Yujia Wan

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EDUCATION

University of California, Berkeley **Berkeley, CA, USA**
- M.S., Civil and Environmental Engineering, GPA: 4.0/4.0 08/2024-05/2026
- Thesis: ***Electrified porous electrode integrated reduction-filtration system for Cr (VI) removal*** (In preparation)

Hubei University **Wuhan, China**
- B.E. (with honors), Environmental Engineering, GPA: 3.74/4.0 (WES) 09/2016-06/2020
- Graduation Project: ***Sewage treatment project design in a mountainous town*** (including 14 CAD technical drawings)

RESEARCH EXPERIENCES

Instructed by Prof. Baoxia Mi, University of California, Berkeley *Graduate Research*

Project 1: Electrochemical Hexavalent Chromium [Cr (VI)] Reduction 08/2025-Present
- Conducted literature review to identify limitation of current technologies; applied a porous electrode for Cr (VI) reduction; operated and optimized the electroreduction reactor; quantified the inlet and outlet Cr concentration by ICP-MS; evaluated removal efficiency, energy consumption, process economics and feasibility to scale up.
- Employed EQCM-D to monitor mass adsorption, surface fouling, and interfacial interactions during electroreduction.

Project 2: 3D Interfacial Solar Evaporator for Mineral Recovery 05/2025-Present
- Fabricated GO-based 3D interfacial solar evaporator to enhance photothermal conversion and evaporation performance.
- Performed evaporation tests under one sun illumination and real outdoor conditions using realistic mixtures and synthetic brackish water; used IC analysis to quantify solution concentrations and evaluate mineral recovery efficiency; proposed a hypothesis to explain the interfacial phenomena; assisted postdoc to design experiments to validate it.

Project 3: MoS_2-Based Filtration System for [Cr (VI)] Removal 12/2024-04/2025
- Designed and tested the 3D filtration system by Autodesk Fusion; learned to synthesize 1T and 2H phase MoS_2.
- Performed tracer test using Rhodamine dye and processed data; coated MoS_2 inside the 3D filtration column; learned to operate the MoS_2-based filtration system by running wastewater that contains Cr (VI); evaluated the adsorption capacity.

Mentored by Prof. Zhiyong Jason Ren, Princeton University *Online Program*

Project: Emerging Environmental Issues and Solutions 11/2020-03/2021
- Analyzed and Applied knowledge gained from SDGs, Climate Change, Decarbonization, Water-Energy Nexus, etc.
- Completed a project with a team called *Strengthen the Nexus of Energy and Climate Change in Wastewater Treatment.*

Instructed by Prof. Zhaohua Li, Hubei University *Full-Time Research*

Project 1: the Ecological Civilization Construction Plan of Wuhan City 11/2020-08/2021
- Conducted literature review on ecological indicators and ecological civilization construction frameworks; assisted the professor in writing and revising chapters on sustainable water supply, decarbonization, green infrastructure planning.

Project 2: Wooden Biofilm Carriers for Decentralized Wastewater Treatment 09/2020-05/2021
- Conducted anaerobic purification of eight natural wooden biofilm carriers to enhance biodegradability and porosity for wastewater treatment; designed a SBR reactor using wooden media for treating rural sewage, tested removal efficiencies.

Instructed by Prof. Liya Zhao, Hubei University *Undergraduate Research*

Project 1: Willingness-to-pay for Recreation Services and its Value Assessment (12th Challenge Cup) 05/2018-05/2020
- Performed a survey by distributing 2230 questionnaires, analyzed residents' willingness to pay for green services using binary logistic models & ordinal models by SPSS; generated graphical representations, and organized research papers.
- Exhibited the research in "Green Ecological Environment" of *Human, Environment and Future* on the UOOC platform.

Project 2: Global Development of Domestic Waste Treatment and Disposal 01/2019-08/2019
- Researched domestic and international waste classification, conducted on-site visits to two local landfills, and completed the video "Lost in the Trash" of an online course called *Human, Environment and Future* on the UOOC platform.

PUBLICATIONS

- **Wan Y,** Yan N, Zhao J, et al. ***Trends and progress in Microalgae-based wastewater treatment technologies: A review***, [C]//E3S Web of Conferences. 2021, 308: 01014
- Zhao M, **Wan Y**, et al., ***Assessment of Willingness to Pay and Value of Leisure and Recreation Services in Urban Green Ecosystems--The Case of Wuhan Hanyang District*** [J] Advances in Environmental Protection, 2019,9(3): 315-321. DOI:10.12677/aep.2019.93044
- Wen C, **Wan Y**, Guo Z, et al., ***Assessment of Willingness to Pay and Value of Recreational Services in Urban Green Ecosystems--The Case of Wuhan Qingshan District*** [J] Green Technology, 2019(11): 154-157+161
- Zhao M, **Wan Y**, Zhao L, ***Study on recreational service value of green ecosystem in Wuhan Jianghan District by CVM*** [J] Sustainable Development, 2019,9(2): 206-213, DOI: 10.12677/sd.2019.92027

SKILLS

- **Lab Skills:** IC, ICP-MS, UV-Vis, Potentiostat, Potential Control, Amperometry, Cyclic Voltammetry, EQCM-D, 1T and 2H MoS_2 Synthesis, GO-based 3D Evaporator Fabrication, Layer-by-Layer Assembly of Membrane Fabrication, Microscopy, Plate Counting, SBR operation, Tracer Test, Water Quality Monitoring
- **Software Skills:** AutoCAD, Autodesk Fusion 360 (3D design), ArcGIS, SPSS, Python, R, MATLAB, Origin
- **Soft Skills:** Project Leadership and Coordination, Scientific Communication, Cross Cultural Collaboration, Teaching
- **Language Skills:** English (Proficient), Chinese (Native), Japanese (Intermediate)

WORK EXPERIENCES

Teaching Assistant - ***GEC Academy, Online Program mentored by Prof. Zhiyong Jason Ren*** 05/2024-07/2024

- Assisted in teaching a program called "New Energy System Development and Optimization under Carbon Neutrality".
- Graded students' homework, prepared materials and led discussion sessions, provided detailed feedback in final projects.

Environmental Monitor - ***Hubei Xingfa Environmental Technology Company, China*** 03/2023-05/2023

- Assisted in sampling, testing, and analyzing water quality changes, monitored wastewater discharges from various units.
- Ensured the proper functioning of the water quality online monitoring system, promptly addressed any data anomalies.

Research Assistant - ***For Prof. Zhaohua Li, Dean of Graduate School, Hubei University*** 09/2020-08/2021

- Assisted the professor in writing and revision of ***the Ecological Civilization Construction Plan of Wuhan City*** awarded by Wuhan Ecological Environment Bureau, facilitated the communication and coordination with the project leader.
- Supported graduate students' research projects and responsible for part of experimental operations and data analysis.

Water Engineering Internship - ***Yixing Environmental Science and Technology Industrial Park*** 07/2019

- Joined in ten seminars at the base in Yixing, visited local sewage treatment plants and bioremediation sites.
- Engaged in simulated interviews, participated in water quality monitoring, operated software for real-time data analysis.

HONORS & AWARDS

- Outstanding Graduate Award Hubei University, 2020
- 1st class excellent scholarship, academic year, 2016-2017, 2018-2019, 2019-2020
- 3rd Prize of the 12th Challenge Cup College Students' Extracurricular Academic & Scientific Competition, 2019
- Top 10 Excellent College Student of Faculty of Resources and Environment Science Hubei University, 2018
- 2nd Prize of the Star of Outlook English Talent Competition Hubei Province, 2017
- Practical Innovation Individual of Faculty of Resources and Environment Science Hubei University, 2017
- Excellent Student Leader of Faculty of Resources and Environment Science Hubei University 2016

LEADERSHIP & OUTREACH

$(CEE)^2$ Ambassador - Civil and Environmental Engineering, UC Berkeley 09/2025-Present

GA Delegate - Graduate Assembly, University of California, Berkeley 08/2025-Present

Committee of Outreach Department - Berkeley China Summit 07/2025-10/2025

Volunteer of Green Ecological Study Tour Class for K-12 Students in Wuhan City 05/2018-11/2018

Committee of Outreach Department - Undergraduate Student Association, Hubei University 05/2016-09/2017