Du Jingjing

Graduate Supervisor

ADDRESS： School of Material and Chemistry, Zhengzhou University of Light Industry, No.166 Science Avenun, 450002, Zhengzhou

PHONE： 0371-86609676

FAX： 0371-86609676

E-mail： Dujj@zzuli.edu.cn

Research Field and Interests:

Pollution Ecology,Freshwater Ecology

Education Background:

[1]Sep.2005– Jun.2009 Bachelor degree, Major in Life Science, Henan Normal University, China

[2]Sep.2009– Jun.2014 PhD degree, Major in Biology, Nanjing University, China

[3]Jul.2013– Oct.2013 Visiting scholar, Institute of Marine Sciences, University of North Carolina at Chapel Hill, USA

[4]Jan.2019-Jan.2020 Visiting scholar, Department of Biology, Aarhus University, Denmark

Teaching Courses:

Environmental Biology; Environmental Ecology

Publications:

[1]Du Jingjing, Wang Xilin, Tao Tianying, Zhang Xueting, Jin Baodan, Zhao Jianguo, Lv Yangyang, Zhang Qian, Hu Keying, Qv Wenrui, Xu Yuanqian, Cao Xia, Polystyrene size-dependent impacts on microbial decomposers and nutrient cycling in streams, Science of the Total Environment, 2023, 905, 167032.

[2]Du Jingjing, Wang Xilin, Zhang Yuyan, Pu Gaozhong, Jin Baodan, Qv Wenrui, Cao Xia, Can titanium dioxide nanoparticles modulate the effects of zinc oxide nanoparticles on aquatic leaf litter decomposition?, Chemosphere, 2023, 337, 139313.

[3]Niu Yulong, Qu Mingxiang, Du Jingjing *, Wang Xilin, Yuan Shuaikang, Zhang Lingyan, Zhao Jianguo, Jin Baodan, Wu Haiming, Wu Shubiao, Cao Xia, Pang Long. Effects of multiple key factors on the performance of petroleum coke-based constructed wetland-microbial fuel cell. Chemosphere, 2023, 315, 137780.

[4]Du Jingjing*, Qv Wenrui, Niu Yulong, Yuan Shuaikang, Zhang Lingyan, Yang Huilian, Zhang Yuyan. Co-exposures of acid rain and ZnO nanoparticles accelerate decomposition of aquatic leaf litter. Journal of Hazardous Materials 2022, 426:128141.

[5]Du Jingjing*, Qv Wenrui, Pu Gaozhong, Qv Mingxiang, Zhang Jin, Zhang Wenfang, Zhang Hongzhong. How do visible and UV light affect the structure and function of leaf-associated aquatic fungal communities polluted by TiO_2 nanoparticles? Environmental Science: Nano 2022,

9(1):133-144.

[6]Du Jingjing*, Qv Wenrui, Niu Yulong, Qv Mingxiang, Jin Kai, Xie Jinyou, Li Zehong. Nanoplastic pollution inhibits stream leaf decomposition through modulating microbial metabolic activity and fungal community structure, Journal of Hazardous Materials 2022, 424(Part A):127392.

[7]Du Jingjing*, Niu Yulong, Wu Haiming, Konnerup Dennis, Wu Shubiao, Carlos A. Ramírez-Vargas, Yang Yanqin, Brix Hans, Carlos A. Arias. Effects of electroconductive materials on treatment performance and microbial community structure in biofilter systems with silicone tubings, Chemosphere 2022, 307(Part 2): 135828.

[8]Du Jingjing*, Qv Mingxiang, Qv Wenrui, Liu Lina, Zhang Yuyan, Cui Minghui, Zhang Hongzhong. Potential threats of zeolitic imidazolate framework-8 nanoparticles to aquatic fungi associated with leaf decomposition, Journal of Hazardous Materials 2021, 401:123273.

[9]Du Jingjing*, Zhang Yuyan, Yin Yuting, Zhang Jin, Ma Hang, Li Ke, Wan Ning. Do environmental concentrations of zinc oxide nanoparticle pose ecotoxicological risk to aquatic fungi associated with leaf litter decomposition? Water Research 2020, 178:115840.

[10]Du Jingjing*, Zhang Yuyan, Qv Mingxiang, Yin Yuting, Zhang Wenfang, Zhang Jin, Zhang Hongzhong. Different phototoxicities of ZnO nanoparticle on stream functioning. Science of the Total Environment 2020, 725:138340.

[11]Du Jingjing*, Qv Mingxiang, Zhang Yuyan, Cui Minghui, Zhang Hongzhong. Simulated sulfuric and nitric acid rain inhibits leaf breakdown in streams: A microcosm study with artificial reconstituted fresh water. Ecotoxicology and Environmental Safety 2020, 196:110535.

[12]Du Jingjing*, Guo Ruilin, Li Ke, Ma Bingbing, Chen Yan, Lv Yanna. Contributions of Zn ions to ZnO nanoparticle toxicity on Microcystis aeruginosa during chronic exposure. Bulletin of Environmental Contamination and Toxicology 2019, 103:802-807.

[13]Zhang Yuyan, Yin Yuting, Ma Hang, Cao Xinshuai, Ma Bingbing, Qv Mingxiang, Zhang Baozhong, Akbar Sibbiq, Du Jingjing*. Insight into chronic exposure effects of nanosized titanium dioxide on Typha angustifolia leaf litter decomposition. Chemosphere 2019, 224:680-688.

[14]Du Jingjing*, Zhang Yuyan, Qv Mingxiang, Li Ke, Yin Xiaoyun, Sorrell Brian Keith, Wei Mingbao, Ma Chuang. The effects of ZnO nanoparticles on leaf litter decomposition under natural sunlight. Environmental Science: Nano 2019, 6:1180-1188.

[15]Du Jingjing*, Zhang Yuyan, Hu Bin, Qv Mingxiang, Ma Chuang, Wei Mingbao, Zhang Hongzhong. Insight into the potentiality of big biochar particle as an amendment in aerobic composting of sewage sludge. Bioresource Technology 2019, 288:121469.

[16]Du Jingjing*, Zhang Yuyan, Guo Ruilin, Meng Fanxiao, Gao Yucong, Ma Chuang, Zhang Hongzhong. Harmful effect of nanoparticles on the functions of freshwater ecosystems: Insight into nanoZnO-polluted

stream. Chemosphere 2019, 214:830-838.

[17]Du Jingjing, Zhang Yuyan, Qu Mingxiang, Yin Yuting, Fan Kang, Hu Bin, Zhang Hongzhong, Wei Mingbao, Ma Chuang. Effects of biochar on the microbial activity and community structure during sewage sludge composting. Bioresource Technology 2019, 272:171-179.

[18]Du Jingjing*, Qv Mingxiang, Li Ke, Yin Xiaoyun, Meng Fanxiao, Yang Jingchao, Ma Chuang. Impacts of benzophenone-type UV filters on cladoceran Daphnia carinata. Limnology 2019, 20:173-179.

[19]Du Jingjing*, Qv Mingxiang, Zhang Yuyan, Yin Xiaoyun, Wan Ning, Zhang Baozhong, Zhang Hongzhong. The potential phototoxicity of nano-scale ZnO induced by visible light on freshwater ecosystems. Chemosphere 2018, 208:698-706.

[20]Du Jingjing*, Zhang Yuyan, Guo Wei, Li Ningyun, Gao Chaoshuai, Cui Minghui, Lin Zhongdian, Wei Mingbao, Zhang Hongzhong. Chronic impacts of TiO_2 nanoparticles on Populus nigra L. leaf decomposition in freshwater ecosystem. Journal of Hazardous Materials 2018, 350:121-127.

[21]Du Jingjing*, Zhang Yuyan, Cui Minghui, Yang Jingchao, Lin Zhongdian, Zhang Hongzhong. Evidence for negative effects of ZnO nanoparticles on leaf litter decomposition in freshwater ecosystems. Environmental Science: Nano 2017, 4(12):2377-2387.（20）Du Jingjing*, Zhang Yuyan, Liu Lina, Qv Mingxiang, Lv Yanna, Yin Yifei, Zhou Yinfei, Cui Minghui, Zhu Yanfeng, Zhang Hongzhong. Can visible light

impact litter decomposition under pollution of ZnO nanoparticles? Chemosphere 2017, 187:368-375.

Projects:

[1]National Natural Science Foundation of China (No. 32271701), 2023.01-2026.12.

[2]National Natural Science Foundation of China (No. 31500377), 2016.01-2018.12.

[3]Natural Science Foundation for Excellent Young Scholars of Henan Province, China (No. 232300421103), 2023.01-2025.12

[4]Program for Science & Technology Innovation Talents in Universities of Henan Province, China (No. 24HASTIT027), 2024.01-2026.12

[5]Science and Technology Project of Henan Province, China (No. 222102320261),

2022.01-2023.12

[6]Science and Technology Project of Henan Province, China (No. 212102310515),

2021.01-2022.12

[7]Science and Technology Project of Henan Province, China (No. 182102310796),

2018.01-2020.12.

Honors:

[1]Excellent Scientific and Technological Paper Award of Henan Province, China, 2023

[2]Excellent Scientific and Technological Paper Award of Henan Province, China, 2022

[3]Science and Technology Progress Award of Henan Province, China, 2017

Social part-time jobs:

[1]Urban Science Research Society of Henan Province, Committee

[2]Chinese Journal of Ecology, Young Editorial Board

[3]Chemical Engineering Society of Henan Province, Member of Youth Working Committee

Academic activities:

[1]Du Jingjing, Wang Xilin, Qv Wenrui. Exposure pathway may modulate the toxicity of nanoplastics on detrital food chain in streams. The 1st International Conference on Eco-Environment & Health, Haikou, China, 2023.4.15

[2]Du Jingjing, Zhang Yuyan, Qv Mingxiang. Can sunlight influence effects of nanosized ZnO on stream functioning: A case study on leaf litter decomposition, 8th International Symposium on Wetland Pollution Dynamics and Control, Aarhus C, Denmark, 2019.6.17

[3]Du Jingjing. Evidence for negative effects of ZnO nanoparticles on the functions of freshwater ecosystems: A microcosm study of leaf litter decomposition, The 33rd International Conference of the Society for Environmental Geochemistry and Health (SEGH 2017), Guangzhou, China, 2017.7.2

Junping Du

Associate professor, Master's supervisor

ADDRESS: Zhengzhou University of Light Inderstry, No 136 Science Avenue High tech Zone Zhengzhou Henan province

E-mail:dujunping@zzuli.edu.cn

Research Field and Interests:

Design, synthesis and application of Conjugated polymers

Education Background:

[1]1999.9-2003.7 B. S., Speciality of Chemical Engineering and Technology, College of Chemistry and Chemical Engineering, Henan University, Kaifeng, China.

[2]2003.9-2008.7 PhD (supervisor: professor Qiang Fang) Laboratory for Polymer Materials, Shanghai Institute of Organic Chemistry (SIOC), Chinese Academy of Sciences which is the top one in the organic chemistry area, Shanghai, China.

[3]2008.7-2010.8 Postdoctoral fellow (supervisor: Professor Iain McCulloch) Department of Chemistry, Imperial College London, UK.

[4]2011.4-2012.10 Postdoctoral fellow (supervisor: Christine dagron-lartigau) Pau university France.

Teaching Courses:

Unit Operations and Chemical Engineering (for undergraduates), Modern Organic Analsis (for postgraduates)

Publications:

(1) Articals

[1] Du, J-P.; Zhang, X-F.; Zhou, K-Y.; Liang, X.; Xu, L-C.; Wang, S-W.; Chen, J-L. Journal of Applied Polymer Science 2025, *142*, e56776.

[2] Du, J-P.; Zhang, X-F.; Chen, F-H.; Fang, S-M.; Zhang, H-L.; Han, G-l. Experiment Science and Technology 2024, *22*, 30-34.

[3] Du, J-P.; Feng, S-S.; Zhang, J.; Han, L-F.; Wang, S-W.; Zhang, Y-H.; Chen, J-L. New Chemical Materials 2023, 51, 202-208.

[4] Du, J-P.; Feng, S-S.; Zhang, J.; Zhang, Y-H.; Wang, S-W.; Han, L-F.; Chen, J-L. Chinese Journal of Organic Chemistry 2022, *42*, 2967-2974.

[5] Du, J-P.; Feng, S-S.; Wei, S-L.; Zhao, Y.; Qin, H-L.; Li, Q.; Shi, D-Y. Experimental Technology and Management 2021, *38*, 113-116,147.

[6] Du, J-P.; Feng, S-S.; Qin, P-J.; Zhang, Y-H.; Zhang, Z-Q.; Xu, L-C. Structural Chemistry 2020, *31*, 1785-1792.

[7] Du, J-P.; Qin, P-J.; Bai, Y-H.; Zhou, J.; Cai, L-F.; Tian, J-F.; Li, J-G.; Dang, Y-P. Chinese Journal of Chemical Education 2020, *41*, 52-55.

[8] Du, J-P.; Qin, P-J.; Xu, L-C.; Feng, S-S.; Xu, Y-X.; Huang, J. Chinese Journal of Organic Chemistry 2020, *40*, 194-200.

[9] Du, J-P.; Feng, S-S.; Qin, P-J.; Xu, L-C.; Zhu, W-J.; Huang, J. Journal of Applied Polymer Science 2020, *137*, e49342.

[10] Fang, S-M.; Su, J-G.; Wang, G-H.; Xue, L-K.; Zhang, Y-H.; Du, J-P.

Chinese Journal of Organic Chemistry 2015, *35*, 1565-1569.

[11] Li, X.; Hu, M.; Zhang, Y-J.; Zhang, X-L.; Li, F-C.; Wang, A-L.; Du, J-P.; Xiao, H-P. *Inorganica Chimica Acta* 2016, *444*, 221~225。

[12] Huang, G.; Sun, Y.; Zhao, C.; Zhao, Y.; Song, Z.; Chen, J.; Ma, S.; Du, J.; Yin, Z. *Journal of Colloid and Interface Science* 2017. *494,* 2222.

[13] Bronstein, H.; Chen, Z.; Ashraf, R. S.; Zhang, W.; Du, J.; Durrant, J. R.; Tuladhar, P. S.; Song, K.; Watkins, S. E.; Geerts, Y.; Wienk, M. M.; Janssen, R. A. J.; Anthopoulos, T.; Sirringhaus, H.; Heeney, M.; McCulloch, I. *J Am Chem Soc* 2011, *133*, 3272-5.

[14] Dimitrov, S. D.; Bakulin, A. A.; Nielsen, C. B.; Schroeder, B. C.; Du, J.; Bronstein, H.; McCulloch, I.; Friend, R. H.; Durrant, J. R. *J. Am. Chem. Soc.* 2012, *134*, 18189-18192.

[15] Dimitrov, S. D.; Nielsen, C. B.; Shoaee, S.; Shakya Tuladhar, P.; Du, J.; McCulloch, I.; Durrant, J. R. *J. Phys. Chem. Lett.* 2012, *3*, 140-144.

[16] Du, J.; Fang, Q.; Bu, D.; Ren, S.; Cao, A.; Chen, X. *Macromol. Rapid Commun.* 2005, *26*, 1651-1656.

[17] Du, J.; Fang, Q.; Chen, X.; Ren, S.; Cao, A.; Xu, B. *Polymer* 2005, *46*, 11927-11933.

[18] Du, J.; Xu, E.; Zhong, H.; Yu, F.; Liu, C.; Wu, H.; Zeng, D.; Ren, S.; Sun, J.; Liu, Y.; Cao, A.; Fang, Q. *J. Polym. Sci., Part A: Polym. Chem.* 2008, *46*, 1376-1387.

[19] Fang, Q.; Ren, S.; Xu, B.; Du, J.; Cao, A. *J. Polym. Sci., Part A: Polym. Chem.* 2006, *44*, 3797-3806.

[20] Liu, Y.; Lai, H.; Zhong, H.; Xu, E.; Du, J.; Li, Y.; Fang, Q. *Tetrahedron Lett.* 2010, *51*, 4462-4465.

[21] Nielsen, C. B.; Fraser, J. M.; Schroeder, B. C.; Du, J.; White, A. J. P.; Zhang, W.; McCulloch, I. *Org. Lett.* 2011, *13*, 2414-2417.

[22] Ren, S.; Cheng, J.; Zeng, D.; Zhu, W.; Sun, J.; Du, J.; Xu, E.; Zhong, H.; Liu, Y.; Fang, Q. *Synth. Met.* 2009, *159*, 29-35.

[23] Ren, S.; Fang, Q.; Lei, Y.; Fu, H.; Chen, X.; Du, J.; Cao, A. *Macromol. Rapid Commun.* 2005, *26*, 998-1001.

[24] Sun, J.; Chen, J.; Zou, J.; Ren, S.; Zhong, H.; Zeng, D.; Du, J.; Xu, E.; Fang, Q. *Polymer* 2008, *49*, 2282-2287.

[25] Xu, E.; Zhong, H.; Du, J.; Zeng, D.; Ren, S.; Sun, J.; Fang, Q. *Dyes Pigm.* 2008, *80*, 194-198.

[26] Zeng, D.; Chen, J.; Chen, Z.; Zhu, W.; He, J.; Yu, F.; Huang, H.; Wu, H.; Liu, C.; Ren, S.; Du, J.; Sun, J.; Xu, E.; Cao, A.; Fang, Q. *Macromol. Rapid Commun.* 2007, *28*, 772-779.

[27] Zeng, D.; Cheng, J.; Ren, S.; Sun, J.; Zhong, H.; Xu, E.; Du, J.; Fang, Q. *React. Funct. Polym.* 2008, *68*, 1715-1721.

[28] Zhong, H.; Xu, E.; Zeng, D.; Du, J.; Sun, J.; Ren, S.; Jiang, B.; Fang, Q. *Org. Lett.* 2008, *10*, 709-712.

Projects：

[1] National natural science foundation of China, project number: 21805248, 2019.01-2021.12, 260 thousand Yuan, supervisor.

[2] National natural science foundation of Henan Province, project

number: 162300410318, 2017/01-2018/12, 100 thousand Yuan, supervisor.

[3] National natural science foundation of China, project number: 21371156, 2014.01-2017.12, 860 thousand Yuan, participator.

[4] National natural science foundation of China, project number: 21771166, 2018.01-2021.12, 640 thousand Yuan, participator.

[5] Zhengzhou science and technology plan project, project number: 141PPTGG398, 2014.04-2016.08, 50 thousand Yuan, supervisor.

[6] Key scientific research project of universities in Henan Province, project number: 14A150009, 2014.01-2015.01, 20 thousand Yuan, supervisor.

[7] Overseas students science and technology activities project merit funding, 2015.01-2016.12, 30 thousand Yuan, supervisor.

[8] Open project of key laboratory of synthetic and self-assembly chemistry for organic functional molecules, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, project number: K2016-8, 2016.07-2017.07, 18 thousand Yuan, supervisor.

Feilong Gong

Associate professor, supervisor of Ph.D

ADDRESS： No.136 Ke Xue Avenue, Zhengzhou, Henan Province, PRC. Zip Code: 450000

E-mail： gfl@zzuli.edu.cn

Websites：

https://hg.zzuli.edu.cn/2024/0116/c18986a305323/page.htm

Research Field and Interests

[1] Nanocatalysts for electrocatalysis including HER, OER, ORR, Al-airbatteries, etc.

[2] Nanomaterials for gas sensors

[3] Alloy materials

Education Background

[1] 2007.09-2011.06, Henan Agricultural University, Bachelor;s degree

[2] 2011.09-2014.06, Zhengzhou University, Master's degree

[3] 2014.09-2018.06, Xinjiang University, Doctor's degree

Teaching Courses

General Chemistry,Material synthesis and preparation

Publications (ten representative paper)

[1]Feilong Gong*, Zhilin Chen, Chaoqun Chang, Yang Zhao, Haitao Li, Min Song, Lihua Gong, Yali Zhang, Yonghui Zhang, Shizhong Wei*, and Jian Liu*. Hollow Mo/MoS_{Vn} Nanoreactors with Tunable Built-in

Electric Fields for Sustainable Hydrogen Production. *Adv. Mater.,* 2025, 37, 2415269.

[2]Feilong Gong, Yuheng Liu, Yang Zhao, Wei Liu, Guang Zeng, Guoqing Wang,Yonghui Zhang*, Lihua Gong*, and Jian Liu*. Universal sub-nanoreactor strategy for synthesis of yolk-shell MoS_2 supported single atom electrocatalysts toward robust hydrogen evolution reaction. *Angew. Chem. Int. Edit.*, 2023, 62, e202308091.

[3]Chaoqun Chang, Xiaodong Li, Shizhong Wei,* Yang Zhao, Lihua Gong, Yonghui Zhang, Jian Liu*, and Feilong Gong*. Cross-scale process intensification of spindle CuO supported tungsten single-atom catalysts toward enhanced electrochemical hydrogen production. *Adv. Energy Mater.*, 2025, 15, 2402825.

[4]Xiaoyan Liu, Lihua Gong, Liwei Wang, Chaoqun Chang, Panpan Su, Yuhai Dou, Shi Xue Dou, Ying Li*, Feilong Gong*, and Jian Liu*. Enabling ultrafine Ru nanoparticles with tunable electronic structures via a double-shell hollow interlayer confinement strategy toward enhanced hydrogen evolution reaction performance. *Nano Lett.*, 2024, 24, 592-600.

[5]Feilong Gong, Mengmeng Liu, Lihua Gong, Sheng Ye*, Qike Jiang, Guang Zeng, Xiaoli Zhang, Zhikun Peng, Yonghui Zhang, Shaoming Fang*, and Jian Liu*. Modulation of Mo-Fe-C sites over mesoscale diffusion-enhanced hollow sub-micro reactors toward boosted electrochemical water oxidation. *Adv. Funct. Mater.*, 2022, 32, 2202141.

[6]Feilong Gong, Mengmeng Liu, Sheng Ye*, Lihua Gong, Guang Zeng,

Lin Xu, Xiaoli Zhang, Yonghui Zhang, Liming Zhou, Shaoming Fang*, and Jian Liu*. All-pH stable sandwich-structured $MoO_2/MoS_2/C$ hollow nanoreactors for enhanced electrochemical hydrogen evolution. *Adv. Funct. Mater.*, 2021, 31, 2101715.

[7]Feilong Gong, Sheng Ye, Mengmeng Liu, Jiangwei Zhang, Lihua Gong, Guang Zeng, Erchao Meng, Panpan Su, Kefeng Xie, Yonghui Zhang*, and Jian Liu*. Boosting electrochemical oxygen evolution over yolk-shell structured O–MoS_2 nanoreactors with sulfur vacancy and decorated Pt nanoparticles. *Nano Energy*, 2020, 78, 105284.

[8]Feilong Gong, Zhilin Chen, Yang Zhao, Hongge Zhang, Guang Zeng, Cuijie Yao, Lihua Gong, Yonghui Zhang,* Jian Liu,* and Shizhong Wei*. Trifunctional L-cysteine assisted construction of $MoO_2/MoS_2/C$ nanoarchitecture toward high-rate sodium storage. *Small*, 2024, 20, 2307986

[9]Mengmeng Liu, Jing Zhu, Yuheng Liu, Feilong Gong*, Rui Li, Hong Chen, Meng Zhao, Jian Liu*, Sheng Ye*, Modulating the electronic structures of layer-expanded MoS_2 nanoreactor via cobalt doping and carbon intercalation for enhanced electrocatalytic hydrogen evolution. *Chem. Eng. J.*, 2022, 446, 137080.

[10]Yuheng Liu, Lihua Gong, Yonghui Zhang, Peiyuan Wang, Guoqing Wang, Fenghua Bai*, Zhenting Zhao, Feilong Gong*, and Jian Liu*. Metal sulfides yolk-shell nanoreactors with dual component for enhanced acidic electrochemical hydrogen production. *Small Struct.*, 2023, 4,

2200247

Projects

[1] Program for Science & Technology Innovation Talents in Universities of Henan Province

[2] Young Backbone Teacher Foundation of Henan Educational Committee

Honors

[1]First Prize of “Science and Technology Progress Award of Henan Province”

[2]Third Prize of “Science and Technology Progress Award of Henan Province”

[3]Instructor of “the second National Graduate Metallographic Experiment Analysis Competition”

[4]Instructor of “the Second Prize of the 12th National College Students' Metallographic Skills Competition of Leica Cup”

[4]Excellent teacher of Master's Thesis Supervisor of Zhengzhou University of Light Industry

Academic Activities

[1]The 18th National Conference on Academic Research in Catalysis for Youth in 2021, Oral Presentation

[2]The 19th National Conference on Academic Research in Catalysis for Youth in 2022, Oral Presentation

[3]The 21st National Electrochemical Conference in 2023, Oral Presentation

[4]The 22st National Electrochemical Conference in 2024, Oral Presentation

Dongjie Guo

Professor, Master&doctoral supervisor

ADDRESS： Kexue Road 136#, Zhengzhou University of Light Industry,450001

PHONE： 0371-86608696

E-mail： djguo@zzuli.edu.cn

Research Field and Interests: Electroactive polymer

Education Background:

[1]1992-1994 Xinyang Normal University, Chemistry Education;

2000-2003 Henan University, College of Chemistry and Chemical Engineering; Master;

[2]2003-2006 Nanjing University, College of Chemistry and Chemical Engineering; Doctor;

[3]2008-2010 USA University of Colorado at Boulder, College of Mechanical Engineering,Post-doc;

[4]2016-2017 USA University of Colorado at Boulder, College of Mechanical Engineering, Visiting scholar.

Teaching Courses: Materials Science and Engineering; Instrumental Analysis

Publications:

[1]Jingxian Ding, Longxiang Mei, Xiaowei Guo, Deyu Guo, Li Ma,

Yanghai Gui, Dongjie Guo*, PVA electrospun fibers coated with PPy nanoparticles for wearable strain sensors, Macromolecular Rapid Communications, 2023, 2300033.

[2]J Huang, X Zhang, R Liu, Y Ding, D Guo*, Polyvinyl chloride-based dielectric elastomer with high permittivity and low viscoelasticity for actuation and sensing, Nature Communications, 2023, 14, 1483

[3]Jianjian Huang, Fang Wang, Li Ma, Zhiqiang Zhang, Erchao Meng, Chao Zeng, Hao Zhang, Dongjie Guo,* Vinylsilane-rich silicone filled by polydimethylsiloxane encapsulated carbon black particles for dielectric elastomer actuator with enhanced out-of-plane actuations, Chemical Engineering Journal, 2022, 428, 131354.

[4]Fang Wang, Xiaodie Zhang, Li Ma, Zhiqiang Zhang, Lifeng Han, Chao Zeng, Bo Shi, Dongjie Guo*, Facile and effective repair of Pt/Nafion IPMC actuator by dip-coating of PVP@AgNPs, Nanotechnology, 2021,32, 385502.

[5]Wang, Shi-wen; Wang, Fang; Wang, Peiyuan; Han, Lifeng; Wu, Shide ; Chen, Yaqing; Guo, dongjie*, 3D porous graphene composite film embedded by Ni/NiO nanoparticles as freestanding electrodes for efficient energy storage devices, Nanotechnology, 2020, 31, 475704.

Ongoing Projects：

[1]The National Natural Science Foundation of China， Preparation technology and driven mechanism of electric field induced polymer artificial muscle，2023.01-2026.12（No.52275295）

[2]Central Plains Science and Technology Innovation Leading Talents，Key preparation techniques and AR applications of polymer artificial muscles ，(234200510026)，2023.01-2024.12

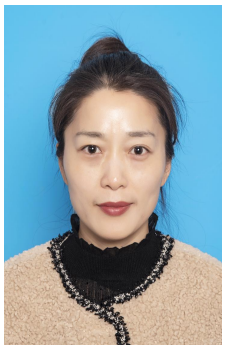
Honors：

[1]Electric drive polymer functional materials and intelligent artificial muscle application technology, The second prize of Science and Technology Progress of Henan Province；2020-J-070-R01/10；

[2]Structural design and application of graphene metal particle composite electrode, The second prize of Joint Technology Invention of China Light Industry，2017-F-2-1

Social part-time jobs: Foundation Member, the International Society of Bionic Engineering

Academic activities: The 7th International Conference of Bionic Engineering & the International Youth Conference of Bionic Science and Engineering 2023.WuHan, China.



Linghao He

Professor, Master&doctoral supervisor

ADDRESS: Kexue Road 136#, Zhengzhou University of Light Industry,450001

PHONE:0371-86608237

E-mail:helinghao@zzuli.edu.cn

Research Field and Interests: Electrocatalysis

Education Background:

[1]1997-2001 Zhengzhou University, Polymeric materials and engineering, Bachelor;

[2]2001-2004 Zhengzhou University, Materials processing engineering, Master;

[3]2007-2011 Zhengzhou University, Chemistry and physics of polymers, Doctor.

Teaching Courses: Polymer Materials Moulding Machinery, Functional Polymer Materials, Introduction to Polymer Materials and Engineering.

Publications:

[1]Hua Fang, Heng Bian, Huan Zhang, Minghua Wang, Shuai Zhang, Linghao He*. Hierarchical porous nitrogen-doped carbon nanosheets derived from zinc-based bioMOF as flexible supercapacitor electrode. *Applied Surface Science*, 2023, 614, 156154.

[2]Fufeng Yan, Junyi Ding, Lijun Hu, Sizhuan Li, Shuai Zhang, Minghua Wang, Linghao He*, Miao Du*. Solution plasma-assisted multivariate metal nanoalloys encapsulated with carbon dots for efficient oxygen evolution reaction. *Chemcatchem*, 2023, 15, e202300115

[3]Hua Fang, Heng Bian, Bin Hu, Jiameng Liu, Sizhuan Li, MingHua Wang, Linghao He*, Zhihong Zhang*. Multimetallic electrocatalysts of FeCoNi nanoalloy embedded in mul- tilayered carbon nanotubes for oxygen reduction reaction and flexible Zn-air battery. *Applied Surface Science*, 2022, 604, 154590

[4]Aiqin Zhang, Huan Zhang, Bin Hu, Minghua Wang, Shuai Zhang, Qiaojuan Jia, Linghao He*, Zhihong Zhang*. The intergrated nanostructure of bimetallic CoNi-based zeolitic imidazolate framework and carbon nanotubes as high-performance electrochemical supercapacitors. *Journal of Colloid and Interface Science*, 2022, 608, 1257-1267.

[5]Rongyuan Chen, Lun Kan, Mingyang Xu, Geyi Zhang, Minghua Wang, Jing Cui, Nan Zhou*, Linghao He*. Impedimetric aptasensor based on porphyrin- based covalent- organic framework for determination of diethylstilbestrol. *Microchimica Acta*, 2022, 189, 229

[6]Shunjiang Huang, Rongyuan Chen, Shuangrun Zhao, Changbao Wang, Qiaojuan Jia, Minghua Wang, Zhonghou Zhang, Linghao He*, Zhihong Zhang*. Diverse metal ions-doped titanium-based metal-organic frameworks as novel bioplatforms for sensitively detecting bisphenol A.

Electrochimica Acta, 2021, 384, 138403

[7]Linghao He, Shunjiang Huang, Yongkang Liu, Minghua Wang, Bingbing Cui, Shide Wu, Jiameng Liu, Zhihong Zhang*, Miao Du*. Multicomponent Co_9S_8@MoS_2 nanohybrids as a novel trifunctional electrocatalyst for efficient methanol electrooxidation and overall water splitting. *Journal of Colloid and Interface Science*, 2021, 586, 538–550.

[8]Jiameng Liu, Changbao Wang, Yingpan Song, Shuai Zhang, Zhihong Zhang*, Linghao He*, Miao Du*. Two-dimensional triazine-based porous framework as a novel metal-free bifunctional electrocatalyst for zinc-air batty. *Journal of Colloid and Interface Science*, 2021, 591, 253–263.

Ongoing Projects: Energy storage and conversion materials,Innovative Technology Team Support Program Project, Zhengzhou University of Light Industry, 2022.06-2025.05

Honors: The key technology and application of the construction of sensitive membrane materials for novel biosensors, The second prize of Science and Technology Progress of Henan Province；2019-J-071-R02/10

Social part-time jobs: Member of Expert Committee of Degradable Plastics Industry Chain Innovation Alliance of Henan Province

Chuang Ma

Title: Professor

ADDRESS: No. 136 Kexue Avenue, High-tech District, Zhengzhou City, Henan Province, China

E-mail:machuang819@163.com

Phone:0371-86608256

Research Field and Interests: Remediation of Heavy Metal Pollution; Valorization of Solid Waste; Environmental Behavior & Effects of Pollutants

Education Background:

[1] 2001-2005 Henan Agricultural University. Agricultural Resources and Environment. B.S

[2] 2005-2008 Henan Agricultural University. Soil Science. M.S.

[3] 2008-2012 Institute of Geographic Sciences and Natural Resources Research (IGSNRR), Chinese Academy of Sciences. Environmental Science. Ph.D

Teaching Courses: Environmental Soil Science

Publications:

(1) Articals

[1] Chuang Ma, Fuyong Liu, Jun Yang*, Nan Liu, Ke Zhang, Mario Berrettoni, Hongzhong Zhang*. The newly absorbed atmospheric lead by

wheat spike during filling stage is the primary reason for grain lead pollution. Science of the Total Environment, 2023,870, 161965.

[2] Junxing Yang, Yawei Yu, Chuang Ma*, Hongzhong Zhang. Direct absorption of atmospheric lead by rapeseed siliques is the leading cause of seed lead pollution. Journal of Hazardous Material, 2023, 443, 130284.

[3] Chuang Ma, Lin Lin, Junxing Yang*, Fuyong Liu, Mario Berrettoni, Ke Zhang, Nan Liu, Hongzhong Zhang. Mechanisms of lead uptake and accumulation in wheat grains based on atmospheric deposition-soil sources. Science of the Total Environment, 2023,885,163845.

[4] Chuang Ma*, Yawei Yu , Fuyong Liu, Lin Lin, Ke Zhang, Nan Liu, Hongzhong Zhang*. Influence mechanism of awns on wheat grain Pb absorption: Awns' significant contribution to grain Pb was mainly originated from their direct absorption of atmospheric Pb at the late grain-filling stage, Ecotoxicology and Environmental Safety, 2023,257,114957.

[5] Chuang Ma, Xiaoyu Chen, Guodi Zheng*, Nan Liu, Jihong Zhao, Hongzhong Zhang. Exploring the influence mechanisms of polystyrene-microplastics on sewage sludge composting. Bioresource Technology, 2022, 362,127798.

[6] Chuang Ma, Pan Xie, Jun Yang*, Lin Lin, Ke Zhang, Hongzhong Zhang. Evaluating the contributions of leaf organ to wheat grain cadmium at the filling stage. Science of the Total Environment, 2022, 833,155217.

[7] Chuang Ma, Pan Xie, Jun Yang*, Fuyong Liu, Huafeng Hu, Jun Du, Ke Zhang, Lin Lin. Hongzhong Zhang. Relative contribution of environmental medium and internal organs to lead accumulation of wheat grain. Science of the Total Environment, 2022, 818,151832.

[8] Chuang Ma*, Fuyong Liu, Pan Xie, Ke Zhang, Junxing Yang, Jihong Zhao, Hongzhong Zhang. Mechanism of Pb absorption in wheat grains, Journal of Hazardous Material,2021,415, 125618.

[9] Chuang Ma, Pan Xie, Ke Zhang, Junxing Yang*, Xuanzhen Li, Fuyong Liu, Lin Lin, Hongzhong Zhang. Contribution of the flag leaf to lead absorption in wheat grain at the grain-filling stage, Ecotoxicology and Environmental Safety , 2021,225,112722.

[10] Chuang Ma, Bin Hu, Mingbao Wei, Jihong Zhao, Hongzhong Zhang*. Influence of matured compost inoculation on sewage sludge composting: enzyme activity, bacterial and fungal community succession. Bioresource Technology, 2019，294,122165.1.

（2）Patent:

[1] Ma Chuang, Jin Kai, Zheng Guodi, et al. Microbial Agent and Preparation Method for Rapid Temperature Rise in Aerobic Fermentation of Organic Solid Waste During Winter.CN ZL202110988278.4

[2] Ma Chuang, Jin Kai, Zheng Guodi, et al. Bioaugmented Microbial Agent and Preparation Method for Enhanced Aerobic Fermentation Efficiency of Organic Waste. CN ZL202110988354.1

[3] Ma Chuang, Zheng Guodi, Jin Kai, et al. Composite Microbial Agent

and Preparation Method for High-Efficiency Deodorization in Biofilters. CN ZL202111021698.1

[4] Ma Chuang, Yang Junxing, Du Jun, et al. Mixed Biochar-Based Remediation Method for Heavy Metal-Contaminated Soil. CN ZL202110956000.9

Projects：

[1] Henan Provincial Department of Science and Technology, Key R&D and Promotion Program of Henan Province (No. 242102320118)

"Research on Lead Pollution Control Technology in Wheat Grains from Atmospheric Particulate Matter"

[2] National Natural Science Foundation of China (NSFC), General Program (No. 42277413)

"Mechanisms of Lead Uptake and Accumulation in Wheat Systems Based on Dual Sources of Atmospheric Deposition and Soil"

Honors：

[1] Second Prize, Henan Provincial Science and Technology Progress Award. 2022

[2] Second Prize, Outstanding Scientific and Technological Achievement Award, Henan Provincial People’s Government. 2022

Xiaowu Tang

Associate Professor

ADDRESS: College of Material and Chemical Engineering, Zhengzhou University of Light Industry, Zhengzhou 450001, P. R. China.

PHONE:18394426060

E-mail:xwtang@zzuli.edu.cn

Websites:

https://frosty-easley-907b81.netlify.app/#projects

Research Field and Interests: My primary area of expertise involves synthesizing and applying organic thin-film transistor materials. This includes pioneering new conductive, semiconductor, and dielectric materials for use in thin-film transistors. My research extends to various domains, such as flexible logic circuits, thin-film sensors, and advancements in printed transistor technology.

Education Background:

[1]2011-09 to 2015-08, Kumoh National Institute of Technology, South Korea - Bachelor's degree

[2]2015-09 to 2017-08, Yeungnam University, South Korea - Master's degree

[3]2017-09 to 2021-02, Yeungnam University, South Korea - Doctorate degree

[4]2021-03 to 2022-02, Yeungnam University, Assistant Professor, School of Chemical Engineering
Teaching Courses: Delivering the undergraduate course "Intelligent Manufacturing of Materials" in the Polymer Materials and Engineering major.
Publications: Published over 30 SCI papers in journals such as Advanced Functional Materials, ACS Applied Materials & Interfaces, and Journal of Materials Chemistry C.
Ongoing Projects: From January 2022 to December 2023, presiding over the Henan Province Youth Fund Project.

Yankai Xie

Lecturer

ADDRESS： No.136 Ke Xue Avenue, Zhengzhou, HenanProvince

E-mail： 2024005@zzuli.edu.cn

Websites： https://orcid.org/0000-0001-5850-842X

Research Field and Interests：

[1]Development of microbial technologies for a sustainable water and nutrient cycle, including but not limited to nitrogen recovery and removal from waste streams (e.g., industrial and domestic wastewater, source-separated urine).

[2]Removal of pathogenic microorganisms and related genes in indoor air.

[3]Development of environmental nanotechnology for the modification of natural water (e.g., groundwater).

Education Background：

[1]2010-2014: Zhongyuan University of Technology, Bachelor in Environmental Engineering

[2]2014-2017: Hunan University, Master in Environmental Science and Engineering

[3]2017-2021: University of Antwerp, Ph.D. in Bioscience Engineering

[4]2022-2024: Tsinghua University, Post-doctor in Environmental

Science and Engineering

Teaching Courses:

[1]Environmental Engineering Microbiology

[2]Functional materials for environmental treatment

Publications:

[1] Xie Y., Zhu X., Zhang P., Wang S. Rapid inactivation of antibiotic resistance genes and virulence genes in the building ventilation duct by $UV_{185+254}$ irradiation. Chemical Engineering Journal, 2024. 487: p. 150635.

[2] Xie Y., Jia M., Gutiérrez Lozano P., Timmer M.J., Spiller M., et al. Energy-Efficient Nutrient Recovery from Real Urine for Hydroponics Based on Alkalinization, Full Nitrification in a Trickling Filter and Limited Supplementations. ACS ES&T Engineering, 2024.

[3] Xie Y., Zhu X., Zhang P., Wang S., Yang J., et al. Cost-effective instant air disinfection for building ventilation system by a combination of UV and micro-static electricity. Chemical Engineering Journal, 2023. 454: p. 140231.

[4] Xie Y., Van Tendeloo M., Zhu W., Peng L., Vlaeminck S.E. Autotrophic nitrogen polishing of secondary effluents: Alkaline pH and residual nitrate control S0-driven denitratation for downstream anammox treatment. Journal of Water Process Engineering, 2023. 56: p. 104402.

[5] Xie Y., Jia M., De Wilde F., Daeninck K., De Clippeleir H., et al.

Feasibility of packed-bed trickling filters for partial nitritation/anammox: Effects of carrier material, bottom ventilation openings, hydraulic loading rate and free ammonia. Bioresource Technology, 2023. 373: p. 128713.

[6] Xie Y., Spiller M., Vlaeminck S.E. A bioreactor and nutrient balancing approach for the conversion of solid organic fertilizers to liquid nitrate-rich fertilizers: Mineralization and nitrification performance complemented with economic aspects. Science of The Total Environment, 2021: p. 150415.

[7] Van Tendeloo M., Xie Y., Van Beeck W., Zhu W., Lebeer S., et al. Oxygen control and stressor treatments for complete and long-term suppression of nitrite-oxidizing bacteria in biofilm-based partial nitritation/anammox. Bioresource Technology, 2021: p. 125996.

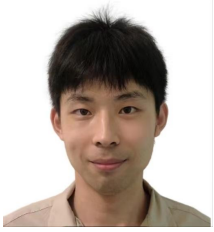
[8] Xie Y., Dong H., Zeng G., Zhang L., Cheng Y., et al. The comparison of Se(IV) and Se(VI) sequestration by nanoscale zero-valent iron in aqueous solutions: The roles of solution chemistry. Journal of Hazardous Materials, 2017. 338: p. 306-312.

[9] Xie Y., Dong H., Zeng G., Tang L., Jiang Z., et al. The interactions between nanoscale zero-valent iron and microbes in the subsurface environment: A review. Journal of Hazardous Materials, 2017. 321: p. 390-407.

Projects：

"Vice President of Science and Technology" of Henan Provincial Department of Science and Technology in 2024: Jiaozuo Zhongweipin

Pharmaceutical Co., LTD. (Service enterprise).



Xuanyu Yang

Researcher; Doctoral supervisor

ADDRESS： No. 136, Kexue Avenue, Zhengzhou

E-mail： kfyxyyfmhp@163.com

Websites：

https://hg.zzuli.edu.cn/2024/0505/c18985a311895/page.htm

Research Field and Interests：

Synthesis and sensitive properties of inorganic porous semiconductors

Education Background：

[1] 2010-2014, Shanghai University, Bachelor’s degree.

[2] 2014-2016, Shanghai University, Master’s degree.

[3] 2016-2019, Fudan University, Doctor’s degree.

Teaching Courses：

Principles of Chemical Engineering

Publications：

[1] Angew. Chem. Int. Edit., 2022, 61, 202207816.

[2] Adv. Funct. Mater., 2020, 30, 2002488.

[3] Adv. Sci., 2023, 10, 2204810.

[4] Chem. Eng. J., 2023, 474, 145549.

[5] Chem. Eng. J., 2024 498, 155298.

[6] ACS Sens., 2023, 8, 4293.

[7] ACS Sens., 2024 9, 4107.

[8] Sens. Actuators B: Chemical, 2025, 423, 136825.

[9] Sens. Actuators B: Chemical, 2024, 423, 135357.

[10] Small, 2019, 15, 1903058.

Projects：

[1] National Natural Science Foundation of China, Youth Science Foundation project, 22005057, 2021-01-01 to 2021-12-31, presided over.

[2] National Natural Science Foundation of China, general project, 22375186, 2024-01-01 to 2027-12-31, under research.

[3] Department of science and technology of Henan Province, Henan science and technology research plan, 222102230002, 2022-01 to 2023-12, presided over.

[4] Henan Provincial Department of science and technology, Henan Provincial Science and technology R&D plan joint fund young scientist project, 235200810084, 2024-01 to 2026-12, presided over.

Professional Affiliations：

Youth editorial board member of Chinese Chemical Letters

Zhang Hongzhong

Professor, PhD Supervisor

ADDRESS： No.136 Kexue Avenue, High Tech Zone, Zhengzhou 450002, China

E-mail： zhz@zzuli.edu.cn

Websites:

http://hg.zzuli.edu.cn/2023/1120/c20955a298041/page.htm

Research Field and Interests： CO_2 photothermal catalysis, membrane separation technology, wastewater treatment

Education Background：

[1] 1986-1990 Zhengzhou University of Light Industry, Bachelor's degree

[2] 1992-1995 Henan Normal University, Master's degree

[3] 2001-2005 Beijing University of Science and Technology, Ph.D

[4]2006-2007 Griffith University, Visiting scholar

Teaching Courses：

Photocatalysis, Water Pollution Control Engineering

Publications： from 2021 to present, corresponding author only

[1] Efficient solar-driven: Photothermal catalytic reduction of atmospheric CO_2 at the gas-solid interface by CuTCPP/MXene/TiO_2 [J]. Journal of Colloid and Interface Science, 2025, 677: 758-70.

[2] Development of pH-Responsive SA/PEGDA/AS-POSS Hydrogels

via Michael Addition for Controlled Drug Release and Enhanced Mechanical Properties [J]. Chemistry-a European Journal, 2025, 31(12).

[3] Pt/MXene-enabled industrial flue gas waste heat-driven, dual-product selective photothermal catalytic reduction of CO_2 with high efficiency [J]. Journal of Colloid and Interface Science, 2025, 691: 137405.

[4] Novel cocatalyst $MnCo_2S4$ based on $Zn_3In_2S_6$ for enhanced photocatalytic hydrogen production and ranitidine degradation [J]. Journal of Alloys and Compounds, 2024, 1004.

[5] Preparation of Bi_2WO_6/MXene($Ti_3C_2T_x$) Composite Material and Its Photothermal Catalytic Reduction of CO_2 in Air [J]. Catalysts, 2024, 14(12).

[6] 6S-scheme heterojunction Cu-porphyrin/TiO_2 nanosheets with highly efficient photocatalytic reduction of CO_2 in ambient air [J]. Journal of Colloid and Interface Science, 2024, 665: 1079-90.

[7] Electro-assisted photocatalytic reduction of CO_2 in ambient air using Ag/TNTAs at the gas-solid interface [J]. Materials Reports: Energy, 2024, 4(2).

[8] Study on modification and performance of desulfurizer produced by natural soda ash [J]. Chemical Papers, 2024, 78(18): 9601-13.

[9] Bimetallic $NiCo_2S_4$ Nanorod Cocatalyst Modified the Flower-Like $Zn_3In_2S_6$ Microsphere for Visible-Light-Driven High-Efficiency Photocatalytic Hydrogen Production [J]. Energy Technology, 2024, 12(10).

[10] Molecularly imprinted photoelectrochemical sensor for ultrasensitive and selective detection of hydroquinone using 0D CdS nanoparticle/3D flower-like $ZnIn_2S_4$ microsphere nanocomposite [J]. Journal of Colloid and Interface Science, 2024, 676: 459-70.

[11] Flower-like 3D MoS_2 microsphere/2D C_3N_4 nanosheet composite for highly sensitive electrochemical sensing of nitrite [J]. Food Chemistry, 2024, 430.

[12] Zr-MOF/MXene composite for enhanced photothermal catalytic CO_2 reduction in atmospheric and industrial flue gas streams [J]. Carbon Capture Science & Technology, 2024, 13.

[13]Exploring drug release performance of hollow-structured CS/SA/POSS composite gel spheres employing hydrophilic polymerizable AS-POSS as crosslinker [J]. Journal of Applied Polymer Science, 2024, 141(30).

[14] Facile Synthesis of a Bi_2WO_6/BiO_{2-x} Heterojunction for Efficient Photocatalytic Degradation of Ciprofloxacin under Visible Light Irradiation [J]. Catalysts, 2023, 13(3).

[15] Relative contribution of environmental medium and internal organs to lead accumulation of wheat grain [J]. Science of the Total Environment, 2022, 818.

[16] Evaluating the contributions of leaf organ to wheat grain cadmium at the filling stage [J]. Science of the Total Environment, 2022, 833.

[17] The Relative Contributions of Different Wheat Leaves to the Grain

Cadmium Accumulation [J]. Toxics, 2022, 10(11).

[18] Exploring the influence mechanisms of polystyrene-microplastics on sewage sludge composting [J]. Bioresource Technology, 2022, 362.

[19]Application of atomic electrostatic potential descriptors for predicting the eco-toxicity of ionic liquids towards leukemia rat cell line [J]. Chemical Engineering Science, 2022, 260.

[20] Highly efficient solar-driven photocatalytic hydrogen evolution by a ternary 3D $ZnIn_2S_4$-MoS_2 microsphere/1D TiO_2 nanobelt heterostructure [J]. New Journal of Chemistry, 2021, 45(31): 14167-76.

[21] Achieving biogas production and efficient pollutants removal from nitrogenous fertilizer wastewater using combined anaerobic digestion and autotrophic nitrogen removal process [J]. Bioresource Technology, 2021, 339.

[22] In-site synthesis of an inorganic-framework molecular imprinted TiO_2/CdS heterostructure for the photoelectrochemical sensing of bisphenol A [J]. Analytical Methods, 2021, 13(25): 2857-64.

[23]$ZnIn_2S_4$/TiO_2/Ag Composite Photocatalyst: Preparation and Performance for Hydrogen Production from Water Splitting [J]. Chinese Journal of Inorganic Chemistry, 2021, 37(9): 1571-8.

[24]Mechanism of Pb absorption in wheat grains [J]. Journal of Hazardous Materials, 2021, 415.

Projects：

[1] Synthesis of a large-scale highly ordered TiO_2 membrane by

self-assembly and evaluation its photocatalytic efficiency, NSFC General Program Grant from the National Natural Science Foundation of China (20971113)

[2] Fabrication and characterization for nano-TiO_2 composite membrane, Key Project Grant from Chinese Ministry of Education (208085)

[3] Research on Key Technologies of Solar-Driven CO_2 Photothermal Catalysis, Key Research and Development Program of Henan Province （251111520300）

Honors：

[1] Henan Provincial Science and Technology Progress Award, 2021, 2019, 2017

[2] China Nonferrous Metals Industry Science and Technology Award, 2018

[3] Henan Provincial High-Level Talent

[4] Leader of Henan Provincial Innovation Team

Professional Affiliations：

[1] Director of the Key Laboratory of Pollution Control and Resource Recycling in China's Light Industry

[2] Deputy Director of the Henan Provincial Committee for Identification of Hazardous Waste

[3] Council Member of the Henan Provincial Chemical Industry Society

Ke Zhang

Lecturer

ADDRESS: No.136 Science Avenue, High-tech Zone, Zhengzhou

PHONE:15136263455

E-mail:zkecology@163.com

Research Field and Interests:

Soil ecology, Microplastics pollution in soil

Education Background:

[1]2007.09-2011.07 Xuchang University,Geographical science, bachelor

[2]2011.09-2014.07 Cold and Arid Regions Environmental and Engineering Research Institute，Chinese Academy of Sciences, Ecology, Master

[3]2014.09-2017.07 Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences, Ecology, PhD

[4]2016.07-2017.08 The Hebrew University of Jerusalem, Ecology, Joint-Doctoral Program

Teaching Courses:

Engineering Economics, Environmental Soil Science, Principle and Technology of Soil Pollution Control

Publications:

(1) Book

Environmental Soil Science

(2)Articals

[1] Ke Zhang, Yi Li, Dequan Liu, Shuo Dou, Yongle Chen, Mingzhu He, Chuang Ma. Response of soil enzymes to soil properties and seasonal characteristics of cyanobacteria-dominated crusts in a dryland ecosystem. Journal of Soils and Sediments, 2023, 23: 2756-2765.

[2] Ke Zhang, Nan Gao, Yi Li, Shuo Dou, Zhengxing Liu, Yongle Chen, Chuang Ma, Hongzhong Zhang. Responses of maize (*Zea mays* L.) seedlings growth and physiological traits triggered by polyvinyl chloride microplastics is dominated by soil available nitrogen. Ecotoxicology and Environmental Safety, 2023, 252: 114618.

[3] Ke Zhang, Mengmeng Li, Kai Wang, Nan Gao, Dequan Liu, Yongle Chen. Depth-related response of soil enzymes to cyanobacteria-dominated crusts along a precipitation gradient. Land Degradation & Development, 2021, 32: 4183-4192.

[4] Ke Zhang, Mengmeng Li, Yongzhong Su, Rong Yang. Stoichiometry of leaf carbon, nitrogen, and phosphorus along a geographic, climatic, and soil gradients in temperate desert of Hexi Corridor, northwest China. Journal of Plant Ecology, 2020, 13: 114-121.

[5] Ke Zhang, Yongzhong Su, Rong Yang. Variation of soil organic carbon, nitrogen, and phosphorus stoichiometry and biogeographic factors across the desert ecosystem of Hexi Corridor, northwest China. Journal of Soils and Sediments, 2019, 19: 49-57.

Ongoing Project:

Technical center fro soil, Agriculture and Rural Ecology and Environment, Ministry of Ecology and Environment: The investigation project of the potential causes of heavy metal pollution in the farmland of Xinxiang

Zhang Xiaojing

Associate Professor, Master's Supervisor

ADDRESS: No.136 Science Avenue, Zhengzhou City

PHONE:037186608700

E-mail:zhangxiaojing@zzuli.edu.cn

Research Areas and Interests:

New technology of biological nitrogen removal from wastewater; Nitrogen cycle in aquatic system; Quorum sensing; Emerging pollutants removal technology

Education Background:

[1]2004.09-2008.07 Zhengzhou University of Light Industry, Bachelor

[2]2008.09-2011.07 Zhengzhou University, Master

[3]2011.09-2014.06 Harbin Institute of Technology, Doctor

Teaching Courses:

[1]Water Pollution Control Engineering

[2]Water Pollution Control Engineering Experiment

[3]New Technology of Sewage Biological Treatment

[4]Environmental Pollution Control Engineering

[5]Typical Industry Wastewater Treatment Technology

[6]Environmental Engineering Design and Application

Publications:

[1]Xiaojing Zhang*, Han Zhang, Nan Zhang, et al. Impacts of exogenous quorum sensing signal molecule-acylated homoserine lactones (AHLs)

with different addition modes on Anammox process. Bioresource Technology 371(2023) 128614

[2]Xiaojing Zhang*, Bingbing Ma, Nan Zhang, et al. Regulating performance of CANON process via adding external quorum sensing signal molecules in membrane bioreactor. Bioresource Technology 369 (2023) 128465

[3]Xiaojing Zhang*, Hongli Zhang, Zhao Chen, et al. Achieving biogas production and efficient pollutants removal from nitrogenous fertilizer wastewater using combined anaerobic digestion and autotrophic nitrogen removal process. Bioresource Technology 339 (2021) 125659

[4]Xiaojing Zhang*, Zhao Chen, Nan Zhang, et al. Resistance to copper oxide nanoparticle and oxytetracycline of partial nitrification sludge. Chemical Engineering Journal 381 (2020) 122661

[5]Xiaojing Zhang*, Zhao Chen, Yongpeng Ma, et al. Response of partial nitrification sludge to the single and combined stress of CuO nanoparticles and sulfamethoxazole antibiotic on microbial activity, community and resistance genes. Science of the Total Environment 712 (2020) 135759

[6]Zhao Chen, Xiaojing Zhang*, Yongpeng Ma, et al. Anammox biofilm system under the stress of Hg(II): Nitrogen removal performance, microbial community dynamic and resistance genes expression. Journal of Hazardous Materials 395 (2020) 122665

[7]Xiaojing Zhang*, Zhao Chen, Yongpeng Ma, et al. Response of

Anammox biofilm to antibiotics in trace concentration: Microbial activity, diversity and antibiotic resistance genes. Journal of Hazardous Materials 367 (2019) 182-187

[8]Xiaojing Zhang*, Zhao Chen, Yue Zhou, et al. Impacts of the heavy metals Cu (II), Zn (II) and Fe (II) on an Anammox system treating synthetic wastewater in low ammonia nitrogen and low temperature: Fe (II) makes a difference. Science of the Total Environment 648 (2019) 798-804

[9]Yongpeng Ma, Denghui Wei, Xiaojing Zhang*, et al. An innovative strategy for inducing Anammox from partial nitrification process in a membrane bioreactor. Journal of Hazardous Materials 379 (2019) 120809

[10]Xiaojing Zhang*, Zhao Chen, Yongpeng Ma, Y et al. Influence of elevated Zn (II) on Anammox system: Microbial variation and zinc tolerance. Bioresource Technology 251 (2018) 108-113

[11]Xiaojing Zhang*, Yue Zhou, Tengfei Xu, et al. Toxic effects of CuO, ZnO and TiO2 nanoparticles in environmental concentration on the nitrogen removal, microbial activity and community of Anammox process. Chemical Engineering Journal 332 (2018) 42-48

[12]Xiaojing Zhang*, Zhao Chen, Yongpeng Ma, et al. Acute and persistent toxicity of Cd(II) to the microbial community of Anammox process. Bioresource Technology 261 (2018) 453-457

[13]Xiaojing Zhang*, Yue Zhou, Nan Zhang, et al. Short-term and long-term effects of Zn (II) on the microbial activity and sludge property

of partial nitrification process. Bioresource Technology 228(2017) 315-321

[14]Xiaojing Zhang, Yue Zhou, Boyang Yu, et al. Effect of copper oxide nanoparticles on the ammonia removal and microbial community of partial nitrification process. Chemical Engineering Journal 328 (2017) 152-158

[15]Xiaojing Zhang, Nan Zhang, Haoqiang Fu, et al. Effect of zinc oxide nanoparticles on nitrogen removal, microbial activity and microbial community of CANON process in a membrane bioreactor. Bioresource Technology 243(2017) 93-99

Ongoing Project:

[1]2024.01-2027.12 Project of the National Natural Science Foundation of China, Impacts of perfluoroalkyl substances on iron-sulfur mediated nitrogen cycle in urban river sediment and its AHLs regulation mechanism, 42377414

[2]2024.01-2026.12 Science and Technology Innovation Team of Universities in Henan Province, New technology of nitrogen pollution control in wastewater and aquatic system, 24IRTSTHN016

[3]2022.01-2023.12 Program for Central Plains Youth Top Talent, Study on the mechanism of emerging pollutants' influence on carbon, nitrogen, and sulfur cycle in the Yellow River Basin, [2021] 44

Awards and Honors:

Second prize of Science and Technology Progress in Henan Province

(2021); Third prize of Science and Technology Progress in Henan Province (2019)
Society Membership: Director of Henan Chemical Industry Association; Young editorial member of the Journal “Light Industry”

Zhang Zhihong

Ph.D, Prof.

ADDRESS: School of Material and Chemistry, Zhengzhou University of Light Industry, No.136 Science Avenue, 450001, Zhengzhou

PHONE： 0371-86609676

FAX： 0371-86609676

E-mail： mainzhh@163.com or 2006025@zzuli.edu.cn

Research Interests:

Electrocatalysis synthesis and investigation of NRR, NOR, UOR, and AOR;

Safe detection of food additives, heavy metal ions, cancer markers, exosome, and proteins using the electrochemical biosensor, SPR, and QCM based-on nanocomposites; Synthesis of functional nanomaterials; Multiple sensitive and selective detection of tumors and fungus.

Educational Background:

[1]Dec, 2000-Mar, 2004 Ph.D of Plasma polymerization, Max-Planck Institute for Polymer Research, MPIP Germany

[2]Sep, 1997-Mar, 1999 Master of Polymer Compound Material, the 43th Institute of China Aerospace Company, Xi An, China

[3]Sep, 1996-July, 1997 Master of Polymer Compound Material, Chemical Engineering Department, Northwest Industry University, Xi

An, , China

[4]Sep, 1992-July, 1996 Bachelor of Polymer Material, Polymer Material Engineering Department, Zhengzhou University, ZZU，Zhengzhou, China

Courses Taught:

"Polymer chemistry", (UG level, Annually, since 2007);

"Controlling polymerization" (UG level, Annually, since 2007);

"New approaches of the polymerization", (Graduate level, Annually, Since 2007).

Publications:

[1] Shuai Zhang, Weihua Zhao, Jiameng Liu, Zheng Tao, Yinpeng Zhang, Shuangrun Zhao, Zhihong Zhang,* and Miao Du*, Spin Manipulation of Co sites in Co_9S_8/Nb_2CT_x Mott–Schottky Heterojunction for Boosting the Electrocatalytic Nitrogen Reduction Reaction, *Advanced Science*, 2024, 2407301.

[2] Shuai Zhang, Zheng Tao, Mingyang Xu, Lun Kan, Chuanpan Guo, Jiameng Liu, Linghao He, Miao Du,* and Zhihong Zhang*, Single-Atom Co-O_4 Sites Embedded in a Defective-Rich Porous Carbon Layer for Efficient H_2O_2 Electrosynthesis, *Small*, 2024, 2310468.

[3] Jiameng Liu, Chuanpan Guo, Zhenzhen Liu, Fang Cheng, Shuai Zhang, Zhihong Zhang*, Simultaneous sterilization and biosensing of pathogenic bacteria via copper phthalocyanine-based COF embedded with Cu-N_4 single atomic sites and silver nanoparticles, *Chemical*

Engineering Journal, 2024, 494, 153139

[4] Chuanpan Guo, Zengchao Zhang, Yiming Ruan, Zhenzhen Liu, Shuai Zhang, Fang Cheng, Linghao He, Zhihong Zhang*, Simultaneous water sterilization and photodegradation of malachite green based on Z-scheme heterojunction of bimetallic sulfide and zinc phthalocyanine, *Separation and Purification Technology*, 2025, 353, 128187

[5] Xiaowu Tang, Yifei Wang, Zengchao Zhang, Mingyang Xu, Zheng Tao, Sizhuan Li, Jiameng Liu, Zhikun Peng, Chuanpan Guo, Linghao He, Rixuan Wang, Miao Du*, Zhihong Zhang*, Se Hyun Kim*, Flexible Zn-air battery for self-powered aptasensing SARS-CoV-2, *Nano energy*, 2024, 127, 109713.

[6] Jiameng Liu, Linghao He, Zheng Tao, Sizhuan Li, Changbao Wang, Yinpeng Zhang,Shuai Zhang, Miao Du,* and Zhihong Zhang*, Ferric Oxide Nanocrystals-Embedded Co/Fe-MOF with Self-Tuned d-Band Centers for Boosting Urea-Assisted Overall Water Splitting, *Small*, 2024, 20, 2306273.

[7] Chuanpan Guo, Mingyang Xu, Zheng Tao, Jiameng Liu, Shuai Zhang, Linghao He, Miao Du*, Zhihong Zhang*, Understanding electron structure of covalent triazine framework embraced with gold nanoparticles for nitrogen reduction to ammonia, *Journal of Colloid and Interface Science*, 2024, 675, 369-378.

[8] Jiameng Liu, Linghao He, Shuangrun Zhao, Lijun Hu, Sizhuan Li, Zhihong Zhang*, Miao Du*, A Robust n-n Heterojunction: Cu-N and

B-N Boosting for Ambient Electrocatalytic Nitrogen Reduction to Ammonia, *Small*, 2023, 19, 2302600.

[9] Chuanpan Guo, Yiming Ruan, Shuai Zhang, Lun Kan, Heng Bian, Feilong Rong, Linghao He, Dongsheng Li, Miao Du*, Zhihong Zhang*, Manganese oxide nanocrystals embedded porous Graphene-like network for electrosynthesis of H_2O_2 and construction of Self-powered aptasensor, *Chemical Engineering Journal*, 2023, 466, 143033.

[10] Jia-Yue Tian, Wen-Chao Lv, Ao-Song Shen, Yashen Ma, Minghua Wang, Shuai Zhang, Xiao Long Liu, Zhihong Zhang*, Miao Du*, Construction of the copper metal-organic framework (MOF)-on-indium MOF Z-scheme heterojunction for efficiently photocatalytic reduction of Cr(VI), *Separation and Purification Technology*, 2023, 327, 124903.

[11] Jiameng Liu, Linghao He, Shuangrun Zhao, Sizhuan Li, Lijun Hu, Jia-Yue Tian, Junwei Ding, Zhihong Zhang*, Miao Du*, Plasma-Assisted Defect Engineering on p-n Heterojunction for High-Efficiency Electrochemical Ammonia Synthesis, *Advanced Science*, 2023, 10, 2205786.

[12] Fenghe Duan, Qiaojuan Jia, Gaolei Liang, Mengfei Wang, Lei Zhu, Kevin J McHugh, Lihong Jing*, Miao Du*, Zhihong Zhang*, Schottky Junction Nanozyme Based on Mn-Bridged Co-Phthalocyanines and $Ti_3C_2T_x$ Nanosheets Boosts Integrative Type I and II Photosensitization for Multimodal Cancer Therapy, *ACS Nano*, 2023, 17, 12, 11290-11308.

[13] Jia-Yue Tian, Xiaolong Liu, Shuai Zhang, Kun Chen, Lei Zhu,

Yingpan Song, Minghua Wang, Zhihong Zhang*, Miao Du*, Novel aptasensing strategy for efficiently quantitative analyzing Staphylococcus aureus based on defective copper-based metal–organic framework, *Food Chemistry*, 2023, 402, 134357.

[14] Shuai Zhang, Sizhuan Li, Jiameng Liu, Lun Kan, Feilong Rong, Linghao He, Zhihong Zhang*, Multiple active cobalt species embedded in microporous nitrogen-doped carbon network for the selective production of hydrogen peroxide, *Journal of Colloid and Interface Science*, 2023, 631, 101-113.

[15] Fufeng Yan, Fang Cheng, Chuanpan Guo, Gaolei Liang, Shuai Zhang, Shaoming Fang, Zhihong Zhang*, Curcumin-regulated constructing of defective zinc-based polymer-metal-organic framework as long-acting antibacterial platform for efficient wound healing, *Journal of Colloid and Interface Science*, 2023, 641, 59-69.

[16] Hongming He, Qian-Qian Zhu, Ying Yan, Han-Wen Zhang, Zhang-Ye Han, Hongming Sun, Jing Chen, Cheng-Peng Li, Zhihong Zhang, Miao Du*, Metal–organic framework supported Au nanoparticles with organosilicone coating for high-efficiency electrocatalytic N_2 reduction to NH_3, *Applied Catalysis B: Environmental*, 2022, 302, 120840.

[17] Hongming He, Hong-Kai Li, Qian-Qian Zhu, Cheng-Peng Li, Zhihong Zhang, Miao Du*, Hydrophobicity modulation on a ferriporphyrin-based metal–organic framework for enhanced ambient

electrocatalytic nitrogen fixation, *Applied Catalysis B: Environmental*, 2022, 316, 121673.

[18] Lei Zhu, Gaolei Liang, Chuanpan Guo, Miaoran Xu, Minghua Wang, Changbao Wang, Zhihong Zhang*, Miao Du, A new strategy for the development of efficient impedimetric tobramycin aptasensors with metallo-covalent organic frameworks (MCOFs), *Food Chemistry*, 2022, 130575.

[19] Fenghe Duan, Feilong Rong, Chuanpan Guo, Kun Chen, Minghua Wang, Zhihong Zhang*, Riccardo Pettinari, Liming Zhou, Miao Du, Electrochemical aptasensing strategy based on a multivariate polymertitanium-metal-organic framework for zearalenone analysis, *Food Chemistry*, 2022, 385, 132654.

[20] Minghua Wang, Gaolei Liang, Mengfei Wang, Min Hu, Lei Zhu, Zhenzhen Li, Zhihong Zhang*, Linghao He, Miao Du*, Electroactive and photoactive porphyrin-based covalent-organic framework for the construction of a bifunctional self-powered sensing platform toward real time analysis of nitride oxide from cancer cells, *Chemical Engineering Journal*, 2022, 448, 137779.

Projects Undertaken:

[1] Henan Provincial University Science and Technology Innovation Team (No. 25IRTSTHN003), Photoelectrically Functional Organic Framework Materials, 2025.01 - 2027.12, In Progress;

[2] National Natural Science Foundation (No. U1604127),

Construction of Bioactive MOFs-based Composites and Their Mechanisms in Cancer Cell Detection and Dual Anticancer Drug Controlled Release, 2017.01 - 2019.12, Completed;

[3] National Natural Science Foundation (No. 51173172), Fundamental Research on Functionalized Graphene-Polymer Composites as Biochips, 2012.01 - 2015.12, Completed;

[4] National Natural Science Foundation (No. 20704039), Fundamental Research on Immobilization Mechanisms of Biomolecules in Plasma-polymerized Pyrrole, 2008.01 - 2010.12, Completed;

[5] Henan Provincial Outstanding Youth Foundation Project (No. 202300410492), Construction of Multimetallic Porphyrin COFs Nanostructures and Their Biosensing Performance Research, 2020.01 - 2022.12, Completed;

[6] Henan Provincial Innovative Research Team in Science and Technology (No. CXTD2014042), Research and Development of Biofunctional Polymer Composites, 2014.10 - Present, Team Leader;

[7] Henan Provincial Key Science and Technology Project (No. 192102310460), Development of Electrochemical Biosensors for Simultaneous Detection of Multiple Cancer Markers, 2019.01 - 2020.12, Completed;

[8] Henan Provincial International Science and Technology Cooperation Project (No. 132106000076), Development of Functionalized Graphene Self-assembled Membranes for Rapid

Detection of Food Additives, 2014.01-2016.12, Completed;

[9] Zhengzhou Municipal Key Science and Technology Project (No. 20130846), Development of Biochip Technology for Rapid Quantitative Detection of Food Additives, 2013.09 - 2015.09, Completed;

[10] Henan Provincial University Science and Technology Innovation Talent Support Program (No. 2010HASTIT023), Research on Bio-polymeric Azobenzene Pyrrole Polymers, 2010.01 - 2012.12, Completed;

Awards and Honors:

[1] First Prize Henan Provincial Natural Science Award, 2024.12

[2] Second prize of Henan province scientific and technological achievements, 2014.01

[3] Third prize of Henan province scientific and technological achievements, 2014.01

[4] Academic technology leaders in Henan province department of education, 2014

[5] First prize in scientific and technological achievements in Henan province department of education, 2006.05

[6] Second prize in scientific and technological achievements in Henan province department of education, 2006.05

Jianbo Zhao

Professor, PhD, Master Supervisor

ADDRESS: No. 136 Kexue Avenue, High-tech District, Zhengzhou City, Henan Province, China

PHONE:(+86) 0371-86608690

FAX:(+86) 0371-86608700

E-mail:zhaojianbo@zzuli.edu.cn

Research Field and Interests: The basic science research of the preparation of new catalytic materials and their applied research of fine chemicals, environment and energy fields.

Education Background:

[1]Sept.2010-Mar.2014 PhD, Chemistry, Nanjing University, PRC

[2]Feb.2017-Feb.2018 Visiting scholar, Carnegie Mellon University, USA

[3]Aug.2018-Jul.2019 Visiting scholar, Tsinghua University, PRC

Teaching Courses: Instrumental Analysis, Industrial Analysis, et al.

Publications:

(1) Works

Modern instrumental analysis and its application in food fields, China Light Industry Press,2021, editor in chief.

(1) Articals

[1] Zhao J. B., Yuan H., Yang G., Liu Y., Qin X., Chen Z., Weng-Chon C.,

Zhou L., Fang S. AuPt bimetallic nanoalloys supported on SBA-15: a superior catalyst for quinoline selective hydrogenation in water. Nano Res. 2022, 15, 1796-1802.

[2] Zhao J. B., Ge L., Yuan H., Liu Y., Gui Y., Zhang B., Zhou L., Fang S. Heterogeneous Gold Catalysts for Selective Hydrogenation: From Nanoparticles to Atomically Precise Nanoclusters. Nanoscale 2019, 11, 11429-11436.

[3] Zhao J. B., Jin R. Heterogeneous catalysis by gold and gold-based bimetal nanoclusters. Nano Today 2018, 18, 86-102.（ESI 高被引论文）

[4] Zhao J. B., Li Q., Zhuang S., Song Y., Morris D. J., Zhou M., Wu Z., Zhang P., Jin R. Reversible Control of Chemoselectivity in Au38(SR)24 Nanocluster-Catalyzed Transfer Hydrogenation of Nitrobenzaldehyde Derivatives. J. Phys. Chem. Lett. 2018, 9, 7173-7179.

[5] Zhao J. B., Li X., Zhang M., Xu Z., Qin X., Liu Y., Han L., Li G. Boosting catalytic performance of Co-N-C derived from ZIF-67 by mesoporous silica encapsulation for chemoselective hydrogenation of furfural. Nanoscale 2023, 15, 4612-4619.

（3）Patent:

[1] Zhao J. B.，Yuan H.，Gui Y.，Liu Y.，Xie J.，Sun Y.，Fang S.，Zhou L.， Wu S. Preparation and application of noble atom catalysts, ZL201910636043.1.

[2] Zhao J. B.，Yuan H.，Han L.，Tian K.，Qin X.，Gui Y., Liu Y.，Sun Y.， Zhou L.， Fang S. Preparation and application of LDHs supported

Palladium catalysts for selective hydrogenation of Phenylacetylene to styrene,ZL 202010092850.4.

Projects:

Construction and application of platinum single atom alloy catalyst towards green and efficient synthesis of chloroaromatic amine.

Honors:

[1] First Prize of Excellent Academic paper of Henan Province Natural Science, 2015

[2] First Prize of Science Technology Achievement of Industry and Information Technology of Henan Province, 2011

Social part-time jobs:

Peer reviewers of ACS Catal.,Appli,Catal.A-Gen.,Appli.Surf.Sci.,Mater. Lett., et al.