

Civil Division: Mohawk Valley Water Authority
Jurisdictional Class: Non-Competitive
EEO Category: Administrative
Adopted: 04/09/99

WATER RESEARCH SCIENTIST

DISTINGUISHING FEATURES OF THE CLASS: This scientific administrative position exists in the Upper Mohawk Valley Regional Water Board and involves responsibility for the development and carrying out of research projects and gathering scientific data which affect the Region's water quality. Supervision is exercised over a technical and professional staff. General direction is received from the Executive Director or other higher level supervisor. Does related work as required.

TYPICAL WORK ACTIVITIES: (Illustrative Only)

Performs research and monitors drinking water for protozoan pathogens, phytoplankton, zoo plankton, taste and odor causing organisms and toxigenic algae;

Determines the direction of water quality research projects;

Publishes research results on source water and the distribution system bacteria;

Supervises and assists in performing microbiological analysis of water to test for protozoa and pathogens;

Organizes and serves as quality control supervisor for protozoan pathogen analyses, including preparing reports, collection of samples, chain-of-custody, isolation, and microscopic detection;

Confirms protozoan internal structures demonstrated at the microscope by subordinates;

Trains employees in water laboratory analyses;

Supervises special research studies and tests for improvement of water quality;

Performs and directs feasibility studies related to water quality;

Supervises and assists in preparing reports on water quality for New York State, Oneida County and various towns served by the Water Board;

Identifies new and important areas of water quality research;

Utilizes computer software to archive images and transmit images electronically to USEPA and other laboratories;

Writes grant applications for water quality research projects;

Contributes to Water Quality Departmental activities with other scientists/program managers within or outside the agency;

Determines work schedules and tracks productivity of subordinate research scientists;

Prepares manuscripts for publication and trains research scientists to prepare manuscripts;

Assists in developing and supervising a Legionella program;

Oversees research on source water and distribution system bacteria identification and quantifications;

Performs microscopic identity and analyses of protozoan pathogens, including *Cryptosporidium parvum* and *Giardia lamblia*;

Works with the Water Board Director, Engineering Department and Water Treatment Plant operators to identify problem areas, and design bench scale and pilot plant projects to provide answers to existing problems.

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FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND PERSONAL

CHARACTERISTICS: Thorough knowledge of microbiological testing techniques and tests required for efficient and effective operation of a public water system; thorough knowledge of water treatment measures designed to improve potability; thorough knowledge of scientific research techniques; good technical report writing skills; good knowledge of the operations of water treatment plants; good knowledge of State and Federal water quality regulations; ability to plan and supervise the work of technical/professional personnel engaged in water quality research; ability to make accurate microbiological analysis; ability to use a microcomputer in research analysis activities; ability to direct and carry out highly specialized research as it applies to water quality and public health; ability to instruct other in water quality analysis and research; ability to keep inventories, records and logs; ability to establish and maintain effective working relationships with professional and governmental employees; computer literacy.

MINIMUM QUALIFICATIONS: Either:

- (A) Possession of a master's degree from a regionally accredited or New York State registered college or university in one of the chemical, environmental or biological sciences which include at least eighteen (18) semester credit hours in biology and four (4) semester credit hours in microbiology **AND** four (4) years of laboratory research experience in the analysis of water including giardia and cryptosporidium; **OR**
- (B) Graduation from a regionally accredited or New York State registered college or university with a bachelor's degree in one of the chemical, environmental, or biological sciences which include at least twenty-four (24) semester credit hours in biology and four (4) semester credit hours in microbiology **AND** six (6) years of laboratory research experience in the analysis of water including giardia and cryptosporidium; **OR**
- (C) An equivalent combination of training and experience, as defined by the limits of (A) and (B) above.

NOTE: A PHD in the Biological Sciences can be substituted for one (1) year of experience.