



UIUC is recruiting multiple Postdocs and PhD students on watershed hydrology and water quality

The **Water, Agriculture and Conservation Innovation Lab (WACI Lab)** led by [Dr. Bin Peng](#) at University of Illinois Urbana-Champaign (UIUC) is recruiting multiple postdoctoral researchers and graduate students on watershed hydrology and water quality starting in spring, summer, or fall of 2024. We are looking for highly motivated and enthusiastic members who are interested in unraveling the complexities of water, nutrient, and carbon cycles within diverse agricultural landscapes and their interconnectedness with downstream water quality.

Postdoctoral Position 1: Water quality modeling

This position is to advance our understanding of the complex two-way scaling from field-scale management interventions to watershed-scale water quality through systems-level computational and process-based modeling. Candidates with strong background in agroecosystem modeling, biogeochemical modeling, coupled surface-subsurface hydrological modeling, watershed hydrological modeling, reactive transport modeling, river hydraulic modeling are particularly encouraged to apply.

Postdoctoral Position 2: Environmental data science for water quality

This position is to improve our prediction capability of water quality with environmental data science techniques by linking environmental drivers and management factors with water quality state variables. Candidates with strong skills in machine learning, deep learning, geospatial analytics and remote sensing are particularly encouraged to apply. Experiences in handling large-scale datasets are highly preferred.

PhD student position 1: Water quality monitoring, sensing, and data analytics

This position is to discover knowledge with high-frequency water quality monitoring data. Candidates with strong interests and experiences in using high-frequency sensor data to reveal most fundamental knowledge about mechanisms and controls of nutrient export patterns and pathways from field to watershed scales are encouraged to apply for this position. Experiences in water quality sensor development, calibration, deployment, maintenance, and data analytics are highly preferred.

PhD student position 2: Agricultural water footprint

This position is to improve the quantification of green, blue and gray water footprints of agricultural production with improved process-based modeling and remote sensing capacities at regional to global scales. Candidates with strong interests and skills in improving crop growth models and soil biogeochemistry models in earth system models and using large-scale remote sensing products to estimate agricultural water use are encouraged to apply.

- Qualifications for Postdoc positions:** (1) Applicants should have a Ph.D. in earth and environmental science, hydrology, hydrogeology, remote sensing, environmental engineering, electronic engineering, meteorology, geography, mathematics, or a closely related field. Candidates will be considered if graduation with a Ph.D. is expected by the targeted starting date. (2) Prior research experiences in process-based modeling and/or remote sensing of water quality



are highly preferred. (3) Strong programming skills (e.g., Python, C/C++, and/or Fortran in the Linux environment) and prior experience in supercomputing or big data analytical systems is required, as the applicant will be working routinely in the supercomputer environment. (4) Excellent writing skills, demonstrated by publication records. To ensure full consideration, qualified candidates must send a cover letter, CV, and contact information of three references via email with the subject “**Water quality modeling postdoc**”, “**Environmental data science postdoc**” to **Dr. Xiang Zhu** (xzh@illinois.edu) and cc **PI Dr. Bin Peng** (binpeng@illinois.edu). All requested information must be submitted to the above email in order for your application to be considered. Incomplete applications will not be reviewed. Qualified applicants will be immediately reviewed upon receiving the application while the search may continue until the position is filled. We greatly appreciate all the interested applications, but advise that only candidates shortlisted for interview will be notified of the application results. The appointment is renewed annually, contingent upon the performance. Salary is competitive and commensurate with experience in relevant research.

• **Qualifications for PhD student positions:** Strong quantitative programming skills and domain science (such as hydrology, environmental biogeochemistry, plant physiology, biogeochemistry, remote sensing, and electronics) knowledge are required for successful PhD student candidates. Proficiency in spoken/written English is mandatory. All applicants should meet the minimum requirements of GPA by graduate admission (<http://www.grad.illinois.edu/admissions/apply/requirement>). Information for applying to the Department of Crop Sciences can be found here: <https://cropsciences.illinois.edu/future-students/admissions/graduate-admissions>. International students should also meet the minimum requirements of TOEFL (the same first link above). Prospective graduate students are encouraged to contact **Dr. Xiang Zhu** (xzh@illinois.edu) and cc **PI Dr. Bin Peng** (binpeng@illinois.edu) first via email with the subject “**Water quality monitoring graduate student**”, “**Agricultural water footprint graduate student**” to share potential research projects and opportunities before applying. In emails, please include the following items: unofficial transcripts, curriculum vitae, TOEFL score, GRE score (if you have one, but this is not required by the Department any more), names and contact information of three references, and a brief personal statement. We greatly appreciate all the interested applications, but advise that only candidates shortlisted for interview will be notified of the application results. **Starting Date:** We accept students at any time of the year, not confined to only the fall semester. Therefore, the enrollment time is **flexible**.

The newly joined members will have abundant opportunities to work with world-leading collaborators at the Agroecosystem Sustainability Center, [College of Agricultural, Consumer and Environmental Sciences](#), [Department of Civil and Environmental Engineering](#), and [National Center for Supercomputing Applications](#) at University of Illinois Urbana-Champaign and other partner institutes.

UIUC is a world leader in research, teaching and public engagement, distinguished by the breadth of its programs, broad academic excellence, and internationally renowned faculty and alumni. Illinois serves the world by creating knowledge, preparing students for lives of impact, and finding solutions to critical societal needs. UIUC ranks top worldwide in Agricultural



Science, Computer Science, and Environmental Science. The University of Illinois is an Affirmative Action/Equal Opportunity Employer. The administration, faculty, and staff embrace diversity and are committed to attracting qualified candidates who also embrace and value diversity and inclusivity. The Urbana-Champaign twin cities, which "sandwich" the University campus, are welcoming, diverse, and vibrant. It is a 2-3 hour drive to three major metropolitan centers – Chicago, St. Louis, and Indianapolis. The University is conveniently located in proximity to affordable and beautiful neighborhoods with high-quality schools.

