

Yurun Xue

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Environmental science graduate pursuing a master's degree in water science and management, with experience in pollutant-remediation experiments, environmental data analysis and water-quality instrumentation R&D. Seeking doctoral research opportunities connecting water science, climate-related challenges and computational tools.

EDUCATION

University of Barcelona

Sep 2023–Present

Faculty of Earth Sciences · Master's in Integrated Water Science and Management — in progress

Thesis research: Microcosm experiments on remediation strategies for sites contaminated by persistent and emerging pollutants under extreme climatic events.

Selected coursework: Surface Hydrology; Hydrogeology; Climatology and Atmospheric Water; Climate Change and Flood Risks; GIS and Statistical Analysis; Water Contamination and Analysis.

Henan University

Sep 2016–Jun 2020

Miami College · Bachelor's Degree in Environmental Science

Thesis: Effects of long-term fertilization regimes on total nitrogen content in greenhouse vegetable soils.

RESEARCH EXPERIENCE

Remesilient Project · Master's Thesis Research

From Mar 2025

University of Barcelona · Faculty of Earth Sciences

- Investigate pollutant degradation through biotic and abiotic processes using microcosm experiments.
- Evaluate combined biostimulation and microscale zero-valent iron (mZVI) treatments under extreme rainfall or drought conditions, examining their potential for climate-resilient remediation.

NATURAGUA Project

18 Mar–13 Jun 2024

Institute of Environmental Assessment and Water Research (IDAEA-CSIC)

- Set up experimental systems incorporating sand, activated carbon and aquatic plants; prepared feed, sample and reaction solutions.
- Measured water-quality parameters including pH, conductivity, temperature and metal concentrations, alongside moving-bed biofilm reactor (MBBR) biofilm measurements.
- Checked and analysed experimental data and adjusted procedures based on results; gained experience with TurboVap LV and NEXERA X2 UPLC instrumentation.

Undergraduate Laboratory Research

Jul 2017–Mar 2020

Henan University

- **Aug 2019–Mar 2020:** Led experiments on the effects of fertilization regimes on heavy-metal accumulation in greenhouse vegetable soils.

- **Jan 2018–Aug 2019:** Contributed to experiments on soil organic carbon, regional carbon stocks and plant photosynthesis and respiration.
- **Jul 2017–Jan 2018:** Participated in Arabidopsis growth experiments under different oxygen conditions and transgenic plant studies.

PROFESSIONAL EXPERIENCE

Product R&D Engineer

Oct 2025–15 Apr 2026

Hangzhou Puyu Technology Development Co., Ltd. · Hangzhou, China

- Supported the development and verification of automated environmental and water-quality instruments, translating application scenarios and analytical workflows into functional requirements.
- Reproduced and investigated field-reported issues, coordinating with R&D, production and service teams to support resolution.
- Supported assembly, commissioning and pre-delivery checks; prepared training materials, operating guidance and technical documentation for pre-sales and after-sales use.
- Worked across automated chemical and microbiological analysis systems, including ammonia nitrogen, filtration, turbidity, atomic fluorescence and colony counting.

Pre-research / Product Development Engineer

Aug 2020–May 2021

Hangzhou Zetian Technology Co., Ltd. · Hangzhou, China

- Evaluated analytical principles and instrument modules through comparative experiments for online water-quality monitoring products.
- Prepared software and hardware requirements and supported non-standard product development in response to customer needs.
- Supported production and pre-delivery quality control and investigated customer-reported technical problems.
- Instrument work covered total organic carbon, volatile phenols, sulfide, cyanide, biological toxicity and sample pretreatment, including total phosphorus pretreatment.

INDEPENDENT TECHNICAL DEVELOPMENT

Programming Study & Entrepreneurial Exploration

Apr 2026–Present

Self-directed programming study and independent entrepreneurial exploration in AI-generated content and AI-assisted coding, including the use of Codex.

PUBLICATION, PATENT & RECOGNITION

Publication: *Bibliometric analysis of domestic and foreign researches on organic agriculture.*

Patent: Contribution to a granted Chinese utility model patent concerning heated filtration for total phosphorus pretreatment.

Recognition: Outstanding Newcomer Award, Hangzhou Zetian Technology Co., Ltd.

TECHNICAL & LANGUAGE SKILLS

Experimental methods: Microcosm studies; water-quality measurements; sample preparation; experimental data checking and analysis; instrument evaluation and troubleshooting.

GIS and research tools: QGIS / ArcGIS coursework; VOSviewer and EndNote. Authored undergraduate tutorials on academic literature searching, VOSviewer and EndNote.

Programming: Ongoing self-directed learning and AI-assisted coding practice.

Languages: Chinese (native); English (B2); Spanish (B2).