Akram N. Alshawabkeh, PhD, PE, Fellow ASCE

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University distinguished Professor and Snell Professor of Engineering, Northeastern University

Senior Associate Dean for Research and Graduate Education, College of Engineering

Professor of Civil and Environmental Engineering, Northeastern University

Education/Credentials

Ph.D., 1994	Civil and Environmental Engineering, Louisiana State University, Baton Rouge, LA
M.Sc., 1990	Civil Engineering, Jordan University of Science and Technology, Irbid, Jordan
B.E., 1988	Civil Engineering, Yarmouk University, Irbid, Jordan

Registered Professional Engineer, Louisiana, Registration No. 28524, 1999

Employment and Appointments

2019 –	**Senior Associate Dean for Research and Graduate Education**
2015 – 2019	**Associate Dean for Research, College of Engineering, Northeastern University, Boston, MA**
2011 –	George A. Snell Professor of Engineering, Northeastern University, Boston, MA
2015 –	PI and Director, CRECE Children's Environmental Health Center, Northeastern University, P50 Sponsored by the National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH) and the Environmental Protection Agency (EPA)
2010 –	PI and Director, PROTECT Superfund Research Center, Northeastern University, P42 Sponsored by the National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH)
1997 –	Professor (7/07 – Date), Associate Professor (7/02 – 6/07), and Assistant Professor (6-97 – 6/02); Civil and Environmental Engineering, Northeastern University, Boston, MA
2002 – 2008	Graduate Director, Department of Civil and Environmental Engineering, Northeastern University, Boston, Massachusetts
2001 – 2007	Director, SoilBED facility, Center for Subsurface Sensing and Imaging Systems, NSF Sponsored Engineering Research Center, Northeastern University
2005 – 2006	Fulbright Scholar and Visiting Professor, Jordan University of Science and Technology, Irbid, Jordan
1996 – 1997	Visiting Assistant Professor, Department of Civil and Environmental Engineering, Polytechnic University, Brooklyn, New York
1994 – 1996	Technical Director, Electrokinetics Inc., Baton Rouge, LA; Activities: writing research proposals, reports, and design of remediation technologies.
1995 – 1996	Adjunct Instructor, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana
1990 – 1994	Research Assistant, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana
1989 – 1990	Teaching Assistant, Department of Civil and Environmental Engineering, Jordan University of Science and Technology, Irbid, Jordan

Honors and Recognitions

2016	Hall of Distinction, Civil and Environmental Engineering, Louisiana State Univ.
2014	American Society of Civil Engineers (ASCE) Thomas A. Middlebrooks Award
2012	Elected Fellow, American Society of Civil Engineers (ASCE)
2009	Certificate of Appreciation, Transportation Research Board of the National Academies
2005 – 2006	Fulbright Scholar (Jordan)
2004	College of Engineering Outstanding Researcher Award, Northeastern University
2001	National Science Foundation (NSF) CAREER Award
1996	Army Research Quality Award for Phase II Small Business Innovative Research (SBIR) (Awarded to Electrokinetics Inc.)
1994	College of Engineering Outstanding Dissertation, Louisiana State University (also nominated for University Award)
1990	Jordan's Royal Award: Ranked top of Civil Engineering MS graduates

Active Research Projects

2010 – 2025 **"Puerto Rico Testsite for Exploring Contamination Threats (PROTECT)" P42ES017198 Superfund Research Center**
Role: PI and Director

Sponsored by the National Institutes of Health, National Institute of Environmental Health Sciences, Superfund Research Program

Includes 5 R01 Projects and 6 Cores from 8 institutions including Northeastern University (A. Alshawabkeh, R. Giese, T. Sheahan, D. Kaeli, J. Manjourides, P. Brown); University of Georgia - College of Public Health (JF Cordero); University of Michigan - School of Public Health (R. Loch-Caruso, J. Meeker); University of Puerto Rico – Medical Sciences Campus (CM Vélez Vega); University of Puerto Rico Mayaguez - College of Engineering (I. Padilla); Cornell University (A. Gu);

Team expertise: Engineering (Civil, Environmental, Electrical & Computer Engineering), Toxicology, Epidemiology, Pediatrics, Biochemistry, Biostatistics, Hydrogeology, Agronomy and Social science.

Center website: northeastern.edu/protect/

NIEHS Website: tools.niehs.nih.gov/srp/programs/index267.cfm

The PROTECT Center investigates exposure to environmental contamination in Puerto Rico and its contribution to preterm birth (less than 37 completed weeks of gestation). PROTECT also seeks to better understand the phenomena affecting fate and transport of hazardous substances in aquifers in karst regions and to develop remediation strategies to protect human health and ecosystems.

2015 – 2021 **"Center for Research on Early Childhood Exposure and Development in Puerto Rico (CRECE)" P50ES026049 NIH/EPA Children's Environmental Health Center**

Role: PI and Director

Sponsored jointly by the US Environmental Protection Agency and the National Institutes of Health, National Institute of Environmental Health Sciences

Includes 3 R01 Projects and 3 Cores from 4 institutions including Northeastern University (A. Alshawabkeh, H. Suh, A. Gu., E. Zimmerman, P. Brown); University of Georgia – College of Public Health (JF Cordero); University of Michigan - School of Public Health (J. Meeker); University of Puerto Rico – Medical Sciences Campus (CM Vélez Vega)

Team expertise: Engineering (Civil, Environmental, Electrical & Computer Engineering), Toxicology, Epidemiology, Pediatrics, Biochemistry, Biostatistics, and Social science.

Center website: northeastern.edu/crece/

The CRECE Center investigates the impact of a mixture of environmental exposures and modifying factors on fetal and early childhood health and development in the children of the heavily-contaminated northern coast of Puerto Rico, an underserved, highly-exposed, and low-income population with significant health disparities. CRECE follows 600 infants in Puerto Rico from birth to age four. The CRECE interdisciplinary team includes environmental epidemiologists, pediatricians, environmental scientists/engineers, exposure scientists, sociologists, social workers, biostatisticians, toxicologists, and communication neuroscientists (many of whom have previously collaborated through PROTECT).

2016 – 2023 **Environmental Influences on Child Health Outcomes in Puerto Rico (ECHO-PRO) UG3OD023251/UH3OD023251**

Role: PI

Sponsored by the National Institutes of Health Total external funding of $16.7M:

2015 – 2021 **"Research Opportunities for Undergraduates: Training in Environmental Health Sciences (ROUTES)," R25ES025496**
Role: PI (joint with Helen Suh)
Sponsored by National Institutes of Health, National Institute of Environmental
Project website: http://www.northeastern.edu/routes/

Completed Projects at Northeastern University

2016 – 2020 "Field Application of Induced Partial Saturation (IPS) for Liquefaction Mitigation"
Role: co-PI (PI: M.Yegian)
Sponsored by National Science Foundation (NSF)

2017 – 2020 "RAPID: Timely Assessment of Water Quality to Reveal the Potential Ecological and Health Impact of Hurricanes at Puerto Rico"
Role: co-PI (PI: A. Gu)
Sponsored by NSF

2011 – 2016 "NEESR: Induced Partial Saturation (IPS) through Transport and Reactivity for Liquefaction Mitigation"
Role: co-PI (PI: M. Yegian)
Sponsored by NSF/NEESR

2011 – 2013 "Water Quality Improvement: Self-powered Hydrogen Production, Donor Delivery and Monitoring System for Bio-remediation,"
Role: co-PI (PI: A. Gu)
Sponsored by Tier 1 Interdisciplinary Seed Project Award (Provost Office, NU)

2010 – 2011 "Impact of electric fields on microbial transport at a contaminated site in Denmark"
Role: PI
Sponsored by GeoSyntec Consultants

2010 – 2011 "Providing sustainable, potable water using renewable energy in developing countries"
Role: Advisor (Undergraduate Research award for Andrew Baummer, Matt Walsh, Kelsey Dunn, Joe Belrose, and Craig Pecunece)

2010 "Seismic Hazard Assessment - Graduate Student Internship"
Role: Advisor – Student: Ehsan Kianirad
Sponsored by FM Global

2009 – 2010 "Development of Field Delivery System of Oxygen Bubbles for Seismic and Geoenvironmental Hazard Mitigation"
Role: co-PI (PI: M. Yegian)
Sponsored by NSF/CMS

2008 – 2011 "A reactive mat to remediate contaminated sediments and reduce health risks"
Role: co-PI (PI: T. Sheahan)
Sponsored by National Institute of Environmental Health Sciences (NIEHS) of the National Institute of Health (NIH)

2006 – 2008 "Rapid Soil Characterization System,"
Role: subcontract PI (PI: Ronald Gamache, Transtech Systems)
Sponsored by US Army Corps of Engineers

2005 – 2008 "Liquefaction Mitigation using Entrapped Air"
Role: co-PI (PI: M. Yegian)
Sponsored by NSF/CMS

2005 "Factory Mutual Graduate Internship: Predicting Thermal Stresses in Paper Dryers"
Role: PI
Sponsored by FM Global

2003 – 2005 "In Situ PCE/TCE Biotransformation by Electrokinetic Injection of Lactate"
Role: co-PI (PI: J. Wang)
Sponsored by Environmental Laboratory of the US Army Engineering Research and Development Center (EL-ERDC) of USACE

2003 – 2004 "Development of a Processing Technique for Recycling Construction and Demolition Wood"
Role: co-PI (PI: J. Wang)
Sponsored by Chelsea Center for Recycling and Economic Development

2002 – 2003 "SGER: Air Entrapment for Liquefaction Mitigation"
Role: co-PI (PI: M. Yegian)
Sponsored by NSF/CMS

2002 "Undergraduate Research in GeoEnvironmental Engineering

Role: PI
Sponsored by NU

2001 – 2006 "CAREER: Innovative Soil Remediation Methodologies"
Role: PI
Sponsored by NSF/CMS

2001 – 2002 "Evaluation of Ionic Injection for Stimulation of In Situ Remediation of Chlorinated Solvents"
Role: PI
Sponsored by DOD SERDP; Subcontract via EL-ERDC (USACE)

2000 – 2007 "SoilBed Facility for Environmental Subsurface Characterization - DNAPL Imaging by Cross Well Radar", a testbed of the NSF Engineering Research Center for Subsurface Sensing and Imaging Systems (CenSSIS)
Role: Facility Lead (ERC PI: M. Silevitch)
Sponsored by NSF

2000 – 2001 "Developing a Reactive Geocomposite to Remediate Contaminated Subaqueous Sediments,"
Role: co-PI (PI: T. Sheahan)
Sponsored by NSF Bioengineering and Environmental Systems (BES) - New Technologies for the Environment (NTE)

1999 – 2000 "Improving Soft Soil Mechanical Properties Using an Innovative Grouting Methodology
Role: PI
Sponsored by NSF, CMS-SGIR

1998 – 1999 "Microbial Activity and Transport Under Electric Fields – Preliminary Study"
Role: PI
Sponsored by NU Research and Scholarship Development Fund (RSDF)

Service and Professional Activities

Scientific Advisory Board and Conference Organization

- Chair, Superfund Research Program of NIEHS Conference, 2015, San Juan, Puerto Rico. northeastern.edu/srp2015/
- Chair "International Symposium on Electrokinetic Remediation – EREM 2013," Boston, MA, July 2013. northeastern.edu/erem2013/
- Scientific Advisory Board Member – 2011 International Conference: Sustainable Remediation 2011: State of the Practice, University of Massachusetts Amherst.
- Technical Program Co-Chair: ASCE – GI Congress; *"GeoCongress 2008: The Challenge of Sustainability in the Geoenvironment"* New Orleans, LA, March 9–12, 2008 (~1000 participants).
- Scientific Advisory Board Member – Annual International Conference on Contaminated Soils, Sediments and Water, Association for Environmental Health and Sciences (2000 – 2005).

Editorial Board

- ASCE Journal of Geotechnical and Geoenvironmental Engineering (2001-2007)
- Journal of Hazardous Materials (2003 – 2008)
- Soil and Sediment Contamination (2003 – Date)

Professional Affiliation

GeoInstitute (GI); ASCE; American Geophysical Union (AGU); American Chemical Society (ACS)*;* Jordan Engineer Society*;* The US Universities Council on Geotechnical Engineering Research (USUCGER); International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)

Northeastern Committees:

- COE Academic and Research Infrastructure, ex officio (2015 – present)
- Chair, COE Research Affairs Committee (2015 – present)
- Elected Member (two terms) of NU Faculty Senate (2009-2013)
- Chair, Civil and Environmental Engineering Tenure and Promotion Committee (2011-2014)
- Chair, Faculty Search Committee for Urban Sustainable and Resilient Lifeline Systems Engineering (2013 – 2014)
- Member, Bioengineering Inaugural Department Chair Search Committee (2013-2014)
- Member, Chemical Engineering Department Chair Evaluation (2014)
- Member, Environmental Health Faculty Search, Health Sciences Department (2011-2012)
- Member, Civil and Environmental Engineering Search Committee (2011-2012)
- Chair, College of Engineering Tenure and Promotion Committee (2010-2011)
- Member of Urban Sustainability (University Cluster Hire) Search Committee (2010-2011)
- Member, Senate Committee on Faculty Developmental (2010-2012)
- Member of Search Committee for Biology Department Chair, NU (2008-2009)
- College of Engineering Tenure and Promotion Committee (2007-2008; 2009-2011)
- NU Graduate Council (2002-2005; 2006-2008)
- NU New Programs Committee (2002-2005; 2006-2008)
- Graduate Director: CEE, NU (2002-2005; 2006-2008)
- Research and Scholarship Development Fund (2007), Provost Office, NU
- College of Engineering Faculty Council, NU (2002-2005)
- University Research Council, NU (2001-2002)
- Computer Advisory Committee, College of Engineering, NU (1999-2002)
- Served on previous Faculty Search Committees, CEE, NU
- Annual Review and Promotion Committees, CEE, NU

National/International Committees

- Former Chair of Committee AFP40: "Physicochemical and Biological Processes in Soil"; TRB (Transportation Research Board of the National Academies) (member 1997, chair 2003-2009)
- Core Member, Technical Committee TC5 on "Environmental Geotechnics" (2001-2006), ISSMGE (International Society of Soil Mechanics and Geotechnical Engineering)

- Executive Board Member, "Geology and Properties of Earth Materials" Section; TRB of the National Academies; 2003 – 2009
- Member, ASCE Geoenvironmental Engineering Committee (1996 – present)

Paper Reviewer

ASCE J. of Geotechnical and Geoenvironmental Engineering, ASCE J. of Environmental Engineering, Environmental Science & Technology, Geotechnical Testing Journal, Environmental Technology, J. of the Air and Waste Management Association, Transportation Research Board, Computers and Geotechnics, Contaminant Hydrology, Soil and Sediment Contamination, Advances in Environmental Research, UNESCO Encyclopedia of Life Support Systems, ASCE J. of Infrastructure Systems, Electronic Journal of Geotechnical Engineering, Water Research, The Encyclopedia of Environmental Analysis and Remediation (John Wiley & Sons Inc.), Chemosphere

Proposal Reviewer

- National Institute of Environmental Health Sciences (NIEHS) – (panelist - P42, P30, R25, U2C, U24 and R13)
- National Science Foundation (panelist and proposal reviews)
- Department of Defense - Strategic Environmental Research and Development Program
- Petroleum Research Fund
- Texas Higher Education Coordinating Board (preproposal/proposal/panel reviews)
- Water Resources Institute (WRI)
- Kentucky Science & Engineering Foundation
- Council for the Earth and Life Sciences, NOW, The Netherlands
- Fondo Nacional de Investigation Cientifica y Technology (FONDECYT), Santiago, Chile
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Water Resources Research Institute of The University of North Carolina System

Conference Sessions, Panels and Workshops

- Lecturer: DTU-RILEM Doctoral Courses "Electrokinetics in Civil and Environmental Engineering" October 6-10, 2008, Lyngby, Denmark, Sponsored by Knud Højgaard Foundation, Denmark, RILEM
- Keynote Speaker, Symposium on Electrokinetic Remediation, 20–22 Aug, 2008, Seoul, Korea.
- Visiting scholar; Korea Electrotechnology Research Inst. (KERI); Changwon City; South Korea; Sponsored by KERI, August, 2008, South Korea
- Invited Lecturer "Bio-Soil Interactions and Engineering Workshop," MIT Endicott House Facility; April 1-4, 2007; Sponsored by NSF
- Chair: Session PDS B1 "Remediation" June 28, 2006; ISSMGE's 5th International Congress on Environmental Geotechnics," Cardiff, UK 26th-30th June 2006.
- Panelist: Workshop 1 "Remediation 1" June 26, 2006; ISSMGE's 5th International Congress on Environmental Geotechnics," Cardiff, UK 26th-30th June 2006.
- Co-Chair: Session on "WC – In Situ Remediation of Contaminated Soils," Geofrontiers 2005; Austin, Texas; January 24-26, 2005, sponsored by the ASCE G-I, Geoenv. Eng. Committee

- Invited Participant: Workshop on "Geological and Geotechnical Engineering in the New Millennium," February 3-6, 2004, Sponsored by the NRC Board on Earth Sciences and Resources, Beckman Center, Irvine, CA
- Workshop presentation "Contaminant Fate and Transport" in "Basic Geosciences Concepts and Subsurface Sensing and Imaging Tools" CenSSIS Research and Industrial Collaboration Conference (RICC), November 18-19, 2003, Boston, MA
- Moderator: Session on "Heavy Metals," The 19th Annual International Conference on Soils, Sediments & Water; October 20-23, 2003, University of Massachusetts-Amherst.
- Chair: "Modeling Methods" session – 2003 Subsurface Science Symposium, "Advances in Understanding and Modeling Subsurface Processes" Organized by INRA (Inland Northwest Research Alliance" and INEEL (Idaho National Engineering and Environmental Laboratory, Salt Lake City, Utah, October 5-8, 2003
- Invited Participant: National workshop on "NSF Workshop on Emerging Geoenvironmental Technologies" University of Illinois-Chicago, September 18-19, 2003 (Sponsored by NSF)
- Chair: "Technical Session 2.7: Applications of Electrokinetics," 8th Environmental and Sustainable Engineering Specialty Conference of the Canadian Society for Civil Engineering, Moncton, New Brunswick, Canada, June 4-7, 2003
- International Review Committee: The Fourth International Electrokinetic Remediation Conference, Mol, Belgium, May 14-16, 2003
- Chair: "Session 4: Developments," 4th symposium on Electrokinetic Remediation (EREM03), Belgian Nuclear Res. Center (SCK-CEN), May14-16, 2003, Mol, Belgium
- Panelist - Session PS4: "Management of Contaminated Sites," 4th International Congress on Environmental. Geotechnics, 11-15 August, 2002, Rio de Janeiro, Brazil.
- Invited Participant: National Workshop on Future Sensing Systems "Living, Nonliving, and Energy Systems," Granlibakken Conference Center, Lake Tahoe, CA, August 26-28, 2002 (Sponsored by NSF).
- Visiting Scholar: Federal University of Rio de Janeiro, Brazil, 10-24 November 2001 Presented a Short Course on "Soil-Contaminant Interactions and Soil Remediation," (Sponsored by Brazilian National Council of Scientific & Tech. Development – CNPq).
- Invited Participant: Workshop on International Research Collaboration at the International Conference on Soil Mechanics and Geotechnical Engineering, Istanbul, Turkey, August 28 - Sept. 1, 2001 (Sponsored by NSF and ASCE).
- Panelist: "Contaminant Migration to the Water Table – A Looming Societal Nightmare," Center for Subsurface Sensing and Imaging Systems - Research and Industrial Collaboration Conference, November 13-15, 2000, Boston, MA
- Chair: "Recent Developments in Soil Remediation Technologies," Session Sponsored by Transportation Research Board (TRB) Committee A2L03 "Physicochemical Phenomena in Soils," January 9-13, 2000, Washington, D.C.
- Chair: "In-Situ Characterization and Remediation by Electric Fields," Emerging Technologies in Hazardous Waste Management, American Chemical Soc. (ACS) 1998 Meeting, Sponsored by Industrial & Eng. Chemistry Div., August 23-27, Boston, MA.
- Visiting scholar: Norwegian University of Science and Technology, Trondheim (November 20-26, 1999) for collaboration on electrokinetic soil remediation (Sponsored by NMG, Norway).

Teaching

Geotechnical Engineering

Soil Mechanics (NU); Foundation Eng. (NU); Advanced Soil Mechanics (NU); Advanced Foundation Eng. (NU), Soil Behavior (JUST), Geoenvironmental Engineering (NU)

Environmental Engineering and Water Resources

Hydraulic Engineering (NU); Hazardous Waste Management (Polytec. U); Environmental Geotechnology (Polytec. U); Groundwater Hydraulics and Quality Modeling (NU); Hazardous Site Remediation (Polytec. U)

Fundamentals of Civil Engineering

Statics (LSU); Structural Analysis I (NU)

Course Development

Introduced a course on principles and applications of Geoenvironmental Engineering at Northeastern University in 1999. Graduate and undergraduate students attend the course. Average enrollment is 15 students.

Advising and Mentoring

Current PhD Students

Name	Research Topic	Graduation (Expected)
Shirin Hojabri	Modeling of Solar Powered EK Treatment of Groundwater	2021
Yuwei Zhao	Insitu Pilot Evaluation of Solar Powered Remediation	2021
Patrick Compton	Electrochemically-induced degradation of legacy munitions and insensitive high explosives in manufacturing wastewater	2023

Former PhD Students

Name	Thesis Title	Current Position	Graduation Date
Roya Nazari	Transformation of Chlorobenzene and 4-Chlorophenol in Groundwater by Electro-Fenton and Sono-electro-Fenton Reactions	Postdoc; Rutgers University	August 2018
Renee Wurth *Co–Advisor with H. Suh*	Examination of the Impact of Environmental and Dietary Exposures on the Health of Puerto Ricans	Postdoc; Harvard School of Public Health	August 2017
Noushin Fallahpour	Effect of Natural Organic Matter, Metal Ions, and Nitrate on electrochemical Dechlorination of Trichloroethylene	Environmental Engineer, AECOM, NJ	December 2016
Ali Ciblak	Performance of Iron Electrolysis for Transformation of Trichloroethylene (TCE) in Groundwater	Geosyntec Consultants, Atlanta, GA	December 2015
Reza Ghasemizadeh	Modeling Groundwater flow and Contaminant transport in the North Coast Limestone karst aquifer system of Puerto Rico	Project Manager California EPA	December 2015
Fritz Rudolph Nababan *Co-Advisor With M.Yegian*	Development and Evaluation of Induced Partial Saturation (IPS), Delivery Method and its Implementation in Large Laboratory Specimens and in the Field	Instructor; Inst. Teknologi Bandung (ITB); Indonesia	December 2015
Seda Gokyer *Co-Advisor With M.Yegian*	Numerical Simulation of Partial Saturation in Sands Induced by Flow and Chemical Reactivity	Geocomp Corp., Acton, MA	May 2015
Ehsan Kianirad	Development and Testing of a Portable In-Situ Near-Surface Soil Characterization System	Research Eng.; AIR Worldwide	August 2011
David Gent	In Situ Remediation of Energetic Compounds	Scientist; EL-ERDC	August 2007

Name	Thesis Title	Current Position	Graduation Date
Hussam Sarahney	Electrolytic Reactive Barrier for Insitu Reduction of Contaminants in Groundwater	Assistant Prof. Al Ahliyya Amman Univ.	June 2007
Hatim Fedllala	Stimulation of Aerobic Biodegradation of Phenanthrene in Soil by Electrolytic Generation and Electroosmotic Transport of Oxygen	Sr. Engineer at Jones Edmunds, Florida	June 2007
Guoping Tang	Time Integration for Groundwater Flow and Solute Transport Modeling	Senior Engineer; Chesterfield County; VA	August 2006
Xingzhi Wu	PCE Bioremediation by Lactate Injection under direct Electric current	Head of Info. Analytics; AIG	December 2005
Arvin Farid	Imaging of DNAPL in Soils by Cross-Well Radar	Associate Professor; Boise State U.	August 2004
Lori Siegel	Modeling Cesium Fate in the Rhyizosphere	Senior Modeler; Climate Interactive	August 2003

MS Students

Name	Thesis/Report Title	Graduation Date
Kim Hendrick	Effect of Suspended Sediments on fate, transport and remediation of contaminants in Karst Aquifers	2018
Amir Taqieddin	Physicochemical Hydrodynamics of Gas Bubbles in Electrochemical Systems	2018
Koosha Kalhor	Assessment and Modeling of Groundwater Flow and Nitrate Contamination within Coastal Karst Aquifer of Puerto Rico	2018
Harshi Weerasinghe	Puerto Rico Surface and Subsurface Hydrology	2016
Katrina Smith-Mannschott	Ground-source Heat Pump Systems	2013
Sara Barbuto	Assessment of bioactivity in sediments with reactive mats	2011
Mansoureh Norouzirad	Adsorption kinetics of Naphthalene on Organoclay in Aqueous Solutions	2010
Fulya Guney	Effect of Electrochemical Redox Barriers on pH and Eh Profiles	2006
Clay Kurison	2D Cross Well Electromagnetic Characterization of Soil	2006
Hussam Sarahney	Electrochemical Transformation of Naphthalene	2003

Name	Thesis/Report Title	Graduation Date
Nima Rahbar	Numerical Modeling of Coupled Consolidation & Contaminant Transport in a Deformable Porous Medium	2003
Chris Reynolds	Background Study of Arsenic in Rhode Island Soils	2001
Henry M. Nodarse	Clay Stabilization by Selected Admixtures	1998
Yuping Shen	Impact of Electric Fields on Microbial Activity	1999
Abdelrahman Hafiani	Geotechnical Instrumentation for the Central Artery Tunnel	2000
Jong Cherng Leu (Co-Advisor)	The Effect of Electric Fields on Anaerobic Bacteria for In-Situ Bioremediation; Polytechnic University, NY	1997

Post-Doctoral Associates and Research Scientists

- **Virginia Casey -** Senior Research Scientist; 2019 – present
- **Chieh Wu** (Machine Learning, Data Science, Signal Processing) 2020 – present
- **Griffith Gao** (Database Admin); 2020 – present
- **Dr. Long Chen** (Chemical & Environmental Engineer); 2017 – 2020
- **Dr. Ljiljana Rajic** (Chemist); Associate Research Scientist; 2012 – 2018
- **Dr. Xue Yu** (Civil and Environmental Engineer); 2012 – 2018
- **Zlatan Feric** (Database Admin); 2016 – 2020
- **Rachel Grashow** (Neuroscientist); Senior Research Scientist; 2014 – 2016, currently at Silent Spring Institute, Newton, MA
- **Dr. Xuhui Mao** (Material Scientist); 2010 – 2012, currently at the School of Resource and Environmental Science, Wuhan University, China
- **Dr. Christoph Butscher** (Hydrogeologist); 2011 – 2012; Currently at the Institute of Applied Geosciences - Karlsruhe Institute of Technology (KIT), Germany

Visiting Scholars

- **Yunfei Xue**, Visiting PhD Student; School of Resource and Environmental Engineering; East China University of Science and Technology (ECUST), Shanghai, China; 2017 to 2019
- **Paula Guedes**, Post doctoral researcher, Center for Environmental and Sustainability Research (CENSE) at the Faculdade de Ciências e Tecnologia, Universidade NOVA de Lisboa in Portugal; April to July 2018.
- **Bente Højlund Hyldegaard**, PhD student from COWI A/S and Technical University of Denmark (DTU), April to July 2018
- **Alexandra Ribeiro**, Associate Professor, NOVA University of Lisbon, July to October, 2018
- **Eduardo Mateus**, Senior Researcher at CENSE and FCT NOVA, University of Lisbon, July to October, 2018.
- **Wei Zhou**, Visiting PhD Student; Harbin Institute of Technology; China; 2016 to 2018.
- **Dr. Feng Li**; Professor, School of Civil Engineering and Transportation, South China University of Technology (SCUT), Guangzhou City, China; April to December 2017.

- **Dr. Vanessa J. Pereira**, Researcher at iBET (Instituto de Biologia Experimental e Tecnológica) and ITQB/NOVA, Portugal; September to December; 2016
- **Shadi Hamdan**; Visiting PhD Student, Chemical Engineering, KU Leuven, Belgium; 2015 to 2018
- **Zhijia Xue**, Visiting Ph.D. candidate, Dalian University of Technology, China
- **Dr. Maihemuti Balati**, Visiting Scholar, Xinjiang Agricultural University, China; 2013-2015
- **Dr. Ibrahim Mousa**, Visiting Research Associate Professor, 9/2013 – 3/2014; Microbiology, Minoufiya University, Egypt. Sponsored by USAID
- **Dr. Peng Jie**, Visiting Research Associate Professor; 9/2013 – 9/2014; Geotechnical Research Institute, Hohai University, China, Sponsored by China Scholarship Council
- **Dr. Kitae Baek**, Visiting Research Associate Professor 1/2011 to 1/2012; Associate Professor; Department of Environmental Engineering; Kumoh National Institute of Technology, Gyoengbuk; Republic of Korea
- **Dr. Songhu Yuan**, Visiting Research Assistant Professor 9/2011 to 9/2012, visiting from Key Lab of Biogeology and Environmental Geology of Ministry of Education (BGEG), China University of Geosciences (CUG), Wuhan, P.R. China.
- **Juan M. Paz-Garcia**, Visiting PhD candidate, 3/2011 to 7/2011, Department of Civil Engineering, Technical University of Denmark
- **Tingting Li**, PhD Student, Institute of Applied Ecology, Chinese Academy of Sciences, Shenyang, China, July 2009 – November 2009; Sponsored by Chinese Academy of Sciences
- **Laura Gabrieli**, PhD Student. Politecnico di Milano, Italy; May 2008 - Dec 2009
- **Dr. Jeong-Hyo Bae**; Korea Electrotechnology Research Inst. (KERI); Changwon City; South Korea; Dec 07 - Feb 08; Sponsored by KERI
- **Maria Serrano-Guzman**, Graduate Students at the University of Puerto Rico at Mayaguez (Advisor: Professor Ingrid Padilla), Visiting Summer 2004, sponsored by CenSSIS
- **Samuel Botija Loaisa**, PhD Student, Eduardo Torroja Institute, Madrid, Spain, Fall 2005 (Sponsored by High Council of Scientific Research, Spain)
- **Dr. Zhou Dong-Mei**, Inst. of Soil Science, Chinese Academy of Science, Nanjing, China, Fall 02; Sponsored by Chinese academy of Science.

Advising Visiting Pre-College Teachers

- Rocco Cieri, Summer 2013, Medford High School
- Margaret Farrar; Summer 10, Cambridge Rindge and Latin School
- Ardian Mici; Summer 10, Andover School of Montessori
- Chris Ashley, Summer 08, Needham High School,
- Susan Agger, Summer 07 and 08, Coordinator for the Ecology Center, Cambridge Public Schools
- Jessica Quinn, Summer 2007, Revere High School,
- Bradford Cranston, Summer 2006, Trinity Catholic
- Patricia Brandl, Summer 2006, Medford High School
- Janette Noss, Summer 2005, Arlington High School
- Paul Damiani, Summer 2005, Milton High School
- Mark Casto, Summer 2003, Amesbury High School
- Jan Mattimoe, Summer 2003, John W. McCormack Middle School, Dorchester

Undergraduate Students

- Kaleigh Mcalaine, 2018, ROUTES Scholar, 6 month full time co-op.
- Biruk Mulaw, 2017, ROUTES Scholar, 6 month full time co-op.
- Luis Gozales and Katerina Robles, 2017/2018, Gordon CenSSIS/Alert Scholars (1 year part-time)
- Paula Gestrepo Clavijo; 2016; ROUTES Scholar, 6 months full time co-op.
- Andre Gonzales, 2016, NSF REU D3, Summer (10 weeks full time)
- Paula Clavijo, ROUTES Scholar, 2016
- Savannah Gregor, Mechanical Engineering, ROUTES Scholar, 2016
- David Berroa, CEE, ROUTES Scholar, 2015
- Madeleine Wax, CEE, 2015
- Sarah Elbakri, ROUTES Scholar, CEE, 2015 and 2017
- Heather Strelevitz, Chemical Engineering, 2015
- Layal Ismail, Spring 2014
- Mary Penny, CEE, Fall 2013
- Samantha Kendrick, NE-LSAMP REU; CEE 2010
- Eilish Corey, Undergraduate Research Assistant, CEE, 2006-2007
- Lisa M. Pezzino, Undergraduate Research Assistant, CEE, 2004-2006, recipient of 2006 NSF Graduate Fellowship – Joined Graduate Program at UC Berkeley (Fall 2006)
- Adam Levesque, Civil Engineering Senior, Worcester Polytechnic Ins., Summer 2004, Sponsored by CenSSIS REU program and The Louis Stokes Alliance for Minority Participation (LSAMP) Program
- Stanley Cantave, NU ECE undergraduate Student, Sponsored by LSAMP, Spring 2004
- Megan Minger: Research Assistant, CEE, 2003, Pursued MS degree from UC Berkeley, CA
- Loretta Fernandez: Undergraduate Research Assistant, CEE, Summer 2001-Spring 2002, Recipient of 2003 NSF Graduate Fellowship – Pursued PhD at MIT
- Jamie Thomas: Undergraduate Independent Study / Research 1 (Honors), Fall 2001
- Gitanjali Shinde: Undergraduate Independent Study / Research 1 (Honors), Spring 1998

Advising Visiting High School Scholars

- Cody Kotake, Newton North High School, Summer 2017
- Robert Yampanis, Summer 2017
- Ian McGregor, BC High in Dorchester, Summer 2016
- Amrita Sridhar, Boston University Academy, Summer 2016
- Michael Wagner, Summer 2013
- Diana Abbas (Commonwealth School), and Michael Wagner (Belmont High), Summer 2013(YSP).
- Patt hongsmatip and Feng Wu, Summer 2007
- Ashley Manolakis, Summer 2006, Braintree High School
- Carol Moraff, Summer 2006, Commonwealth School
- Elizabeth Jerison, Summer 2005, Belmont High School
- Stelios Melachrinoudis, Summer 2005, St Johns High School, Shrewsbury

Publications and Presentations

Peer–Reviewed Journal Publications

1. Pahriya Ashrap, Deborah J. Watkins, Bhramar Mukherjee, Zaira Rosario-Pabón, Carmen M. Vélez-Vega, Akram Alshawabkeh, José F. Cordero, John D. Meeker, (2021) Performance of urine, blood, and integrated metal biomarkers in relation to birth outcomes in a mixture setting, Environmental Research, Volume 200, 2021, 111435, ISSN 0013-9351. https://www.sciencedirect.com/science/article/pii/S0013935121007295
2. Monica K. Silver, Jennifer Fernandez, Jason Tang, Anna McDade, Jason Sabino, Zaira Rosario, Carmen Vélez Vega, Akram Alshawabkeh, José F. Cordero, and John D. Meeker (2021) "Prenatal Exposure to Glyphosate and Its Environmental Degradate, Aminomethylphosphonic Acid (AMPA), and Preterm Birth: A Nested Case–Control Study in the PROTECT Cohort (Puerto Rico)" Environmental Health Perspectives, Vol. 129, No. 5, https://doi.org/10.1289/EHP7295
3. Sheikh Mokhlesur Rahman, Jiaqi Lan, David Kaeli, Jennifer Dy, Akram Alshawabkeh, April Z. Gu, (2022) Machine learning-based biomarkers identification from toxicogenomics – Bridging to regulatory relevant phenotypic endpoints, Journal of Hazardous Materials, Volume 423, Part B, 2022, 127141, ISSN 0304-3894, https://www.sciencedirect.com/science/article/pii/S0304389421021099
4. Amber L. Cathey, Jarrod L. Eaton, Pahriya Ashrap, Deborah J. Watkins, Zaira Y. Rosario, Carmen Vélez Vega, Akram N. Alshawabkeh, José F. Cordero, Bhramar Mukherjee, John D. Meeker, (2021) Individual and joint effects of phthalate metabolites on biomarkers of oxidative stress among pregnant women in Puerto Rico, Environment International, Volume 154, 2021, 106565, ISSN 0160-4120, https://www.sciencedirect.com/science/article/pii/S0160412021001902
5. Wei Zhou, Feng Li, Yanlin Su, Junfeng Li, Shuai Chen, Liang Xie, Siyu Wei, Xiaoxiao Meng, Ljiljana Rajic, Jihui Gao, Akram N Alshawabkeh "O-doped graphitic granular biochar enables pollutants removal via simultaneous H2O2 generation and activation in neutral Fe-free electro-Fenton process," Separation and Purification Technology, V 262, 1 May 2021, pp. 118327
6. Stratakis, Nikos, et al. (2021) The Role of Childhood Asthma in Obesity Development, Epidemiology: September 20, 2021 – in press- doi: 10.1097/EDE.0000000000001421
7. Katherine A Sauder, et al., (2021) Disparities in Risks of Inadequate and Excessive Intake of Micronutrients during Pregnancy, The Journal of Nutrition, 2021;, nxab273, https://doi.org/10.1093/jn/nxab273
8. Pahriya Ashrap, Amira Aker, Deborah J. Watkins, Bhramar Mukherjee, Zaira Rosario-Pabón, Carmen M. Vélez-Vega, Akram Alshawabkeh, José F. Cordero, John D. Meeker, (2021) "Psychosocial status modifies the effect of maternal blood metal and metalloid concentrations on birth outcomes," Environment International, V. 149, 106418.
9. Zorimar Rivera-Núñez, Pahriya Ashrap, Emily S. Barrett, Deborah J. Watkins, Amber L. Cathey, Carmen M. Vélez-Vega, Zaira Rosario, José F. Cordero, Akram Alshawabkeh, John D. Meeker (2021) "Association of biomarkers of exposure to metals and metalloids with maternal hormones in pregnant women from Puerto Rico," Environment International, Volume 147, pp. 106310.
10. Long Chen, Akram N. Alshawabkeh, Shayan Hojabri, Meng Sun, Guiyin Xu, Ju Li, (2021) "A Robust Flow-Through Platform for Organic Contaminant Removal," Cell Reports Physical Science, Volume 2, Issue 1, pp. 100296.

11. Max Aung, Pahriya Ashrap, Deborah Watkins, Bhramar Mukherjee, Zaira Rosario, Carmen Vélez-Vega, Akram Alshawabkeh, José Cordero, John Meeker (2021) "Maternal Lipidomic Signatures in Relation to Spontaneous Preterm Birth and Large-For-Gestational Age Neonates," Scientific Reports, in press.
12. Ashrap, P., Watkins, DJ., Milne, GL., Ferguson, KK., Loch-Caruso, R., Fernandez, J., Rosario, Z., Vélez-Vega, CM., Alshawabkeh, A., Cordero, JF., Meeker, JD., 2021. Maternal blood and urinary metal and metalloid concentrations in association with oxidative stress biomarkers. Antioxidants, 10(1), 114.
13. Chen, L., Y. Xue, T. Luo, F. Wu, and AN Alshawabkeh. Electrolysis-assisted UV/sulfite oxidation for water treatment with automatic adjustments of solution pH and dissolved oxygen. Chemical Engineering Journal, Volume 403, 1 January 2021, 126278
14. Ferguson KK, Rosen E, Cathey A, Rosaria Z, Calafat AM, Cordero JF, Alshawabkeh A, Meeker JD. (2020) Environmental phthalate exposure and preterm birth in the Puerto Rico Testsite for Exploring Contamination Threats (PROTECT) birth cohort. Environment International. V. 132, 105099.
15. Taqieddin, A.; Liu, Y.; Alshawabkeh, A.N.; Allshouse, M.R. Computational Modeling of Bubbles Growth Using the Coupled Level Set—Volume of Fluid Method. Fluids 2020, 5, 120.
16. Yuwei Zhao, Jiaxin Cui, Wei Zhou, Shayan Hojabri, Akram N. Alshawabkeh, (2020) "Electrogeneration of H2O2 utilizing anodic O2 on a polytetrafluoroethylene-modified cathode in a flow-through reactor, Electrochemistry Communications, V. 121, pp. 106868,
17. Amber L. Cathey, Deborah J. Watkins, Zaira Y. Rosario, Carmen M. Vélez Vega, Rita Loch-Caruso, Akram N. Alshawabkeh, José F. Cordero, John D. Meeker, (2020) "Polycyclic aromatic hydrocarbon exposure results in altered CRH, reproductive, and thyroid hormone concentrations during human pregnancy, Science of The Total Environment, Volume 749, pp. 141581,
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19. Manjourides, J., E. Zimmerman, DJ Watkins, T. Carpenito, C. M. Vélez-Vega, G. Huerta-Montañez, Z. Rosario, I. Ayala, C. Vergara, Z. Feric, M. Ondras, H. Suh, A.Z Gu, P. Brown, J. F. Cordero, J. Meeker, A. Alshawabkeh. (2020) Cohort profile: Center for Research on Early Childhood Exposure and Development in Puerto Rico. BMJ Open 2020;10:e036389. doi: 10.1136/bmjopen-2019-036389
20. Ashrap, P., D. J. Watkins, B. Mukherjee, J. Boss, M. J. Richards, Z. Rosario, C. M. Vélez-Vega, A. Alshawabkeh, J. F. Cordero, J. D. Meeker. (2020) Maternal blood metal and metalloid concentrations in association with birth outcomes in Northern Puerto Rico. Environment International, Volume 138, May 2020, 105606
21. Ashrap, P., D. J. Watkins, B. Mukherjee, J. Boss, M. J. Richards, Z. Rosario, C. M. Vélez-Vega, A. Alshawabkeh, J. F. Cordero, J. D. Meeker. (2020) Predictors of urinary and blood Metal(loid) concentrations among pregnant women in Northern Puerto Rico. Environmental Research, Volume 183, April 2020, 109178.
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26. Eick, SM., KK. Ferguson, GL. Milne, R Rios-McConnell, C. Velez-Vega, Z. Rosario, A. Alshawabkeh, JF. Cordero, JD. Meeker. (2020) Repeated measures of urinary oxidative stress biomarkers and preterm birth in Puerto Rico. Free Radical Biology and Medicine 146, 299-305
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31. Long Chen, Guiyin Xu, Zhenhua Rui, Akram N. Alshawabkeh (2019) "Demonstration of a feasible energy-water-environment nexus: Waste sulfur dioxide for water treatment," Applied Energy, Volume 250, Pages 1011-1022.
32. Ferguson KK, Rosario Z, Guo X, McElrath TF, Velez-Vega C, Cordero JF, Alshawabkeh A, Meeker JD. Demographic risk factors for adverse birth outcomes in the PROTECT cohort. PLOS ONE, Volume 14, Issue 6, Pages e0217770
33. Cathey AL, Watkins DJ, Rosario ZY, Velez C, Alshawabkeh A, Cordero JF, Meeker JD. (2019) Associations of phthalates and phthalate replacements with CRH and other hormones among pregnant women in Puerto Rico, Journal of the Endocrine Society, Volume 3, Issue 6, June 2019, Pages 1127–1149
34. Aker A, Ferguson KK, Rosario ZY, Calafat AM, Ye X, Alshawabkeh A, Cordero JF, Meeker JD. (2019) A repeated measures study of phenol, paraben, and triclocarban urinary

biomarkers and circulating maternal hormones during gestation in the Puerto Rico PROTECT cohort, Environmental Health, 18 (1):28.
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38. Kalhor, Koosha, Reza Ghasemizadeh, Ljiljana Rajic, and Akram Alshawabkeh (2019) "Assessment of Groundwater Quality and Remediation in Karst Aquifers: A Review," Groundwater for Sustainable Development, Volume 8, April 2019, Pages 104-121.
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43. Ashrap P, Watkins DJ, Calafat A, Ye X, Rosario Z, Brown P, Velez-Vega C, Alshawabkeh A, Cordero JF, Meeker JD (2018). Elevated concentrations of urinary triclocarban, phenol and paraben among pregnant women in northern Puerto Rico: predictors and trends. Environ Int; 121(Pt 1):990-1002.
44. Yu X, Feric Z, Cordero JF, Meeker JD, Alshawabkeh A (2018). Potential influence of temperature and precipitation on preterm birth rate in Puerto Rico. Scientific Reports; 8(1):16106. PMID 30382121
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reproductive and thyroid hormones in pregnant women," Environmental Research, V. 151, November 2016, Pages 30–37.
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29. Alshawabkeh, A. N., Wu, X, Gent, D. and Davis, J. (2007) "Effect of rates of biological transformation of additives on the efficiency of injection in soils under hydraulic and electric potentials," Proceedings of Green4; International Symposium on Geotechnics Related to the Environment – Geotechnical and Environmental Aspects of Waste Disposal Sites, pp. 133-144.
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Invited and keynote presentations (Not listed in the conference publications)

1. "Puerto Rico Testsite for Exploring Contamination Threats (PRoTECT)" presented at

    - Massachusetts Institute of Technology (MIT), 2017
    - Worcester Polytechnic Institute, 2014
    - Mount Sinai School of Medicine, October 4, 2013
    - Columbia University, School of Public Health, NY, March 19, 2012
    - Silent Spring Institute, December 12, 2011
    - Lehigh University, April 22, 2011
    - Georgia Institute of Technology, Nov. 3, 2010
    - Harvard School of Public Health, May 10, 2010
    - 28th Annual New England Membrane Enzyme Group Meeting, October 10, 2010, Marine Biological Laboratory, Woods Hole MA,

2. "Principles and Applications of Electrokinetic Remediation," presented at

    - Michigan State University, Lansing, MI, Dec. 2, 2008.

- Tufts University, Boston, MA, October 20, 2006.
- Camp Dresser & McKee, Boston, MA August 5, 2003.
- Cambridge University, Cambridge, UK - August 13, 2001
- Massachusetts Institute of Technology – February 16, 2000
- Idaho National Environmental and Engineering Laboratory (INEEL), July, 2000
- The University of Massachusetts Amherst – March 31, 2000
- The Norwegian University of Science and Technology, Trondheim - Nov. 25, 1999

3. "Community Involvement in Water Quality Measurements: Lessons Learned" Social Science-Environmental Health Interdisciplinary Collaborations Conference, Northeastern University, Boston, MA, May 21-22, 2015.
4. "Electrochemical transformation of contaminants – electrode interface and beyond," Plenary Lecture, Interfaces in Water and Environmental Science (IAP 2014), May 26 – 28, 2014; Leeuwarden , the Netherlands; May 27, 2014.
5. EK Fundamentals, successes and failures – What have we learned," Invited lecture, Workshop on Environmental Electrokinetics: Advances in Soil and Water Treatment, November 10-11, 2014, Waterloo, Ontario, Canada.
6. "Influence of the electrochemical treatment on humic substances content in the groundwater from limestone aquifers," presented at the 13th Symposium on Electrokinetic Remediation (EREM 2014), September 7-10, 2014 – Malaga, Spain.
7. "Practical and Economic Aspects of Electrokinetic and Electrochemical Remediation of Soil and Groundwater" Keynote Lecture, 11th International Symposium on Developments in Electrokinetic Remediation of Soils, Sediments and Construction Materials at Hokkaido University, Sapporo, Japan 8 July - 11 July, 2012.
8. "pH and Redox Changes Generated by Electrolysis in Groundwater Under Flow," 11th International Symposium on Developments in Electrokinetic Remediation of Soils, Sediments and Construction Materials at Hokkaido University, Sapporo, Japan 8 July - 11 July, 2012.
9. "Electrochemical Redox Barriers for Transformation of Contaminants in Groundwater" 11th International Symposium on Developments in Electrokinetic Remediation of Soils, Sediments and Construction Materials at Hokkaido University, Sapporo, Japan 8 July - 11 July, 2012.
10. "Solar powered remediation of contaminated groundwater" with Michael Miller from CDM Inc., October 13, 2011; Research and Industrial Collaboration Conference, Northeastern University, Boston, MA
11. "Oxygen generation and transport in clay by electrokinetics" presented at the 10th International Symposium on Developments in Electrokinetic Remediation of Soils, Sediments and Construction Materials at Utrecht University, The Netherlands 17 July - 20 July, 2011
12. "Experimental Design for One Dimensional Electrokinetic Reactive Barrier for Remediation of Munition Constituent by Generation and Transport of Hydroxide" Presented at the 10th International Symposium on Developments in Electrokinetic Remediation of Soils, Sediments and Construction Materials at Utrecht University, The Netherlands 17 July - 20 July, 2011
13. "Electrokinetic-enhanced bioaugmentation for the remediation of chlorinated solvent contaminated soil: a bench scale evaluation" presented at the 10th International Symposium on Developments in Electrokinetic Remediation of Soils, Sediments and Construction Materials at Utrecht University, The Netherlands 17 July - 20 July, 2011

14. "Sustainable Green Remediation by Solar Energy Conversion into Electrochemical Redox in Groundwater" June 16, 2010; Green Remediation Conference, Amherst, MA
15. "The Potential for Solar-Powered Remediation" 2010 NIEHS SRP P42 Research Program, Portland, OR, November 12, 2010.
16. "Contaminant Transport in a Deformable Porous Media," presented at the University of Illinois, Chicago, Department of Civil and Materials Engineering, October 29, 2004
17. "Time Domain Forward Computational Modeling of Complex Dispersive Media for Underground Sensing Applications," 2003 Subsurface Science Symposium, "Advances in Understanding and Modeling Subsurface Processes" Organized by INRA and INEEL, Salt Lake City, Utah, October 7
18. "Potential for Enhancement of In-Situ Bioremediation by Electrochemical Methods," 2003 Subsurface Science Symposium, "Advances in Understanding and Modeling Subsurface Processes" Organized by INRA/INEEL, Salt Lake City, Utah, Oct. 7, 2003
19. "Nonlinear Advective Contaminant Transport in Clay under Consolidation," 2003 Subsurface Science Symposium, Advances in Understanding and Modeling Subsurface Processes" Organized by INRA and INEEL, Salt Lake City, Utah, October 7, 2003.
20. "EK Soil Remediation at NAWS, Point Mugu," 4th symposium on Electrokinetic Remediation (EREM03), Belgian Nuclear Res. Center (SCK-CEN), May14-16, 2003, Mol, Belgium
21. "A System Dynamics Approach to Modeling Cesium Fate in Soil" 2003 Canadian Society of Civil Engineering Annual Conference, Moncton, NB, Canada, June 5, 2003.
22. "Efficiency of lactate in Sand and Clay under DC Fields," 2003 Canadian Society of Civil Engineering Annual Conference, Moncton, NB, Canada, June 5, 2003.
23. "Effect of Consolidation on Contaminant Transport in a Deformable Porous Medium," 2003 Canadian Society of Civil Engineering Annual Conference, Moncton, NB, Canada, June 5.
24. "Electrokinetic Soil Remediation" Invited speaker, 25 Years of Hazardous Substance Research at Louisiana State University, May 1-2, 2003, Lod & Carole Cook Center, Baton Rouge, LA.
25. "Reactive geocomposite to remediate contaminated sediments," ACS, 224 National Meeting, August 18-22, 2002, Boston, MA.
26. "EK Soil Remediation at NAWS, Point Mugu," 4th International Congress on Environmental Geotechnics, August 11-15, 2002, Rio de Janeiro, Brazil
27. "Soft Soil Stabilization by Ionic Injection under Electric Fields," TRB 2002 National Meeting, January 14-18, Washington, DC.
28. "Potential for Enhancement of In Situ Bioremediation of Petroleum Contaminated Soils by Electrochemical Methods," First International Congress on Petroleum Contaminated Soils, Sediments & Water, August 14-17, 2001, Imperial College, London, U.K.
29. Invited "Electrochemical and Biogeochemical Interactions Associated with Electrokinetic Soil Remediation," Hydrology Section, American Geophysical Union, Fall Meeting, December 6-10, 1998, San Francisco, CA.
30. "Reactive Transport in Soils under Electric Fields" Hydrology Section, American Geophysical Union, Spring Meeting, May 26-29, 1998, Boston, MA.
31. "Effect of Solubility on Enhanced Electrokinetic Extraction of Metals," ASCE 1997 Convention, "In Situ Remediation of the Geoenvironment - In Situ Remediation '97, Minneapolis, MN, October 5-7, 1997.
32. "Remediation of soils Contaminated with Tetraethyl Lead by Electric Fields," presented in TRB 1998 meeting, Session Title "Assessment, Characterization and Remediation of

Contaminated Transportation Facilities", sponsored by Committee A2L03, January 11-15, 1998,Washington, D.C.

33. "Use of Acetic Acid for Enhanced Electrokinetic Extraction of Lead from Contaminated Army Firing Range", 12 Annual Conf on Contaminated Soils, Univ. of Mass., Amherst, Oct. 20-23, 1997.
34. "Electrokinetic Remediation: Modeling the Process," Presented to the Division of Environmental Chemistry, Remediation of Hazardous Waste Sites, American Chemical Society, March 14-15, San Diego 1994.
35. "Multi-component Species Transport Under Electric Field," Emerging Technologies in Hazardous Waste Management VI, Industrial & Chemistry Division of the American Chemical Society (ACS), Georgia, Atlanta, Sept. 1994.

Posters and presentations by graduate students and collaborators are not included