

Hua Zhong

Associate Professor (tenured), **Senior Research Scientist**

Department of Environmental Engineering

Eastern Institute of Technology

568 Tongxin Road, Zhenhai District, Ningbo, Zhejiang, China

Phone/Fax: 86-574-86603302 **Email:** zhonghua21cn@126.com; huazhong@eias.ac.cn

RESEARCH INTERESTS

My research is focused on integrating physical, chemical, and biological principles, and employing innovative experimental methods from the molecular to the field scale, to develop mechanistic understanding of contaminant transport and transformation processes in groundwater systems. I am also interested in the development of innovative technologies for characterization and remediation of contaminated groundwater and soils. In addition, I do research on water and wastewater treatment as minor interests. Specific research interests include (1) inter-phase contaminant mass transfer behaviors in porous media; (2) coupled processes of contaminant mass transfer, transport and transformation; (3) colloid and nanoparticle transport; (4) advanced oxidation processes for in situ groundwater remediation and water treatment; (5) sequestration of metals from high-valent metal anions for groundwater or water treatment; (6) bioretention systems for removal of contaminants from rain water for low-impact development; (7) novel materials for contaminant removal in natural or constructed porous media.

EMPLOYMENT

Associate Professor (tenured) 1/2023 – present
Department of Environmental Engineering, Eastern Institute of Advanced Study, Ningbo, Zhejiang, China

Professor 7/2016 – 12/2022
Department of Water Resources Engineering, School of Water Resources and Hydropower Engineering Science, Wuhan University, Wuhan, Hubei, China

Research Scientist 3/2013 – 6/2016
Department of Soil, Water and Environmental Science, School of Earth and Environmental Sciences, University of Arizona, Tucson, AZ, US

Research Specialist 6/2012 – 2/2013
Department of Soil, Water and Environmental Science, School of Earth and Environmental Sciences, University of Arizona, Tucson, AZ, US

Postdoctoral Research Associate 6/2011 – 5/2012
Department of Soil, Water and Environmental Science, School of Earth and Environmental Sciences, University of Arizona, Tucson, AZ, US

Assistant professor 8/2008 – 6/2011
Department of Environmental Engineering, College of Environmental Science and Engineering, Hunan University, Changsha, Hunan, China.

PROFESSIONAL EXPERIENCE

Visiting Scientist

5/2019 – 11/2019

Department of Civil and Environmental Engineering, University of Macau, Macau SAR, China

EDUCATION

Ph.D. in Environmental Engineering, College of Environmental Science and Engineering, Hunan University, Aug. 2008.

Area of study: Water and Soil Chemistry, Environmental Microbiology, Contaminant Transport and Transformation, Water Remediation or Treatment

M.Sc. in Environmental Engineering, College of Environmental Science and Engineering, Hunan University, Jun. 2005.

Area of study: Water and Soil Chemistry, Environmental Microbiology, Water and Wastewater Treatment, Municipal and Agricultural Waste

B.E. in Environmental Engineering, College of Environmental Science and Engineering, Hunan University, Jun. 2002.

AWARDS AND HONORS

- Annual academic staff of best service, School of Water Resources and Hydropower Engineering, Wuhan University, 2021
- Elsevier BV-Stanford University global 2% top scientists, ecological and environmental science, 2019, 2020
- Best presentation award, the 5th International Conference on Water Resources and Engineering (WRE2018), Jul 16-22 2018, Kaohsiung, Taiwan, China
- Technology Development Award (Level 2), A new method for bridge construction wastewater treatment, China Highway and Transportation Society, 2016
- Supervisor of the Excellent Poster Award of the 10th National Conference on Environmental Chemistry (10th NCEC) (Student: Guansheng Liu; presentation title: Transport of *Pseudomonas aeruginosa* in porous media mediated by low-concentration surfactants: the critical role of surfactant to change cell surface hydrophobicity), Tianjin, 2019
- Supervisor of the 3rd prize winner of Best Presentations in 12th Environment Forum for Graduate Students of China (EFGSC) (Student: Peng Cui; presentation title: In-situ activation of persulfate by magnetite nanoparticles for degradation of 1,2-dichloroethane), Shanghai, 2017
- Supervisor of the 2nd prize winner of Best Presentations in 11th EFGSC (Student: Yang Liu; presentation title: Effect of rhamnolipid solubilization on hexadecane bioavailability: enhancement or reduction), Shanghai, 2016
- Supervisor of the 3rd prize winner of Best Presentations in 11th EFGSC (Student: Lina Zhang; presentation title: Heterogeneous activation of persulfate by Fe₃O₄ for degradation of refractory organic contaminants), Shanghai, 2016
- Supervisor of the 2nd prize winner of Best Presentations in 10th EFGSC (Student: Guansheng Liu; presentation title: Effect of low-concentration monorhamnolipid on the transport of *Pseudomonas aeruginosa* ATCC 9027 in porous media), Shanghai, 2015

- Supervisor of the 3rd prize winner of Best Presentations in 9th EFGSC (Student: Zhibin Wu; presentation title: Adsorptive removal of methylene blue by rhamnolipid-functionalized graphene oxide from wastewater), Shanghai, 2014
- Outstanding Ph.D. dissertation award, Hunan University (2009)
- Outstanding M.Sc. thesis award, The Education Department of Hunan Province, China (2006)

PROFESSIONAL QUALIFICATIONS

- Licensed National Environmental Protection Engineer, Ministry of Housing and Urban-Rural Development of China
- Licensed National Environmental Impact Assessment Engineer, Ministry of Environmental Protection of China

MEMBERSHIPS

- International Water Association (IWA), 2015-present
- American Geophysical Union (AGU), 2013-present
- Soil Science Society of America (SSSA), 2015-present
- Chinese Society for Environmental Sciences, Senior Member, 2012-present

GRANTS AND CONTRACTS

CURRENT

- **“Coupling low heat and in situ chemical oxidation for cost-effective remediation of the site contaminated by multiple organic compounds”**
“Integration of heating technology and other technologies for efficient and low-cost remediation of the sites contaminated by multiple organic compounds” (2019YFC1805700), National Key Research and Development Project, Ministry of Science and Technology of China, 6/2020-5/2023, CNY 1,080, 000 (Co-PI)
- **“In situ heterogeneous activation of persulfate for degradation of the refractory organic contaminants in groundwater”**
National Natural Science Foundation of China (No. 51979203), 1/2020-12/2023, CNY 610,000 (Single PI)
- **“From contaminant transport and transformation to soil and groundwater remediation”**
Foundation for Construction of First-class Universities and Disciplines of the World, Ministry of Education/Wuhan University, 3/2021-12/2023, CNY 1,000,000 (Single-PI)
- **“Natural-engineered ecological process research”**
Foundation for Joint Research Institute of Wuhan University and China Baowu Steel Group Corporation Limited, 4/2022-3/2023, CNY 600,000 (Co-PI)

COMPLETED

- **“The national high-level talent support program of China”**
The Organization Department of the Central Government of China, 3/2019-2/2022, CNY 2,200,000 (Single PI)
- **“Chemical denaturalization and deep dewatering of municipal sludge”**
The Aquaroot Co. Ltd, 4/2021-1/2022, CNY 191,000 (Single PI)
- **“The effect of low-concentration surfactants on mobilization and solubilization of nonaqueous phase liquid in porous media and their control”**
National Natural Science Foundation of China (No. 51779182), 1/2018-12/2021, CNY 600,000 (Single PI)
- **“Efficient in-situ activation of persulfate in porous media and degradation of organic contaminants”**
Distinguished Young Scholar Fund, the Science Foundation of Hubei Province (2017CFA058), China, 8/2017-7/2020, CNY 200,000 (Single PI)
- **“The platform for water quality management and early warning for south-to-north water diversion project”**
“Construction of technological systems for safe urban water supply with multiple water sources”, Major Science and Technology Program for Water Pollution Control and Treatment (2017ZX07108-001), 1/2017-6/2020, CNY 600,000 (Co-PI)
- **“Attenuation of some typical agricultural non-point-source contaminants in porous media and its enhancement”**
Outstanding Young Scholar Fund, Wuhan University, 1/2017-12/2018, CNY 150,000 (Single PI)
- **“Behaviors of rhamnolipid – self Aggregation, HOC solubilization and the effect on bioavailability of HOCs”**
Fundamental Research Funds for the Central Universities, Ministry of Education of China, 7/2016-6/2018, CNY 500,000 (Single PI)
- **“The mechanisms for surfactants to affect the bioavailability of hydrophobic organic compounds in saturated porous media”**
The National Natural Science Foundation of China (No. 51378192), 1/2014-12/2017, CNY 800,000 (Single PI)
- **“Role of rhamnolipid in changing cell surface hydrophobicity for petroleum degrading microorganisms and its relation with petroleum uptake”**
National Natural Science Foundation of China for Young Scientist (No.50908081), 1/2010-12/2012, CNY 200,000 (Single PI)
- **“Technologies for metal contaminated sediment dredging and cleaning at xiawan river”**
“Key Technologies and Their Demonstrations for Metal Pollution Control In Xiangjiang Waters”, Major Science and Technology Program for Water Pollution Control and treatment (2009ZX07212-001-02), 1/2009-6/2012, CNY 500,000 (Co-PI)
- **“Facilitated transport enabled in situ chemical oxidation of 1,4-dioxane- contaminated groundwater”**
Strategic Environmental Research and Development Program (ER-2302), U.S. Department of Defense, 5/2013-1/2017, \$1,203,000 (Key participant)

- **“In-situ biosequestration for remediation of uranium in groundwater at the monument valley umtra site”**
U.S. Department of Energy (LMCP5482), 5/2015-11/2016, \$275,000 (Key participant & project leader)
- **“Mass-transfer and mass-flux dynamics of chlorinated solvents in heterogeneous systems”**
The SUPERFUND Basic Research Program (No. E504940), U.S. National Institute of Environmental Health Sciences, 7/2010-6/2015, \$875,000 (Key participant)
- **“A mechanistic study of the transport and fate of biosolid colloids in soil”**
National Research Initiative (No.2007-35107-1835), U.S. Department of Agriculture, 2007-2011, \$390,000 (Participant)

TEACHING EXPERIENCE

ENGLISH

- **Contaminant Transport in Porous Media** (graduate, joint teaching)
Department of Soil, Water and Environmental Science, University of Arizona; Spring 2015
- **Soil and Groundwater Remediation** (graduate, joint teaching)
Department of Soil, Water and Environmental Science, University of Arizona; Fall 2015
- **Fundamentals in Contaminant Hydrogeology** (undergraduate and graduate)
Short-Term Open Courses, Hunan University, Summer 2016
- **Professional English for Environmental Science and Engineering** (undergraduate)
Department of Environmental Engineering, Hunan University; Fall 2008, Fall 2009, Fall 2010

CHINESE

- **Chemistry for Engineering** (undergraduate)
Department of Water Resources Engineering, Wuhan University; Fall 2021, Fall 2022
- **Introduction to Ecology and Environmental Science** (undergraduate)
Department of Water Resources Engineering, Wuhan University; Spring 2020
- **Soil Science** (undergraduate)
Department of Water Resources Engineering, Wuhan University; Fall 2018
- **Water Resources Engineering: Environmental** (undergraduate)
Department of Water Resources Engineering, Wuhan University; Spring 2017, Spring 2018
- **Processes and Technologies for Environmental Remediation** (graduate)
Department of Environmental Engineering, Hunan University; Fall 2009, Fall 2010
- **Environmental Chemistry** (undergraduate)
Department of Environmental Engineering, Hunan University; Fall 2009
- **Environmental Engineering Principles** (undergraduate)
Department of Environmental Engineering, Hunan University; Spring 2009, Spring 2010
- **Environmental Impact Assessment** (undergraduate)
Department of Environmental Engineering, Hunan University; Spring 2009

- **Urban wastewater collection, treatment, and remediation** (entrepreneurial training course)
China Construction Third Engineering Bureau Co.,Ltd, Wuhan; May 2017

STUDENT/POSTDOCTORAL ADVISEES

POSTDOCS

- Yake Wang, Environmental Engineering, EIT Institute for Advanced Study (10/2022-present)
Research interest: Persulfate-based in situ chemical oxidation for contaminant removal in groundwater
- Lili Huo, Water Resources Engineering, Wuhan University (08/2022-present)
Research interest: Chemical transport and mass transfer for surfactant-enhanced aquifer remediation
- Guansheng Liu, Water Resources Engineering, Wuhan University (08/2021-present)
Research interest: Transport of colloids and nanoparticles in porous media; groundwater remediation
- Zulfiqar Ahmad, Water Resources Engineering, Wuhan University (01/2018-05/2020)
Research interest: Soil and environmental microbiology, application of biosurfactants in bioremediation of environmental contaminants and biofertilizer development
Work experience: 4/2016-12/2017 Assistant Professor, Department of Environmental Sciences, Pir Mehr Ali Shah Arid Agriculture University, Pakistan; 08/2013-05/2014, Junior Specialist, Department of Environmental Science, University of California, Riverside U.S.

PH.D. STUDENTS (11 current + 5 graduated)

- Xianyao Ma, Environmental Engineering, EIAS-SJTU (09/2022-present)
Research interest: In situ AOPs catalyzers for groundwater remediation
- Jingyi Gao, Environmental Engineering, EIAS-PolyU (09/2022-present)
Research interest: Biochar-based materials for contaminant removal in passive water treatment systems
- Mengdi Zhao, Environmental Engineering, EIAS-PolyU (09/2022-present)
Research interest: Activation of persulfate for groundwater remediation
- Liling Xu, Water Resources Engineering, Wuhan University (09/2022-present)
Research interest: Transport of micro-plastics in porous media
- Xiaojing Tang, Water Resources Engineering, Wuhan University (09/2021-present)
Research interest: Co-transport of PFAS and micro-plastics in porous media
- Weiyong Zhan, Water Resources Engineering, Wuhan University (09/2021-present)
Research interest: Effect of clay colloids on transport of carbon and microplastic nanoparticles in porous media
- Yan Li, Water Resources Engineering, Wuhan University (09/2020-present)
Research interest: Removal of concurrent organic contaminants from aquifer based on ISCO
- Tianyuan Gu, Water Resources Engineering, Wuhan University (09/2020-present)
Research interest: Biosequestration of Cr(VI) in groundwater
- Buriro Ghouse Bakhsh, Water Resources Engineering, Wuhan University (09/2019-present)
Research interest: Activation of persulfate for degradation of refractory organic contaminants
- Wei Chen, Water Resources Engineering, Wuhan University (09/2019-present)

Research interest: Modification of Fe-containing particles with mesoporous silica for transport enhancement in porous media

- Yalu Shao, Water Resources Engineering, Wuhan University (09/2017-present)
Research interest: Natural attenuation of nitrate and denitrification enhancement
- ▶ Xin Yang, Environmental Engineering, Hunan University (09/2016-09/2022)
Research interest: Dissolution of nonaqueous phase liquids in porous media by low-concentration surfactants and transport of the aggregates
- ▶ Lili Huo, Water Resources Engineering, Wuhan University (09/2018-06/2022)
Research interest: Chemical transport and mass transfer for surfactant-enhanced aquifer remediation
- ▶ Guansheng Liu, Water Resources Engineering, Wuhan University (09/2017-06/2021)
Research interest: Transport of Fe-based nanoparticles in porous media for groundwater remediation enhancement
- ▶ Zhibin Wu, Environmental Engineering, Hunan University (09/2014-01/2018, co-advisor)
Dissertation title: Applications and mechanisms of graphene-based adsorbent/ photocatalysts for organic pollutant removal from water
- ▶ Yang Liu, Environmental Engineering, Hunan University (09/2013-06/2018, co-advisor)
Research interest: Surfactant-mediated bioavailability and biodegradation of hydrophobic organic compounds

MASTER STUDENTS (5 current + 26 graduated)

- Liang Wei, Water Resources Engineering, Wuhan University (09/2021-present)
Research interest: Dewatering of municipal sludge based on advanced oxidation
- Junyi Wang, Water Resources Engineering, Wuhan University (09/2021-present)
Research interest: Water removal from municipal sludge
- Wei Fang, Water Resources Engineering, Wuhan University (09/2021-present)
Research interest: Simulation on coupling of persulfate and heat for site remediation
- Yufei Jia, Water Resources Engineering, Wuhan University (09/2020-present)
Research interest: Solid-phase denitrification for nitrogen removal from soil
- Douangson, Environmental Science, Hunan University (09/2018-present)
Research interest: Use of surfactants to enhance degradation of hydrophobic organic compounds by persulfate
- ▶ Jing Cao, Water Resources Engineering, Wuhan University (09/2019-06/2021)
Research interest: The relation between the structure of our electron layer and the ability of cycle 4 transition metals for persulfate activation.
- ▶ Hang Shen, Water Resources Engineering, Wuhan University (09/2019-06/2021)
Research interest: Modeling the contaminant degradation behavior in porous media.
- ▶ Hongwei Zhang, Water Resources Engineering, Wuhan University (09/2018-06/2021)
Research interest: Nitrate removal from urban rain water using bioretention approach
- ▶ Wuqi Huang, Environmental Engineering, Hunan University (09/2018-06/2021)
Research interest: Heterogeneous activation of persulfate using hydrotalcite
- ▶ Sa Xiao, Environmental Engineering, Hunan University (09/2017-06/2020)
Research interest: Heterogeneous activation of persulfate in porous media
- ▶ Lun Gao, Water Resources Engineering, Wuhan University (09/2017-06/2020)
Research interest: Water chemistry analysis and water quality assessment

- ▶ Ying Cheng, Environmental Engineering, Hunan University (09/2016-06/2019)
Research interest: Solid electron donor for sustainable denitrification
- ▶ Wenjing Niu, Environmental Engineering, Hunan University (09/2016-06/2019)
Research interest: Efficient electron donors for biosequestration of chromate
- ▶ Wenli Wang, Environmental Engineering, Hunan University (09/2016-06/2019)
Research interest: Slow-release of persulfate for groundwater remediation
- ▶ Lin Zhang, Environmental Engineering, Hunan University (09/2016-06/2019)
Research interest: In situ chemical oxidation for organic pollutant removal from water
- ▶ Lili Huo, Environmental Engineering, Hunan University (09/2016-06/2018)
Research interest: Surfactant-based solubilization of NAPLs in porous media
- ▶ Chenghao Zhao, Environmental Engineering, Hunan University (09/2015-06/2018)
Research interest: Biodegradation of polybrominated diphenyl ether
- ▶ Zhengdong Fang, Environmental Engineering, Hunan University (09/2015-06/2018)
Research interest: Effect of surfactants on transport of bacteria in porous media.
- ▶ Juntao Zhang, Environmental Engineering, Hunan University (09/2015-06/2018)
Research interest: In-situ activation of persulfate by naturally occurring iron minerals
- ▶ Yaling Tian, Environmental Engineering, Hunan University (09/2014-05/2017)
Thesis title: In situ chemical oxidation of landfill leachate contaminated groundwater by persulfate
- ▶ Lina Zhang, Environmental Engineering, Hunan University (09/2014-05/2017)
Thesis title: Fe₃O₄-based activated persulfate for the degradation of organic contaminants in groundwater (09/2014-07/2017)
- ▶ Peng Cui, Environmental Engineering, Hunan University (09/2014-06/2017)
Thesis title: In-situ activation of persulfate by magnetite nanoparticles for degradation of 1,2-dichloroethane
- ▶ Hui Zhang, Environmental Engineering, Hunan University (09/2014-05/2017)
Thesis title: Sub-CMC solubilization of dodecane by rhamnolipid in saturated porous medium (09/2014-06/2017)
- ▶ Xin Yang, Environmental Engineering, Hunan University (09/2013-06/2016)
Thesis title: Aggregation of low-concentration rhamnolipid biosurfactant and the solubilization of dodecane in a sand porous media
- ▶ Guansheng Liu, Environmental Engineering, Hunan University (09/2013-06/2016)
Thesis title: Effect of low-concentration rhamnolipid on the transport of *pseudomonas aeruginosa* ATCC 9027 in natural porous media
- ▶ Zhiquan Wang, Environmental Engineering, Hunan University (09/2013-06/2016)
Thesis title: The bioavailability of hydrophobic organic pollutants (HOCs) under the action of surfactants
- ▶ Lei Yang, Environmental Engineering, Hunan University (09/2013-06/2016)
Thesis title: Low-concentration solubilization behavior of surfactants and its effect on chemical oxidation of perchloroethene
- ▶ Lele Wang, Environmental Engineering, Hunan University (09/2012-06/2015)
Thesis title: Effect of microwave-assisted hydrogen peroxide oxidation on heavy metals in sediment and feasibility of this method to remediate sediment
- ▶ Yongbing Jiang, Environmental Engineering, Hunan University (09/2011-06/2014)
Thesis title: Influence of low-concentration rhamnolipid on the adsorption and transport of

pseudomonas aeruginosa ATCC 9027 in glass beads

- ▶ Fei Tan, Environmental Engineering, Hunan University (09/2011-06/2014)
Thesis title: Research on the solubilization behavior of alkanes by rhamnolipid
- ▶ Asma El Ouni, Soil, Water and Environmental Sciences, University of Arizona (08/2011-05/2013, co-advisor)
Thesis title: Measuring air-water interfacial area in unsaturated porous media using the interfacial partitioning tracer test method

UNDERGRADUATE STUDENTS

- ▶ Luyao Jin, Yanni Kong, National University Student Social Practice and Science Contest on Energy Saving & Emission Reduction, Ministry of Education, China (8/2022-7/2023)
Title: Effect of aging for transport of micro-plastics in soil and health of vegetables
- ▶ Qiyu Guo, Kaicheng Wang, Meng Xiang, National University Student Social Practice and Science Contest on Energy Saving & Emission Reduction, Ministry of Education, China (12/2017-8/2018)
Title: Facilitated emplacement of Fe₃O₄ nanoparticles into porous media for sustainable in situ activation of persulfate
- ▶ Weibo Liu, Jiayu Zhang, Yu Wang, Hongyang Zhang, Feiyu Li, National University Student Social Practice and Science Contest on Energy Saving & Emission Reduction, Ministry of Education, China (12/2017-8/2018)
Title: Bioretention facilities for sustainable nitrate removal in the construction of the sponge city
- ▶ Zhihan Zhang, Jia Feng, Xiaoyu Zhao, Student Innovation Training Program, Hunan University (09/2010-06/2011)
Title: Screening of biosurfactant-production bacteria from hydrocarbon-contaminated soil
- ▶ Lei Yang, Yang Li, Yake Wang, Student Innovation Training Program, Hunan University (09/2009-06/2010)
Title: Solubilization of alkanes by surfactants at sub-CMC concentrations
- ▶ Hongwei Zhang (2018), Yongwei Zhan (2018), Fule Zheng (2017). Graduation Internship, Wuhan University
- ▶ Yunhao Wang (2013), Zuimou Yi (2013), Yunpeng Li (2013), Jianfeng Li (2013), Yi Han (2012), Zhuoyuan Chen (2012), Zhihan Zhang (2012), Biao Zeng (2011), Lingling Guan (2011), Yating Zhu (2010), Huayue Ou (2009). Graduation Internship, Hunan University

MEMBER OF GRADUATE STUDENT COMMITTEES

- Shu Fang, ph.D., Department of Water Resources Engineering, Wuhan University
- Longfei Li, Master, Department of Water Resources Engineering, Wuhan University
- Chuhui Yang, Master, Department of Water Resources Engineering, Wuhan University
- Asma El Ouni, Master, Department of Soil, Water and Environmental Science, the University of Arizona
- Diana Gutierrez, Master, Department of Soil, Water and Environmental Science, the University of Arizona
- Erin Abel, Master, Department of Geoscience, the University of Arizona

CONFERENCE CHAIR/COMMITTEE POSITIONS

- Convener and chair, the session of “the advances in theories and technologies of soil and groundwater remediation, The annual environmental science and technology conference, Chinese Society for Environmental Sciences, October 19-21, 2021, Tianjin, China
- Session chair, the 5th International Conference on Water Resources and Environment (WRE2019), Jul 16-19 2019, Macau SAR, China
- Publication chair & session chair, 2018 International Conference on Environmental and Water Resources Engineering (EWRE2018), Oct 12-14 2018, Jeju Island, Korea
- Session chair, the 4th International Conference on Water Resources and Environment (WRE2018), Jul 16-22 2018, Kaohsiung, Taiwan, China
- Program chair & session chair, the 6th Annual International Conference on Sustainable Energy and Environmental Sciences (SEES 2017), Mar 6-7 2017, Singapore
- Session chair, the 3rd International Conference on Water Resources and Environment (WRE2017), Jun 26-29 2017, Qingdao, China
- Session chair, International Perspectives on Water Resources and Environment (IPWE2017), Jan 4-6 2017, Wuhan, China
- Technical Program Committee member, 2017 International Conference on Environmental Science and Sustainable Energy (ESSE 2017), June 23-25 2017, Suzhou, Jiangsu, China
- Technical Program Committee member, The 2nd International Conference on Energy Engineering and Environmental Protection (EEEP 2017), Dec 15-17 2017, Guangzhou, Guangdong, China
- Technical Program Committee member, 2018 International Conference on Environmental Science and Sustainable Energy (ESSE 2018), Jun 22-24 2018, Suzhou, China

INVITED CONFERENCE PRESENTATIONS

1. Co-transport of clay particles and nC_{60} in quartz sand. The 2nd soil remediation conference of China, October 24-27, 2021, Nanjing, China
2. The effect of xanthan gum on stability and transport of Fe-based nanoparticles. The annual environmental science and technology conference, Chinese Society for Environmental Sciences, October 19-21, 2021, Tianjin, China
3. Redistribution of surfactants and its effect on solubilization of NAPL in porous media at low surfactant concentrations. The 8th symposium on soil and groundwater, CSES, June 18-20 2021, Tianjin, China
4. Removal of pharmaceuticals by immobilized *Phanerochaete chrysosporium*. 2019 CHES Annual Conference, Oct 22-24 2019, Yichang, China
5. Effect of microelements (copper and zinc) on co-metabolism of trichloroethylene with toluene by *Pseudomonas plecoglossicida*. ISWPT2019, Oct 17-18 2019, Bangkok, Thailand
6. Degradation of pharmaceutically active compounds by immobilized *Phanerochaete Chrysosporium* under non-sterile condition. The 10th National Conference on Environmental

Chemistry, Aug 15-19 2019, Tianjin, China

7. Effect of xanthan gum on stability of magnetite nanoparticles and their transport in quartz sand. WRE2019, Jul 16-19 2019, Macau SAR, China
8. Stabilization and Transport of Fe-based Nanoparticles. 2019 International Forum on Groundwater and Cross-Strait Symposium on Application of Hydrogeology, Jul 13-14, 2019, Guilin, China
9. Surfactants mediate transport of bacteria in porous media by changing cell surface hydrophobicity. The 5th Earth Science Forum for Young Scientists, Oct 26-29 2018, Nanjing, China
10. Surfactant-mediated transport of *Pseudomonas aeruginosa* in porous media: the critical role of cell surface hydrophobicity. EWRE2018, Oct 12-14 2018, Seogwipo, Jeju Island, Korea
11. Sustainable activation of persulfate by magnetite for degradation of refractory organic compounds. WRE2018, Jul 16-22 2018, Kaohsiung, Taiwan, China
12. In situ heterogeneous activation of persulfate for ISCO remediation of groundwater. 2018 International Forum on Groundwater: Sustainable Utilization of Groundwater Resources and Optimization of Industrial Structure, Jul 9-10, 2018, Shijiazhuang, China
13. Sub-CMC solubilization of alkane by surfactants in porous media. 2017 International Forum on Groundwater and Cross-Strait Symposium on Application of Hydrogeology, Jul 6-7, 2017, Hefei, China
14. In-situ activation of persulfate by magnetite nanoparticles in a sand porous media for degradation of 1,2-dichloroethane. WRE2017, Jun 26-29 2017, Qingdao, China
15. Heterogeneous activation of persulfate using Fe₃O₄ for degradation of refractory organic compounds in water. 6th Annual International Conference on Sustainable Energy and Environmental Sciences (SEES 2017), Mar 6-7 2017, Singapore
16. In-situ biosequestration of uranium in groundwater: bench and pilot scale studies. IPWE2017, Jan 4-6 2017, Wuhan, China
17. Sub-CMC solubilization of hydrocarbons by surfactants. ASA, CSSA and SSSA International Annual Meetings, Nov 6-9 2016, Phoenix, AZ
18. Heterogeneous activation of persulfate by Fe-based materials for oxidative removal of refractory organic compounds. WRE2016, Jul 23-26 2016, Shanghai, China
19. Innovative in-situ oxidation technology for treating groundwater contaminated by chlorinated solvents and 1,4-dioxane. IC EST Conference 2016, Jun 6-9 2016, Houston, TX
20. In-situ oxidation technologies for treating groundwater contaminated by chlorinated solvent compounds and concurrent contaminants. WRRCA Annual Conference 2016, Mar 27 2016, Tucson, AZ
21. Pilot Scale In-situ Biosequestration of Uranium in Groundwater at the Monument Valley UMTRA Site. American Geophysical Union 2015 fall meeting, Dec 14-18 2015, San Francisco, CA
22. Interfacial partitioning tracer test measurement of NAPL-water interfacial areas in porous media under two-phase flow condition. American Geophysical Union 2013 fall meeting, Dec 9-13 2013, San Francisco, CA

23. Effect of preliminary cell permeabilization with monorhamnolipid on degradation of glucose, rhamnolipid-solubilized hexadecane and separate-phasal hexadecane by *Pseudomonas aeruginosa*. 2nd IWA conference, 2013, Nanjing, China

INVITED COLLOQUIUM/SEMINAR PRESENTATIONS

1. The effect of xanthan gum on dispersive stability of Fe-containing nanoparticles and transport of the particles in quartz sand. Webinar on pollution of POPs and its control, China Association for Science and Technology (Ningbo), October 29 2022
2. Remediation of groundwater contaminated by TCE at the Tucson International Airport SUPERFUND site: a case study. Webinar on environmental remediation, season 2, China Association of Environmental Protection Industry and BCEG environmental remediation Co. Ltd., July 8 2022
3. In situ heterogeneous activation of persulfate for contaminant removal from groundwater. College of Resources and Environment, Yangtze University, April 16 2021, Wuhan, China
4. Some scientific problems and the potential technological innovation in in situ groundwater and soil remediation. The second colloquium on academic progress and innovation of Wuhan University, January 12-13 2021, Wuhan, China
5. Facilitating transport of Fe-based nanoparticles using polymers. School of Civil and Environmental Engineering, Southern University of Science and Technology, Jun 19 2020, Shenzhen, China
6. Pilot-Scale in-situ biosequestration of uranium and anion removal in groundwater at the monument valley UMTRA site. The colloquium on protection and remediation of the coastal water ecosystem and environment, Zhejiang Ocean University, Sep 21-22 2019, Zhoushan, China
7. Remediation of the TCE-contaminated site at Tucson International Airport – a case study. Yangtze river protection colloquium-water/wastewater treatment and contaminated water remediation, Wuhan University, Mar 16 2019, Wuhan, China
8. Organic contamination of groundwater and the remediation technologies. Zhongnan Engineering Corporation Limited, Feb 18 2019, Changsha, China
9. Sustainable activation of persulfate for groundwater remediation. School of Civil and Environmental Engineering, Southern University of Science and Technology, Jan 4 2018, Shenzhen, China
10. Attenuation of nitrate in groundwater and its enhancement. The 2nd international forum on remediation-protection of soil and water environment and environmentally friendly fertilizer. Jun 25-26 2017, Ma'an Shan, China
11. Biosequestration of Uranium in Groundwater – Use Monument Valley UMTRA Site as an Example. Sustainable Use of Resources and Energy, East Lake Forum, Apr 21-23 2017, Wuhan, China
12. Advances of technologies for in situ groundwater remediation. School of Civil and Environmental Engineering, Nanyang Technological University, March 7 2017, Singapore
13. Persulfate-based ISCO for removal of persistent organic contaminants from groundwater.

Sino-German Symposium on Fate, Transport and Remediation of POPs in Soil and Groundwater, Institute of Soil Science, CAS, Apr 17-20 2017, Nanjing, China

14. Biosequestration of uranium in groundwater. Forum of School of Environmental Science and Engineering, Jan 6 2016, Jiangnan University, Wuxi, China

15. In-situ Biosequestration of Uranium in Groundwater. School of Environment forum, Nanjing University, Jan 5 2016, Nanjing, China

16. In-situ oxidation technologies for groundwater remediation. Environmental Engineering Laboratory, University of Science and Technology of China, Jan 4 2016, Hefei, China

17. Innovative in-situ oxidation technologies for treating groundwater contaminated by chlorinated solvents and 1,4-dioxane. State key laboratory seminar forum, Wuhan University, Dec 29 2015, Wuhan, China

18. Application of low-concentration surfactants for remediation of solvent contaminated aquifers: measurement of NAPL-Water interfacial areas and NAPL solubilization. Green Earth Forum, China University of Geoscience, Dec 28 2015, Wuhan, China

EDITORIALS

Topic Editor, *Applied Sciences* (2020-present)

Editorial Board, *International Journal of Environmental Research and Public Health* (2021-present)

Editorial Board, *Journal of Environmental Science and Public Health* (2017-2022)

REVIEWER FOR FUNDING AGENCIES AND SCIENTIFIC JOURNALS

FUNDING AGENCIES

National Science Foundation of China (NSFC)

Science Foundation of Ireland (SFI)

National Center of Science and Technology Evaluation (NCSTE) of Kazakhstan

Department of Science and Technology, Guangxi Province, China

Department of Science and Technology, Jiangxi Province, China

Department of Science and Technology, Hebei Province, China

SCIENTIFIC JOURNALS

Water Research (16 manuscripts)

Journal of Hazardous Materials (17)

Chemical Engineering Journal (13)

Environmental Science & Technology (8)

Chemosphere (6)

Science of the Total Environment (6)

Applied Microbiology and Biotechnology (3)

Journal of Hydrologic Engineering (2)

Process Biochemistry (2)

Ceramics international (2)

Journal of Contaminant Hydrology (3)
Colloids and Surfaces A (3)
Archives of Environmental Contamination and Toxicology
ACS Sustainable Chemistry and Engineering
Biochemical Engineering Journal
Bioresource Technology
Biotechnology Advances
Current Organic Chemistry
Ecotoxicology
Environmental Science and Pollution Research
Fibers and Polymers
International Biodeterioration and Biodegradation
International Journal of Environmental Science and Technology
Journal of Chemical & Engineering Data
Journal of Environmental Science
Journal of Hydrology
Separation Science and Technology
Waste Management
Water, Air and Soil Pollution

OTHER PROFESSIONAL SERVICE

- **Field Team Leader**, Monument Valley UMTRA Site, AZ (Site characterization, sediment and groundwater sample collection and analysis, well building, etc)
- **Advisory Board**, Qingyuanhuajian Environmental Co. Ltd, Beijing, China (2017-present)
- **Advisory Board**, Hongdong Environmental Protection Co. Ltd, Shantou, China (2016-2018)
- **Environmental Impact Assessment Reviewer Board**, Department of Ecology Environment of Hubei Province, China, 10/2016 to present
- **Project Closure Assessment Committee**, Public Welfare and Social Development Project (2015C33012, 2015C32035 and 2016C33037), Department of Science and Technology of Zhejiang Province, 12/2017 and 4/2018

PUBLICATIONS

(*corresponding author; Total citation = **4017**, H-index = **37** (Web of Science Core Collection))

Refereed Journal Articles

2023 (3 articles)

- J1. Jia YF, Zhang HW, Gu TY, Wu YM, Yang ZH, Shao YL, **Zhong H***. Denitrification in bioretention systems based on corncob biochar produced at low pyrolysis temperature: the efficacy and the mechanisms. *Chemical Engineering Journal*. 2023, 460: 141829
- J2. Li Y, Liu GS, He JP*, **Zhong H***. Activation of persulfate for groundwater remediation: from bench studies to application. *Applied Sciences*. 2023, 13: 1304

- J3. Zheng H*, Du JK, **Zhong H**, et al. Enhanced persulfate activation by sulfur-modified Fe₃O₄ composites for atrazine degradation: Performance and mechanism. *Process Safety and Environmental Protection*. 2023, 170: 1052-1065

2022 (7 articles)

- J4. Huo LL, Zhao CH, Gu TY, Yan M*, **Zhong H***. Aerobic and anaerobic biodegradation of BDE-47 by bacteria isolated from an e-waste-contaminated site and the effect of various additives. *Chemosphere*. 2022, 294:133739
- J5. Shao YL, Sun Q*, Wang LK, Zhan WY, Zhang HW, **Zhong H***. Migration and transformation of Sb are affected by Mn(III/IV) associated with lepidocrocite originating from Fe(II) oxidation. *Journal of Environmental Sciences*. 2022, 115: 308-318
- J6. Yang X, Liu GS, Huo LL, Dong HR, **Zhong H***. Alkane solubilization by surfactants: aggregate view and size analysis based on cryo-TEM. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*. 2022, 642: 128589
- J7. Huo LL, Liu GS, Li Y, Yang X, **Zhong H***. Solubilization of residual dodecane by surfactants in porous media: The relation between surfactant partition and solubilization. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*. 2022, 648: 129421
- J8. Gu TY, Niu WJ, Wu YG, Huo LL, Ahmad Z, Deng M, **Zhong H***. The characteristics of molasses-based reductive removal of Cr(VI) from groundwater by *Bacillus* sp. *Journal of Environmental Chemical Engineering*. 2022, 10: 108595
- J9. Zhang C, Nong XZ, **Zhong H***, Shao DG*, Chen LH*, Liang JK. A framework for exploring environmental risk of the longest inter-basin water diversion project under the influence of multiple factors: A case study in China. *Journal of Environmental Management*. 2022, 322: 116036
- J10. Wang ZJ, Yang ZB*, Fagerlund F, **Zhong H**, Hu R, Niemi A, Illangasekare T, Chen YF. Pore-Scale Mechanisms of solid phase emergence during DNAPL remediation by chemical oxidation. *Environmental Science & Technology*. 2022, 56, 11343- 11353

2021 (12 articles)

- J11. Huang WQ, Xiao S, **Zhong H***, Yan M*, Yang X. Activation of persulfates by carbonaceous materials: A review. *Chemical Engineering Journal*. 2021, 418: 129297
- J12. Liu ZF*, Huang J, Shao BB, **Zhong H***, et al. In-situ construction of 2D/1D Bi₂O₂CO₃ nanoflake/S-doped g-C₃N₄ hollow tube hierarchical heterostructure with enhanced visible-light photocatalytic activity. *Chemical Engineering Journal*. 2021, 426: 130767
- J13. Ahmad Z, Zhang XZ, Imran M, **Zhong H***, Andleeb S, Zulekha R, Liu GS, Ahmad I, Coulon F. Production, functional stability, and effect of rhamnolipid biosurfactant from *Klebsiella* sp. on phenanthrene degradation in various medium systems. *Ecotoxicology and Environmental Safety*. 2021, 207: 111514
- J14. Huang J, Liu XJ, Zhang W, Liu ZF*, **Zhong H***, Shao BB, Liang QH, Liu Y, Zhang W, He QY. Functionalization of covalent organic frameworks by metal modification: Construction, properties and applications. *Chemical Engineering Journal*. 2021, 404: 127136
- J15. Zhang HW, Ahmad Z, Shao YL, Yang ZH, Jia YF, **Zhong H***. Bioretention for removal of nitrogen: processes, operational conditions, and strategies for improvement. *Environmental Science and Pollution Research*. 2021. DOI: 10.1007/s11356-020-12319-1
- J16. Shao YL, **Zhong H***, Wang LK, Elbashier MMA. *Bacillus amyloliquefaciens* (IAE635) and

their metabolites could purify pollutants, *Vibrio* spp. and coliform *bacteria* in coastal aquaculture. International Journal of Agricultural and Biological Engineering. 2021, 14: 205-210

- J17. Wu T, Yang ZB*, Hu R, Chen YF, **Zhong H**, Yang L*, Jin WB. Film entrainment and microplastic particles retention during gas invasion in suspension-filled microchannels. Water Research. 2021, 000: 116919
- J18. El Ouni A, Guo B, **Zhong H**, Brusseau ML*. Testing the validity of the miscible-displacement interfacial tracer method for measuring air-water interfacial area: Independent benchmarking and mathematical modeling. Chemosphere. 2021, 263:128193
- J19. Li PJ, Zha YY*, Shi LS, **Zhong H**. Identification of the terrestrial water storage change features in the North China Plain via independent component analysis. Journal of Hydrology: Regional Studies. 2021, 38:100955
- J20. Zhang C, Nong XZ*, Shao DG*, **Zhong H**, Shang YM, Liang JK. Multivariate water environmental risk analysis in long-distance water supply project: A case study in China. Ecological Indicators. 2021, 125: 107577
- J21. Li Q, Yang ZH*, Yue Y, **Zhong H**, Li D. Variation of total phosphorus concentration and loads in the upper Yangtze River and contribution of non-point sources. Water Supply. 2021, 21: 1687-1700
- J22. Elbashier MMA*, Shao YL*, Wang LK, Chen DL, **Zhong H**. Effects of organic amendments on soil properties and growth characteristics of Melon (*Cucumis melo L.*) under saline irrigation. International Journal of Agricultural and Biological Engineering. 2021, 14: 123-129

2020 (11 articles)

- J23. Liu GS, Fang ZD, **Zhong H***, Shi LS, Yang X, Liu ZF. Transport of *Pseudomonas aeruginosa* in porous media mediated by low-concentration surfactants: the critical role of surfactant to change cell surface hydrophobicity. Water Resources Research. 2020, 56: e2019WR026103
- J24. Xiao S, Cheng M, **Zhong H***, Liu ZF*, Liu Y, Yang X, Liang QH. Iron-mediated activation of persulfate and peroxymonosulfate in both homogeneous and heterogeneous ways: A review. Chemical Engineering Journal. 2020, 384: 123265
- J25. Liu GS, **Zhong H***, Ahmad Z, Yang X, Huo LL. Transport of engineered nanoparticles in porous media and its enhancement for remediation of contaminated groundwater. Critical Reviews in Environmental Science and Technology. 2020, 50: 2301-2378
- J26. **Zhong H#**, Cheng Y#, Ahmad Z, Shao YL, Zhang HW, Lu QH, Shim H*. Solid-phase denitrification for water remediation: processes, limitations, and new aspects. Critical Reviews in Biotechnology. 2020. DOI: 10.1080/07388551.2020.1805720.
- J27. Huo LL, Liu GS, Yang X, Ahmad Z, **Zhong H***. Surfactant-enhanced aquifer remediation: mechanisms, influences, limitations and the countermeasures. Chemosphere. 2020, 252: 126620
- J28. Yang X, Tan F, **Zhong H***, Liu GS, Ahmad Z, Liang QH. Sub-CMC solubilization of n-alkanes by rhamnolipid biosurfactant: the influence of rhamnolipid molecular structure. Colloids and Surfaces B: Biointerfaces. 2020, 192: 111049
- J29. Shao YL, **Zhong H***, Mao XY, Zhong HW. Biochar-immobilized *Sphingomonas* sp. and *Acinetobacter* sp. isolates to enhance nutrient removal: potential application in crab

aquaculture. *Aquaculture Environment Interactions*. 2020, 12: 251-262

- J30. Shao YL, **Zhong H***, Wang LK, Elbasher MMA. Purification effect of the aquaculture wastewater and sediment by microbial nanospheres with different material ratios and dosing methods. *Sustainability*. 2020, 12: 1462
- J31. Nong XZ, Shao DG*, **Zhong H**, Liang JK. Evaluation of water quality in the South-to-North Water Diversion Project of China using the water quality index (WQI) method. *Water Research*. 2020, 178: 115781
- J32. Ahmad Z, **Zhong H**, Mosavi A*, Sadiq M, Saleem H, Khalid A, Mahmood S, Nabipour N. Machine learning modeling of aerobic biodegradation for azo dyes and hexavalent chromium. *Mathematics*. 2020, 8: 1-17
- J33. Xu BK, Shi LS*, **Zhong H**, Wang K. Investigation of Fe(II) and Mn(II) involved anoxic denitrification in agricultural soils with high manganese and iron contents. *Journal of Soils and Sediments*. 2020, DOI 10.1007/s11368-020-02776-z

2019 (4 articles)

- J34. Yan N, **Zhong H**, Brusseau ML*. The natural activation ability of subsurface media to promote in-situ chemical oxidation of 1,4-dioxane. *Water Research*. 2019, 149: 386-393
- J35. Liu Y, Cheng M, Liu ZF, Zeng GM*, **Zhong H***, Chen M, Zhou CY, Xiong WP, Shao BB, Song B. Heterogeneous Fenton-like catalyst for treatment of rhamnolipid-solubilized hexadecane wastewater. *Chemosphere*. 2019, 236: 124387
- J36. Xu BK, Shi LS*, **Zhong H**, Wang K. The performance of pyrite-based autotrophic denitrification column for permeable reactive barrier under natural environment. *Bioresource Technology*. 2019, 290: 121763
- J37. Nong XZ, Shao DG*, Xiao Y*, **Zhong H**. Spatio-temporal characterization analysis and water quality assessment of the South-to-North Water Diversion Project of China. *International Journal of Environmental Research and Public Health*. 2019, 16, 2227

2018 (9 articles)

- J38. Liu GS, **Zhong H***, Yang X, Liu Y, Shao BB, Liu ZF. Advances in environmental applications of rhamnolipid biosurfactant: A review. *Biotechnology and Bioengineering*. 2018, 115: 796-814
- J39. Zeng ZT#, Liu Y#, **Zhong H#**, Xiao R, Zeng GM*, Liu ZF, Cheng M, Lai C, Zhang C, Liu GS, Qin L. Mechanisms for rhamnolipids-mediated biodegradation of hydrophobic organic compounds. *Science of the Total Environment*. 2018, 634: 1-11
- J40. Zhao CH, Yan M*, **Zhong H***, Liu ZF, Chen M, Zeng GM, Song B, Shao BB, Feng HP. Biodegradation of polybrominated diphenyl ethers and associated enhancement methods: A review. *International Biodeterioration & Biodegradation*. 2018, 192: 23-32
- J41. Shao YL*, **Zhong H**, Chen LH. Microbiologic technology for purifying coastal aquaculture water. *Fresenius Environmental Bulletin*. 2018, 27: 3796-3802
- J42. Wu ZB, Yuan XZ*, **Zhong H**, Hou Wang*, Jiang LB, Leng LJ, Wang H, Zeng GM, Liu ZF. Effective removal of high-chroma rhodamine B over Sn_{0.215}In_{0.38}S/reduced graphene oxide composite: Synergistic factors and mechanism of adsorption enrichment and visible photocatalytic degradation. *Powder Technology*. 2018, 329: 217-231
- J43. Wu ZB, Yuan XZ*, Zeng GM, Jiang LB, **Zhong H**, Xie YC, Wang H, Cheng XH, Wang H.

Highly efficient photocatalytic activity and mechanism of Yb³⁺/Tm³⁺ codoped In₂S₃ from ultraviolet to near infrared light towards chromium (VI) reduction and rhodamine B oxidative degradation. *Applied Catalysis B: Environmental*. 2018, 225: 8-21

- J44. Liu ZF*, Liu YJ, Zeng GM*, Shao BB, Chen M, Li ZG, Jiang YL, Liu Y, Zhang Y, **Zhong H**. Application of molecular docking for the degradation of organic pollutants in the environmental remediation: A review. *Chemosphere*. 2018, 203: 139-150
- J45. Li ZG, Liu ZF*, Wu ZB, Zeng GM, Shao BB, Liu YJ, Jiang YL, **Zhong H**, Liu Y. Fabrication of the tea saponin functionalized reduced graphene oxide for fast adsorptive removal of Cd(II) from water. *Applied Physics A – Materials Science and Processing*. 2018, 124: 398
- J46. Liu ZF*, Shao BB, Zeng GM*, Chen M, Li ZG, Liu YJ, Jiang YL, **Zhong H**, Liu Y, Yan M. Effects of rhamnolipids on the removal of 2,4,2,4-tetrabrominated biphenyl ether (BDE-47) by *Phanerochaete chrysosporium* analyzed with a combined approach of experiments and molecular docking. *Chemosphere*. 2018, 210: 922-930

2017 (9 articles)

- J47. Liu GS, **Zhong H***, Jiang YB, Brusseau ML, Huang JS, Shi LS, Liu ZF, Liu Y, Zeng GM. Effect of low-concentration rhamnolipid on *Pseudomonas aeruginosa* transport in natural porous media. *Water Resources Research*. 2017, 53: 361-375
- J48. Wu ZB, **Zhong H***, Yuan XZ*, Wang H, Wang LL, Chen XH, Zeng GM, Wu Y. Reply for comment on “Adsorptive removal of methylene blue by rhamnolipid- functionalized graphene oxide from wastewater”. *Water Research*. 2017, 108: 464-465
- J49. **Zhong H***, Liu GS*, Jiang YB, Yang JZ, Liu Y, Yang X, Liu ZF, Zeng GM. Transport of bacteria in porous media and its enhancement by surfactants for bioaugmentation: a review. *Biotechnology Advances*. 2017, 35: 490-504
- J50. **Zhong H***, Tian YL, Yang Q, Brusseau ML, Yang L, Zeng GM. Degradation of landfill leachate compounds by persulfate for groundwater remediation. *Chemical Engineering Journal*. 2017, 307: 399-407
- J51. Liu Y, Zeng GM*, **Zhong H***, Wang ZQ, Liu ZF. Effect of rhamnolipid solubilization on hexadecane bioavailability: enhancement or reduction? *Journal of Hazardous Materials*. 2017, 322: 394-401
- J52. Shao BB, Liu ZF*, **Zhong H***, Zeng GM, Liu GS, Yu MD, Liu Y, Yang X, Li ZG, Fang ZD, Zhang JT, Zhao CH. Effects of rhamnolipids on microorganism characteristics and applications in composting: A review. *Microbiological Research*. 2017, 200: 33-44
- J53. Liu ZF*, Li ZG, **Zhong H***, Zeng GM, Liang YS, Chen M, Wu ZB, Zhou YY, Yu MD, Shao BB. Recent advances in the environmental applications of biosurfactant saponins: A review. *Journal of Environmental Chemical Engineering*. 2017, 5: 6030-6038
- J54. Wu ZB, Yuan XZ*, **Zhong H**, Wang H*, Jiang LB, Zeng GM, Wang H, Liu ZF, Li YF. Highly efficient adsorption of Congo red in single and binary water with cationic dyes by reduced graphene oxide decorated NH₂-MIL-68(Al). *Journal of Molecular Liquids*. 2017, 247: 215-229
- J55. Liu ZF*, Yu MD, Zeng GM*, Li M, Zhang JC, **Zhong H**, Liu Y, Shao BB, Li ZG, Wang ZQ, Liu GS, Yang X. Investigation on the reaction of phenolic pollutions to mono-rhamnolipid micelles using MEUF. *Environmental Science and Pollution Research*. 2017, 24:1230-1240

2016 (7 articles)

- J56. **Zhong H**, El Ouni A, Lin D, Wang BG, Brusseau ML*. The two-phase flow IPTT method for measurement of nonwetting-wetting liquid interfacial areas at higher nonwetting saturations in natural porous media. *Water Resources Research*. 2016, 52: 5506-5515
- J57. **Zhong H***, Liu GS, Jiang YB, Brusseau ML, Liu ZF, Liu Y, Zeng GM. Effect of low-concentration rhamnolipid on transport of *Pseudomonas aeruginosa* ATCC 9027 in an ideal porous medium with hydrophilic or hydrophobic surfaces. *Colloids and Surfaces B: Biointerfaces*. 2016, 139: 244-248
- J58. **Zhong H***, Zhang H, Liu ZF, Yang X, Brusseau ML, Zeng GM. Sub-CMC solubilization of dodecane by rhamnolipid in saturated porous media. *Scientific Reports*. 2016, 6:33266
- J59. **Zhong H***, Wang ZQ, Liu Y, Liu ZF, Yu MD, Zeng GM. Degradation of hexadecane by *Pseudomonas aeruginosa* with the mediation of surfactants: relation between hexadecane solubilization and bioavailability. *International Biodeterioration and Biodegradation*. 2016, 115: 141-145
- J60. **Zhong H***, Yang X, Tian F, Brusseau ML, Yang L, Liu ZF, Zeng GM, Yuan XZ. Aggregate-based sub-CMC solubilization of *n*-alkanes by monorhamnolipid biosurfactant. *New Journal of Chemistry*. 2016, 40, 2028-2035
- J61. Wu ZB, Yuan XZ*, **Zhong H***, Wang H, Zeng GM, Chen XH, Wang H, Zhang L, Shao JG. Enhanced adsorptive removal of *p*-nitrophenol from water by aluminum metal-organic framework/reduced graphene oxide composite. *Scientific Reports*. 2016, 6: 25638-25650
- J62. Yuan XZ*, Wu ZB, **Zhong H***, Wang H, Chen XH, Leng LJ, Jiang LB, Xiao ZH, Zeng GM. Fast removal of tetracycline from wastewater by reduced graphene oxide prepared via microwave assisted ethylenediamine-N,N'-disuccinic acid induction method. *Environmental Science and Pollution Research*. 2016, 23: 18657-18671

2015 (7 articles)

- J63. **Zhong H**, Brusseau ML*, Wang YK, Yan N, Quig L, Johnson GR. In situ activation of persulfate by iron filings and oxidation of 1,4-dioxane. *Water Research*. 2015, 83: 104-111
- J64. **Zhong H***, Jiang YB, Zeng GM, Liu ZF, Liu Y, Lai MY, He YB. Effect of low-concentration rhamnolipid on adsorption of *Pseudomonas aeruginosa* ATCC 9027 on hydrophilic and hydrophobic surfaces. *Journal of Hazardous Materials*. 2015, 285: 383-388
- J65. **Zhong H***, Yang L, Yang X, Zeng GM, Liu ZF, Liu Y, Yuan XZ. Aggregation of low-concentration dirhamnolipid biosurfactant in electrolyte solution. *RSC Advances*. 2015, 5, 88578-88582
- J66. **Zhong H***, Yang L, Zeng GM, Brusseau ML, Wang YK, Li Y, Liu ZF, Yuan XZ, Tian F. Aggregate-based sub-CMC solubilization of hexadecane by surfactants. *RSC Advances*. 2015, 5, 78142-78149
- J67. Yang Q*, Zhong Y, **Zhong H**, Li X, Du WX, Li XM, Chen R, Zeng GM. A novel pretreatment process of mature landfill leachate with ultrasonic activated persulfate: Optimization using integrated Taguchi method and response surface methodology. *Process Safety and Environmental Protection*, 2015, 98: 268-275
- J68. Brusseau ML*, El Ouni A, Araujo JB, **Zhong H**. Novel methods for measuring air-water interfacial area in unsaturated porous media. *Chemosphere*. 2015, 127: 208-213
- J69. Yu MD, Liu ZF*, Zeng GM*, **Zhong H**, Liu Y, Jiang YB, Li M, He XX, He Y.

Characteristics of mannosylerythritol lipids and their environmental potential. *Carbohydrate Research*. 2015, 407: 63-72

2014 (5 articles)

- J70. Wu ZB, **Zhong H***, Yuan XZ*, Wang H, Wang LL, Huang HJ, Leng LJ, Xiao ZH, Wu Y, Zeng GM. Adsorptive removal of methylene blue by rhamnolipid- functionalized graphene oxide from wastewater. *Water Research*. 2014, 67: 330-344
- J71. **Zhong H***, Liu Y, Liu ZF, Jiang YB, Tan F, Zeng GM, Yuan XY, Yan M, Niu QY, Liang YS. Degradation of pseudo-solubilized and mass hexadecane by a *Pseudomonas aeruginosa* with treatment of rhamnolipid biosurfactant. *International Biodeterioration and Biodegradation*, 2014, 94: 152-159
- J72. Wang LL, Yuan XZ*, **Zhong H***, Wang H, Wu ZB, Chen XH, Zeng GM. Release behavior of heavy metals during treatment of dredged sediment by microwave-assisted hydrogen peroxide oxidation. *Chemical Engineering Journal*, 2014, 258, 334-340
- J73. Liu Y, Ma XL, Zeng GM*, **Zhong H***, Liu ZF, Jiang YB, Yuan XZ, He XX, Lai MY, He YB. Role of low-concentration monorhamnolipid in cell surface hydrophobicity for *Pseudomonas aeruginosa*: adsorption or lipopolysaccharide content modification. *Applied Microbiology and Biotechnology*. 2014, 98:10231-10241
- J74. Ouyang JX, Shi Z*, **Zhong H**, Liu W, Chai Q, Yuan XZ. Static aerobic composting of municipal sewage sludge with forced ventilation: Using matured compost as bulking conditioner. *Journal of Central South University*. 2014, 21: 303-309.

2013 (2 articles)

- J75. Wang H, Yuan XZ*, Wu Y, Huang HJ, Peng X, Zeng GM, **Zhong H**, Liang J, Ren MM. Graphene-based materials: Fabrication, characterization and application for the decontamination of wastewater and wastegas and hydrogen storage/generation. *Advances in Colloid and Interface Science*. 2013, 195-196: 19-40.
- J76. Luo Z, Yuan XZ*, **Zhong H**, Zeng GM, Liu ZF, Ma XL, Zhu YT. Optimizing rhamnolipid production by *Pseudomonas aeruginosa* ATCC 9027 grown on waste frying oil using response surface method and batch-fed fermentation. *Journal of Central South University*. 2013, 20: 1015-1021.

2012 (4 articles)

- J77. Zeng GM*, Liu ZF, **Zhong H**, Yuan XZ, Fu HY, Zhou MF, Ma XL, Li H, Li JB. Effect of dirhamnolipid on the removal of phenol catalyzed by laccase in aqueous solution. *World Journal of Microbiology and Biotechnology*. 2012, 28: 175-181.
- J78. Liu ZF, Zeng ZT, Zeng GM*, Li JB, **Zhong H**, Yuan XZ, Liu Y, Zhang JC, Chen M, Liu YY, Xie GX. Influence of rhamnolipids and Triton X-100 on the adsorption of phenol by *Penicillium simplicissimum* and the association with cell surface properties. *Bioresource Technology*. 2012, 110: 468-473.
- J79. Peng X, Yuan XZ*, Zeng GM, Huang HJ, **Zhong H**, Liu ZF, Cui KL, Liang YS, Peng ZY, Guo LZ, Ma YK, Liu W. Extraction and purification of laccase by employing a novel rhamnolipid reversed micellar system. *Process Biochemistry*. 2012, 47: 742-748
- J80. Yuan XZ*, Jiang LL, Zeng GM, Liu ZF, **Zhong H**, Huang HJ, Zhou MF, Cui KL. Effect of rhamnolipids on cadmium adsorption by *Penicillium simplicissimum*. *Journal of Central South University*. 2012, 19: 1073-1080

2011 (4 articles)

- J81. Liu ZF, Zeng GM*, **Zhong H**, Yuan XY, Jiang LL, Fu HY, Ma XL, Zhang JC. Effect of saponins on cell surface properties of *Penicillium simplicissimum*: Performance on adsorption of cadmium(II). *Colloids and Surfaces B: Biointerfaces*. 2011, 86: 364-369.
- J82. Zeng GM*, Liu ZF, **Zhong H**, Li JB, Yuan XZ, Fu HY, Ding Y, Wang J, Zhou MF. Effect of monorhamnolipid on the degradation of n-hexadecane by *Candida tropicalis* and the association with cell surface properties. *Applied Microbiology and Biotechnology*. 2011, 90: 1155-1161.
- J83. Zhou MF, Yuan XZ*, **Zhong H**, Liu ZF, Li H, Jiang LL and Zeng GM. Effect of biosurfactants on laccase production and phenol biodegradation in solid-state fermentation. *Applied Biochemistry and Biotechnology*, 2011, 164: 103-114.
- J84. Liang YS, Yuan XZ*, Zeng GM, **Zhong H**, Li H, Wang WW. Effects of surfactants on enzyme-containing reversed micellar system. *Science China (Chemistry)*. 2011, 54: 715-723.

2010 and before (11 articles)

- J85. **Zhong H**, Zeng GM*, Liu JX, Xu XM, Yuan XZ, Fu HY, Huang GH, Liu ZF, Ding Y. Adsorption of monorhamnolipid and dirhamnolipid on two *pseudomonas aeruginosa* strains and the effect on cell surface hydrophobicity. *Applied Microbiology and Biotechnology*, 2008, 79: 671-677.
- J86. **Zhong H**, Zeng GM*, Yuan XZ, Fu HY, Huang GH, Ren FY. Adsorption of dirhamnolipid on four microorganisms and the effect on cell surface hydrophobicity. *Applied Microbiology and Biotechnology*, 2007, 77: 447-455.
- J87. Liu ZF, Zeng GM*, **Zhong H**, Fu HY, Liu XL. Production and characterization of biosurfactant from *Bacillus subtilis* CCTCC AB93108. *Journal of Central South University of Technology*. 2010, 17: 516-521.
- J88. Liu ZF, Zeng GM*, Wang J, **Zhong H**, Ding Y, Yuan XZ. Effects of monorhamnolipid and Tween 80 on the degradation of phenol by *Candida tropicalis*. *Process Biochemistry*, 2010, 45: 805-809.
- J89. Liang YS, Yuan XZ*, Zeng GM, Hu CL, **Zhong H**, Huang DL, Tang L, Zhao JJ. Biodelignification of rice straw by *Phanerochaete chrysosporium* in the presence of dirhamnolipid. *Biodegradation*, 2010, 21: 615-624.
- J90. Liu XL, Zeng GM*, Tang L, **Zhong H**, Wang RY, Fu HY, Liu ZF, Huang HL, Zhang JC. Effects of dirhamnolipid and SDS on enzyme production from *Phanerochaete chrysosporium* in submerged fermentation. *Process Biochemistry*, 2008, 43(11): 1300-1303.
- J91. Fu HY, Zeng GM*, **Zhong H**, Yuan XZ, and Huang GH. Co-degradation with glucose of four surfactants, CTAB, Triton X-100, SDS and rhamnolipid, in liquid culture media and compost matrix. *Biodegradation*, 2007, 18: 303-310.
- J92. Fu HY, Zeng GM*, **Zhong H**, Yuan XZ, Wang W, Huang GH, Li JB. Effects of rhamnolipid on degradation of granular organic substrate from kitchen waste by a *Pseudomonas aeruginosa* strain. *Colloids and Surfaces B: Biointerfaces*, 2007, 58: 91-97.
- J93. Yuan XZ*, Ren FY, Zeng GM, **Zhong H**, Fu HY, Liu J and Xu XX. Adsorption of surfactants on a *Pseudomonas aeruginosa* strain and the effect on cell surface lyphohydrophilic property. *Applied Microbiology and Biotechnology*, 2007, 76: 1189-1198.

- J94. Zeng GM*, **Zhong H**, Huang GH, Fu HY. Physicochemical and microbiological effect of biosurfactant on the remediation of HOC-contaminated soil. *Progress in Natural Science*, 2005, 15: 577-585.
- J95. Fu HY, Zeng GM*, Huang GH, Yuan XZ, **Zhong H**, Meng YT. Isolating biosurfactant-producing bacteria from composting and their prospective application in composting. *Transactions of Nonferrous Metals Society of China*, 2004, 14: 131-134

Chinese Journal Articles

- C1. Zhan WY, Liu GS, **Zhong H***. Stability of nC60 nanoparticles in the presence of kaolinite and montmorillonite. *China Environmental Science*. 2021, 41(3): 1366-1377
- C2. Huo LL, Hu YL, Chen W, **Zhong H***, Liu GS, Yang X. Transport behavior of surfactants in subsurface porous media and the factors of influence. *Environmental Engineering*. 2020, 38(10): 207-215
- C3. **Zhong H***, Cheng Y, Zhang HW, Shao YL, Zeng GM. Performance of Corncob-based Solid Phase Denitrification System: a column study. *Journal of Hunan University (Natural Science)*. 2019, 46(12): 17-24
- C4. Huang S, Nong XZ, Liang JK, Shao DG, **Zhong H***. Environmental problems and risk analysis for operation of Middle Route Project of South to North Water Diversion. *Yangtze River*. 2019, 50(8): 46-51
- C5. Zhang LN, **Zhong H***, Zhang JT, Cui P, Tian YL, Liu ZF, Zeng GM. A comparative study on activation of persulfate by heat, base and Fe₃O₄ for degradation of 1,4-dioxane. *China Environmental Science*. 2017, 37(10): 3741-3747
- C6. **Zhong H***, Cui P, Dong HR, Zhang JT, Zhang LN, Tian YL, Zeng GM. Influence of carboxymethyl cellulose on transport of magnetite nanoparticles in quartz sand. *Journal of Hunan University (Natural Sciences)*. 2017, 44(12): 121-126
- C7. Tan F, Liu ZF, **Zhong H***, Zeng GM, Yuan XZ. Aggregation of monorhamnolipid with concentrations near CMC in neutral solution. *China Environmental Science*. 2014, 34: 2912-2916
- C8. Liu Y, **Zhong H***, Liu ZF, Jiang YB, Tan F, Zeng GM*, Lai MY, He YB. Purification and characterization of the biosurfactant rhamnolipid. *Chinese Journal of Chromatography*. 2014, 32: 248-255
- C9. **Zhong H**, Zeng GM*, Huang GH, Fu HY. Effects of biosurfactants on biodegradation of soil HOCs: from the microbial aspect. *Chinese High Technology Letters*. 2006, 16(3): 325-330
- C10. **Zhong H**, Zeng GM*, Huang GH, Fu HY, Wang W. Effects of rhamnolipid on degradation of granule organics by a *Pseudomonas Aeruginosa* strain. *China Environmental Science*. 2005, 26(2): 201-205
- C11. **Zhong H**, Zeng GM*, Huang GH, Yuan XZ, Fu HY, Shi JG. A Study on Enhancing Aerobic Biodegradation of Vegetable Substrate by Rhamnolipid Broth. *Environmental Science and Technology of China*. 2005, 28(1): 9-11
- C12. Liu ZF, Cui JF, Jiang YB, Yu MD, He SL, Liu R, Wang XL, Liu HB, Li C, **Zhong H**. The study on the disposal of waste drilling mud by flocculation. *Shanxi Architecture*. 2015, 41(22): 181-183
- C13. Liu W, Yuan XZ*, Ouyang JX, **Zhong H**, Zeng GM, Huang HJ, Chai Q. Applying matured sludge compost as sludge composting conditioner. *Chinese Journal of Environmental*

Engineering. 2013, 6: 2349-2355

- C14. Ma XL, **Zhong H**, Yan M, Zeng GM*, Qi YX, Liu ZF. Effect of rhamnolipid on water permeation and reservation in compost matrix. *Journal of Central South University of Forestry & Technology*. 2012, 32(8): 112-116
- C15. Chao Y, Yuan XZ, Zeng GM*, Liang YS, **Zhong H**, Ouyang JX, Application of biosurfactant in static forced-aeration composting of sewage sludge. *Chinese Journal of Environmental Engineering*. 2012, 6(4): 1331-1336
- C16. Ouyang JX, Shi Z*, Cui KL, **Zhong H**, Liang YS. Application of compounded microbial inoculants on composting process of excess activated sludge. *China Environmental Science*. 2011, 31(2): 253-258
- C17. Liang YS, Yuan XZ*, Zeng GM, **Zhong H**, Li H, Wang WW. Effects of the surfactants on enzyme-containing reversed micellar system. *Scientia Sinica Chimica*. 2011(5): 763-772
- C18. Ding Y, Yuan XZ*, Zeng GM, Liu ZF, **Zhong H**, Wang J. Effects of surfactants on the biodegradation of phenol by *Candida tropicalis*. *Environmental Science*. 2010, 31(4): 1047-1052
- C19. Wang J, Zeng GM*, Liu ZF, Yuan XZ, **Zhong H**. Effects of surfactants on biodegradation of hexadecane by *Candida tropicalis*. *China Environmental Science*. 2009, 29(8): 822-827
- C20. Liu XL, Liu JX, Tang L, **Zhong H**, Liu ZF, Fu HY, Xu XM, Zeng GM*, Mutation Technology and its Application to obtain Biosurfactant High-Production Strain. *Journal of Microbiology*. 2003, 20(6): 1-4
- C21. Wang W, Zeng GM*, **Zhong H**, Fu HY. The influence of humus on the adsorption and transportation of high effect degradation bacteria in the compost. *China Environmental Science*. 2006, 26(5): 528-531
- C22. Lu GM, Liu HY*, Zeng GM, **Zhong H**, Shi JG, Zhang LD. Screening and optimization of cultural medium of biosurfactant strain *Absidiaorchidis*. *Acta Scientiae Circumstantiae*. 2006, 26(9): 1426-1432
- C23. Wang W, Zeng GM*, Huang GH, **Zhong H**, Fu HY. An elementary study on effects of biosurfactant rhamnolipid on bacterial sorption and transport in compost granule medium. *Acta Scientiae Circumstantiae*. 2005, 25(7): 965-970
- C24. Fu HY, Zeng GM*, Huang GH, Yuan XZ, **Zhong H**, Dai F, Fu MX. Effect of biosurfactants on degradation of organics containing petroleum hydrocarbons in composting. *Chinese High Technology Letters*. 2005, 15(9): 96-100
- C25. Fu HY, Zeng GM*, Huang GH, Yuan XZ, **Zhong H**, Meng YT. Isolating biosurfactant-producing bacteria from composting. *Acta Scientiae Circumstantiae*. 2004, 24(5): 936-938
- C26. Wang W, Zeng GM*, Huang GH, **Zhong H**, Fu HY. Review on Application of Biosurfactant in Soil Recovery and Composting. *Environmental Science and Technology*. 2005, 28(6): 99-101
- C27. Fu HY, Zeng GM*, Yuan XZ, Huang GH, Shi JG, **Zhong H**. Isolation and purification of biosurfactant. *Journal of Biology*. 2003, 20(6): 1-4
- C28. Fu HY, Zeng GM*, Huang GH, Yuan XZ, **Zhong H**, Meng YT. Isolating Biosurfactant-Producing Bacteria from Composting. *Environmental Science and Technology*. 2004, 27(6): 68-70

Conference Proceedings or Forum Papers

- P1. **Zhong H***, Fang ZD, Liu GS. Surfactants mediate transport of *Pseudomonas aeruginosa* in natural porous media by changing cell surface hydrophobicity. International Conference on Environmental and Water Resources Engineering (2018). Seogwipo, Jeju, Korea, Oct 12-14, 2018
- P2. Liu GS, **Zhong H***. Aggregation of surfactant and alkane in electrolyte solution, The 13th National Graduate Students' Environment Forum, Shanghai, May 25-26, 2018
- P3. **Zhong H***, Chen Y. Attenuation of nitrate in groundwater and its enhancement. The 2nd international forum on remediation-protection of soil and water environment and environmentally friendly fertilizer. Ma'an Shan, Jun 25-26, 2017.
- P4. **Zhong H***, Zhang LN, Cui P, Tian YL, Zhang JT, Brusseau ML. Heterogeneous activation of persulfate using Fe₃O₄ for degradation of refractory organic compounds in water. 6th Annual International Conference on Sustainable Energy and Environmental Sciences (SEES 2017), Singapore, Mar 6-7, 2017
- P5. Zhang LN, **Zhong H***. Heterogeneous activation of persulfate by Fe₃O₄ for degradation of refractory organic contaminants: preferential contaminant degradation through surface reaction. The 11th National Environment Forum for Graduate Students, Shanghai, May 27-28, 2016
- P6. Liu Y, Zeng GM*, **Zhong H***. Effect of rhamnolipid solubilization on hexadecane bioavailability: enhancement or reduction? The 11th National Environment Forum for Graduate Students, Shanghai, May 27-28, 2016
- P7. Liu GS, **Zhong H***. Effect of low-concentration monorhamnolipid on the transport of *Pseudomonas aeruginosa* ATCC 9027 in porous media, The 10th National Environment Forum for Graduate Students, Shanghai, May 30-31, 2015
- P8. Wu Z, **Zhong H***, Yuan X*, Wang H, Huang H, Wang L, Zeng G. Adsorptive removal of methylene blue by rhamnolipid-functionalized graphene oxide from wastewater. The 9th National Environment Forum for Graduate Students, Shanghai, May 24-25, 2014
- P9. **Zhong H**, Zeng GM*, Huang GH, Yuan XZ, and Fu HY. Effect of rhamnolipid broth on vegetable substrate biodegradation process. 1st International Conference on Energy and Environment (EnerEnv 2003) Changsha, China. Beijing & New York, Science Press, 2003: 841-848.
- P10. Fu HY, Zeng GM*, Huang GH, Yuan XZ, **Zhong H**, Meng YT. Isolating biosurfactant-producing bacteria from composting and their prospective application in composting. 1st International Conference on Energy and Environment (EnerEnv 2003), Changsha, Oct 11-14, 2003

Conference or Forum Abstracts

- A1. Zhan WY, **Zhong H***. Cotransport of fullerene (C₆₀) with typical clay minerals (CMs) in saturated porous media: Effect of CMs/C₆₀ ratio, Tsinghua university doctoral forum, China, May 9-10, 2020
- A2. **Zhong H***, Liu GS, Ahmad Z, Huo LL. Effect of xanthan gum on aqueous stability of iron-based nanoparticles and their transport in sand porous media, American Geophysical Union 2019 fall meeting, San Francisco, Dec 9-13, 2019

- A3. Liu GS, **Zhong H***. Transport of *Pseudomonas aeruginosa* in porous media mediated by low-concentration surfactants: the critical role of surfactant to change cell surface hydrophobicity, American Geophysical Union 2019 fall meeting, San Francisco, Dec 9-13, 2019
- A4. Huo LL, **Zhong H***, Liu GS. The effect of pore-water velocity on sub-CMC solubilization of dodecane by rhamnolipid in saturated porous media. 2019 AGU Fall Meeting, San Francisco, Dec 9-13, 2019
- A5. **Zhong H**, Li XQ, Shim H*. Use of novel bioreactors to remove pharmaceutically active compounds by immobilized *Phanerochaete Chrysosporium* under non-sterile condition. 2019 CHES Annual Conference, Yichang, Oct 22-24 2019
- A6. **Zhong H**, Lok KS, Koirala N, Lu QH, Shim H*. Effect of microelements (copper and zinc) on co-metabolism of trichloroethylene with toluene by *Pseudomonas plecoglossicida*. ISWPT2019, Bangkok, Oct 17-18 2019
- A7. **Zhong H**, Li XQ, de Toledo RA, Shim H*. Degradation of pharmaceutically active compounds by immobilized *Phanerochaete Chrysosporium* under non-sterile condition. The 10th National Conference on Environmental Chemistry, Tianjin, Aug 15-19 2019
- A8. **Zhong H***, Guansheng Liu, Lili Huo. Effect of xanthan gum on stability of magnetite nanoparticles and their transport in quartz sand. WRE2019, Macau SAR, Jul 16-19 2019
- A9. **Zhong H***. Stabilization and Transport of Fe-based Nanoparticles. 2019 International Forum on Groundwater and Cross-Strait Symposium on Application of Hydrogeology, Guilin, Jul 13-14, 2019
- A10. **Zhong H***. Surfactants mediate transport of bacteria in porous media by changing cell surface hydrophobicity. The 5th Earth Science Forum for Young Scientists, Nanjing, Oct 26-29 2018
- A11. **Zhong H***, Zhang JT, Zhang L, Xiao S. Sustainable activation of persulfate by magnetite for degradation of refractory organic compounds. WRE2018, Kaohsiung, Jul 16-22 2018
- A12. **Zhong H***. In situ heterogeneous activation of persulfate for ISCO remediation of groundwater. 2018 International Forum on Groundwater: Sustainable Utilization of Groundwater Resources and Optimization of Industrial Structure, Shijiazhuang, Jul 9-10 2018
- A13. **Zhong H***. Sub-CMC solubilization of alkane by surfactants in porous media. 2017 International Forum on Groundwater and Cross-Strait Symposium on Application of Hydrogeology, Hefei, Jul 6-7, 2017
- A14. **Zhong H***, Cui P, Dong HR, Zhang JT. In-situ activation of persulfate by magnetite nanoparticles in a sand porous media for degradation of 1,2-dichloroethane. WRE2017, Qingdao, Jun 26-29, 2017
- A15. **Zhong H**, Brusseau ML*. Biosequestration of Uranium in Groundwater—Use Monument Valley UMTRA Site as an Example. Sustainable Use of Resources and Energy, East Lake Forum 2017, Wuhan, Apr 22-23, 2017
- A16. **Zhong H***, Brusseau ML, Zhang LN, Tian YL, Cui P, Yan N. Persulfate-based ISCO for removal of persistent organic contaminants from groundwater. 2017 Sino-German Symposium on Fate, Transport and Remediation of POPs in Soil and Groundwater, Nanjing, Apr 17-21, 2017

- A17. **Zhong H**, El Ouni A, Gutierrez D, Johnson R, Root R, Chorover J, Brusseau ML*. In-situ biosequestration of uranium in groundwater: bench and pilot scale studies. IPWE2017, Wuhan, Jan 4-6, 2017
- A18. Zhao CH, Yan M, **Zhong H***, Fang ZD. Acclimation of microbial communities for biodegradation and enhancement of 2,2',4,4'-tetrabrominated diphenyl ether (BDE-47). IPWE2017, Wuhan, Jan 4-6, 2017
- A19. Zhang JT, Zhang LN, Tian YL, Cui P, Liu ZF, **Zhong H***. In-situ activation of persulfate by iron minerals for degradation of 1,1,2-TCA and 1,4-dioxane in groundwater. IPWE2017, Wuhan, Jan 4-6, 2017
- A20. Yang X, **Zhong H***, Zhang H, Brusseau ML. Sub-CMC solubilization of dodecane by rhamnolipid in saturated porous media. 2016 AGU Fall Meeting, San Francisco, Dec 12-16, 2016
- A21. **Zhong H***, Brusseau ML, Yang L, Tan F, Yang X, Zhang H. Sub-CMC solubilization of hydrocarbons by surfactants. ASA, CSSA and SSSA International Annual Meetings (2016), Phoenix, Nov 6-9, 2016
- A22. **Zhong H***, Brusseau ML, Yan N, Zhang LN, Cui P, Tian YL. Heterogeneous activation of persulfate by Fe-based materials for oxidative removal of refractory organic compounds. WRE2016, Shanghai, Jul 23-26, 2016
- A23. Liu GS, **Zhong H***, Brusseau ML. Effect of low-concentration rhamnolipid biosurfactant on *Pseudomonas aeruginosa* transport in natural porous media. WRE2016, Shanghai, Jul 23-26, 2016
- A24. Yang X, Zhang H, **Zhong H***, Brusseau ML, Liu ZF, Zeng GM. Sub-CMC solubilization of dodecane at residual saturation by rhamnolipid in saturated porous media. WRE2016, Shanghai, Jul 23-26, 2016
- A25. Tian YL, **Zhong H***, Yang Q, Yang L, Brusseau ML. Persulfate oxidation of landfill leachate in batch-reactor and dynamic flow systems. WRE2016, Shanghai, Jul 23-26, 2016
- A26. Zhang LN, Cui P, Tian YL, **Zhong H***. Heterogeneous activation of persulfate by Fe₃O₄ for degradation of refractory organic contaminants. WRE2016, Shanghai, Jul 23-26, 2016
- A27. Wu ZB, Yuan XZ*, **Zhong H***, Wang H, Zeng GM, Liu ZF. Efficient removal of organic pollutants from wastewater by graphene based materials. WRE2016, Shanghai, Jul 23-26, 2016
- A28. **Zhong H***, Brusseau ML, Yan N, Zhang LN, Tian YL. Innovative in-situ oxidation technology for treating groundwater contaminated by chlorinated solvents and 1,4-dioxane. IC EST Conference 2016, Houston, Jun 6-9, 2016
- A29. **Zhong H**, Brusseau ML*. In-situ oxidation technologies for treating groundwater contaminated by chlorinated solvent compounds and concurrent contaminants. WRRRC Annual Conference 2016, Tucson, Mar 27, 2016
- A30. **Zhong H**, Gutierrez D, Johnson R, Brusseau ML*. Pilot scale in-situ biosequestration of uranium in groundwater at the monument valley UMTRA site. American Geophysical Union 2015 fall meeting, San Francisco, Dec 14-18, 2015
- A31. Tabatabaei S, **Zhong H**, Abel EJ, Field J, Brusseau ML*. Impact of electron donor selection on in-situ biosequestration of uranium. American Geophysical Union 2015 fall meeting, San Francisco, Dec 14-18, 2015
- A32. Yan N, Brusseau ML*, **Zhong H**, Li M. The natural activation ability of subsurface media

- during in-situ chemical oxidation of 1,4-dioxane. American Geophysical Union 2015 fall meeting, San Francisco, Dec 14-18, 2015
- A33. Wang Y, **Zhong H**, Yan N, Brusseau ML*. Activation of persulfate by iron filings and oxidation of 1,4-dioxane. American Geophysical Union 2014 fall meeting, San Francisco, Dec 15-19, 2014
- A34. **Zhong H**, El Ouni A, Lin D, Wang BG, Brusseau ML*. Interfacial partitioning tracer test measurement of NAPL-water interfacial areas in porous media under two-phase flow condition. American Geophysical Union 2013 fall meeting, San Francisco, Dec 9-13, 2013
- A35. **Zhong H***, Ma XL, Liu Y. Degradation of glucose, pseudo-solubilized and mass hexadecane by *pseudomonas aeruginosa* CCTCC93066 subjected to rhamnolipid adsorptive treatment. IWA Symposium on Environmental Nanotechnology, Nanjin, Apr 24-27, 2013
- A36. Jiang YB, **Zhong H***, Liu LX, Liu ZF, Zeng GM, Yuan XZ. Effect of rhamnolipid on adsorption of pseudomonas aeruginosa ATCC 9027 to hydrophilic and hydrophobic surfaces. IWA Symposium on Environmental Nanotechnology, Nanjing, Apr 24-27, 2013
- A37. Tan F, **Zhong H***, Wang YK, Yang L. Pseudo-solubilization of alkanes by rhamnolipids at concentration near CMC. IWA Symposium on Environmental Nanotechnology, Nanjing, Apr 24-27, 2013
- A38. Yang L, Wang YK, **Zhong H***, Tan F, Liu ZF, Jiang YB, Zeng GM*. Pseudo-solubilization of hexadecane by surfactants at concentrations near CMC. IWA Symposium on Environmental Nanotechnology, Nanjing, Apr 24-27, 2013
- A39. Liu Y, Ma XL, Zeng GM*, **Zhong H***, Liu ZF, Jiang YB, Tan F. Role of monorhamnolipid in the modification of cell surface hydrophobicity for *Pseudomonas aeruginosa* ATCC 9027. IWA Symposium on Environmental Nanotechnology, Nanjing, Apr. 24-27, 2013
- A40. El Ouni A, **Zhong H**, Mainhagu J, Araujo JB, Brusseau ML*. Measuring air-water interfacial area via the interfacial partitioning tracer test method. American Geophysical Union 2012 fall meeting, San Francisco, Dec 3-7, 2012

PATENTS

1. **Zhong H**, Liu GS. A method to enhance the dispersion and transport of magnetic nanoparticles in porous media. China Patent ZL201910384644.8
2. Shao YL, **Zhong H**. A microbial-originated reagent to improve the transparency of the aquaculture water and the method for its production. China Patent ZL201810260192.8
3. **Zhong H**, Zhang LN, Liu SM. A method to remove organic contaminant from water. China Patent 201611081985.0
4. **Zhong H**, Cui P, Liu SM. A method to remove chlorinated organic compounds from groundwater. China Patent ZL201710075324.5
5. Liu ZF, Shao BB, **Zhong H**, Zeng GM, Li ZG, Liu Y, Liu YJ, Jiang YL. A method to remove BDE-47 from water. China Patent ZL201710436216.6
6. Yuan XZ, **Zhong H**, Huang HJ, Ouyang JX, Liu W, Zhong RH, Zeng GM. An method and associated equipment for composting of municipal sludge. China Patent ZL201210062746.6
7. Yuan XZ, Wang LL, **Zhong H**, Zeng GM, Wang H, Lin NB, Wu ZB, Wang DF, Huang DL,

- Liang J. A method to remove lead (Pb) from water sediments. China Patent ZL 201310420996.7
8. Liu XL, Zeng GM, **Zhong H**, Fu HY, Liu ZF, Chen YN, Huang HY, Wang J. A method to enhance rhamnolipid production by *Pseudomonas aeruginosa*. China Patent ZL 200710192452.4
 9. Liu ZF, Zeng GM, Yuan XZ, **Zhong H**, Li JB, Zhou MF, Ma XL, Huang L. A enzyme-based method for removal of phenol from wastewater. China patent ZL201010606720.4
 10. Zeng GM, Liu ZF, Fu HY, **Zhong H**, Ren FY. A bio-emulsifier and the method for its production. China patent ZL200710035215.7
 11. Yuan XZ, Wu ZB, Wang H, Zeng GM, **Zhong H**, Wang LL, Xiao ZH, Leng LJ, Huang DL, Liang J, Chen YN. A method for production of graphene oxide –rhamnolipid composite and its application in water treatment. China patent ZL201310377886.7
 12. Liu ZF, Zeng GM, Chen YN, Fu HY, **Zhong H**, Liu XL. A multi-component biosurfactant and the method for its production. China patent ZL200710035216.1
 13. Li C, Liu ZF, Liang ZX, Liu HB, He SL, **Zhong H**, Yu MD, Cui JF, Zeng GM. A method for treatment of drilling slurry waste. China patent ZL201410603440.6
 14. Cui JF, Liu ZF, He SL, Liu R, Wang XL, Yu MD, **Zhong H**, Liu HB, Li C, Zeng GM. Equipment for treatment of drilling slurry waste. China patent 201410606720.2