

## **JOHN J. QUINN, PhD**

Environmental Science Division  
Argonne National Laboratory  
Phone: 630-252-5357; Fax: 630-252-4624; Email: quinnj@anl.gov

### **Education:**

Ph.D.	University of Minnesota, Hydrogeology, 2009
M.S.	University of Minnesota, Hydrogeology, Civil Engr. minor, 1992
B.S.E.	Purdue University, Geo-Engineering, 1988
B.S.	Purdue University, Geology, German minor, 1987

### **Professional Experience:**

1993-Present	Principal Hydrogeologist Environmental Science Division, Argonne National Laboratory
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John Quinn, Ph.D. is a principal hydrogeologist at Argonne National Laboratory with a focus on groundwater, soil, and surface water. He has provided technical support to DOE, DOD, NRC, BLM, EPA, and other sponsors for environmental impact statements (EISs), site characterizations, remedial investigations, feasibility studies, and remedial system assessments. Key capabilities include evaluating the environmental impacts of the energy-water relationship, conceptual and numerical groundwater flow models and contaminant transport models, geostatistical data analysis, subsurface 3-D visualization, and phytoremediation studies. Study areas have involved various geologic settings, including glacial, karst, alluvial, and coastal plain environments. Tasks have included developing and calibrating three-dimensional groundwater flow models; designing optimized groundwater containment systems using linear programming techniques; performing contaminant transport modeling; evaluating natural attenuation and phytoremediation processes; estimating soil excavation volumes; analyzing aquifer test data; producing visualization of analytical, hydrogeological, and geological data; performing geostatistical analyses of soil and groundwater analytical results and geological and hydrogeological data; creating and updating project websites to promote communication among team members; and conducting field work, including project oversight, stratigraphic logging, well installation, and groundwater sampling. Sites have included Aberdeen Proving Ground, Maryland; Weldon Spring Site, Missouri; Joliet Army Ammunition Plant, Illinois; Argonne National Laboratory, Illinois; New York and Ohio FUSRAP sites; Camp Ripley (National Guard), Minnesota; Kansas City Plant, Missouri; and Hohenfels Combat Maneuver Training Center, Germany.

Dr. Quinn has had growing involvement in projects dealing with the relationship of energy and water. For the NRC, he has served as the hydrology task leader for many EISs focused on power plant relicensing, an EIS for a proposed fuel fabrication facility, and an EIS and hydrological safety analysis of a proposed new reactor. These projects involved site visits, review of potential water impacts of construction and operations, review of regulations, and discussion with state regulators. He developed the water-related portions of the Knowledge Management Tool (a training device for NRC staff) and the revision of the Generic EIS for license renewal. He has worked closely with NRC counterparts and mentored new staff in these roles.

Several other energy-water projects have been closely related to the oil industry. For the Oil Shale Tar Sands Programmatic EIS, Dr. Quinn served as task leader for water resources and for geology/soils, and was responsible for the affected environment and impacts discussions for these areas. Another project was an analysis of downhole gas/water separation, for which he studied the success or failure of systems relative to hydrogeologic settings. In an analysis of heavy oil, he contributed to a review of the impact of its development on water resources. For a private client on the Arabian peninsula, he provided modeling analyses to quantify the impact of NORM waste disposal options on groundwater resources. These analyses included development of conceptual and numerical models of contaminant fate and transport in specific hydrogeologic settings.

**Summary of Previous Experience:**

1991-1993      Geological Engineer  
                          Black and Veatch Waste Science, Inc., Chicago, Illinois

Performed CERCLA Screening Site Inspections and Expanded Site Inspections (environmental sampling; writing work plans, health and safety plans, and final reports; reconnaissance visits; field team leader; hazard ranking system evaluations). Performed RCRA Facility Assessments (writing Preliminary Assessment/Visual Site Inspections). Logged stratigraphy and well construction information in support of RI. Reviewed a groundwater model for U.S. EPA. Provided field oversight for U.S. EPA at several Superfund sites.

1988-1991      Research Assistant and Teaching Assistant  
                          Dept. of Geology and Geophysics, Univ. of Minnesota, Minneapolis

Thesis research included numerical modeling of groundwater flow, geostatistics, and glacial geology. Assisted in teaching physical geology and graduate-level hydrogeology courses.

**Research Interests:**

Hydrogeologic investigations, conceptual model development, and 3-D visualization  
 Groundwater modeling and optimization of remediation schemes  
 Geostatistical applications to environmental and geological studies  
 Energy-water environmental issues  
 Phytoremediation and natural attenuation of groundwater and soil  
 Glacial geology and hydrogeology, karst hydrology

**Professional Activities:**

Professional Engineer  
 National Ground Water Association - journal reviewer, member since 1989  
 Geological Society of America - member since 1990

**Publications:**

Author or co-author of 11 journal articles and book chapters, and 100+ reports, conference proceedings and presentations, and university seminars.