Xinzi Wang

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EDUCATION

Hohai University(211 project)   **Nanjing, China**
Master of Engineering in Environmental Science and Engineering   *Sep 2021 - Jun 2024*
GPA: 88.73/100
Core Courses: Principles and Applications of Environmental Biology (95), Organic Pollution Chemistry (92), Solid Waste Disposal and Resource Utilization (91), Water Environment Protection and Ecological Restoration (90), Computational Hydraulics (90)
Dissertation: Research on the relationship and multi-objective optimization of water-carbon nexus in Chinese provinces based on input-output model

Hohai University   **Nanjing, China**
Bachelor of Engineering in Environmental science   *Sep 2017 - Jun 2021*
GPA: 88.98/100
Core Courses: Environmental Monitoring Experiment (93), Probability and Statistics (90), Data and Analysis (94), Environmental Management (91), Environmental Scientists II (95)
Dissertation: The effect of typical antidepressants on microbial ecosystems and nitrogen transformation in river sediments

PUBLICATIONS

Xinzi Wang, Wenlong Zhang, Yi Li, Jiaxin Tong, Feng Yu, Quanliang Ye. (2023). Impacts of Water Constraints on Economic Outputs and Trade: A Multi-regional Input-Output Analysis in China. Journal of Cleaner Production, 434,140345. https://doi.org/10.1016/j.jclepro.2023.140345.

Yi Li, Xinqi Chen, **Xinzi Wang**, Jiahui Shang, Lihua Niu, Longfei Wang, Huanjun Zhang, Wenlong Zhang. (2022). The Effects of Paroxetine on Benthic Microbial Food Web and Nitrogen Transformation in River Sediments. International Journal of Environmental Research and Public Health, 19(21), 14602. https://doi.org/10.3390/ijerph192114602.

Wenlong Zhang, **Xinzi Wang**, Yuanyuan Miao, Yi Li, Huanjun Zhang, Lihua Niu, Longfei Wang. (2021). Determining the Effect of Sertraline on Nitrogen Transformation through the Microbial Food Web in Sediments based on 15N-DNA-Stable Isotope Probing. Environmental Research,199,111347. https://doi.org/10.1016/j.envres.2021.111347.

Xinzi Wang, Kejia Wang, Jiamu Ding, Xinqi Chen, Yi Li, Wenlong Zhang. (2021). Predicting Water Quality during Urbanization based on a Causality-based Input Variable Selection Method Modified Back-Propagation Neural Network. Environmental Science and Pollution Research, 28, 960-973. https://doi.org/10.1007/s11356-020-10514-8.

PATENT

A beverage bottle recycling device, *Chinese Patent NO.: CN111268314B*, November 2023.

RESEARCH EXPERIENCE

Quantifying the Trade-Offs or Synergies between Water Saving and Carbon Mitigation
Instructor: Dr Quanliang Ye & Dr Wenlong Zhang   **Nanjing, China**
                                                                                                       Aug 2023 - Jun 2024

- Constructed an EEIO model to quantify the impact of water use restrictions on regional carbon emissions from the perspectives of production and consumption sides
- Established an optimization model to explore the optimal policy formulation for the collaborative governance of water conservation and carbon reduction based on the water constrained models' result

Impacts of Water Constraints on Economic Outputs and Trade: A Multi-regional Input-Output Analysis in China

Instructor: Dr Quanliang Ye & Dr Wenlong Zhang   **Nanjing, China**
                                                                      Dec 2022 - Jul 2023

- Designed a series of scenarios to represent different levels of sectoral water use restrictions based on short-term water policy and water stress alleviation targets
- Developed a water-use constrained MRIO model to analyze the impacts on economic outputs resulting from different water constraints imposed on economic sectors
- Established a trade disaggregation method to investigate the impact of water use restrictions on different types of trade among regions

The Effect of Typical Antidepressants on Microbial Ecosystems and Nitrogen Transformation in River Sediments

Instructor: Dr Wenlong Zhang   **Nanjing, China**
                                                                      Nov 2020 - Jun 2021

- Analyzed the effects of typical antidepressants on the biological transformation of different forms of nitrogen in river sediments
- Explored the effect of sertraline on the diversity and structure of bacterial and eukaryotic communities in sediments
- Used a structural equation model (SEM) to prove the top-down controls in the microbial food web under the influence of paroxetine

Study on the Relationship between Water Quality and Urbanization in Nanjing based on Correlation Analysis and Metabolism Grey Forecasting Model Prediction

Instructor: Dr Wenlong Zhang   **Nanjing, China**
                                                                      May 2019 - May 2020

- Collected nine urbanization indicators and twelve water quality parameters from 2006 to 2018 in Nanjing as urbanization and water quality indices
- Used correlation and path analyses to identify causal relationships between urbanization and water quality indices
- Put comprehensive water quality indicators and their correlated urbanization parameters into a backpropagation neural network (BPNN) to predict water quality

WORK EXPERIENCE

Hohai University   **Nanjing, China**
Teaching Assistant   *Nov 2021 - Jun 2022*

- Collected research literature related to hyperspectral remote sensing, and supervised undergraduate students in writing and completing their dissertation literature reviews
- Taught undergraduates how to use the geophysical spectrometer, and led them to the river sampling site to complete the hyperspectral data and water quality data collection
- Guided the undergraduates to complete the code writing of linear model and machine learning model, commented on their thesis content, and assisted them to finalize their thesis

HONORS & AWARDS

Third Prize of China Postgraduate Innovation & Practice Competitions   *2023*
Excellent Student of Hohai University (Twice)   *2020 & 2019*
Outstanding Volunteers from Jiangsu University participating in the Environmental Protection Science Outreach Initiative across Thousands of Villages and Rural Areas   *2020*

ADDITIONAL INFORMATION

IELTS: 7.0
Languages: Mandarin (Native Speaker), English (Proficient)
Skills: MATLAB (Advanced), Python (Advanced), ArcGIS (Advanced), R (Advanced), Ai(Advanced)