

王瑞兵

英国皇家化学会会士(FRSC) | 澳门大学中华医药研究院

研究领域: 超分子药物; 超分子生物材料与纳米医学; 仿生药物递送

地址: 中国 澳门特别行政区 澳门大学

电话: +853-8822-4689 (办公室) | **电子邮箱:** rwang@um.edu.mo

课题组主页: <https://rwang.sklqrcm.um.edu.mo/>

王瑞兵 澳门大学 中华医药研究院 中药质量研究国家重点实验室 健康科学学院药物科学系 副教授 课题组长 博士生导师, 澳门大学全球事务总监, 英国皇家化学会会士。本科和博士分别毕业于吉林大学化学系和加拿大女皇大学化学系。毕业后曾任职于加拿大科学院和生物医药业界。2014年起加入澳门大学。王博士目前的主要研究兴趣是基于超分子体系的药物递送系统和生物材料的设计与应用。发表了包括在 *Nature Commun.*, *Sci. Adv.*, *Adv. Mater.*, *Mater. Today*, *J. Am. Chem. Soc.*, *Angew. Chem. Int. Ed.*, *Matter*, *Adv. Funct. Mater.*, *Mater. Horiz.*, *Small*, *Biomater.* 等杂志的 SCI 论文 210 余篇, 引用 7500 多次, H 因子 50, 入选斯坦福大学发布的 2020-2022 全球前 2% 顶尖科学家榜单。应邀为多个国际基金如中国自然科学基金, 法国国家科研署, 以色列科学基金, 捷克科学基金会, 波兰国家科学中心等作为评审专家评选基金申请。近五年来作为 PI 主持 3 项国家自然科学基金面上项目、7 项澳门科技发展基金项目、以及 1 项深圳科创委港澳项目等总额 2000 多万的科研项目。近年研究获成果得 2018 年澳门特别行政区科学技术奖-自然科学类三等奖、2020 年澳门特别行政区科学技术奖-技术发明类三等奖、2022 年澳门特别行政区科学技术奖-自然科学类三等奖等。

教育经历

- 2003/05 – 2007/07, 女王大学 (加拿大), 博士, 有机化学 (超分子), 导师: Donal H. Macartney 教授
加拿大总督金质奖章提名(2008)
女王大学优秀博士学位论文奖(2008)
- 1998/09 – 2002/07, 吉林大学, 荣誉学士, 化学基地班, 导师: 杨柏教授
吉林大学优秀本科毕业生(2002)

工作经历

- 2019/08 – 今, 澳门大学, 中华医药研究院, 副教授、博士生导师
- 2014/10 – 2019/08, 澳门大学, 中华医药研究院, 助理教授、博士生导师
- 2009/11 – 2014/10, 波士顿科学, 加拿大介入医学研发中心(原英国 BTG plc, Nordion), 资深科学家
- 2008/05 – 2009/11, 加拿大国家研究委员会, Steacie 分子科学研究所, 副研究员
- 2007/08 – 2008/05, 女王大学(加拿大), 化学系, 博士后研究员

所获荣誉

- | | |
|------|------------------------|
| 2022 | 澳门特别行政区自然科学二等奖 |
| 2021 | 澳门大学中华医药研究院学术优秀奖 |
| 2020 | 澳门特别行政区科学技术发明三等奖 |
| 2020 | 全球前 2% 顶尖科学家 (斯坦福大学发布) |
| 2019 | 中国化学会元素周期表青年化学家 |
| 2019 | 澳门大学卓越教学奖 |
| 2019 | 中国大环芳烃超分子化学学术新人奖 |
| 2019 | 澳门大学中华医药研究院最佳教师奖 |
| 2018 | 澳门特别行政区自然科学三等奖 |
| 2018 | 澳门大学中华医药研究院学术优秀奖 |

近 5 年代表作:

截至 2023 年 1 月, 共计发表 SCI 论文 **210 余篇**, 被引用超过 7500 次, **H-index 50** (数据源自: Google Scholar); 完整论文数据见课题组主页 [http:// https://rwang.sklqrcm.um.edu.mo/](http://https://rwang.sklqrcm.um.edu.mo/), 以及 Scopus (作者 ID: 10539702400 and ORCID: 0000-0001-9489-4241).

1. Cheng Gao, Qingfu Wang, Junyan Li, Cheryl H.T. Kwong, Jianwen Wei, Beibei Xie, Siyu Lu, Simon M. Y. Lee,* and Ruibing Wang,* “In vivo hitchhiking of immune cells by intracellular self-assembly of bacteria-mimetic nanomedicine for targeted therapy of melanoma,” *Science Advances*, 2022, 8, eabn1805. [Selected as Science Advances feature article, with artworks showcased online.](#)
2. Cheng Gao, Cheryl H.T. Kwong, Qingfu Wang, Hiotong Kam, Jianwen Wei, Qian Chen, Jian Zhang, Simon M. Y. Lee,* Dayong Gu and Ruibing Wang,* “Surface-engineered chlorella alleviated hypoxic tumor microenvironment for enhanced chemotherapy and immunotherapy of first-line drugs,” *Materials Today*, 2022, DOI: 10.1016/j.mattod.2022.06.024, in press.
3. Ziyi Wang, Chen Sun, Kuikun Yang, Xiaoyuan Chen* and Ruibing Wang*, “Cucurbituril-Based Supramolecular Polymers for Biomedical Applications,” *Angewandte Chemie International Edition*, 2022, DOI: 10.1002/anie.202206763, in press.
4. Kuikun Yang, Zhiqing Yang, Guocan Yu*, Zhihong Nie*, Ruibing Wang*, Xiaoyuan Chen*, “Polyprodrug Nanomedicines: An Emerging Paradigm for Cancer Therapy,” *Advanced Materials*, 2022, 34, 2107434.
5. Meng Xu, Jinsong Tao, Zhengjie Wei, Qian Cheng, Hongmei Yang, Simon Ming-Yuen Lee, Kathy Qian Luo, Wei Ge, Ruibing Wang,* and Ying Zheng,* “Visualization of host-guest interactions driven bioorthogonal homing effects at the single cell level in vivo,” *Nano Today*, 2022, 43, 101450.
6. Shuwen Guo, Qiaoxian Huang, Jianwen Wei, Shengpeng Wang, Yitao Wang, Leyong Wang, and Ruibing Wang,* “Efficient Intracellular Delivery of Native Proteins Facilitated by Preorganized Guanidiniums on Pillar[5]arene Skeleton,” *Nano Today*, 2022, 43, 101396. [Selected as a front cover article.](#)
7. Qian Cheng, Meng Xu, Chen Sun, Kuikun Yang, Zhiqing Yang, Junyan Li, Jun Zheng, Ying Zheng and Ruibing Wang*, “Enhanced antibacterial function of a supramolecular artificial receptor-modified macrophage (SAR-Macrophage),” *Materials Horizons*, 2022, 9, 934-941. [Selected as a front cover article.](#)
8. Beibei Xie, Huichao Zhao, Mingju Shui, Yuan-Fu Ding, Chen Sun, Ziyi Wang, Cheng Gao, Guosong Chen, Ruibing Wang,* “Spermine-Responsive Intracellular Self-Aggregation of Gold Nanocages for Enhanced Chemotherapy and Photothermal Therapy of Breast Cancer,” *Small*, 2022, 18, 2201971. [Selected as an inside back cover article.](#)
9. Meng Xu, Haidong Zha, Run Han, Yaxin Cheng, Jiamao Chen, Ludan Yue, Ruibing Wang* and Ying Zheng,* “Cyclodextrin-derived ROS-generating nanomedicine with pH-modulated degradability to enhance tumor ferroptosis therapy and chemotherapy,” *Small*, 2022, 18, 202200330.
10. Kuikun Yang, Guocan Yu, Zhiqing Yang, Ludan Yue, Xiangjun Zhang, Chen Sun, Jianwen Wei, Lang Rao, Xiaoyuan Chen,* and Ruibing Wang,* “Supramolecular Polymerization-induced Nanoassemblies for Self-augmented Cascade Chemotherapy and Chemodynamic Therapy of Tumor,” *Angewandte Chemie International Edition*, 2021, 60, 17570-17578.
11. Shuwen Guo, Qiaoxian Huang, Yuan Chen, Jianwen Wei, Jun Zheng, Leyong Wang, Yitao Wang and Ruibing Wang,* “Synthesis and Bioactivity of Guanidinium - Functionalized Pillar[5]arene as a Biofilm Disruptor,” *Angewandte Chemie International Edition*, 2021, 60, 618-623 ([hot paper and frontpiece highlight](#)).
12. Cheng Gao, Qian Cheng, Junyan Li, Jia Chen, Qingfu Wang, Jianwen Wei, Qiaoxian Huang, Simon M. Y. Lee,* Dayong Gu,* Ruibing Wang,* “Supramolecular macrophage-liposome marriage for cell-hitchhiking delivery and immunotherapy of acute pneumonia and melanoma,” *Advanced Functional Materials*, 2021, 31, 2102440.
13. Kuikun Yang, Guocan Yu, Rui Tian, Zijian Zhou, Hongzhang Deng*, Ling Li, Zhen Yang, Guofeng Zhang, Dahai Liu, Jianwen Wei, Ludan Yue, Ruibing Wang,* and Xiaoyuan Chen,* “Oxygen-Evolving Manganese Ferrite Nanovesicles for Hypoxia-Responsive Drug Delivery and Enhanced Cancer Chemoimmunotherapy,” *Advanced Functional Materials*, 2021, 31, 2008078.
14. Hang Yin, David Bardelang* and Ruibing Wang,* “Macrocycles and Related Hosts as supramolecular antidotes,” *Trends in Chemistry*, 2021, 3, 1-4.
15. Kuikun Yang, Ludan Yue, Zhiqing Yang, Guocan Yu, Lang Rao, Rui Tian, Jianwen Wei, Chen Sun, Xiangjun Zhang, Mengze Xu, Zhen Yuan, Xiaoyuan Chen,* and Ruibing Wang,* “A Hypoxia Responsive Nanoassembly for Tumor Specific Oxygenation and Enhanced Sonodynamic Therapy,” *Biomaterials*, 2021, 275, 120822.
16. Chen Sun, Ziyi Wang, Kuikun Yang, Ludan Yue, Qian Cheng, Yan-long Ma, Siyu Lu, Guosong Chen, and Ruibing Wang,* “Polyamine-responsive Morphological Transformation of a Supramolecular Peptide for Specific Drug Accumulation and Retention in Cancer Cells,” *Small*, 2021, 17, 202101139.
17. Ludan Yue, Kuikun Yang, Junyan Li, Qian Cheng and Ruibing Wang* “Self-Propelled Asymmetrical Nanomotor for Self-Reported Gas Therapy,” *Small*, 2021, 17, 202102286.

18. Qian Cheng, Ludan Yue, Junyan Li, Cheng Gao, Yuanfu Ding, Chen Sun, Mengze Xu, Zhen Yuan, and Ruibing Wang,* “Supramolecular tropism driven aggregation of nanoparticles in situ for tumor-specific bioimaging and photothermal therapy,” *Small*, 2021, 17, 202101332.
19. Junyan Li, Qian Cheng, Ludan Yue, Cheng Gao, Jianwen Wei, Yuanfu Ding, Yitao Wang, Ying Zheng and Ruibing Wang* “Macrophage-hitchhiking supramolecular aggregates of CuS nanoparticles for enhanced tumor deposition and photothermal therapy,” *Nanoscale Horizons*, 2021, 6, 907-912. [Featured as an inside cover article.](#)
20. Jia Chen, Shengke Li, Zeyu Wang, Yating Pan, Jianwen Wei, Siyu Lu, Qing-Wen Zhang, LianHui Wang and Ruibing Wang* “Synthesis of AIEgen Functionalized Cucurbit[7]uril for Subcellular Bioimaging and Synergistic Photodynamic Therapy and Supramolecular Chemotherapy“, *Chemical Science*, 2021, 12, 7727-7734. [Selected as a Chem Sci Pick!](#)
21. Ludan Yue, Kuikun Yang, Xin-Yue Lou, Ying-Wei Yang* and Ruibing Wang,* “Versatile roles of macrocycles in organic-inorganic hybrid materials for biomedical applications,” *Matter*, 2020, 3, 1557–1588.
22. Chen Sun, Ziyi Wang, Ludan Yue, Qiaoxian Huang, Qian Cheng and Ruibing Wang,* “Supramolecular Induction of Mitochondrial Aggregation and Fusion,” *Journal of the American Chemical Society*, 2020, 142, 16523–16527 ([featured as a Supplementary Cover Article](#)).
23. Qiaoxian Huang, Hong Zhao, Mingju Shui, Dong-Sheng Guo* and Ruibing Wang,* “Heparin Reversal by an Oligoethylene Glycol Functionalized Guanidinocalixarene,” *Chemical Science*, 2020, 11, 9623-9629.
24. Cheng Gao, Qian Cheng, Jianwen Wei, Chen Sun, Siyu Lu, Cheryl H.T. Kwong, Simon M.Y. Lee, Zhiyuan Zhong* and Ruibing Wang,* “Bioorthogonal supramolecular cell-conjugation for targeted hitchhiking drug delivery,” *Materials Today*, 2020, 40, 9-17 ([selected as an Inside Cover Feature Article](#)).
25. Xue Yang, Ruibing Wang,* Anthony Kermagoret,* and David Bardelang,* “Oligomeric Cucurbituril Complexes: from Peculiar Assemblies to Emerging Applications,” *Angewandte Chemie International Edition*, 2020, 132, 21464–21476.
26. Cheng Gao, Qiaoxian Huang, Conghui Liu, Cheryl H.T Kwong, Ludan Yue, Jian-Bo Wan, Simon M. Y. Lee* and Ruibing Wang,* “Treatment of atherosclerosis by macrophage-biomimetic nanoparticles via targeted pharmacotherapy and sequestration of proinflammatory cytokines,” *Nature Communications*, 2020, 11, 2622. Highlighted by Nature Review Cardiology, 2020.
27. Chenwen Li, Yang Zhao, Juan Cheng, Jiawei Guo, Qixiong Zhang, Xiangjun Zhang, Jiong Ren, Fengchao Wang, Jun Huang, Houyuan Hu, Ruibing Wang,* and Jianxiang Zhang,* “A Proresolving Peptide Nanotherapy for Site-Specific Treatment of Inflammatory Bowel Disease by Regulating Proinflammatory Microenvironment and Gut Microbiota,” *Advanced Science*, 2019, 6, 1900610.
28. Sébastien Combes, Khoa Truong Tran, Mehmet Menaf Ayhan, Hakim Karoui, Antal Rockenbauer, Alain Tonetto, Valérie Monnier, Laurence Charles, Roselyne Rosas, Stéphane Viel, Didier Siri, Paul Tordo, Sylvain Clair, Ruibing Wang,* David Bardelang,* and Olivier Ouari,* “Triangular regulation of cucurbit[8]uril 1:1 complexes,” *Journal of the American Chemical Society*, 2019, 141, 5897-5907 ([selected as a Supplementary Cover Article](#)).
29. Cheng Gao, Qiaoxian Huang, Qingping Lan, Yu Feng, Fan Tang, Maggie P.M. Hoi, Jianxiang Zhang, Simon M. Y. Lee,* and Ruibing Wang,* “A user-friendly herbicide derived from photo-responsive supramolecular vesicles,” *Nature Communications*, 2018, 9, 2967.
30. Songling Han, Siyu Chen, Lanlan Li, Jin Li, Huijie An, Hui Tao, Yi Jia, Shan Lu, Ruibing Wang,* and Jianxiang Zhang,* “Multiscale and Multifunctional Emulsions by Host-Guest Interaction-Mediated Self-Assembly,” *ACS Central Science*, 2018, 4, 600-605 (banner highlight).