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GENERAL INFORMATION

Working Experience

- Aug 2023-Present, **Professor** of Supramolecular Pharmaceutics and Biomaterials, Institute of Chinese Medical Sciences, and Department of Pharmaceutical Sciences, Faculty of Health Sciences, **University of Macau**, Taipa, Macau SAR
- Jan 2021-Dec 2024, **Director of Global Affairs Office**, University of Macau, in charge of international engagement and global strategy, as well as international students recruitments
- Aug 2019-Present, **Associate Professor** of Supramolecular Pharmaceutics and Biomaterials, Institute of Chinese Medical Sciences, and Department of Pharmaceutical Sciences, Faculty of Health Sciences, **University of Macau**, Taipa, Macau SAR
- Oct 2014-Aug 2019, **Assistant Professor** of Supramolecular Pharmaceutics, Institute of Chinese Medical Sciences, **University of Macau**, Taipa, Macau SAR

Education

- May 2003-July 2007: **Ph.D.** in Organic Chemistry, **Queen's University, Canada**;
Advisor: Dr. Donal H. Macartney, Professor of Chemistry
Governor General Gold Medal Nominee (2008)
Outstanding Thesis Award from Queen's University (2008)
- September 1998-July 2002: **B.Sc. (Honors) in Chemistry**, Jilin University, China
Outstanding Graduate from Jilin University (2002)

Awards and Honors

2024 Macau Science and Technology Awards (3rd Prize, Natural Science Award), Macau
2024 Macau Science and Technology Awards (3rd Prize, Technological Invention Award), Macau
2023 YIP Visiting Fellow, Magdalene College, University of Cambridge
2022 Macau Science and Technology Awards (2nd Prize, Natural Science Award), Macau
2021 ICMS Outstanding Academic Staff Award, University of Macau
2021 Fudan Scholar, Fudan University
2020 **Fellow, the Royal Society of Chemistry**
2020 Macau Science and Technology Awards (3rd Prize, Technological Invention Award), Macau
2019 Chinese Periodic Table of Young Chemists
2019 **UM Teaching Excellence Award (only 1 awardee each year at UM), Macau**
2019 China Macrocyclic Arenes and Supramolecular Chemistry Rising Star Award, China
2019 Faculty-Level Best Teacher Award, Macau
2018 Macau Science and Technology Awards (3rd Prize, Natural Science Award), Macau
2018 Faculty-Level Academic Award, Macau
2016 CNRS Visiting Professorship, Marseille, France
2013 BTG Business Excellerator Stage Award, Ottawa, Canada
2011 Nordion Business Excellerator Sprinter Award, Ottawa, Canada
2008 Outstanding Thesis Award at Queen's, Kingston, Canada
2003-2007 Queen's Graduate Awards, Kingston, Canada
2004-2007 Queen's Conference Travel Awards, Kingston, Canada
2005-2006 Graduate Dean's Doctoral Field Travel Grant at Queen's, Kingston, Canada
2002 Outstanding Graduate of Jilin University (top 1%), Changchun, China
1998-2002 Excellent Undergraduate Scholarship, Changchun, China

PUBLICATIONS

Selected 20 Papers (Past 5 Years)

Stanford List of World's Top 2% Scientist continuously; A total SCI publication of **250+ papers**, with a total citation of over 14,700+ times and **H-index of 69** (Google Scholar, in Jan. 2026); A full list of publications is also available on Scopus (Author ID: 10539702400 and ORCID: 0000-0001-9489-4241) and Google Scholar.

1. Mian Tang, Zhiqing Yang, Xingchen Tang, He Ma, Beibei Xie, Jiang-Fei Xu, Cheng Gao*, David Bardelang, **Ruibing Wang***, "Hypoxia-initiated supramolecular free radicals induce intracellular polymerization for precision tumor therapy," *Journal of the American Chemical Society*, 2025, 147, 3488-3499.
2. Qun Guan, Le-Le Zhou, Zhiqing Yang, Beibei Xie, Yan-An Li, **Ruibing Wang***, "An sp² Carbon-Conjugated Covalent Organic Framework for Fusing Lipid Droplets and Engineered Macrophage Therapy," *Angewandte Chemie International Edition*, 2025, 64, e202421416. **VIP paper and Hot Paper!**
3. Hang Yin, Qian Cheng, Roselyne Rosas, Stephane Viel, Valerie Monnier, Laurence Charles, Didier Siri, Didier Gimes, Mehdi Yemloul, **Ruibing Wang***, Anthony Kermagoret*, David Bardelang*, "Molecular Stiffening by Macrocyclic Clustering," *Angewandte Chemie International Edition*, 2025, 64, e202420880.
4. Hongjie Zhang, Song Wang, Li Wang*, Shengke Li, Haowen Liu, Xinyi Zhu, Yuanxia Chen, Guoheng Xu, Mingming Zhang, Quanying Liu*, **Ruibing Wang***, Kai Xiao,* "Bio-Inspired Retina by Regulating Ion-Confined Transport in Hydrogels," *Advanced Materials*, 2025, 37, 2500809.
5. Junyan Li, Ziyi Wang, Ruifeng Luo, Xingping Quan, Hong U Fong, Qian Cheng, Jianwen Wei, Leo Wang, Yonghua Zhao, **Ruibing Wang***, "Tumor Microenvironment Triggered In Situ Coagulation of Supramolecularly Engineered Platelets for Precise Tumor Embolization," *Advanced Science*, 2025, 12, 2414879.
6. Ruifeng Luo, Jinwei Liu, Qian Cheng, Mitsuhiko Shionoya, Cheng Gao*, and **Ruibing Wang***, "Oral microsphere formulation of M2 macrophage-mimetic Janus nanomotor for targeted therapy of ulcerative colitis," *Science Advances*, 2024, 10, eado6798.
7. Cheng Gao, Qingfu Wang, Yuan-Fu Ding, Cheryl Kwong, Jinwei Liu, Beibei Xie, Jianwen Wei, Simon Lee, Greta Mok, and Ruibing Wang*, "Targeted therapies of inflammatory diseases with intracellularly gelled macrophages in mice and rats," *Nature Communications*, 2024, 15, 328.
8. Mian Tang, Tianshun Duan, Yunfeng Lu, Jinwei Liu, Cheng Gao*, **Ruibing Wang***, "Tyrosinase-Woven Melanin Nets for Melanoma Therapy through Targeted Mitochondrial Tethering and Enhanced Photothermal Treatment," *Advanced Materials*, 2024, 36, 2411906.
9. Cheng Gao, Cheryl H.T. Kwong, Mian Tang, Jinwei Liu, Hiotong Kam, Shengke Li, Simon M. Y. Lee, Chunhai Fan, Hua-Zhong Yu, **Ruibing Wang***, "A bacterially engineered macrophage sponge as a neutralization decoy to treat bacterial infection," *Matter*, 2023, 6, 3889-3911. **Highlighted by Zhao et al, Matter, 2023, 6, 3695-3698.**
10. Ludan Yue, Cheng Gao, Junyan Li, Hanbin Chen, Simon M. Y. Lee, Ruifeng Luo, **Ruibing Wang***, "Chemotaxis-guided self-propelled macrophage motor for targeted treatment of acute pneumonia," *Advanced Materials*, 2023, 35, 202211626.
11. Meng Xu, Haidong Zha, Jiamao Chen, Simon Ming-Yuen Lee, Qi Wang*, **Ruibing Wang***, Ying Zheng*, "'Ice & Fire' Supramolecular Cell-Conjugation Drug Delivery Platform for Deep Tumor Ablation and Boosted Anti-Tumor Immunity," *Advanced Materials*, 2023, 35, 202305287.
12. Beibei Xie, Huichao Zhao, Yuanfu Ding, Ziyi Wang, Cheng Gao, Shengke Li, Kehan Zhang, Seong Wan Ip, Huazhong Yu, **Ruibing Wang***, "Supramolecularly Engineered Conjugate of Bacteria and Cell Membrane-Coated Magnetic Nanoparticles for Enhanced Ferroptosis and Immunotherapy of Tumors," *Advanced Science*, 2023, 10, 2304407.
13. 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.**
14. Ziyi Wang, Chen Sun, Kuikun Yang, Xiaoyuan Chen* and **Ruibing Wang***, "Cucurbituril-Based Supramolecular Polymers for Biomedical Applications," *Angewandte Chemie International Edition*, 2022, 61, e2022067.
15. 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.
16. 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. **ESI highly cited paper.**
17. 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.**

18. 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.
19. 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**).
20. 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, 17, 454. ESI highly cited paper.**

SUPERVISION AND MENTORSHIP

To this date, **more than 20 PhD students** successfully completed their PhD studies under my supervision and co-supervision. My dedication to fostering academic excellence and research innovation is evident in the successful careers of these former students, as many of them are now Full Professors and Associate Professors and Researchers in well-recognized institutions, such as Harbin Institute of Technology, Southeast University, Shenzhen University, Chongqing Medical University, Xiangtan University, Chinese Academy of Sciences, Hainan University etc.

SERVICES

University and Faculty Services

Director, Global Affairs office, University of Macau, Jan. 2021-Dec. 2024: I am leading the global affairs office of the university, in charge of international engagement, collaborative degree programs, student exchange program, international student recruitments, as well as making university’s global development strategy. During my tenure at DGAO, I have successfully improved international students recruitments (doubled), enabled UM to join the most prestigious university alliance C9+ (elite university league from greater China), established various dual-degree and joint degree programs with more than 10 other prestigious universities, and expanded international network to Canada, Australia, New Zealand, Singapore and several countries in EU.

Programme Director, State Key Laboratory of Quality Research in Chinese Medicine, July 2020-June 2021

Deputy Director, Editorial Office of *Chinese Medicine* (Q1 journal in Alternative and Integrated Medicine), ISCM and University of Macau, Nov. 2016-Present

Coordinator, Social and Academic Affairs, Academic Staff Association at University of Macau, March 2016-2018

Fellow, Chao Kuang Piu College, University of Macau, Oct. 2014-Present

Committee Member, UM Scholarship Committee, Nov. 2018-2022

Committee Member, University Affairs Coordination Committee, Jan. 2021-Oct. 2024

Committee Member, UM Global Affairs Ad-hoc Committee, Jan. 2021-Oct. 2024

UM Teaching Excellence Award Selection Committee, 2021-2022

Ad-hoc patent reviewer for RSKTO, UM

External Services

Associate Editor, *Chinese Chemical Letters*, Jan. 2025-Present

Associate Editor, *ACS Applied Bio Materials*, Apr. 2020-Present

Editorial Advisory Board Member, *ACS Applied Bio Materials*, Jan. 2020-Apr. 2025

Editorial Board Member, *Chinese Chemical Letters*, June 2021-Dec. 2024

Editorial Board Member, *Supramolecular Materials*, June 2021-Present

Founding Member and President, *Macau Society of Supramolecular Chemistry and Biomaterials*, Nov. 2020-Present

Founding Member and Vice President, *Macau Society of Nuclear Medicine and Molecular Imaging*, Aug. 2016-Present

Vice-Chairman, Macau Local Organizing Committee, Macau Young Scientists competition and iSWEEP

competition for Macau Youth, leading Macau team to Houston (US), Hong Kong, and Turkey, winning several international competition medals in 2017 and 2018

External Examiner for National Natural Science Foundation of China (NSFC)

External Examiner for French National Research Agency (ANR)

External Examiner for Czech Science Foundation (GACR)

External Examiner for Israel Science Foundation (ISF)

External Examiner for National Science Centre, Poland (NCN)

Ad-hoc Referee for 60+ journals including *Nature Communications*, *Science Advances*, *Matter*, *JACS*, *Angew. Chem. Int. Ed.*, *CCS Chem.*, *Adv. Mater.*, *Adv. Funct. Mater.*, *Adv. Sci.*, *ACS Nano*, *Nano Lett.*, *Nano Today*, *Chem. Sci.*, *Small*, *Biomaterials*, *Theranostics*, *Journal of Controlled Release*, *Science Bulletin*, *Chem. Eng. J*, *Signal Transduction and Targeted Therapy*