Jitendra Kumar
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Education and Training

2010	North Carolina State University, Civil Engineering, PhD
2006	Indian Institute of Technology (Kanpur, India)/Technische Universitat Darmstady (Germany) Hydraulic and Water Resources, M. Tech. Muzaffarpur Institute of Technology (Muzaffarpur, India), Civil Engineering, BS

Research and Professional Experience

2010-Present	Postdoctoral Research Associate. Computer Science and Mathematics Division, Oak Ridge National Laboratory. *Advanced Simulation Capability for Environmental Management* (ASCEM). *Modeling Multiscale-Multiphase-Multicomponent Subsurface Reactive Flows using Advanced Computing* (DOE SciDAC) *Forest Incident Response and State Tracking (FIRST) program* (USDA Forest service)
May-July 2008	Summer Intern. Oak Ridge National Laboratory. Parallel grospatiotemporal cluster analysis of large scale climate data.
2006-2010	Graduate Research Assistant. North Carolina State University. Delineation of wetlands in North Carolina using multiple-return LIDAR data. Cyberinfrastructure for integrated systems of civil infrastructure and environment in coastal regions vulnerable to natural hazards (DHS NCDIEM). Asynchronous hierarchical parallel algorithms for large-scale global optimization. Adaptive cyberinfrastructure for threat management in water distribution system (NSF-DDAS).
2005-2006	Visiting Research Fellow. Technische Universitat Darmstadt, Germany. Development of conceptual and neural network models for modeling of hydrologic processes.
2005-2005	Graduate Research/Teaching Assistant. Indian Institute of Technology, Kanpur, India. Artificial Neural Networks based surrogate modeling for groundwater contaminant source identification. River flow analysis using HEC-RAS.
2006-2010	Teaching Assistant. North Carolina State University. Hydraulics (Fall 2006, Spring 2007, Spring 2008); Civil Engineering System (Fall 2007, Spring 2009); Water Resources Engineering (Fall 2008, Fall 2009).

Publications

1. Jitendra Kumar, Sarat Sreepathi, S. Ranji ranjithan, E.D. Brill, Li Liu, and G. Mahinthakumar. Cyberinfrastructure for contamination threat management in water distribution system. In F. Darema and C. Douglas, editors, *Dynamic Data Driven Analysis Systems*. Springer-Verlag, (to be published 2010)
2. Jitendra Kumar, E.D. Brill, G. Mahinthakumar, and S. Ranji Ranjithan. Contaminant source characterization in water distribution systems using filtered sensor data. *Journal of Water Resources Planning and Management*, (submitted).
3. Jitendra Kumar, E.D. Brill, G. Mahinthakumar, and S. Ranji Ranjithan. Water supply contamination source identification using noisy filtered sensor data. *Journal of Water Resources Planning and Management*, (submitted).
4. Jitendra Kumar, Ashu Jain, and Rajesh Srivastava. Estimation of groundwater contaminant source location using breakthrough curve characterization and neural networks under noisy data. *Environmental Modeling and Software*, (submitted).
5. Jitendra Kumar, Ashu Jain, and Rajesh Srivastava. Neural network based solutions for locating groundwater pollution source. *Hydrology Journal, Indian Association of Hydrologists*, 29(1-2):55-66, 2006.

Synergistic Activities

1. Member: American Society of Civil Engineers, American Geophysical Union, Association for Computing Machinery (ACM), ACM Special Interest Group for Evolutionary Computing, Society for Industrial and Applied Mathematics.
2. Reviewer for: Journal of Computing in Civil Engineering, Journal of Water Resources Planning and Management.

Honors and Awards

1. DAAD scholarship (Indo-German Academic Exchange Program) for pursuing master's thesis research at Technische Universitat Darmstadt, Germany.