Job Title	Research Scientist
PVN ID	HC-2109-004281
Category	Research
Location	HUNTER COLLEGE
Department	Institute for Sustainable Cities at Hunt
Status	Full Time
Annual Salary	$64,000.00 - $66,000.00
Hour(s) a Week	35
Closing Date	May 18, 2022 (Or Until Filled)

General Description

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 research scientist or research engineer who will contribute to our efforts to develop, test and apply models of this water supply system. NYCDEP's integrated suite of climate, watershed, reservoir, and system operations 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 have developed and applied one, two, and three-dimensional lake models which simulate hydrodynamics and the fate and transport of temperature, turbidity, eutrophication, and pathogens in our reservoirs. We are seeking a talented scientist or engineer to help us improve and enhance these lake/reservoir models.

Position details:

- Interviews with well-qualified candidates may begin as early as November 15, 2021. Interviews will continue with selected candidates who have applied prior to the closing date. An offer may be made any time after November 15.
- If the position remains unfilled, applications will be accepted until a candidate is selected, or until the closing date of December 31, 2021.
- The position is currently open and is ready to be filled. It is funded through March 31, 2023. Extended appointment will be contingent upon satisfactory progress and availability of funds.
- Location: NYCDEP office in Kingston, NY, 100 miles north of NYC in the Hudson Valley region.
- This is a full time position with salary of approximately $64,600 per year, with employee benefits, and is open to qualified candidates of any nationality. If necessary, visas may be arranged through the City University of New York, depending on government policy.

Other Duties

The selected candidate will be expected to present work at scientific and stakeholder meetings; publish in peer-reviewed journals, and contribute to NYCDEP reports. Hiring will occur though 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 water quality modeling staff and other CUNY researchers on a day to day basis.

Qualifications

The candidate should have the following qualifications and experience:

- A doctoral degree in civil or environmental engineering, water resources, environmental chemistry, hydrology, limnology, or a related discipline is preferred. Candidates with a masters degree and a strong record of research will also be considered.
- Experience in the handling, 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, Power BI, 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.

Candidates with experience in any of the following areas of interest will be considered:

1. Simulation of carbon, nitrogen, and phosphorus cycling in the water column and sediments of lakes and reservoirs.
2. Kinetics of the fraction of organic carbon compounds that are precursors to disinfection byproducts in freshwater systems.
3. Application of models (e.g., CE-QUAL-W2, GLM, EFDC, ELCOM) to simulate lake/reservoir stratification and water quality under extreme hydrologic conditions (floods and droughts) that may occur under current and future climate conditions.
4. Use of water resources models to guide the operation of a drinking water supply system.
5. Development and application of alternatives to process-based reservoir models, including statistical, and machine learning or artificial neural network approaches.
6. Development of climate scenarios for assessing impacts of climate change on water resources and water quality.