001), *Beilstein Journal of Nanotechnology*, **2015**, 6, 2242-2251.

18. **He Lin**, Yan-ling Li, Zhi Zeng*, Xiao-jia Chen, and Hai-qing Lin, Structural, electronic, and dynamical properties of methane under high pressure, *Journal of Chemical Physics*, **2011**, 134, 064515.

19. **He Lin**, Zhi Zeng*, Structure and magnetic properties of LiFePO₄ under pressure, *IEEE Transactions on Magnetics*, **2011**, 47, 3817-3820.

20. **He Lin**, Zhi Zeng*, Structural, electronic, and magnetic properties of CrN under high pressure, *Chinese Physics B*, **2011**, 20, 077102.

21. Jie Zhang, Yan-ling Li, **He Lin**, Zhi Zeng*, Pressure-induced structural phase transition in wide-gap molecular solid CF₄, *Chemical Physics Letters*, **2011**, 512, 223-226.