**JIAQI WANG**

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**EDUCATION**

**Duke University Durham, NC, United States**

Master of biostatistics Expected Graduation: May. 2027

**East China University of Science and Technology Shanghai, China**

Bachelor of Environmental Engineering,Minor: Sociology Sep. 2021-Jun. 2025

Courses: C Programming Language, Data Analysis Software and Applications: R&Python, Advanced Calculus, Linear Algebra, Probability and Mathematical Statistics, Social Statistics

**RESEARCH&PROJECTS**

**Study on the Electrocatalytic Activation of Peroxymonosulfate for Degradation of**

**Fluoroquinolone Antibiotics by Electro Synergistic Bimetallic Oxides**

Leader Supervisor: Dr. Lili Liu Oct. 2023- Jun. 2025

* Prepared CoFe2O4 Nanoparticle Catalyst via Sol-Gel Method. Built an electrochemical reaction device to study the degradation of fluoroquinolone antibiotics under various electrolysis systems.
* Explored the effects of PMS catalyst ratio, voltage, and electrolyte concentration on the degradation efficiency in the Fe-C/CoFe2O4/PMS system.

**Study on the ROS-responsive Stem Cell “Backpack” for Whole Stage Treatment after Traumatic Brain Injury**

Member Supervisor: Dr. Zhihua Wang Mar. – Jun. 2024

* Completed Pre-experiment: Loading and characterization of PDA coated nanoparticles on MSCs surface.
* Prepared PDA coated nanoparticles loaded with coumarin-6 (DBCO-PDA/PLGA@Coumarin-6).
* Used flow cytometry analysis (qualitative & quantitative) to characterize the binding of DBCO-PDA/ PLGA@Coumarin-6 to B-MSCs expressing N3.

**Research on Continuous Phase Flow Field inside Gravity Driven Cyclone and Aerobic Granular Sludge Rotation**

Leader Supervisor: Dr. Jinyi Tian Oct. 2021- Jun. 2024

* Built experimental equipment. Determined the use of height difference inflow and intermittent operation mode. Designed control experiments.
* Built cyclone models at 0°, ±30°, ±60° and 90° using GAMBIT and CAD software. Completed data analysis using TECPLOT software. Compared and selected fitting models, imported test data, and drew detailed cloud maps.

**Research on Degradation Characteristics of Peroxymonosulfate Activated by Electric Synergistic CoFe2O4**

Independent Research Supervisor: Dr. Lili Liu Mar. -Jun. 2024

* Completed a test report on the mechanism, evaluation of activating persulfate to produce sulfate free radicals.
* Completed a literature review on the mechanism of antibiotic degradation, the ecological toxicity of degradation products, and the ability to induce resistance genes.

**Application of Traceability Technique in Water Quality Detector Development**

Leader of four Supervisor: Dr. Lili Liu Mar. – May. 2024

* Integrated three techniques into the water quality detector for real-time monitoring and pollution sources identification.
* Drafted the business plan of the water quality detector and promoted the detector into mass production.

**Analysis of the Renovation of Qingxi Historical & Cultural Block and Community Social Governance Model**

Member Mar. – May. 2023

* Designed a survey and collected 250 valid responses from Qingxi residents and merchants via stratified random sampling.
* Completed response distribution, cross-analysis for demographic attitudes via descriptive statistics
* Identified differences in attitudes regarding *cultural protection* and *commercialization* (p<0.05) via one-way ANOVA.
* Performed cultural identity and income level as key influencing factors via multiple linear regression.
* Confirmed a significant correlation between attitude distribution and social background characteristics (p<0.05) via Chi-square test

**Study on the Impact of Hydrogen Sulfide Concentration in Industrial Zones on the Water Quality**

Member Mar. – May. 2023

* Performed sampling weekly at selected locations. Calculated the mean, median, and standard deviation of hydrogen sulfide and dissolved oxygen at each point.
* Found significantly lower dissolved oxygen in the industrial zone (impact of hydrogen sulfide) via a t-test or ANOVA, and strong negative correlation (-0.85) between hydrogen sulfide and dissolved oxygen via Pearson correlation analysis.
* Predicted dissolved oxygen levels based on hydrogen sulfide concentration via a linear regression model.

**INTERNSHIPS**

**Shanghai Academy of Environmental Sciences Shanghai, China**

Assistant Engineer Intern Jul.-Aug. 2024

* Participated in pretreatment, detection, data analysis and chlorophyll measurement of phytoplankton samples.
* Measured the primary productivity of surface water. Assisted in water sample pretreatment and filtration.

**Shanghai Jianke Environmental Technology Co.,Ltd Shanghai, China**

Environmental Consulting Intern Jul. -Aug. 2023

* Conducted environmental assessments of catering, engineering, and hospital construction enterprises in Baoshan District and Xuhui District of Shanghai, coordinated with enterprises leaders to promote follow-up work.
* Prepared bid documents for construction projects for Tesla and Xuhui District Government of Shanghai.

**ACTIVITIES**

**ECUST Environmental Defense Sep. 2021-May. 2025**

* Volunteer of 2021 Blue & Green Action and X-Plogging *Leave No Trace* Event. Assisted in cleaning up urban garbage.
* Volunteer of 2024 *Interesting & Sustainable* Public Welfare Market. Assisted in showcasing green lifestyle concepts and encouraged the public to participate in activities to understand and practice sustainable lifestyles.

**Youth Innovation Lab** *(Held by**Save the Children International [UK],* ***Leader of six****)* **Mar. 2022**

* Organized a three-day group brainstorming session. Completed a design plan for a mini program on sustainable brand development & promotion.

**HONORS**

China University Student Innovation Competition, 2nd Price at the School Level (Team Leader) Sep. 2024

Challenge Cup, Silver Award at the School Level (Team Leader) Aug. 2024

Challenge Cup Business Competition, 3rd Price (Team Leader) May. 2024

Shanghai ESER Cup-Environmental Category, 2nd Price (Team Leader) May. 2024

**SKILLS&INTERESTS**

Computer Skills: C, R, Python, SPSS, tecplot, anysy

Language Skills: Mandarin (native), English (advanced), German (primary)