

## **Tariq Ahmed, PhD, PE, DEE**

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(856) 875-4880  
email: tariq1460@hotmail.com

### **EDUCATION**

University of Minnesota, PhD, Environmental Engineering, 1991  
University of Arkansas, MS, Environmental Engineering, 1987  
Engineering University, Bangladesh, MS, Water Resources Engineering, 1986  
Engineering University, Bangladesh, BS, Civil Engineering, 1983

### **AWARDS/HONORS**

Laureate, ISI 2001 French Citation

### **REGISTRATION**

*Professional Engineer:* DE Reg. No. 13134  
*Professional Engineer:* NJ (GE 44437)  
*Professional Engineer:* PA (applied for)  
*Certified Lead Inspector/Risk Assessor:* NJ

### **RESPONSIBILITIES**

Dr. Ahmed has more than 25 years of academic, government and industry experience in the environmental/water resources engineering area. He is a professional engineer and a diplomat of the American Academy of Environmental Engineering. He is a member of Environmental Engineering Committee and Examination Committee of the National Council of Examiners for Engineering and Surveying and American Academy of Environmental Engineering, respectively. He has been responsible for professional management, planning, and execution of design, analysis and construction projects. As a technical expert, Dr. Ahmed has had direct hands-on experience in almost every aspect of air, water, wastewater and hazardous waste management projects under Clean Air Act, Clean Water Act, Comprehensive Environmental Response, Compensation, and Liability Act, Resource Conservation and Recovery Act, and Toxic Substance Control Act through his participation in various multidisciplinary projects. He had involved with projects providing technical support related to water and wastewater treatment system design, risk assessment of hazardous waste sites, pollutant emission modeling from mobile, non-road and natural sources, air dispersion modeling, ground and surface water modeling, and sediment resuspension. He has prepared and provided expert testimony to court cases involving environmental and criminal issues. His areas of interest include hazardous waste management, environmental chemistry, instrumental analysis, water and wastewater treatment processes, fate and transport modeling in various environmental media, air quality, occupational/environmental health, and indoor air quality. He has taught graduate and undergraduate courses in Environmental and Water Resources Engineering and Statistical Methods and worked as a consultant to private companies and government agencies. He is an active member of a number of professional organizations: National Council of Examiners for Engineering and Surveying, Water Environment Federation, American Water Works Association, International Association of Water Quality, American Academy of Environmental Engineering and American Society of Civil Engineers and a reviewer of several professional journals. He has published more than 30 articles in peer-reviewed journals and conference proceedings and has made more than 35 presentations at national and international conferences. He also served as a member of Environmental Protection Agency's research proposal review panel.

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**EMPLOYMENT**

**07/03 to Date:** Research Scientist, Hazardous Site Health Evaluation Program, New Jersey Department of Health and Senior Services, PO Box 360, Trenton, NJ 08625

**03/03 to 07/03:** Environmental Engineer, Site Investigation and Remediation Branch, Air and Waste Management, Delaware Department of Natural Resources and Environmental Control, 391 Lukens Dr., New Castle, DE 19720

Environmental Engineer, Air Quality Management Section, Air and Waste Management, Delaware Department of Natural Resources and Environmental Control, 156 S. State St., DE 19901

**09/00 to 03/03:** Senior Environmental Engineer, Earth Tech, Inc., 300 Broadacres Dr., Bloomfield, NJ 07003

**09/97 to 09/00:** Research Scientist, Lead and Asbestos Program, New Jersey Department of Health and Senior Services, PO Box 360, Trenton, NJ 08625

**01/97 to 08/97:** Research Associate Professor, School of Environmental Science, Engineering and Policy, Drexel University, Philadelphia, PA 19104

**06/91 to 12/96:** Assistant Professor, Environmental Engineering Program, Department of Civil Engineering/258, University of Nevada, Reno, NV 89557

**09/87 to 06/91:** Research Assistant/Associate, Environmental Engineering Program, Department of Civil Engineering, University of Minnesota, Minneapolis, MN 55455

**08/86 to 08/87:** Research Assistant/Associate, Environmental Engineering Program, Department of Civil Engineering, University of Arkansas, Fayetteville, AR 72701

**12/83 to 07/86:** Lecturer, Department of Water Resources Engineering, Engineering, University, Dhaka, Bangladesh

**12/83 to 07/86:** Resident Engineer, North Bengal Cycle Industries, Motijheel, Dhaka, Bangladesh

**07/83 to 12/83:** Junior Engineer, Concord Engineering and Construction Co., Gulshan, Dhaka, Bangladesh

**EXPERIENCE**

**Health Assessment/Risk Assessment**

**Public Health Assessment of Rolling Knolls Landfill Site, Chatham Township, Morris County, New Jersey.** Health Assessor responsible conducting a exposure assessment for the Rolling Knolls Landfill site to evaluate health implications of the contaminants. Contaminants of concern included of phthalates, metals, and polychlorinated biphenyls.

**Exposure Investigation of Mile Run Brook, New Brunswick, Middlesex County, New Jersey.** Health Assessor responsible for technical analyses of environmental data and non-cancer and cancer health risks associated with potential surface soil and water contamination along the Mile Run Brook.

**Public Health Assessment of Cedar Brook Area, Winslow Township, Camden County, New Jersey.** Health Assessor responsible conducting a multichemical, multipathway (ingestion and inhalation) exposure assessment for the Cedar Brook area to evaluate health implications of the contaminants from domestic water use. Contaminants of concern included volatile organic compounds, mercury, thallium, lead and nitrate. The risks associated with inhalation exposure from residential use of contaminated water were found to be greater than those of

ingestion.

**Site Assessment and Remediation**

**Hudson River PCBs Feasibility Study, NY. US Army Corps of Engineers, Kansas City District/Environmental Protection Agency.** Environmental Engineer responsible for technical analyses related to in-situ and ex-situ PCB remediation technology, dredging, design and analysis of dredged material processing facilities, evaluation of sediment and wastewater disposal options, PCB volatilization and air modeling, community impact analysis (including air quality, noise, PCB volatilization, odor, traffic and light), and evaluation of cost and cost sensitivity analysis of various remedial alternatives. The project entails the preparation of revisions to the reassessment FS report accounting for government agency comments, and support of the US Environmental Protection Agency through the execution of a record of decision. (2000-2003).

**Hudson River PCBs Responsiveness Summary, NY. US Army Corps of Engineers, Kansas City District/Environmental Protection Agency.** Environmental Engineer responsible for technical analyses related PCB volatilization and air dispersion modeling, PCB resuspension, PCB residual, water quality, community impact analysis (including air quality, noise, PCB volatilization, odor, traffic and light), comment entry and database support. (2001-2002).

**Hudson River PCBs Dredging Performance Development, NY. US Army Corps of Engineers, Kansas City District/Environmental Protection Agency.** Environmental Engineer responsible for technical analyses related to PCB resuspension in the aqueous and solid phase during dredging, post dredging PCB residual in the river bed, water quality monitoring plan, engineering contingency options and dredging productivity standards. (2002-2003).

**Chemsol, Inc. Site, Piscataway Township, New Jersey. United States Environmental Protection Agency.** Project manager for the Chemsol off-site RI/FS, responsible for the oversight of RI/FS activities being performed by the Chemsol Superfund Environmental Remediation Trust (PRP group) under a consent decree from the USEPA Region 2. [2002 - 2003]

**Kauffman & Minter Site, Jobstown, NJ. United States Environmental Protection Agency.** Project Manager responsible for preparation of a remedial investigation (RI) report and associated tasks. A focused feasibility study was performed for selecting the final site remedy for groundwater. Assisted the EPA to prepare a record of decision (ROD) document. (2000-2002)

**Duck Island Landfill Remediation, Hamilton Township NJ. New Jersey Department of Transportation.** Environmental Engineer responsible for preparing a pre-construction air permit application, air sampling plan and quarterly air monitoring report for the landfill gas collection system. (2000-2003)

**Law Firm of Butler, Wooten, Scherffius, Fryhofer, Daughtery & Sullivan, LLP, LCP Chemicals Site, Brunswick, Georgia.** Project Engineer assisting the law firm in the matter of Owens versus Allied Signal regarding a site bordered by the Turtle River, its tributaries, and tidal wetlands. The sediments are contaminated with mercury, PCBs, dioxin, lead, and numerous organic compounds. Managing data compilation, construction of a database, and document reviews. Identifying data gaps, making recommendations for additional investigation, and performing engineering analysis.

[2001]

**EIS Review of Lockheed Martin's Property Reuse Plan, Great Neck, NY. Town of North Hempstead.** Environmental Engineer for review of the site drainage system, the storage capacity of the storm runoff, and the impact of contaminated recharge. (2000-2001)

**Onondaga Lake Comprehensive Remedial Investigation/Feasibility Study (RI/FS), Syracuse, NY. New York State Department of Environmental Conservation.** Environmental Engineer responsible for reviewing various components of interim remedial measures (IRMs) including cutoff wall, solids processing and wastewater treatment proposed by the PRPs for the Onondaga Lake watershed. (2000-2003)

**Chemical Insecticide Corporation Superfund Site, Edison, NJ. US Army Corps of Engineers, Kansas City District.** Environmental Engineer responsible for the design of a wastewater treatment system for dewatering work during the implementation of the selected remedy. (2001-2002)

**Forest Glen Subdivision, Niagara Falls, New York. US Army Corps of Engineers - Kansas City District.** Project Engineer responsible for performing technical reviews of all technical PRP design documents. The selected remedy for the soil/sediment consists of the construction and long-term maintenance of an engineered cover system (NYCRR Part 360 Cap) over the contaminated soils; the excavation and consolidation of contaminated soils under the engineered cap; the capping of sediment; and the restriction of site access to capped areas with fencing and institutional controls. The selected remedy for groundwater consists of the extraction of contaminated groundwater from the fractured bedrock aquifer plume within the site boundary; the transportation of extracted groundwater to the City of Niagara Falls Wastewater Treatment Plant; the implementation of a long-term groundwater monitoring program; and the performance of a monitored natural attenuation study for remediation of the off-site contaminated groundwater plume in the fractured bedrock aquifer. [2001- 2003]

**Waldick Aerospace Devices Site, Wall Township, NJ. US Army Corps of Engineers, Kansas City District.** Environmental Engineer responsible for the evaluation for the feasibility of natural attenuation as a potential remedial action alternative at the site. As Groundwater Modeling Coordinator, responsibilities will include the evaluation of groundwater data, input parameters, and model result interpretation. (2001-2003)

**Town of North East Landfill, Dutchess County, NY. New York State Department of Environmental Conservation.** Environmental Engineer responsible for evaluating reports and providing technical assistance to prepare an expert report for the case filed by the New York State Department of Environmental Conservation, the New York State Department of Law, and the Town of North East against several responsible parties who allegedly generated and/or transported industrial wastes which were disposed of at the landfill site. (2000-2001)

**LCP Chemical site, Brunswick, GA.** Environmental Engineer responsible for preliminary design and estimating cost associated with the cleanup of tidal estuary contaminated with PCBs and mercury. The design involved dredging, processing of dredged materials and transportation and disposal (2001-2002)

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**St. Lawrence River Dredging, Massena, NY.** Environmental Engineer responsible for evaluating the dredging related resuspension and its impact on water quality. Developed a sampling plan for collecting turbidity, suspended solids, and dissolved and particulate phase PCB samples from the vicinity of a dredge. (2001-2002)

**New York Psychiatric Hospital, Dormitory Authority, NY.** Environmental Engineer responsible for evaluating and troubleshooting the pH neutralization system. Redesigned/reconfigured the system and developed a long-term compliance plan. (2002-2003)

**Alternative Analysis/Environmental Assessment/Environmental Impact Statement ((AA/EA/EIS)) of I-287/Tappan Zee Bridge Project, NYSTA/MTA/MNR.** Provided a summary of historical records of all hazardous waste sites to help identify recognized environmental conditions (Phase I ESA) in connection with corridor properties and a site reconnaissance.

**Water and Wastewater Engineering**

**Consultant to Various Companies and Agencies, NV.** (1991-1996) Projects included:

**Nevada Division of Environmental Protection.** Worked on various technical and regulatory compliance issues related to hazardous waste sites, wastewater treatment plants, and NPDES permitting. Developed guidance documents for beneficial use and disposal of biosolids.

**Watersources Consulting Engineers.** Evaluated the performance of the Fernley wastewater treatment plant by collecting and analyzing treatment plant water samples. Reviewed the design of aerated lagoons, evaluated their performance, and proposed various improvements to the existing aeration system and viable effluent discharge alternatives. Proposed and evaluated the alternatives for the discharge of ammonia-contaminated water from a pump and treat facility (Helm's Pit) to the Truckee River.

**JBR Consultants.** Proposed and evaluated alternatives for the discharge of ammonia-contaminated mining water to the Humboldt River.

**Piezonella Associates, Inc.** Evaluated the nutrient-removal performance of residential on-site wastewater treatment systems.

**Truckee Meadows Water Reclamation Facilities.** Evaluated the performance of anaerobic digesters for the wastewater treatment plant, reviewed the design of the digesters and centrifuges, and proposed retrofitting alternatives of the system. Analyzed the struvite and vivianite deposition in the centrate, and proposed remedial alternatives. Investigated a snail problem in the trickling filters.

**Westpac Utilities.** Responsible for DBP precursor (TOC) removal using enhanced coagulation/flocculation in the pilot plant. This plant helped to establish the parameters for the actual water treatment plant.

**Fernley Utilities.** Designed and managed the project entitled, "Occurrences of Arsenic and Nitrate in the Private Wells in the City of Fernley."

**Carson City Utilities & Indian Hills Utilities.** Designed and performed a cost analysis of hydrogen sulfide removal alternatives.

**Treatability Study of an Industrial Landfill Leachate Containing Chlorinated Aromatic Compounds.** Designed a sequencing batch reactor (SBR) wastewater treatment system for treating landfill leachate containing organics, chlorinated compounds and metals. A number of bench scale batch treatability tests were completed using electrolytic respirometry. For continuous flow operation, a single tank was used for aeration, chemical addition and suspended solids separation. The chlorinated organics and metal removal effectiveness using powdered activated carbon (PAC) adsorption and solubility optimization using pH adjustment were also evaluated. Finally, the steady state process operation data collected was used to design a full-scale wastewater treatment system at an industrial landfill site.

**Lead, Asbestos and Air Quality**

**Department of Natural Resources and Environmental Control (DNREC), Dover, DE.** Responsibilities include development of comprehensive periodic emission inventories of regulated pollutants from all emission sources including point sources (i-STEP), stationary area sources, mobile sources (MOBILE6.2 and NONROAD) and natural sources (BEIS and CMU). Also compile periodic inventory data, procedures and documentation into comprehensive reports that are available to the public. (2003-2003)

**Department of Health and Senior Services, Trenton, NJ.** As Research Scientist, designed and evaluated field projects related to lead, asbestos, and indoor air quality, and performed sample collection and analytical equipment evaluations. Attended meetings with city and other housing agency representatives, and performed data analyses using various statistical and geographic information system (GIS) software. Briefed the Manager, and wrote proposals and technical reports in review of local, state, and federal regulations. (1997-2000)

**Structural Design/  
Const. Management**

**Construction Management Services for the 24-story Bank Building:** Provided field support for the construction of “24-story Bank Building”. Responsibilities included general field survey, cut and fill estimation, cost estimating, project scheduling, building materials purchasing, shop drawing review/approval, dewatering system design and disposal, material handling (cranes, pulleys for concrete) system design, consultation during construction, temporary utility management, subcontractor (concrete, reinforcement, plumbing, HVAC, electrical, utilities, and general labor) management, attend meeting with client and design engineers, provide construction inspection and post-construction testing services, field health and safety inspections, and preparation of record drawings.

**Design of 10-story American Express Bank Building, North Bengal Cycle Industries, Motijheel, Bangaldesh:** Provided design services for the construction of “10-story American Express Bank Building”. Responsible for the design of raft foundation and the superstructure system including foundation, columns, beams, shear walls, stairs and slabs. The deliverables included design drawings, cost estimates, project construction schedules and specifications.

**Construction Management Services for the 10-story American Express Bank Building, North Bengal Cycle Industries, Motijheel, Bangaldesh:** Provided field support for the construction of “10-story American Express Bank Building”. Responsibilities included general field survey, cost estimation and scheduling, bid and specification development, shop drawing review/approval, consultation during construction, subcontractor (formwork, concrete, reinforcement, plumbing, HVAC, electrical, mechanical and general labor) management, provide construction inspection and preparation of record drawings.

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**Design of 2-story shopping center, Self-employed:** Designed a 200,000 sq. ft. two-story shopping center and the adjacent parking facilities. Responsible for providing structural design drawing, cost estimate, health and safety and quality control plans. The deliverables included design drawings, cost estimates, project construction schedules and specifications.

**Proposal Management  
/Marketing**

**NJ Highway Authority (NJHA).** O&M Services for seven remedial systems along Garden State Parkway.

**NJ Highway Authority (NJHA).** General Environmental Engineering Contract.

**NJ Department of Transportation (NJDOT).** Hazardous Waste Investigation Services.

**NJ Department of Transportation (NJDOT).** Environmental Impact Statement (EIS) of Transportation Projects.

**Triboro Bridge and Tunnel Authority (TBTA).** RCRA Hazardous waste Services.

**NY City Department of Environmental Control (NYCDEP).** Phase I and II Environmental Site Assessment (ESA) Services for City water supply reservoir system.

**Saratoga County, NY.** Collection System Planning Services for new developments.

**Saratoga County, NY.** Prepare a upgrade plan for the HVAC System.

**Saratoga County, NY.** Pump Station Design and construction management.

**Saratoga County, NY.** Prepare master plan for the collection system.

**NJ Water Supply Authority, (NJWSA).** Vulnerability assessment of water supply system and the dams.

**City of Troy.** Vulnerability assessment of water supply system.

**City of Camden, NJ.** Riverfront planning and storm and sanitary sewer rehabilitation services.

**NJ Maritime Resources (NJMR).** Passaic River Restoration Services.

**NY State Department of Environmental Control (NYSDEC).** Statewide Remedial Investigation/Feasibility Study (RI/FS) Services for Hazardous waste sites.

**NY State Department of Environmental Control (NYSDEC).** Statewide Remedial Design/Construction Management (RD/CM) Services for Hazardous waste sites.

**The Metropolitan District Commission (MDC), CT.** Remedial Investigation and Emergency Spill Response Services.

**City of Stamford, CT.** Phase II Environmental Site Assessment Services.

**CT Department of Public Health.** Hazardous waste Investigation oversight services for Raymark Industries Site.

**Gateshed Properties, NJ.** Phase I ESA Services for seven composting facilities.

**Crompton Corporation, NJ.** O&M services for the SVE/Thermal Oxidation Services.

**US Navy, Northeast Command, PA.** Hazardous waste Investigation services.

**USCOE, Baltimore District, MD.** Hazardous waste Investigation services.

**Wastewater Treatment Plant Design, Rockland county, NY.** Construction of 50 MGD advanced wastewater treatment plant.

**Teaching**

**Department of Civil Engineering, University of Nevada, Reno, NV.** As Assistant Professor, taught and developed undergraduate/graduate courses in environmental engineering, conducted graduate research, advised undergraduate/graduate students, supervised graduate students, and wrote research proposals, technical papers, and reports. (1991-1996)

**University of Nevada Reno, NV.** Taught graduate and undergraduate courses, including a special course in *Water and Wastewater Engineering* for Fullbright Scholars, and *Advanced Wastewater Treatment Processes* at the NWPCA Annual

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Conference. (1991-1996). Other courses included:

*Biological Unit Operations*  
*Design of Hydraulic Structures*  
*Environmental Chemistry*  
*Fluid Mechanics*  
*Fluid Mechanics Laboratory*  
*Graduate Seminar in Environmental Engineering*  
*Hazardous Waste Management and Control*  
*Hydraulics and Hydrology Laboratory*  
*Hydraulic Machinery Laboratory*  
*Introduction to Civil Engineering*  
*Introduction to Water and Wastewater Analysis*  
*Introduction to Water and Wastewater Engineering*  
*Physicochemical Unit Operations*  
*Probability and Statistics for Civil Engineers*  
*Unit Operations Laboratory*  
*Water Treatment Plant Design Laboratory*

**Short Course:** Offered 8-week short course titled “Design and Analysis of Municipal Wastewater Treatment Systems” to Fulbright Scholars from Greece/Cyprus.

**St. Anthony Falls Hydraulic Laboratory, Department of Civil Engineering, University of Minnesota, Minneapolis, MN.** As Research Associate, conducted graduate research, supervised undergraduate/graduate students, taught laboratory courses, and wrote research proposals, technical papers, and reports. (1990-1991)

**Department of Civil Engineering, University of Minnesota, Minneapolis, MN.** As Research Assistant, conducted graduate research, taught laboratory courses, and wrote technical papers and reports. (1988-1990)

**Department of Civil Engineering, University of Minnesota, Minneapolis, MN.** As Teaching Assistant, conducted graduate research and taught lecture/laboratory courses. (1987)

**Department of Civil Engineering, University of Arkansas, Fayetteville, AR.** As Research Assistant, conducted graduate research. (1986-1987)

**Department of Water Resource Engineering, Engineering University, Dhaka, Bangladesh.** As Lecturer, conducted graduate research and taught courses including Fluid Mechanics, Hydraulic Machinery, Hydraulics, and Dam Design. Planned and designed a ten-story bank building, which included the preparation of a detailed structural design, the coordination and management of subcontractors, and the supervision of field engineers, workers, and technicians. (1983-1986)

**MEMBERSHIPS**

Diplomat, American Academy of Environmental Engineers (AAEE), 1996-date  
Reviewer, Water Research, International Association on Water Quality, 1995-date  
Reviewer, Journal of Membrane Science, Elsevier Science Publishers, 1992-date  
Reviewer, Water Environment Research, Water Environment Federation (WEF), 1998-



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- Member, Environmental Engineering Committee, National Council of Examiners for Engineering and Surveying (NCEES), 1994-date
- Member, Fundamentals of Engineering (FE) Committee, National Council of Examiners for Engineering and Surveying (NCEES), 1994-1997.
- Member, ABET Program Evaluation Committee, AAEE, 1997-1998.
- Member, Admissions Committee, AAEE, 1997-2001.
- Member, Review Panel (Engineering in Water), USEPA, 1996
- Member, Review Panel (Engineering in Other), USEPA, 1996
- Member, Super Panel (Engineering in Other), USEPA, 1996
- Member, American Society of Civil Engineers (ASCE), 1991-date
- Member, Program Committee, Water Environment Federation (WEF), 1992-1994
- Member, Literature Review Committee, Water Environment Federation (WEF), 1993-1995
- Member, American Water Works Association (AWWA), 1992-date
- Member, International Association on Water Quality (IAWQ), 1995-date
- Chairman, Student Activities Committee, Nevada Water Pollution Control Association (NWPCA), 1991-1996
- Member, Research Committee, Nevada Water Pollution Control Association (NWPCA), 1991-1996
- Member, Research Committee, American Water Works Association (CA-NV Section), 1995-1996

## **PUBLICATIONS**

### **JOURNAL PUBLICATIONS**

- Ahmed, T. and M.J. Semmens, "Gas Transfer from Small Spherical Bubbles," *Journal of Environmental Systems*, 29(2):101-123, 2001-2002.
- Ahmed, T., Semmens, M.J. and M.A. Voss, "Oxygen Transfer Characteristics of Composite Membrane Bubbleless Aerator," accepted for publication in *Advances in Environmental Research*, 2003.
- Ritota, R.M., Petix, J.R. and Ahmed, T., "Characterization of the New Jersey Lead Hazard Control Workforce," *New Solutions: A Journal of Environmental and Occupational Health Policy*, Vol. 11(2):165-180, 2001.
- Ahmed, T., Semmens, M.J. and M.A. Voss, "Energy Loss Characteristics of Parallel Flow Bubbleless Hollow Fiber Membrane Aerators," *Journal of Membrane Science*, 171(1):87-96, 2000.
- Jahan, K., Ahmed, T. and W.J. Maier, "Surfactant Enhanced Biodegradation Model of Phenanthrene," *Water Research*, 33(9):2181-2193, 1999.
- Voss, M.A., Ahmed, T. and Semmens, "Long Term Performance of Parallel Flow Bubbleless Hollow Fiber Membrane Aerator," *Water Environment Research*, 71(1):23-30, 1999.
- Benedict, S.W., Ahmed, T. and Jahan, K., "Autotrophic Denitrification Using Hydrogen Oxidizing Bacteria in Continuous Flow Biofilm Reactor," *Toxicological and Environmental Chemistry*, 67:197-214, 1998.
- Boyce, S.R., Ahmed, T. and Jahan, K., "Performance of a Transverse Flow Bubbleless Membrane Aerator," *Toxicological and Environmental Chemistry*, 64:15-32, 1997.
- Jahan, K., Ahmed, T., and Maier, W.J., "Phenanthrene Mineralization in Soil in the Presence of Nonionic Surfactants," *Toxicological and Environmental Chemistry*, 64:127-143, 1997.

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- Kelso, R.C., Ahmed, T. and Middlebrooks, E.J., "Detritiation of Water Using Microporous Hollow Fiber Membranes," *Water Environment Research*, 69(2):180, 1997.
- Jahan, K., Ahmed, T., and Maier, W.J., "Factors Affecting the Nonionic Surfactant Enhanced Biodegradation of Phenanthrene in the Soil," *Water Environment Research*, 69(3):317-325, 1997.
- Ahmed, T., Gulliver, J.S., Oakley, B.T. and M.J. Semmens, "Nonlinear Deflection of Hollow Fibers in Transverse Flow," *Water Research*, 30(2):440, 1996.
- Ahmed, T. and M.J. Semmens, "Use of Transverse Flow Hollow Fibers for Bubbleless Membrane Aeration," *Water Research*, 30(2):447, 1996.
- Ahmed, T. and M.J. Semmens, "Use of Sealed End Hollow Fibers for Bubbleless Membrane Aeration: Experimental Studies," *Journal of Membrane Science*, 69:1-10, 1992.
- Ahmed, T. and M.J. Semmens, "The Use of Independently Sealed Microporous Hollow Fiber Membranes for Bubbleless Oxygenation of Water: Model Development," *Journal of Membrane Science*, 69:11-20, 1992.

### **CONFERENCE PUBLICATIONS**

- Jahan, K., Pierkiel, A. and T. Ahmed, "A Novel Membrane Process for Autotrophic Denitrification" *Proceedings of the Membrane Technology Seminar Sponsored by the Water Environment Research Foundation*, WEFTEC, Atlanta, GA, October 2001.
- Jahan, K., Steager, C. and T. Ahmed, "Autotrophic Denitrification with Hydrogen Oxidizing Bacteria," *Proceedings of the 33rd Mid-Atlantic Industrial and Hazardous Waste Conference*, Riverdale, NY, June 2001.
- Jahan, K. and T. Ahmed, "Fate and Transport of Nonionic Surfactants in Wastewater Treatment Plants," *Proceedings of 32<sup>nd</sup> Mid-Atlantic Industrial and Hazardous Waste Conference*, Troy, NY, June 26-28, 2000.
- Jahan, K., Howard, J.P and T. Ahmed, "Nitrogen Removal in a Septic Tank System by Recirculating Aggregate Filter," *Proceedings of Water Environment Federation (WEF) Annual Conference*, Orlando, FL, 1998.
- Jahan, K., Maez, J. and T. Ahmed, "Use of Domestic Septage for Reclaiming Nutrient Deficient Land," *Proceedings of the Thirteenth International Conference on Solid Waste Technology and Management*, Philadelphia, PA, Nov. 16-19, 1997.
- Jahan, K., Thai, L.T., Maier, W.J. and T. Ahmed, "Modeling of Surfactant Enhanced Biodegradation of Octadecane," *Proceedings of WEF Annual Conference*, Chicago, IL, 1997.
- Jahan, K., Drozdoff, L., Ahmed, T. and M. Azad, "Nevada's Biosolids Reuse and Disposal Program in Compliance with 40 CFR 503," *Proceedings of WEF 10th Annual Residuals/Biosolids Specialty Conference*, Denver, CO, August 1996.
- Thai, L.T., Jahan, K., Ahmed, T. and W.J. Maier, "Solubilization and Biodegradation of Octadecane in the Presence of Nonionic Surfactants," *Proceedings of WEF Annual Conference*, Dallas, TX, 1996.
- Kelso, R.C., Ahmed, T. and E.J. Middlebrooks, "Detritiation of Water Using Hollow Fiber Membranes," *Extended Abstracts for the I&EC Special Symposium, American Chemical Society*, Birmingham, AL, September 1996.
- Benedict, S., Ahmed, T. and K. Jahan, "Autotrophic Denitrification Using Hydrogen Oxidizing Bacteria in Continuous Flow Biofilm Reactors," *Extended Abstracts for*

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- the I&EC Special Symposium, American Chemical Society, Birmingham, AL, September 1996.*
- Arino, D., Ahmed, T., Adams, V.D. and E.J. Middlebrooks, "Removal of Tritium from Water by Air Stripping," *Extended Abstracts for the I&EC Special Symposium, American Chemical Society, Birmingham, AL, September 1996.*
- Norris, D.B., Ahmed, T. and K. Jahan, "Biodegradation of Phenanthrene in the Presence of Nonionic Surfactants," *Extended Abstracts for the I&EC Special Symposium, American Chemical Society, Birmingham, AL, September 1996.*
- Wilson, T.E., Ahmed, T., Adams, V.D. and E.J. Middlebrooks, "Removal of Tritium from Water by Aeration," *Extended Abstracts for the I&EC Special Symposium, American Chemical Society, Birmingham, AL, September 1996.*
- Jahan, K., Ahmed, T. and W.J. Maier, "Biodegradation of Phenanthrene in Soil in the Presence of Nonionic Surfactant," *Proceedings of International Congress on Hazardous Waste, Atlanta: ATSDR, June 4-7, 1995.*
- Jahan, K., Ahmed, T. and W.J. Maier, "Selection of Nonionic Surfactants in Enhancing Biodegradation of Phenanthrene in Soil," *Proceedings of WEF Annual Conference, Miami Beach, FL, 1995.*
- Fordham, S.M., Middlebrooks, E.J., Adams, V.D. and T. Ahmed, "Removal of Tritium from Waters Using Tritium Free Water," *Proceedings of the 26th Mid-Atlantic Industrial Waste Conference, Lancaster: Technomic Publishing Co., Inc., August 7-10, 1994.*
- Kelso, R.C., Ahmed, T. and E.J. Middlebrooks, "Removal of Tritium from Drinking Water Supplies Using Hollow Fiber Membranes," *Proceedings of WEF Annual Conference, Chicago, IL, 1994.*
- Norris, D.N. and T. Ahmed, "Biodegradation of Phenanthrene in Sand Columns in the Presence of Nonionic Surfactants," *Proceedings of ASCE National Conference on Environmental Engineering, Boulder, CO, 1994.*
- Ahmed, T. and M.J. Semmens, "Characterizing Oxygen Transfer Behavior of a Transverse Flow Bubbleless Membrane Aerator," *Extended Abstracts for the Fifth Annual Meeting of the North American Membrane Society (NAMS), Lexington, KY, May 1992.*
- Semmens, M.J., Ahmed, T. and M.A. Voss, "Field Test on a Bubbleless Membrane Aerator," *Air-Water Mass Transfer: Selected Papers from the Second International Symposium on Gas Transfer at Water Surfaces*, Eds. Gulliver, J.S. and C. Wilhelms, New York: American Society of Civil Engineers, pp. 694-705, 1991.

### **PRESENTATIONS AT PROFESSIONAL MEETINGS**

- Pierkiel, A., K. Jahan and T. Ahmed (2001) "Membrane Enhanced Autotrophic Denitrification of Drinking Water" *Proceedings of the Nineteenth Annual Membrane/Separations Technology Planning Conference*, (Dec. 2001) Boston, MA.
- Jahan, K, Claire Steager, Tariq Ahmed and Shira Perlis, "Use of Membranes in Autotrophic Denitrification", *Annual Conference of the Air Waste Management Association*, Orlando, FL, June 2001.
- Pierkiel, A., Jahan, K. and T. Ahmed, "Hydrogen Delivery through Membranes for Autotrophic Denitrification," *NJIT Membrane Symposium*, November 2001.
- Jahan, K. and T. Ahmed, "Fate and Transport of Nonionic Surfactants in Wastewater Treatment Plants," *32<sup>nd</sup> Mid-Atlantic Industrial and Hazardous Waste Conference*,

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- Troy, NY, June 26-28, 2000.
- Jahan, K. Howard, J.P. and T. Ahmed, "Nitrogen Removal in a Septic Tank System by Recirculating Aggregate Filter," *Water Environment Federation (WEF) Annual Conference*, Orlando, FL, 1998.
- Jahan, K., Maez, J. and T. Ahmed, "Use of Domestic Septage for Reclaiming Nutrient Deficient Land," *Thirteenth International Conference on Solid Waste Technology and Management*, Philadelphia, PA, November 1997.
- Jahan, K., Thai, L.T., Maier, W.J. and T. Ahmed, "Modeling of Surfactant Enhanced Biodegradation of Octadecane," *WEF Annual Conference*, Chicago, IL, 1997.
- Wilson, T.E., Ahmed, T., Adams, V.D. and E.J. Middlebrooks, "Removal of Tritium from Water by Aeration," *I&EC Special Symposium, American Chemical Society*, Birmingham, AL, September 1996.
- Kelso, R.C., Ahmed, T. and E.J. Middlebrooks, "Detritiation of Water Using Hollow Fiber Membranes," *I&EC Special Symposium, American Chemical Society*, Birmingham, AL, September 1996.
- Benedict, S., Ahmed, T. and K. Jahan, "Autotrophic Denitrification Using Hydrogen Oxidizing Bacteria in Continuous Flow Biofilm Reactors," *I&EC Special Symposium, American Chemical Society*, Birmingham, AL, September 1996.
- Arino, D., Ahmed, T., Adams, V.D. and E.J. Middlebrooks, "Removal of Tritium from Water by Air Stripping," *I&EC Special Symposium, American Chemical Society*, Birmingham, AL, September 1996.
- Norris, D.B., Ahmed, T. and D.B. Norris, "Biodegradation of Phenanthrene in Sand Columns in the Presence of Nonionic Surfactants," *I&EC Special Symposium, American Chemical Society*, Birmingham, AL, September 1996.
- Thai, L.T., Jahan, K., Ahmed, T. and W.J. Maier, "Solubilization and Biodegradation of Octadecane in the Presence of Nonionic Surfactants," *WEF Annual Conference*, Dallas, TX, 1996.
- Jahan, K., Drozdoff, L., Ahmed, T. and M. Azad, "Nevada's Biosolids Reuse and Disposal Program in Compliance with 40 CFR ' 503," *10th Annual Residuals/Biosolids Specialty Conference, WEF*, Denver, CO, August 1996.
- Jahan, K., Drozdoff, L. and T. Ahmed, "Setting Metal Concentration Values in NPDES Permits," *Nevada Water Pollution Control Association (NWPCA) Annual Conference*, Reno, NV, March 1996.
- Benedict, S., Ahmed, T. and K. Jahan, "Biofilm Reactor Performance and Kinetics of Autotrophic Denitrifying Bacteria," *NWPCA Annual Conference*, Reno, NV, March 1996.
- Ahmed, T. and P.A. Krenkel, "Advanced Wastewater Treatment Processes," *NWPCA Annual Conference*, Reno, NV, March 1996.
- Jahan, K., Ahmed, T. and W.J. Maier, "Selection of Nonionic Surfactants in Enhancing Biodegradation of Phenanthrene in Soil," *WEF Annual Conference*, Miami, FL, 1995.
- Jahan, K., Ahmed, T. and W.J. Maier, "Biodegradation of Phenanthrene in Soil in the Presence of Nonionic Surfactant," *International Congress on Hazardous Waste*, ATSDR, Atlanta, GA, June 4-7, 1995.
- Arino, D., Ahmed, T. and E. Marchand, "Nevada Biosolids Survey," *NWPCA Annual Conference*, Las Vegas, NV, March 1995.
- Howard, J. and T. Ahmed, "Nitrogen Removal in Small Systems," *NWPCA Annual Conference*, Las Vegas, NV, March 1995.

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- Howard, J. and T. Ahmed, "Evaluation of an On-site Nitrogen Removal System," *NWPCA Annual Conference*, Las Vegas, NV, March 1995.
- Kelso, R.C., Ahmed, T. and E.J. Middlebrooks, "Removal of Tritium from Drinking Water Supplies Using Hollow Fiber Membranes," *WEF Annual Conference*, Chicago, IL, 1994.
- Fordham, S., Middlebrooks, E.J., Adams, V.D. and T. Ahmed, "Removal of Tritium from Waters Using Tritium Free Water," *26th Mid-Atlantic Industrial Waste Conference*, Lancaster, PA, August 7-10, 1994.
- Norris, D. and T. Ahmed, "Biodegradation of Phenanthrene in Sand Columns in the Presence of Nonionic Surfactants," *American Society of Civil Engineering (ASCE) National Conference on Environmental Engineering*, Boulder, CO, July 1994.
- Ahmed, T., Oakley, B., Gulliver, J. and P. Weiss, "The Performance of a Vertical Fiber Membrane Aerator," *American Society of Mechanical Engineering (ASME) Annual Conference*, Lake Tahoe, NV, June 1994.
- Kelso, R.C., Norris, D. and T. Ahmed, "Struvite and Vivianite Control in Wastewater Treatment Plants," *California Water Pollution Control Association (CWPCA) Annual Conference*, Santa Clara, CA, April 1994.
- Ahmed, T. and P. Krenkel, "Nitrogen Removal Processes in Small Wastewater Treatment Plants," *NWPCA Annual Conference*, Reno, NV, March 1994.
- Kelso, R.C., Norris, D. and T. Ahmed, "Struvite and Vivianite Control at the Truckee Meadows Water Reclamation Facility (TMWRF)," *NWPCA Annual Conference*, Reno, NV, March 1994.
- Ahmed, T., Boyce, S. and M. Semmens, "Performance of Transverse Flow Hollow Fiber Membrane Aerators," *Water Pollution Control Federation (WPCF) Annual Conference*, Anaheim, CA, 1993.
- Ahmed, T., Mulligan, S. and G. Xu, "Biodegradation of PAHs Under Denitrification Condition and in the Presence of Nonionic Surfactants," *NWPCA Annual Conference*, Las Vegas, NV, March 1993.
- Ahmed, T. and S. Boyce, "Nitrogen Removal from Secondary Effluents," *NWPCA Annual Conference*, Las Vegas, NV, March 1993.
- Ahmed, T. and M. Semmens, "Characterizing Oxygen Transfer Behavior of a Transverse Flow Bubbleless Membrane Aerator," *Fifth Annual Meeting of the North American Membrane Society (NAMS)*, Lexington, KY, May 1992.
- Ahmed, T., "Treatability Study of a Landfill Leachate Containing Chlorinated Aromatic Compounds," *NWPCA Annual Conference*, Sparks, NV, March 1992.
- Ahmed, T. and M.J. Semmens, "Hollow Fiber Membranes for Bubbleless Aeration," *WPCF Annual Conference*, Washington, DC, 1990.
- Ahmed, T., Semmens, M.J. and M. Voss, "Field Tests on a Bubbleless Membrane Aerator," *2nd International Symposium on Gas Transfer at Water Surfaces*, Minneapolis, MN, 1990.
- Ahmed, T. and M.J. Semmens, "Evaluation of a Hollow Fiber Membrane Aerator," *Twelfth Midwest Environmental Chemistry Workshop*, University of Indiana, Bloomington, IN, 1990.
- Ahmed, T. and M.J. Semmens, "A Novel Bubbleless Membrane Aerator," *Third Annual Meeting of the North American Membrane Society (NAMS)*, Austin, TX, May 1989.
- Ahmed, T. and M.J. Semmens, "Laboratory and Field Tests on a Bubbleless Membrane Aerator," *62nd Annual Meeting of the CWPCA*, Milwaukee, WI, May 1989.

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### **RESEARCH PROJECTS**

- Removal of DBP Precursors from Drinking Water Supplies by Enhanced Coagulation/Flocculation, Univ. of Nevada/Westpac Utilities, PI, 1996.
- Development of Guidelines for Disposal and Beneficial Use of Biosolids, Nevada Department of Environmental Protection (NDEP), PI, 1995-1996.
- Research Experience for Women and Minority Undergraduate Students, NSF, Participant, 1995-1996.
- Arsenic and Nitrate Contamination in the Fernley Groundwater, Fernley Utilities, PI, 1994-1995.
- Denitrification Using Autotrophic Hydrogen Oxidizing Bacteria in Membrane Bioreactor, Nevada Water Pollution Control Association (NWPCA), PI, 1994-1995.
- Nitrogen Removal from Small Wastewater Treatment Systems, NWPCA, PI, 1994-1995.
- Single Basin Carbon and Nitrogen Removal Process, Fernley Utilities, PI, 1994-1995.
- Removal of Tritium from Waters Using Tritium Free Water, DOE, Co-PI, 1993-1995.
- Research Experience for Undergraduates, NSF, Participant, 1993-1994.
- Struvite and Vivianite Control at the Truckee Meadows Water Reclamation Facility, NWPCA, PI, 1993-1994.
- Review of Nitrogen Removal Systems from Secondary Effluents, NWPCA, PI, 1992-1993.
- Sorption and Aerobic Biodegradation of Polycyclic Aromatic Hydrocarbon (PAH's) in the Presence of Surfactants in Column Experiments, DOE, PI, 1992-1994.
- Sorption and Aerobic Biodegradation of PAH's in the Presence of Surfactants in Batch Experiments, University of Nevada Graduate School, PI, 1992-1993.

### **COMPUTER SKILLS**

- Operating Systems: DOS, Windows, MAC and Unix
- Office Software: MS Office, WordPerfect, SmartDraw, StatView, KaleidaGraph, DeltaGraph, Maptitude, ArcView, MS Project, Dreamweaver and FrontPage.
- Database Software: MS Access.
- Language: Basic, Fortran, C, C++, Visual Basic, HTML, Java, Javascript and Focus.