

us: Postdoctoral Position [1-2y; PhD in Eng, Math, or Physics; understanding of numerical analysis algorithms (stat estimation), real-time state estimation, signal processing, skilled at dvlpmt/testing of complex SW systems; C/C++ and/or Java; \$46K; real-time estimation of water usage] / Department of Civil & Environmental Engineering at The University of Cincinnati

[Math-jobs.com](http://math-jobs.com) - visit our global list of [conferences and courses](#)

POST DOCTORAL POSITION
REAL-TIME STATE ESTIMATION IN URBAN WATER NETWORKS

University of Cincinnati
Department of Civil & Environmental Engineering
Center for Sustainable Urban Engineering

Contact: Prof. Jim Uber; jim.uber@uc.edu

Application information: Send resume and statement of interest, along with names and contact information for three references

Start Date: Immediate/negotiable

Salary: \$46,000/year + Benefits

Duration: 1-2 years

Required Experience and Characteristics:

- PhD in Engineering, Mathematics, or Physics;
- Skilled at development and testing of complex software systems using C/C++ and/or Java; Excellent understanding of numerical analysis algorithms, especially those related to statistical estimation, real-time state estimation, and signal processing;
- Interest in field-scale state estimation applications as well as theoretical development.
- A background in urban water distribution networks is an advantage, but is not required.

Project Responsibilities and Goals:

We are looking for an exceptional individual to take a lead role in the real-time estimation of spatially and temporally variable water usage in metropolitan-scale urban water distribution networks.

The statistical characteristics of water usage rates at the individual customer level vary with demographic and land use characteristics, at hourly, weekly, and seasonal time scales. These water usage variations are a principle source of uncertainty in the numerical prediction of network hydraulic and water quality dynamics, and thus limit the application of network models to support real-time operations. You would be a key member of a development team seeking to apply algorithms and software for real-time state estimation, fusing field measurements of hydraulic pressures and flow rates with numerical network models to estimate the statistical patterns of water usage. Significant foundational work has been accomplished by other members of the project team, and the goal for the next project period is to further develop and apply state estimation algorithms and software to a real water distribution network at a participating water utility, and evaluate and improve performance.

Please mention www.math-jobs.com when applying for this job!