# He Zhang

## (1) Background of counterpart PI

### Education

2015-09 to 2020-06，Donghua University, Environmental science and engineering, PhD

2017-09 to 2018-10，Cornell University, Microbiology, Joint PhD

2013-09 to 2015-07，Donghua University，Environmental engineering，Master

2009-09 to 2013-07，Hubei Normal University, Environmental engineering，Bachelor

### Work experience

2020-10 to Now，Environmental science and engineering, School of Environment and Architecture, University of Shanghai for Science and Technology, Assistant Professor

### Grant

[1] Open Fund of Key Laboratory of High-Performance Fibers and Products, Ministry of Education-Efficiency and Mechanism of High-Efficiency Bioenzyme-Promoted Depolymerization and Recycling of Polyamide Fibers

[2] Open Fund of Hubei Key Laboratory of Waterlogging Disaster and Agricultural Use of Wetland-Research on the Application of Manure-Based Biochar for Saline-Alkali Soil Amelioration in Integrated Agri-Aquaculture Systems and Mechanisms Underlying Rice Growth Promotion

[3] Open Fund of Hubei Key Laboratory of Environmental Geotechnology and Ecological Remediation for Lake & River-Speciation Changes and Adsorption-Release Mechanisms of Nitrogen and Phosphorus in Ecological Embankments Constructed via In-Situ Sediment Utilization

[4] Open Fund of Guangdong Key Laboratory of Environmental Catalysis and Health Risk Control-Mechanism study of $CuFe_2O_4$ carbon nanotubes targeting the degradation of sulfonamides in complex matrix water bodies (No. GKLECHRC-17)

[5] National Natural Science Foundation of China—Mechanism of organic acid regulating biochar persistent free radical for nonylphenol compounds degradation in soil (No. 42207310）

[6] The key special agricultural projects of Hebei Province—Research and demonstration of technology for reduction, harmless treatment, and comprehensive utilization of manure (No. 21327309D)

[7] Central University Basic Research Fund Special Fund-Excellent Doctoral Dissertation Innovation Fund - Research on Thermal Reduction and Resource Utilization of Printing and Dyeing Sludge (No.CUSF-DH-D-2017102）

## (2) Articles/papers published in academic journals (First or Corresponding author)

[1] Jie Ji, **He Zhang⋆**, Feichao Zhang, Yao Wu, Han Zhang, Ziwei Mei, Wenxuan Zhou, Liang Li, Hong Tao, Meicheng Wen, Organic acid promoting the degradation of nonylphenol by persistent free radicals in biochar, ***Chemical Engineering Journal***, 2025, 162446 (Corresponding author)

[2] Hongxiu Lu, Meng Wang, Wei Cui, **He Zhang⋆**, Scalability and Performance of Iron–Carbon Micro-Electrolysis with Hydrogen Peroxide for Textile Wastewater Treatment, ***Processes***, 2025, 970 (Corresponding author)

[3] Meng Wang, **He Zhang⋆**, Min Li, Meicheng Wen, Hong Tao, Daofang Zhang, High performance of carbon nanotube-encapsulated $CuFe_2O_4$ for peroxonosulfate activation: A process of degradation of sulfamethoxazole in complex matrix water via a singlet oxygen-dominated pathway, ***Separation and Purification Technology***, 2025, 128367(Corresponding author)

[4] Haifeng Wen, Min Zhao, Jingjing Gao, **He Zhang⋆**, Junyang Lu, Stabilization of heavy metals

in sewage sludge by co-hydrothermal carbonization with biomass bottom ash, ***Journal of Material Cycles and Waste Management***, 2024, 1609-1621(Corresponding author)

[5] Yuqing Zhao, Jie Ji, Yao Wu, Shiqi Chen, Mengyao Xu, Xiang Cao, Hanlin Liu, Zheng Wang, Hengyao Bi, Guian Guan, Ruixi Tang, Hong Tao, **He Zhang⋆**, Nonylphenol and its derivatives: Environmental distribution, treatment strategy, management and future perspectives, ***Chemosphere***, 2024, 141377(Corresponding author)

[6] **He Zhang**, Yuqing Zhao, Jie Ji, Yao Wu, Zhanyong Wang, Ruixi Tang, Hanlin Liu, Zheng Wang, Hengyao Bi, Guian Guan, International Journal of Biological Macromolecules, 2023, 127250

[7] **He Zhang**, Hong Cao, Wuqiang Xue, Resource Utilization of Waste Mud from Slurry Shield Tunnel: Non-fired Brick Production, Short Term Strength Investigation, 2023 5th International Conference on Civil Engineering, Environment Resources and Energy Materials (CCESEM 2023), 13-24

[8] Heng Liu, Xiaoguang Xi, **He Zhang⋆**, Study on Non-fired Brick Derived from Waste Mud of Slurry Shield Tunnel: Parameters Effect and Long Term Strength, Proceedings of the 2023 5th International Conference on Civil Engineering, Environment Resources and Energy Materials (CCESEM 2023), 1-4 (Corresponding author)

[9] Yihang Zhang, Yuqing Zhao, Jie Ji, Weitao Zhang, Wei Wei, Jia Li, Yue Liu, Hong Tao, **He Zhang⋆**, Reduction and valorization of dairy manure by organic chelating acid-assisted hydrothermal process: Dewatering performance, energy recovery, and effluent toxicity, Waste Management, 2023, 134-143 (Corresponding author)

[10] **He Zhang**; Yihang Zhang; Yuqing Zhao; Tao Liang; Wei Wei; Weitao Zhang; Jia Li; Yue Liu; Hong Tao; Magnetic biochar derived from dairy manure for peroxymonosulfate activation towards bisphenol A degradation: Kinetics, electron transfer mechanism, and environmental toxicity, ***Journal of Water Process Engineering***, 2022, 50: 103314

[11] **He Zhang**; Gang Xue; Hong Chen; Xiang Li; Shanping Chen; Revealing the heating value characteristics of sludge-based hydrochar in hydrothermal process: from perspective of hydrolysate, ***Water Research***, 2021, 198: 117170

[12] **He Zhang**; Anthony G. Hay; Magnetic biochar derived from biosolids via hydrothermal carbonization: Enzyme immobilization, immobilized-enzyme kinetics, environmental toxicity, ***Journal of Hazardous Materials***, 2020, 384

[13] **He Zhang**; Gang Xue; Hong Chen; Xiang Li; Hydrothermal synthesizing sludge-based magnetite catalyst from ferric sludge and biosolids: Formation mechanism and catalytic performance, ***Science of The Total Environment***, 2019, 697

[14] **He Zhang**; Gang Xue; Hong Chen; Xiang Li; Magnetic biochar catalyst derived from biological sludge and ferric sludge using hydrothermal carbonization: Preparation, characterization and its circulation in Fenton process for dyeing wastewater treatment, ***Chemosphere***, 2018, 191: 64-7

### (3) Patents and Awards

[1] 2022 Shanghai Water Conservancy Innovation Demonstration Award (Research on the Integration of Ecological Space Expansion along Riverfronts and Non-point Source Pollution Prevention and Control Technologies)

[2] A Fenton Oxidation-Biological Combined Treatment Method and Device for Sludge Recycling, Patent No. ZL 201610035164.7(in Chinese)

[3] A Method and Device for Thermocatalytic Preparation of Solid Adsorbents from High

Concentration Nonylphenol Polyoxyethylene Ether Wastewater, Patent No. ZL 201610035247.6(in Chinese)
[4] A Method and Device for Vacuum Gasification-Catalytic Carbonization of High Concentration Industrial Organic Waste Liquid to Prepare Solid Derived Fuel, Patent No. ZL 201610034028.6(in Chinese)
[5] An Iron-Carbon Reduction Treatment Method and Device for Recycling Iron Mud in Wastewater, Patent No. ZL 201610035218.X(in Chinese)
[6] An Iron-Carbon Reduction-Biological Combined Treatment Method and Device for Iron Cycling and Sludge Reduction, Patent No. ZL 201610035202.9(in Chinese)
[7] A Method and Device for Volatile Gasification Incineration Treatment and Disposal of High Concentration Organic Waste Liquid, Patent No. ZL 201610034000.2(in Chinese)
[8] A Multivariate Composite Catalytic Zero-Valent Iron Fenton Treatment Method and Device for Industrial Wastewater, Patent No. ZL 201610034030.3(in Chinese)
[9] A Method and Device for Thermocatalytic-Carbonization Preparation of Solid Derived Fuel from High Concentration Industrial Organic Waste Liquid, Patent No. ZL 201610035226.4(in Chinese)
[10] A Fenton Oxidation Method and Device for Iron Recycling and Sludge Zero Emission, Patent No. ZL 201610033998.4(in Chinese)