



侯瑞

广东工业大学生态环境与海洋学院教授

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基本信息

青年百人 A+ 特聘教授、博士生导师。从事海洋污染胁迫与生态健康研究。主持国家自然科学基金、广东省杰出青年基金、中国科学院特别研究助理资助项目等科研项目。以第一或通讯作者于 Innovation、ISME J、Environ. Sci. Technol.、Water Res.、Water Res. X、Environ. Int. 等期刊发表论文 30 余篇。获中国环境科学学会新污染物治理青年创新奖、广东省环境科学学会青年科技奖、广东省自然科学二等奖等。

研究方向

近海、深海新污染物迁移转化与生态效应，海洋污染环境模拟，海洋健康及生态风险评估等。

学术兼职

1. ACS 出版社毒理学权威期刊 Chemical Research in Toxicology 青年编委、Journal of Environmental Exposure Assessment 编委；
2. 国际学术期刊 Clean Oceans 副主编, The Innovation Geoscience、Eco-Environment & Health 青年编委, PLOS Ecosystems、Discover Oceans 等期刊编委；
3. 《水生生物学报》、《生态毒理学报》等青年编委；
4. 中国环境科学学会海洋环境保护专委会委员。

科研项目

1. 广东省自然科学基金杰出青年项目，大湾区近海新型塑料添加剂迁移转化与风险调控，主持；
2. 中国科学院特别研究助理资助项目（院级青年人才项目），主持；
3. 国家自然科学基金重大项目，碳驱动的远海岛礁深海生态系统能量物质循环，参与；
4. 国家自然科学基金面上项目，南海食物网中新型阻燃剂的特异性富集、转化与传递机制研究，主持；
5. 国家自然科学基金青年项目，典型新兴溴代阻燃剂（NBFRs）在稀有鮑鲷体内代谢转化与富集机制研究，主持；
6. 中国博士后基金面上项目，沉积物中氯代有机磷阻燃剂的微生物降解及产物积累研究，8 万元（一等资助），主持；
7. 广东省自然科学基金面上项目，基于海洋鱼类肠道模型研究新型塑料添加剂的微生物代谢过程及毒性变化机制，主持；
8. 广州市科技计划项目基础与应用基础项目一般课题，新型阻燃剂在珠江口水环境中的“源-汇”过程及迁移机制研究，主持。

代表性论文

1. Hou Rui, Feng Jingchun*, Zhang Si 2026. Blue Carbon Sequestration: An Unintended Driving Force for

Marine Pollution, **The Innovation** 7(4): 101264.

2. **Hou Rui**¹, Jin Xiaowei¹, Feng Jingchun*, Xue Jingchuan, Chen Chengzhi, Zou Yunqiang, Xu Xiangrong*, Yu Kefu, Qian Peiyuan, Zhang Si, Yang Zhifeng 2025. Deciphering the Universal Role of Gut Microbiota in Pollutant Transformation, **The ISME Journal** 19: wraf215.
3. **Hou Rui**, Zhang Siqi, Huang Qianyiianyi, Lin Lang, Li Hengxiang, Li Jingxi, Liu Shan, Sun Chengjun, Xu Xiangrong* 2023. Role of Gastrointestinal Microbiota from Crucian Carp in Microbial Transformation and Estrogenicity Modification of Novel Plastic Additives. **Environmental Science & Technology** 57(31): 11476–11488.
4. Huang Qianyi, **Hou Rui***, Lin Lang, Li Hengxiang, Liu Shan, Cheng Yuanyue, Xu Xiangrong* 2023. Bioaccumulation and Trophic Transfer of Organophosphate Flame Retardants and Their Metabolites in the Estuarine Food Web of the Pearl River, China. **Environmental Science & Technology** 57(9): 3549-3561.
5. **Hou Rui**, Huang Qianyi, Pan Yunfeng, Lin Lang, Liu Shan, Li Hengxiang, Xu Xiangrong* 2022. Novel Brominated Flame Retardants (NBFRs) in a Tropical Marine Food Web from the South China Sea: The Influence of Hydrophobicity and Biotransformation on Structure-Related Trophodynamics. **Environmental Science & Technology** 56(5): 3147–3158.
6. **Hou Rui**, Huang Chao, Rao Kaifeng, Xu Yiping*, Wang Zijian 2018. Characterized in vitro metabolism kinetics of alkyl organophosphate esters in fish liver and intestinal microsomes. **Environmental Science & Technology**, 52 (5): 3202-3210.
7. Huang Qianyiianyi¹, **Hou Rui**^{1,*}, Chen Xiaoxiao, Zeng Junsen, Li Hengxiang, Zhang Li, Huang Xiaoping, Xu Xiangrong* 2026. Bioaccumulation of UV Protecting Agents in a Coral Reef-associated Food Web: Mechanistic Insights from Target and Suspect Analysis, Transfer Pathway Characterization and Fugacity Modeling, **Eco-Environment & Health**, 2026, Submitted.
8. **Hou Rui**, Feng Jingchun*, Zhang Si 2026. Anthropogenic Pollutants Threaten Deep-Sea Ecosystems: Research Challenges and Technological Frontiers, **Eco-Environment & Health**, 2026, 100271.
9. Huang Qianyi, **Hou Rui***, Wang Yuchen, Lin Lang, Li Hengxiang, Liu Shan, Xu Xiangrong*, Yu Kefu, Huang Xiaoping 2025. Emerging and legacy organophosphate flame retardants in the tropical estuarine food web: Do they exhibit similar bioaccumulation patterns, trophic partitioning and dietary exposure? **Water Research X**, 27: 100294.
10. Zhang Li, Yang Xi, Low Wee Vian, Ma Jiaxin, Yan Cheng, Zhu Zuhao, Lu Lu, **Hou Rui*** 2024. Fugacity- and biotransformation-based mechanistic insights into the trophic transfer of organophosphate flame retardants in a subtropical coastal food web from the Northern Beibu Gulf of China. **Water Research**, 261:122043.
11. Lu Jinrong, **Hou Rui***, Wang Yi, Zhou Lihua, Yuan Yong* 2022. Surfactant-sodium dodecyl sulfate enhanced degradation of polystyrene microplastics with an energy-saving electrochemical advanced oxidation process (EAOP) strategy. **Water Research** 226: 119277.
12. **Hou Rui**, Lin Lang, Li Hengxiang, Liu Shan, Xu Xiangrong*, Xu Y, Jin X, Yuan Y, Wang Z 2021. Occurrence, bioaccumulation, fate, and risk assessment of novel brominated flame retardants (NBFRs) in aquatic environments — A critical review. **Water Research** 198: 117168.
13. **Hou Rui**¹, Luo Cheng¹, Zhou Shaofeng, Wang Yi, Yuan Yong*, Zhou Shungui 2020. Anode potential-dependent protection of electroactive biofilms against metal ion shock via regulating extracellular polymeric substances. **Water Research**, 178: 115845.
14. Zhang Siqi, **Hou Rui***, Sun Chuansheng, Huang Qianyi, Lin Lang, Li Hengxiang, Liu Shan, Cheng Yuanyue, Xu Xiangrong* 2024. Metabolic activity of gut microbial enrichment cultures from different marine species and their transformation abilities to plastic additives. **Environment International**, 109: 108882.
15. Huang Qianyi, **Hou Rui***, Xu Ru, Lin , Li Hengxiang, Liu Shan, Qian Peiyuan, Cheng Yuanyue, Xu Xiangrong* 2024. Organophosphate flame retardants and their metabolites in the Pearl River Estuary: Occurrence, influencing factors, and ecological risk control strategies based on a mass balance model. **Environment International**, 184: 108478.
16. Wang Yuchen¹, Huang Qianyi¹, Zhang Siqi, Liu Shan, Li Hengxiang, Wang Xiaodong*, Wang Yan*, **Hou Rui***, Xu Xiangrong 2025. In Vitro metabolism of six representative organic UV stabilizers (OUVs) in marine fish liver microsomes: Kinetics, mechanisms and bioaccumulation evaluation, **Journal of Hazardous Materials** 492: 138211.
17. Sun Chuansheng, Yuan Shengwu, **Hou Rui***, Zhang Siqi, Huang Qianyi, Lin Lang, Li Hengxiang, Liu Shan, Cheng Yuanyue, Li Zhihua*, Xu Xiangrong 2024. First insights into the bioaccumulation, biotransformation and trophic transfer of typical tetrabromobisphenol A (TBBPA) analogues along a simulated aquatic food chain. **Journal of Hazardous Materials**, 465: 133390.
18. Zhang Siqi, **Hou Rui***, Wang Yuchen, Huang Qianyi, Lin Lang, Li Hengxiang, Shan Liu, Jiang Zhijian, Huang Xiaoping, Xu Xiangrong* 2024. Xenobiotic metabolism activity of gut microbiota from six marine species: combined taxonomic, metagenomic, and in vitro transformation analysis. **Journal of Hazardous Materials**, 480: 136152.
19. **Hou Rui**, Gan Lin, Guan Fengyi, Wang Yi, Li Jibing, Zhou Lihua, Yuan Yong* 2021. Bioelectrochemically enhanced degradation of bisphenol S: Mechanistic insights from stable isotope-assisted investigations. **iScience**, 24(1): 102014.

联系方式

课题组主要从事深海冷泉系统、海洋天然气水合物、海洋固碳、海洋新型污染物、海洋装备等方向研究。诚邀您同我们一起出海远航、探索海洋！

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