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个人简介

2019 年获澳大利亚莫纳什大学博士学位，随后在该校及美国密歇根大学从事博士后研究，2021 年入职华东理工大学，先后任特聘副研究员、副教授。

研究聚焦受限水环境中多尺度物质的自组装机制与应用，主要包括二价阳离子与有机分子的特殊耦合微观机制、界面水纳米颗粒的介观自组装行为和水蒸发诱导软物质的宏观自组装调控。相关研究为理解生物磁效应、设计非传统磁响应材料提供新视角，在医学磁示踪与磁导航、癌症快速检测与磁控治疗、非抗生素杀菌、污水处理、海水淡化及化学反应调控等领域具有重要应用前景。

系列工作以第一或通讯作者在 *Nature Materials*、*Chemical Engineering Journal* 等顶级期刊发表论文 30 余篇，获 *Nature Materials* 等期刊专题评述。主持国家自然科学基金面上项目、上海市白玉兰人才浦江项目（省部级人才项目）等；担任《生物医学工程与生物力学》期刊编委及 *Interdisciplinary Medicine* 等期刊青年编委。

研究方向

软凝聚态与生物物理

界面水物理与受限水自组装

非常规磁响应材料与机制

近期研究成果

1. **Ruoyang Chen**[#], Yueyu Zhang[#], Xing Huang[#], Liping Wang[#], Lei Zhang[#], Chao Song, Lixiong Dai, Min Zhang, Jun Wang, Yong Jian, Weiyuan Xu, Hui Dong, Bingquan Peng, Shuqiang He, Shanshan Liang, Fangfang Dai, Qihui Fan, Fangfu Ye*, Xin Zhang*, Feng Zhang*, Haiping Fang*. Unexpected strong paramagnetism of hydrogels containing carbon-oxygen double bonds induced by calcium cations. *Nature Materials*, 2026, 25, 848-855.
2. Min Zhang[#], Jinxin Zhong[#], Kami Hu[#], Hui He*, Shiqi Sheng, Gaole Dai, Xing Huang, Bo Zhou, Haolu Dong, Dingzhong Hu*, Jun Wang*, **Ruoyang Chen***. Versatile strategy for achieving uniform molecular deposition in evaporation drops. *Journal of Colloid and Interface Science*, 2026, 724:

141224.

3. Min Zhang[#], Kami Hu[#], Liuyuan Zhu[#], Rui Ding, Ying Hou, Junjie Mou, Haoming Xia, Yihe Lin, Purui Zheng, Lingnv Zhan, Haiping Fang, Hui He*, Chunhua Zeng*, Yingying Huang*, **Ruoyang Chen***, Bidirectional ROS modulation for programmed anti-infective and anti-inflammatory therapy with Au-Cu_2O/MXene nanocomposite. *Small*, 2026, 0, e75279.
4. Junjie Mou[#], Kami Hu[#], Xing Huang[#], Hui He*, Ying Hou, Haoming Xia, Purui Zheng, Yixiao Qu, Doudou Li*, Min Zhang*, **Ruoyang Chen***, Evaporation-controlled one-dimensional material enrichment in a bioinspired microfluidic channel. *Chemical Engineering Science*, 2027, 338, 124906.
5. Hui He[*,#], Lujia Xuan[#], Qin Zhou[#], Yihe Lin[#], Kami Hu, Yongshun Song, Min Zhang, Rui Ding, Yifan Huang, Ruojia Wang, Changying Wang*, **Ruoyang Chen***. Magnetically responsive PLA-MXene composite membrane for oil removal at oil-water interfaces. *ACS Sustainable Chemistry & Engineering*, 2025, 13, 16981-16990.
6. Min Zhang[#], Yongshun Song[#], Jun Wang, Xinlei Shi, Qiang Chen, Rui Ding, Junjie Mou, Haiping Fang, Yunlong Zhou*, **Ruoyang Chen***. Enhancement effect of static magnetic field on bactericidal activity. *Small*, 2025, 21, 2412334.
7. Rui Ding[#], Min Zhang[#], Lujia Xuan[#], Zhengyuan Ma, Yixiao Qu, Zheng Liu, Hui He*, **Ruoyang Chen***. Spatial control of nanoreactions on cellulose nanofibers in evaporation drops. *Chemical Engineering Journal*, 2024, 497, 154633.
8. Min Zhang[#], Zhening Fang[#], Jun Wang, Rui Ding, Haiping Fang, **Ruoyang Chen***. Unexpectedly high antibacterial ability of water in copper pot with tiny amount of plant leaves. *Water Research X*, 2024, 24, 100238.
9. Kami Hu[#], Hui He[#,*], Zhengyuan Ma, **Ruoyang Chen***, Yunchu Yang*. A self-floating hydrogel for heavy metal recovery from water. *Applied Surface Science*, 2025, 690, 162521.
10. **Ruoyang Chen**, Yixiao Qu, Zhengyuan Ma, Jun Wang*, Hui He*. Size effects of gold nanoparticles on activities of cellulose nanofiber-textured SERS substrates. *Cellulose*, 2024, 31, 7467-7477.
11. Jihong Wang[#], Min Zhang[#], Yunchu Yang[#], Gaole Dai[#], Qiubo Pan, Yuan Kong, Bo Zhou, Haolu Dong, Yixiao Qu, Zhengyuan Ma, Haiping Fang, Hui He*, Zheng Liu*, Jun Wang*, **Ruoyang Chen***. One-step detection of multi-pollutants with different sizes in water by using cellulose-based composites. *Cellulose*, 2024, 31, 8055-8066.
12. Yingying Huang*, Liuyuan Zhu, Hanlin Li, Haiping Fang, **Ruoyang Chen***, Shiqi Sheng*. New metallic ice phase under high pressure. *Physical Chemistry Chemical Physics*, 2024, 26, 27783-27790.

近期荣誉与奖励

2026 年华东理工大学“青年英才校长奖”

2026 年校先进工作者

2023 年上海市白玉兰人才浦江项目