

Yuemei Wang

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EDUCATION

- ✧ **Inner Mongolia University of Technology** **Hohhot, Inner Mongolia, China**
B.E. in Environmental Engineering *Sept. 2014 – Jul. 2018*
Weighted Average Mark: 82.8/100; Comprehensive score ranking: 1/30
Main Courses: Environmental Chemistry (Excellent); Professional English for Environmental Science and Engineering (Excellent); Environmental Impact Assessment (Good); Environmental Ecology (Good); Water Pollution Control Engineering (84/100); Air Pollution Control Engineering(84/100)
Supervisor: Prof. Jianguo Liu
- ✧ **University of Chinese Academy of Sciences** **Beijing, China**
M.S. in Environmental Engineering *Sept. 2019 – Jun. 2022*
TOTAL CREDIT: 30.5; Grade Point Average (GPA): 3.58/4.0
Main Courses: Modern Environmental Analysis (79); Advanced environmental chemistry (77); Environmental pollution control chemistry (88); Soil Contamination and Remediation (87); Modern Instrumental Analysis (92)
Supervisor: Prof. Ling Zhao; Prof. Ying Teng

PUBLICATIONS

- [1] **Wang, Y.**, Wang, Z., Li, C., et al., (2022). The effect of Mn-modified pig manure biochar on the absorption and accumulation of mercury and Cadmium in soil by rice. **Soil.** 54 (06), 1225-1232. **(In Chinese)**
- [2] **Wang, Y.**, Zhang, Z., Liu, W., (2017). Experimental Study on Physical-Chemical Pretreatment of Sand Willow. **Energy and Environmental Protection.** 2017 (01), 134-139+143. **(In Chinese)**
- [3] **Wang, Y.**, Zhang, G., Li, N., et al., (2025), pH-dependent response of soil microbial community and multifunctionality to long-term low and moderate mercury pollution. **Ecotoxicology and Environmental Safety.** 303: 118924. (<https://doi.org/10.1016/j.ecoenv.2025.118924>)
- [4] Yu, Q., Li, W., **Wang, Y.**, et al., (2024). Research Progress on the Current Situation of Heavy Metal Pollution in Farmland Soil and Safe Utilization Technologies. **Soil.** 56 (02), 229-241. **(In Chinese)**
- [5] Li, W., Yu, W., **Wang, Y.**, et al., (2023). Research Progress on Environmental Effects and Remediation Technologies of Soil Heavy Metal-Organic Compound Pollution. **Soil.** 55 (03), 453-463. **(In Chinese)**

RESEARCH EXPERIENCE

- Research Assistant** (State Key Laboratory of Soil and Sustainable Agriculture, Institute of Soil Science, Chinese Academy of Sciences | Prof. Yongming Luo; Prof. Ying Teng; Prof. Wenjie Ren; Prof. Ling Zhao) *Jul. 2022 – Sept. 2024*
- Project 1 : **Mechanisms of Enhanced In Situ Biotransformation and Synergistic Remediation for Co-contaminated Site Soils: Nanomaterial-Enhanced Rhizoremediation Technology** (Supported by the National Natural Science Foundation of China | Grant No. 41991335)
 - Evaluated remediation efficacy of engineered nanomaterials in root zone environments.
 - Investigated contaminant transport-transformation mechanisms in nanomaterial-rhizosphere systems.
 - Analyzed microbiome responses across vertical soil profiles using high-throughput sequencing.
 - Project 2 : **Response of Soil Microbial Community and Multifunctionality to Long-term Low and Moderate Mercury Pollution in Abandoned Farmland** (Supported by the National Natural Science Foundation of China | Grant No. 41991335)
 - Conducted field research on abandoned farmlands with long-term low-to-moderate Hg contamination (0.02-5.43 mg/kg).
 - Characterized bacterial communities via 16S rRNA gene amplicon sequencing.
 - Soil pH was a key factor influencing bacterial community composition (vs. Hg levels).
 - Demonstrated weak correlation between α -diversity/richness and total or available Hg content.
 - Project 3 : **Technology Integration and Engineering Demonstration for Remediation of E-waste Dismantling Sites and Surrounding Contaminated Zones in Hilly Areas** (Supported by the National Key R&D Program of China | Grant No. 2019YFC1803705)

- Cd-Low-Accumulating Rice & Sedum plumbizincicola/Legume Rotation Remediation Technology: Cd ↓ 37.7% in soil, 51.3% in rice grains.
- Clover-Rhizobium Symbiont / Artemisia-Peach Tree Intercropping Remediation System: Cd ↓ 69.7%, Cu ↓ 86.9%, PCBs ↓ 87.0% in soil.
- Vicia faba - Sedum plumbizincicola/Microbial Rhizosphere Enhancement - Soybean Annual Rotation System: Cd ↓ 66.9%, PAHs ↓ 43.6%, PCBs ↓ 68.8% in soil; faba bean/grain Cd < 0.1 mg/kg.
- Green Low-Carbon Industrial Technology-Rice Straw Eco-Panels: Removed 3.705 kg Cd per 666.7 ha; sequestered 2860 t CO₂-eq per 666.7 ha; generated economic output of USD 1.02 million per 666.7 ha.

M.S. Thesis Research (Institute of Soil Science, Chinese Academy of Sciences, University of Chinese Academy of Sciences | Adviser: Prof. LingZhao) Jul. 2020 – Jun.2022

- **Title:** *Studies on Remediation Effect and Mechanism of Mn-Modified Biochar in Heavy Metals Contaminated Soil.*
- **Core Innovation:**
 - Developed Mn-modified swine manure biochar for synergistic heavy metal immobilization and nutrient delivery, representing a viable strategy for livestock waste valorization.
 - Elucidated the efficacy in suppressing rice heavy metal uptake and underlying immobilization mechanisms with Mn-modified swine manure biochar in Hg-Cd and Cu-Cd co-contaminated farmlands, providing a technical foundation for safe rice production.
- **Key Results:**
 - The primary adsorption mechanisms for Hg(II), Cd(II), and Cu(II) removal by Mn-modified swine manure biochar: Electrostatic attraction, Complexation, Precipitation, Intraparticle diffusion, Ion exchange constitute .
 - Pot Trials (Rice grains): Hg-Cd: Total Hg ↓ 28.9 ~ 50.4%; Methyl Hg ↓ 40.9 ~ 58.4%; Total Cd ↓ 53.4 ~ 79.3% | Cd-Cu: Total Cd ↓ 26.8 ~ 65.8%; Total Cu ↓ 33.6 ~ 51.9%.
 - Field validation of biochar achieved a 31.67% reduction in total Cd content of rice grains, with sustained reductions exceeding 40% in total in total Hg over two consecutive cropping seasons.
- **Output:** Wang, Y., Wang, Z., Li, C., et al., (2022). The effect of Mn-modified pig manure biochar on the absorption and accumulation of mercury and Cadmium in soil by rice. *Soil.* 54 (06), 1225-1232.

CONFERENCES

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| ● 3rd National Conference on Soil Remediation, Nanjing, China. (Volunteer) | Nov. 2023 |
| ● 8th Graduate Academic Forum, Key Laboratory of Soil Environment and Pollution Remediation, CAS, Nanjing, China. (Oral presentation) | Jan. 2022 |
| ● 2nd National Conference on Soil Remediation, Nanjing, China. (Volunteer) | Oct. 2021 |
| ● New Century Beijing Ecological Forum, Beijing, China. (Attendee) | Sept. 2019 |

HONORS AND AWARDS

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| ● Outstanding Student Leader , Institute of Soil Science, CAS | Oct. 2021 |
| ● Provincial-Level Outstanding Graduate , Education Department of Inner Mongolia Autonomous Region | Jul. 2018 |
| ● University-Level Outstanding Graduate , Inner Mongolia University of Technology | Jul. 2018 |
| ● National Encouragement Scholarship , Ministry of Education of China | Nov. 2017 |
| ● The First Prize Scholarship and University-Level Merit Student , Inner Mongolia University of Technology | 2015 – 2017 |

SKILLS

- **Languages:** English (**IELTS: 6.0**), Chinese (native).
- **Analytical Instrumentation:** ICP-MS, AAS, FTIR-ATR, XRD, XPS, SEM-EDS, HPLC-MS/MS, DNA Extraction (MoBio kits), 16S/18S/ITS amplicon sequencing.
- **Sample Collection & Preservation:** Soil, Plant, Microbial Samples.
- **Software:** SPSS, OriginPro, Microsoft Office, Jade.
- **Analytical Methodologies:** Heavy Metals (Total Content, Bioavailable Fractions); Organic Pollutants Quantification (PCBs, PAHs, TCE, PFOS/PFOA); Soil Physicochemical Characterization (pH, SOC, DOC, OM, TN, AP, AK); Microbiome Analysis (Amplicon bioinformatics(e.g., QIIME2, mothur), Network analysis, Metagenomic binning).