

Postdoctoral Position in Modeling of Water Quality and Climate Impact
Starting Fall 2019 at
The Institute for Sustainable Cities, Hunter College, City University of New York
APPLICATION DEADLINE September 30, 2019

The New York City Department of Environmental Protection (NYCDEP) manages a system of 19 interconnected reservoirs that supply drinking water to over 9 million consumers in New York City and surrounding areas. We seek to hire a postdoctoral researcher who will contribute to our efforts to develop, test and apply models of this water supply system. Such models will be a component of NYCDEP's integrated suite of climate, watershed, reservoir, and system operations models. Existing climate tools include a stochastic weather generator and downscaling procedures. We currently use process-based watershed and reservoir water quality models including GWLF, SWAT, and CEQUAL-W2. The models are used to investigate the effects of climate change, floods and droughts, land use change, watershed management, and reservoir operations on the NYC water supply. We seek candidates with experience in such modeling work. The selected candidate will be expected to present work at scientific meetings; publish in peer-reviewed journals, and contribute to NYCDEP reports. Candidates with modeling experience in one or more of the following four areas are of particular interest:

1. Application of models to quantify extreme events (floods and droughts) that may occur in our watersheds under current and future climate conditions, and to identify particular events which would challenge the successful operation of our water supply system
2. Experience with modeling of the fraction of organic carbon compounds that are precursors to disinfection byproducts; modeling the sources of these compounds in watersheds, and their production, degradation, fate and transport in streams and reservoirs
3. Use of water quality models to guide the optimal operation of a system of water supply watersheds and reservoirs
4. Development and application of alternatives to process-based watershed and reservoir models, including machine learning or artificial neural network approaches

Hiring will occur through the Institute for Sustainable Cities at Hunter College, City University of New York (CUNY), which has a contract to support NYCDEP's modeling program. Work will involve collaborative efforts with an interdisciplinary team of scientists and engineers, and will provide the opportunity for leadership in specific aspects of the research. The candidate will work with NYCDEP staff and other CUNY researchers on a day to day basis.

Position details:

- Starting date: Fall 2019; actual start depends on candidate availability. Initial appointment will be for 18 months; extension may offered depending on progress.
- Location: NYCDEP office in Kingston, NY, 100 miles north of NYC in the Hudson Valley region.
- This is a full time position with employee benefits, and is open to eligible candidates of any nationality. If necessary, visas can be arranged through the City University of New York.

The candidate should have the following qualifications and experience:

- Ph.D. in hydrology, watershed science, geology, water resources, civil or environmental engineering, computational science, or a related discipline.
- Experience in handling, manipulation, statistical analysis, and presentation of large environmental datasets, and with software to facilitate such work
- Experience with writing software code to implement new or modified models
- Software experience such as MatLab, Fortran, Python, shell scripting, and/or R.

- Demonstrated ability to communicate research results to the scientific and water quality management community through peer-reviewed papers, conference presentations and reports.
- Ability to work in an interdisciplinary team environment.

Application Instructions:

For more information please send a letter of interest and curriculum vitae electronically to:

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845-340-7796

Application deadline is September 30, 2019.