Changzheng Cui

Department: School of Resources and Environmental Engineering

Professional field: Environmental Science and Engineering

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Profile

2002: Graduated from Xinyang Normal University, Biology Department [bachelor's degree in biological sciences]

2007: Graduated from Wuhan University, School of Life Science [PhD in Microbiology]

2009: Post-doctoral studies at Tsinghua University, School of Environment, direction of environmental microorganisms

2009-present: National Key Laboratory of Environmental Risk Assessment and Control of Chemical Processes for Environmental Protection, School of Resources and Environmental Engineering, East China University of Science and Technology

2012-2013: Visiting Scholar at Northwestern University, Department of Civil and Environmental Engineering,

2016-2017: Deputy Director of Shanghai Municipal Environmental Protection Bureau Pollution Prevention and Control Department.

Social experience

(1) Expert of registration and review of environmental damage judicial appraisal agencies in the Yangtze River Economic Belt (11 provinces and cities)

(2) Registration Expert of Shanghai Environmental Damage Judicial Appraisal Agency

(3) Experts in survey and assessment of pollution land, soil and groundwater in Shanghai

(4) Member of the Tenth Council of Shanghai Water Purification Technology Society

Teaching Profile

Undergraduate: Environmental Soil Science

Graduate: Environmental Risk Assessment

International Student: Environmental Risk Analysis

Research Field

1. Principles and technologies of bioremediation in contaminated soil

This includes: the development of highly effective degrading bacterial agents; key molecular mechanisms for degradation of aromatic pollutants; bioremediation processes, etc.

2. Drinking water Safety and quality assurance technology

This includes: antibiotics, resistance genes, pollution characteristics of resistant microorganisms in drinking water treatment processes, migration and transformation rules, and efficient removal technologies.

Research results and selected published papers

Main tasks:

1. National Key Project of Soil Pollution Cause and Control Technology, "Project Research and Integration Demonstration of Pollution Control Technology for Petrochemical Sites in the Yangtze River Economic Belt" Project 4 "R & D of Green and Low-consumption In-situ Remediation Technology and Equipment for Petrochemical Sites" (No: 2018YFC1803304), 2018.12- 2022.11, 7.22 million, in charge

2. Sub-project 2 of the National Water Body Pollution Control and Treatment Science and Technology Major Project "Integration and Engineering Demonstration of Water Pollution Control Technology for the Whole Process of the Pharmaceutical Industry" (No: 2017ZX07402003), 2017-2020, 1.1 million, in charge

3. Project of National Natural Science Foundation of China “Research on the Mechanism of Suspension and Biochar Immobilized Halophilic Bacteria to Repair Polycyclic Aromatic Hydrocarbons Contamination in Saline-Alkali Soil (No: 41877129)”, 2019-2023, 720,000 yuan, in charge

4. Project of Ministry of Ecology and Environment “Environmental and Health Risk Assessment and Management-Survey of Total Heavy Metal Exposure to Residents in East China Area (Phase 1) (No: 2111101)”, 2016-2019, 1.3 million, in charge

5. Public welfare project of the Ministry of Ecology and Environment, “Research on Evaluation Methods of Heavy Metal Contaminated Soil after Solidification and Stabilization and Remediation (No: 201509035)”, 2015-2018, 730,000 yuan, in charge

6. Shanghai Environmental Protection Bureau Project “Revision of Guidelines for Environmental Safety Evaluation of Microbial Agents for Environmental Protection”, 2017-2018, 200,000 yuan, in charge

7. National Natural Science Foundation of China Youth Project "Mechanism Research on Moderately Halophilic Bacteria for Bioremediation of Polycyclic Aromatic Hydrocarbons in Saline-Alkali Soils (No: 41301329)", 2014-2016, 250,000 yuan, in charge

8. Shanghai Natural Science Foundation project "Study on the metabolic pathway of anthracene degradation by moderately halophilic bacteria AD-3 and its dioxygenase gene (No: 13ZR1410900)", 2013-2015, 100,000 yuan, in charge

9. Special Research Project of China Postdoctoral Science Foundation "Research on Microbial Degradation Mechanism of Emerging Pollutants (200902093)", 2009-2010, 100,000 yuan, in charge

10. China Postdoctoral Science Foundation funded project "Research on Biodegradation Mechanism of Typical PPCPs Pollutants (20080440367)", 2008-2009, 30,000 yuan, in charge

1. Tianyang Zhang, Bin Xu, Shijie Yao, Yaru Hu, Kuangfei Lin; Hui Ye, Changzheng Cui*. 2019. Conversion of chlorine/nitrogen species and formation of nitrogenous disinfection by-products in the pre-chlorination/post-UV treatment of sulfamethoxazole. Water Research, 160: 188-196.

2. Yaru Hu, Tianyang Zhang, Lei Jiang, Shijie Yao, Hui Ye, Kuangfei Lin, Changzheng Cui*. 2019. Removal of sulfonamide antibiotic resistant bacterial and intracellular antibiotic resistance genes by UVC-activated peroxymonosulfate. Chemical Engineering Journal, 368: 888-895.

3. Tianyang Zhang, Yaru Hu, Lei Jiang, Shijie Yao, Kuangfei Lin, Changzheng Cui*. 2019. Removal of antibiotic resistance genes and control of horizontal transfer risk by the UV/chlorination treatment of drinking water. Chemical Engineering Journal, 358: 589-597.

4. Yaru Hu, Lei Jiang, Tianyang Zhang, Lei Jin, Qi Han, Dong Zhang, Kuangfei Lin, Changzheng Cui*. 2018. Occurrence and removal of sulfonamide antibiotics and antibiotic resistance genes in conventional and advanced drinking water treatment processes. Journal of Hazardous Materials, 360: 364-372.

5. Yaru Hu, Tianyang Zhang, Lei Jiang, Yi Luo, Shijie Yao, Dong Zhang, Kuangfei Lin, ChangzhengCui*. 2019. Occurrence and reduction of antibiotic resistance genes in conventional and advanced drinking water treatment processes. Science of the Total Environment, 669: 777-784.

6. Changzheng Cui, Qi Han, Lei Jiang, Lei Ma, Lei Jin, Dong Zhang, Kuangfei Lin, Tianyang Zhang. 2018. Occurrence, distribution and seasonal variation of antibiotics in an artificial water source reservoir in the Yangtze River delta, East China. Environmental Science and Pollution Research, 25: 19393-19402.

7. Changzheng Cui*, Lei Jin, Lei Jiang, Qi Han, Kuangfei Lin, Shuguang Lu, Dong Zhang, Guomin Cao. 2016. Removal of trace level amounts of twelve sulfonamides from drinking water by UV-activated peroxymonosulfate. Science of the Total Environment, 572: 244-251.

8. Wenhuan Cheng, Lei jiang, Ning Lu, Lei Ma, Xiaoyan Sun, Yi Luo, Kuangfei Lin, Changzheng Cui*. 2015. Development of a method for trace level determination of antibiotics in drinking water sources by high performance liquid chromatography-tandem mass spectrometry. Analytical Methods, 7: 1777-1787.

9. Changzheng Cui, Zan Cao, Shenping Zhang, Yaru Hu, Lei Jiang, Shijie Yao, Hui Ye, Yanbo Zhou, Jun Hu, Kuangfei Lin, Tianyang Zhang. 2019. Application of a novel diol-based porous organic polymer to the determination of trace-level tetracyclines in water. Analytical Methods, 11: 2473-2481.

10. Xin Chen, Hongzhi Tang*, Yongdi Liu, Ping Xu, Yong Xue, Kuangfei Lin, Changzheng Cui*. 2018. Purification and Characterization of the 3-Hydroxybenzoate-6-hydroxylase from a Halophilic Martelella Strain AD-3. Frontiers in Microbiology, 9: 1335.

11. Changzheng Cui, Zhijie Li, Jiangchao Qian, Jie Shi, Ling Huang, Hongzhi Tang, Xin Chen, Kuangfei Lin, Ping Xu, Yongdi Liu. 2016. Complete genome of Martelella sp. AD-3, a moderately halophilic polycyclic aromatic hydrocarbons-degrading bacterium. Journal of Biotechnology, 225: 29-30.

12. Changzheng Cui*, Lei Ma, Jie Shi, Kuangfei Lin, Qishi Luo, Yongdi Liu. 2014. Metabolic pathway for degradation of anthracene by halophilic Martelella sp. AD-3. International Biodeterioration and Biodegradation, 89: 67-73.

13. Junzhi Tang, Tiancai Feng, Changzheng Cui*, Yaoyu Feng. 2013. Simultaneous biodegradation of phenanthrene and oxidation of arsenite by a dual-functional bacterial consortium. International Biodeterioration and Biodegradation, 82: 173-179.

14. Tiancai Feng, Changzheng Cui*, Fei Dong, Yaoyu Feng, Yongdi Liu, Xinmei Yang. 2012. Phenanthrene biodegradation by halophilic Martelella sp. AD-3. Journal of Applied Microbiology, 113: 779-789.

15. Shenping Zhang, Yankai Li, Chunhong Shi, Fangyuan Guo, Congze He, Zan Cao, Jun Hu, Changzheng Cui*, Honglai Liu. 2018. Induced-fit adsorption of diol-based porous organic polymers for tetracycline removal. Chemosphere, 212: 937-945.

16. Tianyang Zhang, Bin Xu*, Anqi Wang, Changzheng Cui*. 2018. Degradation kinetics of organic chloramines and formation of disinfection by-products during chlorination of creatinine. Chemosphere, 195: 673-682

17. Shenping Zhang, Jian Xu, Jun Hu*, Changzheng Cui*, Honglai Liu. 2017. Interfacial Growth of TiO2-rGO Composite by Pickering Emulsion for Photocatalytic Degradation. Langmuir, 33: 5015-5024

18. Yaru Hu, Lei Jiang, Tianyang Zhang, Dandan Lei, Weiwei Jiang, Dong Zhang, Kuangfei Lin, Changzheng Cui*. 2018. Distribution characteristics of sulfonamide antibiotic resistance genes in a drinking water source in East China. Environmental Science, 39(9): 4222-4228.

19. Lei Jin, Lei Jiang, Qi Han, Jiayi Xue, Hui Ye, Guomin Cao, Kuangfei Lin, Changzheng Cui*. 2016. Distribution characteristics and health risk assessment of thirteen sulfonamides antibiotics in a drinking water source in East China. Environmental Science, 37: 2515-2521.

20. ZhiJie Li, Changcheng Guo, Jie Shi, Kuangfei Lin, Guomin Cao, Changzheng Cui*. 2017. Diversity of bacterial community in Suaeda roots rhizosphere growth in PAHs-contaminated saline soil estimated by high throughput sequencing method. Microbiology China, 44: 1602−1612.

21. Fuwen Liu, Qishi Luo, Xin Lu, Manli Wang, Qiang Lu, Kuangfei Lin, Changzheng Cui*. 2018. Study on long-term stability of the treatment of Cr-contaminated soil by using CPS. Acta Scientiae Circumstantiae, 38(5): 1999-2007.

22. Xin Lu，Qishi Luo，Fuwen Liu，Manli Wang，Kuangfei Lin，Changzheng Cui*. 2017. Effect and mechanism of stabilization of chromium contaminated soils in electroplating factory by sulfide-based stabilizers. Acta Scientiae Circumstantiae, 37(6): 2315-2321.

23. Fuwen Liu, Qishi Luo, Manli Wang, Yuling Ran, Qiang Lu, Kuangfei Lin, Changzheng Cui*. 2019. The biotoxicity effect on earthworms by stabilization treatment of Cr-contaminated soil. Acta Scientiae Circumstantiae, 39: 952-957.

24. Changzheng Cui*, Tiancai Feng, Yaqi Yu, Fei Dong, Xinmei Yang, Yaoyu Feng, Yongdi Liu, Hanping Lin. 2012. Isolation，charcaterization of an anthracene degrading bacterium Martelella sp．AD-3 and cloning of dioxygenase gene. Environmental Science, 33(11): 4062-4068.

25. Junjie Tian, Cheng Huang, Xiuge Zhao, Jing Ren, Jianfeng Zhao, Kuangfei Lin, Changzheng Cui*. 2019. Pollution and health risk assessment of heavy metals in the inhalable particulate matter in the typical areas, Shanghai. Acta Scientiae Circumstantiae, 39: 3924-3931.

26. A method for simultaneous enrichment and detection of phenol, estrogen and androgen endocrine disruptors in drinking water, 2017, Patent grant number: ZL201710526876.3