

## 个人简介

蔡正清于 2016 年获美国奥本大学博士学位，于 2016-2018 年在复旦大学环境科学与工程系从事博士后研究工作，之后来华东理工大学环境工程系从事特聘副研究员工作。目前已发表论文 20 余篇，申请专利 1 项，并主持和参与国家自然科学基金、博士后基金等科研项目多项。

## 研究方向

水与废水处理技术

## 研究成果及主要发表文章

1. Zhengqing Cai, Xiaodi Hao, Xianbo Sun, Penghui Du, Wen Liu\*, Jie Fu\*. (2019) "Highly Active WO<sub>3</sub>@anatase-SiO<sub>2</sub> Aerogel for Solar-light-driven Phenanthrene Degradation: Mechanism Insight and Toxicity Assessment." *Water Research*, 162: 369-382.
2. Kaiyu Cheng, Zhengqing Cai\*, Jie Fu, Xianbo Sun, Weiliang Sun, Long Chen, Dandan Zhang, Wen Liu\*. (2019) "Synergistic Adsorption of Cu(II) and Photocatalytic Degradation of Phenanthrene by a Jaboticaba-like TiO<sub>2</sub>/titanate Nanotube Composite: An Experimental and Theoretical Study." *Chemical Engineering Journal*. 358: 1155-1165.
3. Zhengqing Cai, Jie Fu, Penghui Du, Xiao Zhao, Xiaodi Hao, Wen Liu\*, and Dongye Zhao\*. (2018) "Reduction of Nitrobenzene in Aqueous and Soil Phases using Carboxymethyl Cellulose Stabilized Zero-valent Iron Nanoparticles." *Chemical Engineering Journal*. 332: 227-236.
4. Zhengqing Cai, Amarendra Dhar Dwivedi, Wan-Ning Lee, Xiao Zhao, Wen Liu\*, Mika Sillanpää, Dongye Zhao, Ching-Hua Huang, and Jie Fu\*. (2017) "Application of Nanotechnologies for Removing Pharmaceutically Active Compounds in Water: Development and Future Trends." *Environmental Science: Nano*. 5(1): 27-47.
5. Zhengqing Cai, Youmin Sun, Wen Liu\*, Fei Pan, Peizhe Sun, and Jie Fu\*. (2017) "An Overview of Nanomaterials Applied for Removing Dyes from Wastewater." *Environmental Science and Pollution Research*. 24(19): 15882-15904.
6. Zhengqing Cai, Wen Liu, Jie Fu, SE O' Reilly, and Dongye Zhao\*. (2017) "Effects of Oil Dispersants on the Photodegradation of Parent and Alkylated PAHs." *Environmental Pollution* 229: 272-280.
7. Zhengqing Cai, Xiao Zhao, Ting Wang, Wen Liu\*, and Dongye Zhao\*. (2017) "Reusable Platinum-Deposited Anatase/Hexa-Titanate Nanotubes: Roles of Reduced and Oxidized Platinum on Enhanced Solar-Light-Driven Photocatalytic Activity." *ACS Sustainable Chemistry & Engineering* 5 (1): 547-555.
8. Zhengqing Cai, Jie Fu, Wen Liu, Kunming Fu, SE O' Reilly, and Dongye Zhao\*. (2016) "Effects of Oil Dispersants on Settling of Marine Sediment Particles and Particle-facilitated Distribution and Transport of Oil Components" *Marine Pollution Bulletin* 114(1): 408-418.
9. Zhengqing Cai, Yanyan Gong, Wen Liu, Jie Fu, SE O' Reilly, Xiaodi Hao, and Dongye Zhao\*. (2016) "A Surface Tension Based Method for Measuring Oil Dispersant Concentration in Seawater." *Marine Pollution Bulletin* 109(1): 49-54.
10. Xiaodi Hao (Advisor), Zhengqing Cai, Kunming Fu, and Dongye Zhao. (2012) "Distinguishing Activity Decay and Cell Death from Bacterial Decay for Two Types of Methanogens." *Water Research* 46 (4): 1251-1259.
11. Qun Lu (equal contribution), Zhengqing Cai (equal contribution), Jie Fu, Siyi Luo, Chunsheng Liu, Xiaolin Li, and Dongye Zhao. (2014) "Molecular Docking and Molecular Dynamics Studies on the Interactions of Hydroxylated Polybrominated Diphenyl Ethers to Estrogen Receptor Alpha." *Ecotoxicology and Environmental Safety* 101: 83-89.
12. Hongfang Liu (equal contribution), Zhengqing Cai (equal contribution), Xiao Zhao, Dongye Zhao, Tianwei Qian, Michael Bozack, and Mingang Zhang. (2016) "Reductive Removal of Selenate in Water Using Stabilized Zero-Valent Iron Nanoparticles." *Water Environment Research* 88(8): 694-703.
13. Gong Cheng, Jing Lin, Jian Lu, Xi Zhao, Zhengqing Cai\*, and Jie Fu\*. (2015) "Advanced Treatment of Pesticide-Containing Wastewater Using Fenton Reagent Enhanced by Microwave Electrodeless Ultraviolet." *BioMed Research International* 2015: 1-8.
14. Kejia Zhang, Cong Cao, Xinyan Zhou, Feifei Zheng, Youmin Sun, Zhengqing Cai, Jie Fu. (2018) "Pilot Investigation on Formation of 2,4,6-trichloroanisole via Microbial O-methylation of 2,4,6-trichlorophenol in Drinking Water Distribution System: An Insight into Microbial Mechanism." *Water Research* 131: 11-21.
15. Jie Fu, George Kyzas, Zhengqing Cai, Eleni Deliyanni, Wen Liu, Dongye Zhao. (2018) "Photocatalytic Degradation of Phenanthrene by Graphite Oxide-TiO<sub>2</sub>-Sr(OH)<sub>2</sub>/SrCO<sub>3</sub> Nanocomposite under Solar Irradiation: Effects of Water Quality Parameters and Predictive Modeling." *Chemical Engineering Journal*. 335(1): 290-300.
16. Xiao Zhao, Penghui Du, Zhengqing Cai, Ting Wang, Jie Fu, Wen Liu. (2018) "Photocatalysis of Bisphenol A by an Easy-settling Titania/titanate Composite: Effects of Water Chemistry Factors, Degradation Pathway and Theoretical Calculation." *Environmental Pollution* 232: 580-590.
17. Fei Pan, Yang Yu, Aihua Xu, Dongsheng Xia, Youmin Sun, Zhengqing Cai, Wen Liu, Jie Fu. (2017) "Application of Magnetic OMS-2 in Sequencing Batch Reactor for Treating Dye Wastewater as a Modulator of Microbial Community." *Journal of Hazardous Materials* 340(15): 36-46.
18. Bing Han, Wen Liu, Xiao Zhao, Zhengqing Cai, Dongye Zhao. (2017) "Transport of Multi-walled Carbon Nanotubes Stabilized by Carboxymethyl Cellulose and Starch in Saturated Porous Media: Influences of Electrolyte, Clay and Humic Acid." *Science of the Total Environment* 599-600: 188-197.
19. Jie Fu, Yanyan Gong, Zhengqing Cai, Dongye Zhao. (2017) "Mechanistic Investigation into Sunlight-facilitated Photodegradation of Pyrene in Seawater with Oil Dispersants." *Marine Pollution Bulletin* 2(30): 751-758.
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21. Xiao Zhao, Wen Liu, Zhengqing Cai, Bing Han, Tianwei Qian, and Dongye Zhao. (2016) "An Overview of Preparation and Applications of Stabilized Zero-valent Iron Nanoparticles for Soil and Groundwater Remediation." *Water Research* 100(1): 245-266.
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23. Xiao Zhao, Wen Liu., Jie Fu, Zhengqing Cai, SE O' Reilly, and Dongye Zhao. (2016) "Dispersion, Sorption and Photodegradation of Petroleum Hydrocarbons in Seawater-sediment Systems." *Marine Pollution Bulletin* 109(5): 526-538.
24. Wen Liu, Xiao Zhao, Zhengqing Cai, Bing Han, and Dongye Zhao. (2016) "Aggregation and Stabilization of Multiwalled Carbon Nanotubes in Aqueous Suspensions: Influence of Carboxymethyl Cellulose, Starch and Humic Acid." *RSC Advances* 6(71): 67260-26270.
25. Jie Fu, Zhengqing Cai, Yanyan Gong, SE O' Reilly, Xiaodi Hao, and Dongye Zhao. (2015) "A New Technique for Determining Critical Micelle Concentrations of Surfactants and Oil Dispersants via UV Absorbance of Pyrene." *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 484: 1-8.
26. Wen Liu, Jiangshui Zhang, Yinjia Jin, Xiao Zhao, and Zhengqing Cai. (2015) "Adsorption of Pb (II), Cd (II) and Zn (II) by Extracellular Polymeric Substances Extracted from Aerobic Granular Sludge: Efficiency of Protein." *Journal of Environmental Chemical Engineering* 3(2): 1223-32.
27. Yanyan Gong, Xiao Zhao, Zhengqing Cai, SE O' Reilly, Xiaodi Hao, and Dongye Zhao. (2014) "A Review of Oil, Dispersed Oil and Sediment Interactions in the Aquatic Environment: Influence on the Fate, Transport and Remediation of Oil Spills." *Marine pollution bulletin* 79 (1): 16-33.