

姓名：武文佳

职称：副研究员，硕士生导师

院系：化工学院化学工程与工艺系

邮箱：wenjiawu@zzu.edu.cn



一、教育经历

2018.08-2019.03 美国杜克大学，访问学者

2015.09-2019.07 郑州大学，化学工程专业，博士

二、工作经历

2022.02-今 郑州大学，化工学院，直聘研究员

2019.09-2022.02 郑州大学，化学博士后流动站，博士后

三、研究方向

主要研究方向为全固态锂电池和氢燃料电池用固态电解质与隔膜材料的设计及其应用基础研究。以第一或通讯作者（含共同）在 *Advanced Materials*、*Angewandte Chemie International Edition*、*Journal of Membrane Science* 等期刊发表 SCI 论文近 30 篇，编著英文专著一部。申请中国发明专利 13 项，授权 4 项。*ACS Nano*、*Small*、*ACS Sustainable Chemistry & Engineering* 等近 10 种期刊审稿人。

四、承担课程

研究生《化工过程强化》

五、代表性论文

1. Ruixin Lv, Weijie Kou, Shiyuan Guo, **Wenjia Wu***, Yatao Zhang, Yong Wang, Jingtao Wang*. Preparing two-dimensional ordered $\text{Li}_{0.33}\text{La}_{0.557}\text{TiO}_3$ crystal in interlayer channel of thin laminar inorganic solid-state electrolyte towards ultrafast Li^+ transfer. *Angewandte Chemie International Edition*, **2022**, 61, e202114220.

2. **Wenjia Wu**¹, Yifan Li¹, Jindun Liu, Jingtao Wang*, Yakun He, Kenneth Davey, Shi-Zhang Qiao*. Molecular-level hybridization of Nafion with quantum dots for highly enhanced proton conduction. *Advanced Materials*, **2018**, 30, 1707516.
3. **Wenjia Wu**, Zhuofan Zhou, Yan Wang, Yatao Zhang, Yong Wang, Jingtao Wang*, Yecheng Zou. Manipulating the ionic nanophase of Nafion by in-situ precise hybridization with polymer quantum dot towards highly enhanced fuel cell performances. *Nano Research*, **2022**, 15, 4124-4131.
4. Yan Wang, Hexiang Gao, **Wenjia Wu***, Zhuofan Zhou, Zhiwei Yang, Jingtao Wang*, Yecheng Zou. Nafion-threaded MOF laminar membrane with efficient and stable transfer channels towards highly enhanced proton conduction. *Nano Research*, **2022**, 15, 3195-3203.
5. Pengfei Zhai¹, Na Peng¹, Zeyu Sun, **Wenjia Wu***, Weijie Kou, Guoshi Cui, Kang Zhao, Jingtao Wang*. Thin laminar composite solid electrolyte with high ionic conductivity and mechanical strength towards advanced all-solid-state lithium-sulfur battery. *Journal of Materials Chemistry A*, **2020**, 8, 23344-23353.
6. Yafang Zhang¹, Xiang Zhang¹, Ping Li, **Wenjia Wu***, Jianlong Lin, Jingtao Wang*, Lingbo Qu, Haoqin Zhang. Porous nanofiber composite membrane with 3D interpenetrating networks towards ultrafast and isotropic proton conduction. *Journal of Materials Chemistry A*, **2020**, 8, 5128-5137.
7. Shiyuan Guo, Weijie Kou, **Wenjia Wu***, Ruixin Lv, Zhihao Yang, Jingtao Wang*. Thin laminar inorganic solid electrolyte with high ionic conductance towards high-performance all-solid-state lithium battery. *Chemical Engineering Journal*, **2022**, 427, 131948.
8. Jingtao Wang, Shiyuan Guo, Zhenghua Li, Weijie Kou, Jiachen Zhu, Jingchuan Dang*, Yafang Zhang, **Wenjia Wu***. Highly conductive thin composite solid electrolyte with vertical Li₇La₃Zr₂O₁₂ sheet arrays for high-energy-density all-solid-state lithium battery. *Chemical Engineering Journal*, **2022**, 450, 137994.
9. Jingtao Wang, Jianlong Lin, Zhuofan Zhou, Yafang Zhang, Zhiwei Yang, **Wenjia Wu***. Manipulating carrier arrangement in lamellar membrane channels towards highly enhanced proton conduction. *Journal of Membrane Science*, **2021**, 640, 119818.
10. Jingtao Wang, Ping Li, Yafang Zhang, Yarong Liu, **Wenjia Wu***, Jindun Liu. Porous Nafion nanofiber composite membrane with vertical pathways for efficient through-plane proton conduction. *Journal of Membrane Science*, **2019**, 585, 157-165.

六、授权发明专利

- 1、一种薄型层状复合固态电解质膜及其制备方法与应用, 中国, ZL202110025374.9

- 2、一种层状复合固态电解质及其制备方法和应用，中国，ZL202010804810.8
- 3、一种有机纳米复合阴离子交换膜及其制备方法和应用，中国，ZL201510734546.4
- 4、一种有机无机杂化耐溶剂纳滤复合膜及其制备方法，中国，ZL201610155931.8

七、指导本科生学科、大创及论文获奖

- 1、河南省自然科学优秀学术论文一等奖 1 项（排名第一）
- 2、河南省教育厅科技成果奖一等奖 1 项（排名第二）
- 3、2021 年全国博士后创新创业大赛河南赛区优秀创新项目 1 项（排名第一）
- 4、“陶氏杯”全国“互联网+化学反应工程”课模设计大赛二等奖（指导老师）
- 5、全国大学生节能减排社会实践与科技竞赛全国三等奖（指导老师）
- 6、一带一路暨金砖国家技能发展与技术创新大赛全国三等奖（指导老师）
- 7、“挑战杯”大学生课外学术科技作品竞赛郑州大学一等奖（指导老师）