

机电工程学院教师个人简介

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硕/博导师	硕士生导师/博士生导师			
教育背景	时间	院校经历		
	2006.07-2009.07	西安建筑科技大学博士学位		
	2013.10-2014.10	美国佐治亚理工学院, 访问学者		
工作经历	时间	经历职位		
	2004-至今	西安建筑科技大学机电工程学院，陕西省纳米材料与技术重点实验室，教师		
主要研究方向	<p>1、储能/新能源电池及元器件研究（锂离子电池、锂硫电池、钠离子电池、水系锌离子电池），稀土发光材料，太阳能电池等。</p> <p>2、机器人控制系统</p> <p>3、新型电力系统（风光氢）</p> <p>4、清洁能源应用及测试（氢燃料电池）</p>			
主要荣誉/获奖情况	<p>1. 陕西省高等学校科技进步奖（第一完成人）——省部级，陕西省科技厅，2013</p> <p>2. 陕西省青年科技新星，2013 年</p>			
学术成果/科研项目	<p>主持项目 17 项，其中国家级 2 项，省部级 8 项，部分项目：</p> <p>1. 基于遥操作的仿生机械手人机交互技术与实现——2023 陕西省重点研发 主持</p> <p>2. 军用新一代锂原电池长贮存技术——2021 省级重点产业化课题 主持</p> <p>3. 曲线细长孔激光与电解复合加工技术研究——2020 年国家装备发展部快响课题 主持</p> <p>4. 西安市清洁能源重点实验室——2019 西安市重点实验室建设 主持</p> <p>5. 高比能锂硫电池电极研究——2018 省级一般课题 主持</p> <p>6. 锂硫电池正极用高载硫介孔碳复合材料研究——2018 陕西省教育厅课题 主持</p> <p>7. 军工装备用高比能锂硫电池关键技术研究——2018 省级重点课题 主持</p> <p>8. 国家自然科学基金青年项目，51202179，主持</p>			

	<p>9. 陕西省科技新星项目, 2013KJXX-57, 主持</p> <p>10. 教育部科学技术研究重点项目, 主持</p>
<p>学术著作/论文 期刊</p>	<p>发表论文 60 余篇, 其中 SCI 论文 40 余篇, EI 论文 10 余篇, 相关论文如下:</p> <p>[1] Lin Huang, Juan Wang(*), Haipeng Zhang, Guannan Zu, Zhentao Wang, Yonghong Fu, Luminescence properties of rare earth complexes bonded to novel mesoporous spherical hybrid materials. <i>Journal of Rare Earths</i>, 2023, 41(1): 60-66.</p> <p>[2] Xin-Liang Men, Teng Deng, Xue-Chao Jiao, Lai-Tao Qu, Kai-Ning Wen, Jiang-Xuan Che, Li-Ping Chen, Sen Li, Juan Wang(*), Acetylene Black Interlayer Regulated Sulfur Deposition for Lithium-Sulfur Batteries with High Utilization and Long-term Life, <i>Electrochimica Acta</i>, 2022, 431: 141100.</p> <p>[3] Cheng cheng Fu, Juan Wang(*), Yong Li, Guoliang Liu, Teng Deng, Explore the effect of Co Doping on P2-Na_{0.67}MnO₂ prepared by hydrothermal method as cathode materials for sodium ion batteries, <i>Journal of Alloys and Compounds</i>, 2022, 918: 165569.</p> <p>[4] Xuechao Jiao, Teng Deng, Xinliang Men, Yinze Zuo, Juan Wang(*), Indium metal-organic framework with catalytic sites coated conductive graphene for high-performance lithium-sulfur batteries. <i>Ceramics International</i>, 2022, 48(12): 16754-16763.</p> <p>[5] Jia Wang, Qiu-An Huang, Wei heng Li, Juan Wang(*), Liu Minmin, Li Xifei, Jiujun Zhang, Insight into the origin of pseudo peaks decoded by the distribution of relaxation times/differential capacity method for electrochemical impedance spectroscopy. <i>Journal of Electroanalytical Chemistry</i>, 2022: 116176.</p> <p>[6] Yong Li, Yufeng Zhao, Xiaocheng Feng, Xuan Wang, Qin hao Shi, Jing Wang, Juan Wang(*), Jiujun Zhang, Yanglong Hou, A durable P2-type layered oxide cathode with superior low-temperature performance for sodium-ion batteries. <i>Science China Materials</i>, 2022, 65(2): 328.</p> <p>[7] Teng Deng, Xinliang Men, Xuechao Jiao, Juan Wang(*), CNTs decorated Cu-BTC with catalytic effect for high-stability lithium-sulfur batteries. <i>Ceramics International</i>, 2022, 48(3): 4352.</p> <p>[8] Qiu-An Huang, Yuxuan Bai, Liang Wang, Juan Wang(*), Fangzhou Zhang, Linlin Wang, Xifei Li, Jiujun Zhang, Time-frequency analysis of Li solid-phase</p>

- diffusion in spherical active particles under typical discharge modes. *Journal of Energy Chemistry*. 2022,67:209.
- [9] Guodong Han, Teng Deng, Xuechao Jiao, Xinliang Men, **Juan Wang**^(*), Ying Wang, Quanguo Zhai, Indium-based MOFs and carbon nanotube embedded efficient cathodes for high-performance lithium-sulfur batteries *Ionics*, 2021, 27(12): 5115.
- [10] Jiabin Tong, **Juan Wang**^(*), Huixing Huang, Surfactant-assisted synthesis of $\text{LiNi}_{0.8}\text{Co}_{0.1}\text{Mn}_{0.1}\text{O}_2$ cathode material. *Chinese Journal of Inorganic Chemistry* 2021,37:835.
- [11] 李响, 黄秋安, 李伟恒, 白玉轩, 王佳, 刘杨, 赵玉峰, **王娟**^(*), 张久俊, 宏观均相多孔电极电化学阻抗谱基础. *电化学*. 2021,27:467.
- [12] 白玉轩, 黄秋安*, 王亮, **王娟**^(*), 张方舟, 赵玉峰, 李喜飞, 张久俊, 全电池电解液中锂离子浓度空间分布的时频分析. *中国科学: 技术科学*. 2021,64.
- [13] Naixing Yang, Meng Wang, **Juan Wang**^(*), Liangliang Wang, Yonghong Fu, A modelbased assessment of controllable phase change materials/liquid coupled cooling system for the power lithium-ion battery pack. *Energy Technology*. 2021,9:2000924.
- [14] Xin Wang, Guodong Han, **Juan Wang**^(*), Polypyrrole Coated Al-TDC Composite Structure as Lithium-Sulfur Batteries Cathode. *Nano Brief Reports and Reviews*, 2021, 16(06): 2150060.
- [15] Yong Li, Zhen-Tao Wang, Guoliang Liu, Jia Wang, **Juan Wang**^(*), Boosting the electrochemical performance of $\text{LiNi}_{0.8}\text{Co}_{0.1}\text{Mn}_{0.1}\text{O}_2$ cathode materials with $\text{Zn}_3(\text{PO}_4)_2$ surface coating. *Advanced Powder Technology*, 2021, 32(12): 4651.
- [16] Ning Qi, Yangyang Ma, Bing Ren, Liangliang Wang, **Juan Wang**^(*), Yonghong Fu, Comparison of the La-doped and Gd-doped $\text{Li}_3\text{V}_2(\text{PO}_4)_3/\text{C}$ via electrochemical tests and first-principle calculations for lithium-ion batteries. *Journal of Physics and Chemistry of Solids*. 2021, 150:109889.
- [17] Jia Yao, Mi Zhang, Guodong Han, Xin Wang, Zhentao Wang, **Juan Wang**^(*), Reduced graphene oxide coated Fe-soc as a cathode material for high-performance lithium-sulfur batteries. *Ceramics International*, 2020,46:24155.
- [18] Hong Gu, **Juan Wang**^(*), Zhentao Wang, Jiabin Tong, Ning Qi, Guodong Han, Mi Zhang, Self-assembled porous $\text{LiNi}_{0.8}\text{Co}_{0.1}\text{Mn}_{0.1}\text{O}_2$ cathode materials with micro/nano-layered hollow morphologies for high-power lithium-ion batteries. *Applied Surface Science*, 2021,539:148034.
- [19] Yong Li, **Juan Wang**^(*), Chengcheng Fu, Xiang Li, Liangliang Wang, LiFePO_4/C nanoparticle with fast ion/electron transfer capability obtained by adjusting pH values. *Journal of Materials Science*, 2020:1.
- [20] Yong Li, Qihao Shi, Xiupin Yin, Jing Wang, **Juan Wang**, Yufeng Zhao^(*), Jiujun

- Zhang, Construction Nasicon-Type $\text{NaTi}_2(\text{PO}_4)_3$ Nanoshell on the surface of P2-type $\text{Na}_{0.67}\text{Co}_{0.2}\text{Mn}_{0.8}\text{O}_2$ Cathode as Superior Room/Low-Temperature Sodium Storage. *Chemical Engineering Journal*. 2020,402:126181.
- [21] Jing Zhang, Qian Huang, **Juan Wang**(*), Jing Wang, Jiujuan Zhang, Yufeng Zhao, Supported dual-atom catalysts: Preparation, characterization, and potential applications. *Chinese Journal of Catalysis*. 2020,41:783.
- [22] Guodong Han, Xin Wang, Jia Yao, Mi Zhang, **Juan Wang**(*), The Application of Indium Oxide@CPM-5-C-600 Composite Material Derived from MOF in Cathode Material of Lithium Sulfur Batteries. *Nanomaterials*, 2020, 10(1):177.
- [23] Yuxuan Bai, Jia Zhang, Yubing Yang, Yang R, Yinglin Yan, **Juan Wang**(*), Enhance electrochemical performance of LiFePO_4 cathode material by Al-doped $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ and carbon co-coating surface modification. *Journal of Alloys and Compounds*, 2020,843:154915.
- [24] Yong Li, **Juan Wang**(*), Jia Yao, Huixing Huang, Zhenqiang Du, Hong Gu, Zhentao Wang, Enhanced cathode performance of LiFePO_4/C composite by novel reaction of ethylene glycol with different carboxylic acids-ScienceDirect. *Materials Chemistry and Physics*, 2019,224:293.
- [25] 王佳, 黄秋安, 李伟恒, **王娟**(*), 庄全超, 张久俊, 电化学阻抗谱弛豫时间分布基础. *电化学*, 2020, 26(05):607.
- [26] Yong Li, **Juan Wang**(*), Huixing Huang, Jia Wang, Mi Zhang, Meng Liang, Co-coating effect of GdPO_4 and carbon on LiFePO_4 cathode surface for lithium ion batteries. *Advanced Powder Technology*, 2019,30:1442.
- [27] Hong Gu, **Juan Wang**(*), Zhentao Wang, Mi Zhang, Jia Yao, Jing Zhang, Zhenqiang Du, Preparation of novel mesoporous $\text{GdVO}_4:\text{Eu}^{3+}$ crystals by CTAB-SDS micellar-assisted hydrothermal method in wide pH range. *Optical Materials*, 2019,96:109254.
- [28] Zhenqiang Du, Yongpeng Li, Xingxia Wang, **Juan Wang**(*), Quanguo Zhai, Enhanced electrochemical performance of Li-Co-BTC ternary metal-organic frameworks as cathode materials for lithium-ion batteries. *Dalton Trans*. 2019,48:2013.
- [29] **Juan Wang**(*), Zhenqiang Du, Mirabbos Hojamberdiev, Siqi Zheng, Yunhua Xu, Oxalate-assisted morphological effect of $\text{NaYF}_4:\text{Yb}^{3+},\text{Er}^{3+}$ on photoelectrochemical performance for dye-sensitized solar cells. *Journal of Rare Earths*, 2018,036:353.
- [30] Hong Gu, **Juan Wang**(*), Yong Li, Zhentao Wang, Yonghong Fu, The core-shell-structured $\text{NaYF}_4:\text{Er}^{3+},\text{Yb}^{3+}@/\text{NaYF}_4:\text{Eu}^{3+}$ nanocrystals as dual-mode and multifunctional luminescent mechanism for high-performance dye-sensitized solar cells. *Materials Research Bulletin*, 2018, 108:219.
- [31] **Juan Wang**(*), Yubing Yang, Mirabbos Hojamberdiev, Faisal M. Alamgir, Nikolay Semenikhin, Effect of morphology evolution from nanotubes to

concatenated nanoparticles of hierarchical TiO₂ nanostructures on power conversion efficiency of dye-sensitized solar cells. *Journal of Alloys & Compounds*, 2017,708:508.

[32] **Juan Wang**^(*), Yao Niu, Mirabbos Hojamberdiev, Faisal M. Alamgir, Novel triple-layered photoanodes based on TiO₂ nanoparticles, TiO₂ nanotubes, and β-NaYF₄:Er³⁺,Yb³⁺@SiO₂@TiO₂ for highly efficient dye-sensitized solar cells. *Solar Energy Materials & Solar Cells*, 2017, 160:361.

[33] **Juan Wang**^(*), Siqi Zheng, Hao Yan, Haipeng Zhang, Na₂EDTA-assisted hydrothermal synthesis and electrochemical performance of LiFePO₄ powders with rod-like and block-like morphologies. *Materials Chemistry and Physics*, 2015, 160:398.

[34] **Juan Wang**^(*), Bing Ren, Mirabbos Hojamberdiev, Yunhua Xu, Hao Yan, Sodium gluconate-assisted hydrothermal synthesis, characterization and electrochemical performance of LiFePO₄ powders. *Advanced Powder Technology*, 2014,25:567.

[35] Yinlin Yan, **Juan Wang**^(*), Mirabbos Hojamberdiev, Zhengxin Lu, Bing Ren, Yunhua Xu, Effect of SDS on morphology tailoring of GdVO₄:Eu³⁺ powders under hydrothermal conditions in a wide pH range. *Journal of Alloys & Compounds*. 2014,597:282.

[36] **Juan Wang**^(*), Siqi Zheng, Mirabbos Hojamberdiev, Bing Ren, Yunhua Xu, Chong yang Shao, Effect of Ni doping on electrochemical performance of Li₃V₂(PO₄)₃/C cathode material prepared by polyol process. *Ceramics International*, 2014,40:11251.

[37] **Juan Wang**^(*), Haipeng Zhang, Siqi Zheng, Mirabbos Hojamberdiev, Bing Ren, Yunhua Xu, Chongyang Shao, Impacts of synthesis temperature and carbon content on the electrochemical performances of the Li₃V₂(PO₄)₃/C composite synthesized by a polyol method. *Materials Chemistry and Physics*, 2014, 148:569.

[38] **Juan, Wang**^(*), Bing Ren, Mirabbos, Hojamberdiev, et al. Sodium gluconate-assisted hydrothermal synthesis, characterization and electrochemical performance of LiFePO₄ powders. *Advanced Powder Technology*. 2014, 25(2): 567.

专利

[1] 王娟, 杨玉兵, 牛瑶, 杜振强, 一种二维纳米片组装成3D花状的磷酸铁锂正极材料的溶剂热制备法, 中国, 2020.01.07, ZL201710726496.4.

[2] 王娟, 王佳, 李勇, 白玉轩, 王鑫, 李响, 一种自带导流通道的导流塞, 中国, 2019.07.05, ZL201821811265.X.

[3] 王娟, 郑思琪, 张海鹏, 杨玉兵, 许云华, 核壳结构上转换材料的制备及其在钙钛矿太阳能电池中的应用, 中国, 2018.12.28, ZL201510741653.X.

[4] 王娟, 张海鹏, 郑思琪, 马阳阳, 许云华, 多光源钒基介孔有机-无机杂化多光源发光材料, 中国, 2017.04.26, ZL2015107416510.0.

[5] 王娟, 许云华, 任冰, 王亮亮, 燕映霖, 钟黎声, 叶芳霞, 强静, 李雯, 一种锂离子电池正极材料磷酸钒锂的制备方法, 中

	<p>国，2015.12.02，ZL201310241338.1.</p> <p>[6] 王娟，许云华，任冰，王亮亮，燕映霖，钟黎声，叶芳霞，强静，李雯，一种三层核壳锂离子电池正极复合材料及其制备方法，中国，2015.05.20，ZL201310241315.0.</p> <p>[7] 王娟，许云华，任冰，王亮亮，燕映霖，钟黎声，叶芳霞，强静，李雯，多孔硅酸铁锂/碳锂离子电池正极复合材料的制备方法，中国，2013.06.18，ZL201310241760.7.</p>
<p>社会兼 职</p>	<ol style="list-style-type: none"> 1. 陕西省新能源汽车动力电池联盟成员 2. 陕西省新能源材料技术联盟成员 3. 陕西省纳米材料委员会成员 4. 西安机械工程学会成员 5. 担任多个国际期刊审稿人