

Shike Zhang

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EDUCATION

University of Michigan

ANN ARBOR, UNITED STATES

PhD Student in SEAS

Jan. 2023 till now

- Award: SEAS Fgeng-PhD Stipend, SEAS Conference Travel Award

Tongji University

SHANGHAI, CHINA

Bachelor in Environmental Science, College of Environmental Sciences and Technology

Sep. 2018 – July 2022

- GPA: 86.62/100
- Award: Undergraduate Scholarship (Twice), Kelan Environment Scholarship
- Coursework: Sustainable Development Theory, Control of Environmental Physical Pollution, Environmental Impact and Assessment, Advanced Mathematics, Probability and Mathematical Statics, Linear Algebra etc.

Korea University

SEOUL, SOUTH KOREA

Exchange student

Department of Earth and Environmental Sciences, Korea University

July 2019

- GPA: 95/100

ACADEMIC EXPERIENCE

Evaluation of Wastewater Resource Utilization and Related Energy Consumption and Carbon Emissions

UNEP-Tongji Institute of Environment for Sustainable Development

July 2021 – July 2022

- Written two reviews with topics Comparison of energy consumption and carbon emission before and after sewage is removed of heavy metals and emerging pollutants and Comparison of energy consumption and carbon emission of different treatment techniques respectively. This project is under the applying process.

Energy Consumption Model of Wastewater Treatment Plant

UNEP-Tongji Institute of Environment for Sustainable Development

Jan. 2020 – July 2022

- Developed a new model to analyze the relationship between water qualities, both influent and effluent, and energy consumption of Wastewater treatment plants.
- Applied model to the prediction of energy consumption of Wastewater treatment plants with a few key parameters and improvement of sewage treatment standards
- Led a paper A Novel Machine Learning-based Energy Consumption Model of Wastewater Treatment Plants as first author with Hongtao Wang and Arturo A. Keller, in journal *ACS ES&T Water*.

Plan of Green Development of Yangtze River and Lancang Mekong River Basin Economic Development Belt

UNEP-Tongji Institute of Environment for Sustainable Development

Sep. 2020 – Dec. 2020

- Analyzed data and helped to sort out the current situation of industrial structure, energy structure, water environment and development strategic planning of coastal countries.

Technology of National Key Projects for Urban Water Environment Improvement

College of Environmental Sciences and Technology, Tongji University

Dec. 2018 – Mar. 2020

- Revealed the whole process of how sludge changes after acidification + K_2FeO_4 conditioning, and explored the optimal value of dewatering effect, from the perspectives of EPS (Extracellular Polymeric Substances), particle size, type and content of organic matter.
- This project was based on my one and a half years' experiment in the lab.
- Published a paper titled Preparation of a novel sludge-derived biochar by K_2FeO_4 conditioning to enhance the removal of Pb^{2+} in journal *Colloid and Interface Science Communications*, collaborated with my fellow students.

ACADEMIC CONFERENCE

2021 National Organic Solid Waste Treatment and Resource Utilization Summit Forum

CHENGDU, CHINA

Co-Speaker

College of Environment and Civil Engineering, Chengdu University of Technology

Apr. 2021

- Share the project progress of our seminar.

6th International Symposium on Environmental Simulation and Pollution Control (2019)

BEIJING, CHINA

Co-Speaker

School of Environment, Tsinghua University

Nov. 2019

- Share the project progress of our seminar.

EXTRACURRICULAR ACTIVITIES

The Mathematical Contest in Modeling (MCM)

ANN ARBOR, UNITED STATES

Advisor

Feb. 2023 – Mar. 2023

- Organize the discussion among members, give advice when needed.

Tongji Shanghainese Association

President

SHANGHAI, CHINA

Sep. 2019 – Sep. 2021

- Take charge of recruiting new members and organizing extracurricular activities regularly. Aimed to protect local language and tradition of Shanghai.

Survey on Economy and Environmental Effects of Street Stalls After Covid-19 in Four Provinces

CHINA

Leader

May 2019 – July 2019

- Granted Kelan Environment Scholarship for excellent social work.

Work in Education Organization

SHANGHAI, CHINA

Teaching Assistant

June. 2018 – July. 2018

- Take charge of grading homework, Q&A and substituting classes etc.

SKILLS AND OTHERS

- Computer: C#.Net, Python, MATLAB, Visual Basic, 3ds Max, Photoshop, After Effects, Audition, Premiere
- Language: Mandarin (Native), English (Fluent)
- Interests: Table Tennis, Dragon Dance, Traditional Chinese Martial Art, Swimming, etc.

PUBLICATIONS

1. **Shike Zhang**, Hongtao Wang*, Arturo Keller. Novel Machine Learning-Based Energy Consumption Model of Wastewater Treatment Plants. ACS ES&T Water. 2021.
2. Junsen Wang, Tianrun Wang, Qinyun Zhu, **Shike Zhang**, Qi Shi, Jean-Marc Chovelon, Hongtao Wang*. Preparation of a novel sludge-derived biochar by K₂FeO₄ conditioning to enhance the removal of Pb²⁺. Colloid and Interface Science Communications. 2021.
3. Runyao Huang, Jin Xu, Hongtao Wang*, Yidi Zhang, **Shike Zhang**. Evaluation on the efficiency of wastewater treatment plants with data envelopment analysis from a water-energy nexus perspective. Energy Proceedings. 2020.