The 21st Annual International Conference on

Soils, Sediments and Water

October 17-20, 2005
University of Massachusetts at Amherst

Analysis, Site Assessment, Fate, Environmental and Human Risk Assessment, Remediation and Regulation

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- 139 Presenters
- 105 Posters
- 10 Workshops
- 48 Exhibitors
Session 1: ENVIRONMENTAL BIOTECHNOLOGY
Campus Center Auditorium
Sponsored by Regenesis Bioremediation Products
Moderator: Stephen Koenigsberg, Regenesis Bioremediation Products, San Clemente, CA
8:30 am Visualization and Enumeration of Microorganisms Growing Under Denitrifying Conditions with Multi-Color FISH
Eric Hince, Geovaloution Technologies, Inc., Florida, NY
9:00 am Use of Proteomics in Bioremediation
Rolf U. Halden, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
9:30 am Monitoring Bioremediation by Analyzing In Situ Gene Expression
Derek Lovley, University of Massachusetts, Amherst, MA
10:00 am Break
10:30 am Barriers to the Adoption of “Cutting Edge” Research to Solve “Real World” Problems
Robert J. Steffan, Shaw Environmental, Inc., Lawrenceville, NJ
11:00 am The Use of Stable Isotopes in Nucleic Acid and Lipid Analysis for Assessing Bioremediation Potentials
Aaron Peacock, The University of Tennessee, Knoxville, TN
11:30 am Investments in Environmental Genomics: Relevance to U.S. DOE Missions

Session 2: ECOLOGICAL RESTORATION AND NATURAL TREATMENT SYSTEMS
101 Campus Center
Moderator: Carl E. Tammi, ENSR International, Westford, MA
8:30 am Site Remediation, Sediment Removal and Comprehensive Ecological and Riparian Corridor Restoration for a Former MGP Site along a Tidal Freshwater River in Taunton, Massachusetts
Carl E. Tammi, ENSR International, Westford, MA
Robert Cleary, Peter LaGoy, Nisource, Inc., Westborough, MA
David Klinch, ENSR International, Westford, MA
9:00 am Community and Business Coordination, Outreach and Input for an MGP Remedial Closure and Restoration Program to Facilitate Redevelopment Opportunities along the Taunton River in Massachusetts
Robert Cleary, Peter LaGoy, Nisource, Inc., Westborough, MA
Carl E. Tammi, D. Desilets, ENSR International, Westford, MA
9:30 am Integrating Community Values into River Restoration: Neponset River Environmental Literacy Projects
Karen I. Pello, Riverways Programs, Boston, MA
10:00 am Break
10:30 am Treatment of Recovered Groundwater Containing 1,4-dioxane: Year-round Phytovolatilization by Irrigating Stands of Deciduous and Coniferous Trees
11:00 am Greenhouse Results, Substrate Matrix Selection and the Full-scale Design of a Vertical Flow Constructed Wetland for Chlorinated VOCs at a Site in North Carolina
John H. Pardue, Louisiana State University, Baton Rouge, LA
Carl E. Tammi, ENSR International, Westford, MA
11:30 am Field-scale Assessment of Phytotechnology Applied to Sites Impacted with Weathered Hydrocarbons
Richard Farrell, Nancy McCrea, James Gemida, University of Saskatchewan, Saskatoon, SK, Canada

Session 3: PESTICIDES
168C Campus Center
Moderator: Millie Garcia-Surette, MA DEP, South East Region, Lakeville, MA
8:00 am Regulation and Non-Regulation of Pesticides in the Massachusetts Environment
Paul W. Locke, Massachusetts Department of Environmental Protection
8:30 am EPA Review of Selected Non-Combustion Technologies for Remediation of Pesticides and Other Persistent Organic Pollutants
Ellen Rubin, U.S.EPA, Arlington, VA
Younus Burhan, Tetra Tech EM Inc., Reston, VA
9:00 am Full-Scale Bioremediation of Pesticide-impact ed Soil/Sediment at the THAN Superfund Site, Montgomery, Alabama
David Raymond, Steven Gable, Alan Seech, Adventus Remediation Technologies, Mississauga, Ontario, Canada
James Mueller, Fayaz Lahkhal Adventus Americas, Inc., Chicago, IL
Todd Stoller, ATOFINA Chemicals, Inc., Philadelphia, PA
9:30 am Assessing for the Presence of Pesticides and Polychlorinated Biphenyls Using Passive Soil Gas Sampling
James E. Whetzel, W. L. Gore and Associates, Inc., Elkins, MD
10:00 am Break
10:30 am Differential Reactivity of HCH Isomers Towards Nanoscale Zero-valent Iron
Wei-xian Zhang, Steven T. Spear, Lehigh University, Bethlehem, PA
11:00 am Remediating Chloroacetanilide-Contaminated Water with Dithionite-Reduced Soil and Aquifer Sediments
Hardiljeet K. Boparai, Patrick J. Shea, Steven D. Comfort, University of Nebraska-Lincoln, Lincoln, NE
11:30 am Large-Scale Bioremediation of DDT and Toxaphene-Contaminated Soils in an Anaerobic Biocell
11:00 am Influence of Aging in Soil on the Dermal Penetration of Hexavalent and Trivalent Chromium
Mohamed S. Abdel-Rahman, Gloria A. Skowronski, Rita M. Turkall, New Jersey Medical School, Newark, NJ
11:30 am Predicting Mercury Cycling and Methylation in NY/NJ Harbor
Robert Santore, Aaron Redman, HydroQual, Inc., Narragansett, RI
James Wands, Subir Saha, Robin Miller, Kevin Farley, Dominic Di Toro, HydroQual, Inc., Mahwah, NJ

Noon – Lunch
Luncheon Speaker, Tuesday, October 18, 2005
Marketing Science in an Unfriendly Environment
P. Patrick Leahy, Ph.D., Acting Director, US Geological Survey, Reston, VA
Session 1: ARSENIC

1:30 pm
Asbestos-Rich Iron Floc Deposits in Seeps Downgradient of Solid Waste Landfills
Steven Parson, NY State Dept. of Environmental Conservation, New Paltz, NY
Alison R. Kelmowitz, Columbia University, Palisades, NY
Andrew Lent, Earth Toch, Inc., Bloomfield, NJ
H. James Simpson, Columbia University, Palisades, NY

2:00 pm
Factors Influencing Arsenite Removal by Zero-Valent Iron
Xueyuan Yu, Christopher Amrhein, Yiqiang Zhang, Mark R. Matsumoto, University of California, Riverside, CA

3:00 pm Break

3:30 pm
Negotiating Achievable Arsenic Soil Clean-Up Standards in the Context of High Natural Arsenic Background
Matt Stinchfield, Zenitech Environmental, LLC, Boulder City, NV
Todd Croft, Nevada Division of Environmental Protection, Las Vegas, NV
C. Michael Moffitt, Western Technologies, Phoenix, AZ
Scott Foster, Department of the Interior, Boulder City, NV

4:00 pm
Copper, Chromium and Arsenic in Soil and Plants Near Coated and Uncoated CCA Wood
David E. Stilwell, Craig L. Musante, Brij L.Sawhney, The University of Maine, Orono, ME

5:00 pm Break

5:00 pm
Microbes and Arsenic Contamination of Groundwater in Maine: is there a Link?
Jean D. MacRae, University of Maine, Orono, ME

Session 2: BIOREMEDIATION

1:30 pm
Mutagenicity of a Former Gasworks Soil During Bioremediation
Paul A. White, Krista D. Lynes, Health Canada, Ottawa, ON, Canada
Staffan Lundstedt, University of Umeå, Umeå, Sweden
Lars Oberg, University of Umeå, Umeå, Sweden
George R. Douglas, Health Canada, Ottawa, ON, Canada
Iain B. Lambert, Carleton University, Ottawa, ON, Canada

2:00 pm
The Role of a Complex Microbial Community in Supporting Dehalococcioides Bioaugmentation
Samuel Fogel, Margaret Findlay, Donna Smoler, Bioremediation Consulting, Inc., Watertown, MA

3:30 pm
Degradation of RDX with Reduced Humic Substances
Man Jae Kwon, University of Illinois - Urbana Champaign, Urbana, IL
Kevin T. Finneran, University of Illinois - Urbana Champaign, Urbana, IL

4:00 pm
Enhanced Microbial Consortium Production in a Slurry Bioreactor for Cresoate-Contaminated Soil Bioaugmentation Using Humic Acids
Dominic D’Amours, Réjean Samson, Louise Deschênes, École Polytechnique de Montréal, Montreal, QC, Canada

4:30 pm
Identification of Tetrachloroethene- and Vinyl Chloride-Dechlorinating Bacteria Enriched from Tetrachloroethene-Contaminated Groundwater and Sediments
Son Eun-Kyeu, Rutgers University, New Brunswick, NJ
Dominic A. León, Rutgers University, New Brunswick, NJ
Donna E. Fennell, Rutgers University, New Brunswick, NJ

5:00 pm
EHC™ for In Situ Bio Remediation of Groundwater Containing Chloroethanes and other Chlorinated Solvents
Fayaz Lakhwala, Adventus Americas, Inc., Union, NJ
Jim Mueller, Adventus Americas Inc., Bloomington, IL
David Hill, Eva Dmitrovic, Adventus Remediation Technologies Inc., Mississauga, ON, Canada
John Vogan, EnviroMetal Technologies Inc., Waterboro, ON, Canada

5:10 pm Break

5:20 pm
In Situ Chemical Oxidation of Pentachlorophenol Using Microbubbble Perozone™ Technology
Christopher Watt, LACO Associates, Eureka, CA

Session 3: REMEDIATION STRATEGIES FOR CONTAMINATED SEDIMENTS

1:30 pm
Pathways of Congener-Specific PCB Dechlorination by Palladized Magnesium
Emese Hadnagy, Kevin H. Gardner, Jean C. Spear, Irina Calante, University of New Hampshire, Durham, NH

2:00 pm
Dechlorination of Persistent Organic Pollutants with Palladized Magnesium: Dioxins and PCNs
Landa Rhac, Jean C. Spear, Kevin H. Gardner, University of New Hampshire, Durham, NH

3:00 pm Break

4:00 pm
Development of Bioremediation of Soils and Sediments Polluted with Metals and Radionuclides: 2. Field research on Bioremediation of Metals and Radionuclides
Henry H. Tabak, US EPA, ORD, Cincinnati, OH
Terry C. Hazen, Lawrence Berkeley National Laboratory, Berkeley, CA

5:00 pm
Entombment of Pure-Phase Tar Impacted Sediment in New Bedford Harbor: A Case Study
Timothy Condon, Michael J. Pierdieck, Lightship Engineering, LLC, Plymouth, MA
Complimentary Breakfast Seminar  
Wednesday, October 19, 7:00 – 8:30am, 1009 Campus Center
Sponsored by Regenesis • Presenter: Bob Kelley, Ph.D. - RegenOx™ Product Manager
In-Situ Chemical Oxidation for Groundwater and Soil Remediation featuring RegenOx™
This seminar will feature an introduction to chemical oxidation, when, how and why it works and RegenOx™

AM SESSIONS

Session 1: PERCHLORATE: EMERGING ISSUES AND INNOVATIVE REMEDIAL APPROACHES
Campus Center Auditorium
Moderators: Ed Kuncie, Deputy Commissioner, MDEP, Boston, MA; Todd Schwendeman, ENSR International, Albany, NY
8:30 am Perchlorate Regulation in the State of Massachusetts
Paul W. Locke, Massachusetts Department of Environmental Protection, Boston, MA
9:00 am Emerging Science Supporting the 2005 National Research Council Perchlorate Risk Assessment
John P. Gibbs, Kerr-McGee Shared Services LLC, Oklahoma City, OK
9:30 am Effect of Varying Toxicity Values on Perchlorate Risk Assessment Results
Ibrahim S. Chaudhuri, Julie A.F. Kabel, ENSR International, Westford, MA
10:00 am Break
10:30 am Update on DoD Perchlorate Treatment Technology Development
Bryan Harre, Naval Facilities Engineering Service Center, Port Hueneme, CA
11:00 am Perchlorate Treatment Using Bioreactors: Current Applications and Future Prospects
Paul B. Hatzinger, A. Paul Togna, William J. Guarini, Sponsors by ENSR International, Huntsville, AL
11:30 am In Situ Bioremediation of Perchlorate and 1,1,1-Trichloroethane Using Emulsified Edible Oil Substrate (EOS®)
Christie Zawlocki, M. Tony Lieberman, Robert C. Borden, Solutions Industrial & Environmental Services, Inc., Raleigh, NC

Session 2: SOIL GEOCHEMICAL BACKGROUND ON A CONTINENTAL SCALE
101 Campus Center
Moderator: David B. Smith, U.S. Geological Survey, Denver, CO
8:30 am A Proposed Soil Geochemical Survey of North America
David B. Smith, Martin B. Goldhaber, U.S. Geological Survey, Denver, CO
William F. Cannon, U.S. Geological Survey, Reston, VA
Laurel G. Woodruff, U.S. Geological Survey, Mounds View, MN
Robert G. Garrett, Natural Resources Canada, Ottawa, ON, Canada
Robert G. Eilers, Agriculture and Agri-Food Canada, Winnipeg, MB, Canada
Juan Carlos Salinas Prieto, Consejo de Recursos Minerales/Mineria Geologica Mexicano, Hidalgo, Mexico
9:00 am Landscape Geochemistry on a Continental Scale
Laurel G. Woodruff, U.S. Geological Survey, Mounds View, MN
William F. Cannon, U.S. Geological Survey, Reston, VA
James E. Kilburn, David B. Smith, U.S. Geological Survey, Denver, CO
Robert G. Garrett, Rodney Klassen, Natural Resources Canada, Ottawa, ON, Canada
Robert G. Eilers, Agriculture and Agri-Food Canada, Winnipeg, MB, Canada
10:00 am Break
10:30 am The Geochemical Landscapes California Pilot Study
Martin B. Goldhaber, Jean M. Morrison, David B. Smith, U.S. Geological Survey, Denver, CO
11:30 am Geochemical Modeling of Soil Parent Material Mineralogy
Rodney Klassen, Robert Garrett, Natural Resources Canada, Ottawa, ON, Canada

Session 3a: RISK ASSESSMENT
168C Campus Center
Moderator: Eric Hince, Geovation Technologies, Inc., Florida, NY
8:30 am Bioavailability Considerations in Risk Management Decision-Making
William Frey, Earth Tech, Inc., Livonia, MI
Nicholas Basta, The Ohio State University, Columbus, OH
Jeffrey Bryian, Earth Tech, Inc., Bloomington, IN
Veronica Ewald, Earth Tech, Inc., Alexandria, VA
Leta Maclean, Earth Tech, Inc., San Diego, CA
Sarah Medearis, Earth Tech, Inc., Alexandria, VA
Susan Walter, Earth Tech, Inc., Oak Ridge, TN
Cinti Zenigami, US Department of the Navy, Pearl Harbor, HI
9:00 am Initial Risk-based Screening of Potential Brownfield Development Sites
Mary O’Reilly Brophy, New York State Department of Transportation/SUNY School of Public Health, Binghamton, NY
Ronald Brink, Broome County Department of Health, Binghamton, NY
9:30 am Demystifying Dioxin Data for the Environmental Decision-Maker
Nancy C. Rothman, New Environmental Horizons, Inc., Skillman, NJ
Susan D. Chapnick, New Environmental Horizons, Inc., Arlington, MA
10:00 am Break

Session 3b: ENVIRONMENTAL FATE
168C Campus Center
Moderator: Eric Hince, Geovation Technologies, Inc., Florida, NY
10:30 am Vadose Zone Hydraulic Process- Infiltration and Percolation- and Their Function in Hazardous Materials Transport
Atton Day Stone, Alton Engineering, Sterling, MA
James C. O’Shaughnessy, Worcester Polytechnic Institute, Worcester, MA
11:00 am Evaluation of NAPL Migration Resulting from Big Dig Activities
Frank Riccardi, Kelley Race, Ken Bisceglio, Weston & Sampson Engineers, Inc., Peabody, MA
11:30 am DNAPL Dissolution-Evaluating Natural Depletion Over Time
Jeffrey A. Johnson, The RETEC Group, Inc., Houston, TX
Bart Germond, Focus Environmental Services, Inc., Galway, NY

Session 4: ENVIRONMENTAL STEWARDSHIP AND PROACTIVE MANAGEMENT AT SMALL ARMS RANGES
11th Floor Campus Center
Sponsored by AMEC Earth and Environmental
Moderator: Michael Warminsky, AMEC Earth and Environmental, Somerset, NJ
8:30 am Environmental Risk Management – An Overview of National Environmental Policy Act Requirements and Engineered Solutions to Achieve Them
Michael Warminsky, AMEC Earth and Environmental, Somerset, NJ
Fernim Esquibel, AMEC Earth & Environmental, Inc., Huntsville, AL
Gregory Quimby, EIT, AMEC Earth & Environmental, Inc., Somerset, NJ
9:00 am Environmental Management at Operating Outdoor Small Arms Firing Ranges
Mark Begley, Massachusetts Military Reservation, Camp Edwards, MA
Bonnie Packer, U.S. Army Environmental Center, Aberdeen Proving Ground, MD
9:30 am Update of the RangeSafe Program
Greg O’Connor, U.S. Army RDE-COM/ARDEC, Picatinny, NJ
10:00 am Break
10:30 am Suppression of Tungsten’s Leachability in Water
Hans-Joachim Lunk, Sheema Roychowdhury, OSRAM Sylvania, Towanda, PA
11:00 am A Challenge for the Appropriability of Regulatory Leaching Tests for Assessing Lead Leachability in Shooting Range Soils: Comparison of TCLP and SPLP
Xinde Cao, Dimitris Dematas, Christos Christodoulatos, Stevens Institute of Technology, Hoboken, NJ
11:30 am Use of Predictive Models for Characterization of Trap And Skeet Ranges: Case Studies and Model Results
David Mackie, AMEC Earth & Environmental, Inc., Somerset, NJ
Session 1: ECOTERRORISM: RESEARCH ISSUES
Campus Center Auditorium
Sponsored by Security, Emergency, Preparedness and Response Institute (SPERI) UMass, Amherst
Moderator: Barbara Pearson, University of Massachusetts, Amherst, MA

1:30 pm
Securing the Water Supply: Using Detailed Simulations to Anticipate the Spread of Contaminants
David P. Schmidt, Matt J. Frain, University of Massachusetts, Amherst, MA
Matthes G. Kennedy, Winder & Kelly Consulting Engineers, Eureka, CA
David P. Aithfeld, John E. Tobiason, University of Massachusetts, Amherst, MA

2:00 pm
Lessons Learned from Chernobyl
George Markowsky, University of Maine, Orono, ME
Vladimir Zotov, Konstantin Zotov, ISIC-ECOS, Kiev, Ukraine

3:00 pm Break

3:30 pm
Pathogen Capture in Water Using Floating Film
Eugene H. Mullin, Baddr A. Shakhsheer, Yuechun Chu, Xin Huang, Aura Ganz, University of Massachusetts, Amherst, MA

4:00 pm
Thoughts from 20 Years of Living with Plague
Jon Goguen, Ph.D., Elaine H. Mullen, Baddr A. Shakhsheer, Yuechun Chu, Xin Huang, Aura Ganz, University of Massachusetts, Amherst, MA

4:30 pm
Panel Discussion: Eco-Terrorism Research Overview

Session 2: ENVIRONMENTAL FORENSICS
101 Campus Center
Moderator: Ioana G. Petrisor, DPRA Inc., San Marcos, CA

1:30 pm
"Is this Diesel Mine...?": Advances in Forensic Identification of Petroleum Related Releases into the Environment
Ken Scally, Alcontrol Laboratories Ireland, Dublin, Ireland
Paul Nathaniel, University of Nottingham, UK
Jim Jones, Alcontrol Laboratories Chester, Chester, England
Myles Keogh, Gay Keaveney, Galway-Mayo Institute of Technology (GMIT), Galway, Ireland

2:00 pm
Estimating the Timing of a Chlorinated Solvent Release: A Case Study
David Langseth, Gradient Corporation, Cambridge, MA
Andrew Nicholson, Geoemma Environmental Consulting, Boulder, CO

2:30 pm
Polycyclic Aromatic Hydrocarbon Characterization in Differing Watersheds in Northwest Ohio
Deanna M. Sobak, Alison L. Spongberg, University of Toledo, Toledo, OH

3:00 pm Break

3:30 pm
DNA Fingerprinting - Tools of Tomorrow's Forensics
Ioana G. Petrisor, DPRA Inc., San Marcos, CA

4:00 pm
Environmental Forensic Methods for Soil Gas and Vapor Intrusion Investigations
Stephen Ensmbo-Mattingly, Kevin McCarthy, Allen Uhler, Frank Sweet, Mark D. Kauffman, Tabatha Pellerin, Dave Espy, Mike Mills, ENSR International, Westford, MA

4:30 pm
Differential of PAHs from Coal, Creosote, and Combustion-related Background Sources in Stream Sediments

Session 3a: LEGAL/REGULATORY
168C Campus Center
Moderator: Julia Seshen, MA DEP, Lakeville, MA

1:30 pm
In Situ Source Control Remediation of High Explosives
Wilson S. Clayton, Aquifer Solutions, Inc., Evergreen, CO
Dan Kwiecinski, MKM Engineers, Inc., Albuquerque, NM
Tony Biggs, BWXT Pantex, LLC., Amarillo, TX

2:00 pm
How Will Your Institutional Controls Be Working In 2035?
John G. Nevius, Anderson Kill & Olick, P.C., New York, NY

Session 3b: MTBE
168C Campus Center
Moderators: Julia Sechen, MA DEP, Lakeville, MA; Bruce Bauman, American Petroleum Institute, Washington, DC

2:30 pm
Occurrence of Methyl-tert-Butyl Ether in Source Waters to Public and Private Wells in New Hampshire
Frederick J. McGarry, New Hampshire Department of Environmental Services, Concord, NH

3:00 pm Break

3:30 pm
Accelerated Natural Attenuation of MTBE with Oxygen Release Compound (ORC)
Stephen S. Koenigsberg, Anna Willett, Regenesis, San Clemente, CA

4:00 pm
An Estimate of the National Cost for Remediation of MTBE Releases from Existing Lust Sites
Frank Sweet, Mark D. Kaufman, Tabatha Pellerin, Dave Espy, Mike Mills, ENSR International, Westford, MA

4:30 pm
MTBE: Coverage for this “Spreading” Problem
John G. Nevius, Anderson Kill & Olick, P.C., New York, NY
John N. Ellison, Anderson Kill & Olick, P.C., Philadelphia, PA

Session 4: BIOREMEDIATION OF ACID MINE DRAINAGE WASTES
11th Floor, Campus Center
Moderators: Henry Tabak, US EPA, Cincinnati, OH; Grant Mitman, Montana Tech of The University of Montana, Butte, MT

1:30 pm
Prevention of Acid Drainage Generation from a Dump Consisting of Mining Wastes
Stoyan N. Groudev, Marina V. Nicolova, Irena I. Spasova, Plamen S. Georgiev, University of Mining and Geology, Sofia, Bulgaria

2:00 pm
Use of Emulsified Edible-Oil for In-Situ Bioremediation of Acid Mine Drainage
Christie Zawacki, Robert C. Borden, M. Tony Lieberman, Solutions Industrial & Environmental Services, Inc., Raleigh, NC

2:30 pm
Sulfate-reducing Bacteria as Contaminants of Industrial Systems – Effects of pH on Sulfidogenic Activity
Kjeld Ingvorsen, Kasper U. Kjeldsen, Marie B. Nielsen, Lone Aabildgaard, University of Aarhus, Aarhus, Denmark

3:00 pm Break

3:30 pm
Metal Immobilization by In Situ Bioprecipitation: Comments about Carbon Source Use, Process Efficiency and Sustainability
Ludo Diels, Flemish Institute for Technological Research (VITO), Mol, Belgium
J. Geets, W. Dejonghe, S. van Roy, K. Vanbroekhoven, Flemish Institute for Technological Research, Mol, Belgium

4:00 pm
Algal Bioremediation of the Berkeley Pit Lake System- An In Situ Test Using Limnocorals
Nicholas J. Tucci, Grant Mitman, Montana Tech of The University of Montana, Butte, MT

4:30 pm
Biotechnological Applications of Methane as Electron Donor for Biological Sulfate Reduction
Roe J.W. Meulepas, Ilie Pikaar, Jarno Gieteling, Wageningen University, Wageningen, The Netherlands
Christian Jagersma, Alfons J.M. Stams, VITO, Belgium

4:40 pm
Reduction of Anaerobic Sulfate and Metal Release in the Berkeley Pit Lake Using Cyanobacteria and Algae
Romaric F. Buret, Marie-Laure Zeller, Claude G. Perichon, Rabie M. Adel, Sylvain M. Clouter, MINES-Ponts, Le Mans, France

4:50 pm
Biotechnical Use of Aerobic Methyracetic Acid for Sulfate Reduction in Mine Waters
Elna Swart, Ruud Hartmans, Joost Hove, Wouter Driessen, Anton W.M. Verbruggen, Wageningen, The Netherlands
Session 1: EVOLVING STRATEGIES FOR DEALING WITH CONTAMINATED SEDIMENTS

Campus Center Auditorium
Moderator: Steve Wolf, ENSR International, Westford, MA

8:30 am
Managing Contaminated Dredged Sediments in New England: A Valuable Experience Base
Thomas J. Fredette, US Army Corps of Engineers, New England District, Concord, MA

9:00 am
Case Study – Remediation of the New Bedford Harbor Superfund Site
Gary Morin, Mark Anderson, U.S. Army Corps of Engineers, New England District, Concord, MA
Jim Brown, Dave Dickerson, U.S. Environmental Protection Agency, Boston, MA

9:30 am
Excavation of PCB-Contaminated Sediment Adjacent to the Intake of a 12-MGD Drinking Water Plant
Bryan R. Maurer, Cummings/Riter Consultants, Inc., Pittsburgh, PA

10:00 am Break

10:30 am
Effectiveness of in situ Cement Stabilization for Remediation of Sediment Containing Coal Tar Derived Hydrocarbons
Todd Thorburn, Anchor Environmental, LLC, Portland, OR
Chris Leuteritz, Anchor Environmental, LLC, Andover, MA
David Templeton, Anchor Environmental, LLC, Seattle, WA
Tim Metcalf, Honeywell International Inc., Morristown, NJ
Tracey Bell, KeySpan Energy, Brooklyn, NY
Kurt Paschl, Beazer East, Inc., Pittsburgh, PA

11:00 am
Monitoring the Uplift of a Low-Permeability Sediment Cap Due to Gas Entrapment Beneath the Cap: Findings of the First 18 Months
Daniel Kearney, Brown and Caldwell, Inc., Allendale, NJ

11:30 am
Optimization of PCB Dechlorination by Palladized Magnesium in Marine Sediments
Inna Calante, Jean C. Spear, Emese Hadnagy, University of New Hampshire, Durham, NH

Session 2: PAY-FOR-PERFORMANCE REMEDIATION TECHNOLOGIES - METHODS & CASE STUDIES OF SCIENCE & ECONOMICS

101 Campus Center
Sponsored by Environmental Remediation and Financial Services, LLC
Moderator: Dr. Ron Scrudato, ERFS, Oswego, NY

8:30 am
Use of Advanced Instrumentation for Field Delivery of Pay-for-Performance In Situ Remediation Projects
Mark Vignieri, Environmental Remediation and Financial Services, LLC, Sea Girl, NJ

9:00 am
BioAug Method of Applying Dehalococcoides Microbes under Pay-for-Performance Contracting
Dave Philbrook, BioAug, LLC, Raleigh, NC

9:30 am
Managing Large Portfolios of Concurrent Pay-for-Performance Projects
Charlie Hrush, SICO Petroleum, Mt. Joy, PA
John Tregidgo, ERFS, Riverdale, NJ

10:00 am Break

10:30 am
Converting Time and Material Projects to Pay-for-Performance
Jesse Brown, Golder Associates, Inc., Jacksonville, FL

11:00 am
Pay-for-Performance Contracting under the Massachusetts LSP Program
Charle Shapiro, Wheaton Consultants, Inc., Braintree, MA

11:30 am
New Case Studies in Performance Based Technology Substitutions
Ron Adams, ERFS, Ponte Vedra, FL

Session 3: PHYTOREMEDIATION

168C Campus Center
Moderators: Lee Newman, University of South Carolina, Columbia, SC; Jason White, The Connecticut Agricultural Experiment Station, New Haven, CT

8:30 am
Phytoremediation of Arsenic in the Spring Valley Area of Washington, DC
Michael J. Blaylock, Mark P. Elless, Edenspace Systems Corporation, Chantilly, VA
Cindy L. Teeter, USACE ERDC Vicksburg, Vicksburg, MS

9:00 am
Grass Phytoremediation: Explosives Uptake and Fate in Decomposing Plant Tissue
R. Guy Riefler, Ohio University, Athens, OH
Victor Medina, U.S. Army Corps of Engineers, Vicksburg, MS

9:30 am
Assessing Plant Derived Organic Matter in PAH Phytoremediation
Samuel T. Gregory, Jeremy Bell, Elizabeth Nichols, North Carolina State University, Raleigh, NC

10:00 am Break

10:30 am
Elucidating Enzymes Involved in the Degradation of Trichloroethylene in Plants
Sarah Strycharz, Lee Newman, University of South Carolina, Columbia, SC

11:00 am
Increased Polycyclic Aromatic Hydrocarbon (PAH) Contamination and Plant Type Determine Plant/microbe Interaction in the Rhizosphere
Caim Ely, University of Connecticut, Storrs, CT
Barth Smets, Technical University of Denmark, Lundby, Denmark

11:30 am
Exploitation of Endophytic Bacteria to Improve Phytoremediation of Organic Contaminants
Daniel van der Lelie, Safiyh Taghavi, Brookhaven National Laboratory (BNL), Upton, NY
Tanja Barac, Jaco Yangransveld, Limburgs Universitair Centrum (LUC), Diepenbeek, Belgium

Session 4: SITE ASSESSMENT

11th Floor, Campus Center
Moderator: Chris Teaf, Florida State University, Tallahassee, FL

8:30 am
INL Wireless Sensor Platform
Dennis C. Kunerth, John M. Svoboda, James T. Johnson, Idaho National Laboratory, Idaho Falls, ID

9:00 am
Newer GPS Technology and its Application to Improved Site Characterization
Kevin Cote, Shaw Environmental & Infrastructure, Stoughton, MA
Mark Leipert, NAVFAC, Lester, PA
Kathy Creighton, Shaw Environmental & Infrastructure, Stoughton, MA

9:30 am
Passive Vapor Sampling- Advances in Vapor Concentration Capabilities

10:00 am Break

10:30 am
What LSPs Don’t Know about Site Characterization and Soil Management
Terry Peterson, Michael Flynn, Dan Walsh, Precision Environmental Management Corporation, Billerica, MA

11:00 am
Beneficial Use of C&D Recovered Screen Material in Residential Applications: A Case Study
Brenda S. Clark, Globex Engineering & Development, Inc., Deerfield Beach, FL
Myles Clewmer, Globex Engineering & Development, Inc., Deerfield Beach, FL
Richard G. Wilkins, Broward County Environmental Protection Department, Ft. Lauderdale, FL
R. Marie Coleman, Hazardous Substance & Waste Management Research, Inc., Tallahassee, FL
Christopher M. Teaf, Florida State University, Tallahassee, FL

11:30 am
Dissolved Phase Bedrock Groundwater Contamination: Uniform or Depth-Stratified? A Case Study from Coastal Maine
James H. Vernon, ENSR International, Gilford, NH
Mark D. Kaufman, ENSR International, Westford, MA
Drew M. Clemens, Robert A. Leitch, US Army Corps of Engineers, New England District, Concord, MA

Luncheon Speaker, Thursday, October 20, 2005
DNAPL Source Zones: Progress and Challenges for Site Management
Linda M. Abriola, Dean of Engineering, Professor of Civil and Environmental Engineering, Member, National Academy of Engineering, Tufts University
Thursday

Session 1: REMEDIATION
101 Campus Center
Moderator: Clifford Bruell, University of Massachusetts, Lowell, MA
1:30 pm
Modified Fenton’s Reactant Used for Saturated Zone Remediation, former Naval Air Station, Alameda Point, California
Anthony Sears, Shaw Environmental, Inc., Richland, WA
Tim Elber, In-Situ Oxidative Technologies Inc. (ISOTEC), Denver, CO
Daniel Shaffer, Shaw Environmental, Inc., Sacramento, CA
Glenna Clark, U.S. Navy, San Diego, CA
Stan Haskins, In-Situ Oxidative Technologies Inc. (ISOTEC), Denver, CO
2:00 pm
ISCO of DNAPLs: Applicability Based on 2-Dimensional Transport Studies of DNAPL Entrapment and Oxidant Delivery Techniques
Michelle Crimi, Colorado School of Mines, Golden, CO
Sarah Seitz, Aquifer Solutions, Evergreen, CO
James Kopp, Jeffrey Heiderscheidt, Jason Sahi, Pamela Dugan, Ben Petri, Robert L. Siegrist, Colorado School of Mines, Golden, CO
2:30 pm
The Permanganate Soil Oxidant Demand: A Critical Parameter For ISCO Remediation
Kelly A. Frasco, Michael W. Osborne, Philip A. Vella, Carus Chemical Company, LaSalle, IL
3:00 pm
Break
3:30 pm
Surgical Implementation of Blast Fractured Bedrock Trench Technology at an Active Chemical Plant
Richard H. Frappa, Geomatrix Consultants, Inc., Amherst, NY
Paul F. Mazierski, Dupont Corporate Remediation Group, Niagara Falls, NY
Craig T. Taylor, URS Corporation, Buffalo, NY
Daniel M. Sheldon, URS Diamond, Niagara Falls, NY
4:00 pm
How Clean Can It Get? Critical Review of Mechanisms and Results Achieved Using Thermal Remediation and Where You Can Go Wrong
Gorm Heron, TerraTherm, Inc., Bakersfield, CA
Ralph S. Baker, John M. Bierschenk, John C. LaChance, TerraTherm, Inc., Amherst, NY
3:00 pm Break
4:30 pm
“Low-Quality” Steam Injection To Enhance Conventional In-Situ Remedial Technologies
Daniel Groher, ENSR International, Westford, MA
Timothy Adams, ENSR International, Warrenville, IL

Session 2: CHEMICAL OXIDATION
101 Campus Center
Moderator: Clifford Bruell, University of Massachusetts, Lowell, MA
1:30 pm
Modified Fenton’s Reactant Used for Saturated Zone Remediation, former Naval Air Station, Alameda Point, California
Anthony Sears, Shaw Environmental, Inc., Richland, WA
Tim Elber, In-Situ Oxidative Technologies Inc. (ISOTEC), Denver, CO
Daniel Shaffer, Shaw Environmental, Inc., Sacramento, CA
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2:00 pm
ISCO of DNAPLs: Applicability Based on 2-Dimensional Transport Studies of DNAPL Entrapment and Oxidant Delivery Techniques
Michelle Crimi, Colorado School of Mines, Golden, CO
Sarah Seitz, Aquifer Solutions, Evergreen, CO
James Kopp, Jeffrey Heiderscheidt, Jason Sahi, Pamela Dugan, Ben Petri, Robert L. Siegrist, Colorado School of Mines, Golden, CO
2:30 pm
The Permanganate Soil Oxidant Demand: A Critical Parameter For ISCO Remediation
Kelly A. Frasco, Michael W. Osborne, Philip A. Vella, Carus Chemical Company, LaSalle, IL
3:00 pm
Break
3:30 pm
Oxidation of TNT, HMX and RDX by Iron-Chelate Activated Persulfate
George E. Hoag, Hoag Environmental, Systems, LLC, Storrs, CT
Scott A. Waisner, U.S. Army Engineer Research and Development Center, Vicksburg, MS
4:00 pm
Persulfate Oxidation of TCE at Ambient Temperature: Kinetics and Influence of Radical Scavengers
Chenju Liang, National Chung Hsing University, Taichung, Taiwan
Clifford J. Bruell, University of Massachusetts Lowell, Lowell, MA
Nihar Mohanty, Massachusetts Department of Environmental Protection, Boston, MA
Paul F. Killian, Ambient Engineering, Inc., Concord, MA
Tzu-Shin Wang, National Chung Hsing University, Taichung, Taiwan
4:30 pm
Field Scale Comparison of Activated Persulfate and Modified Fenton’s Reagent for Treatment of Chlorinated Benzene Compounds
Brant Smith, Scott C. Crawford, Xpert Design and Diagnostics, LLC, Stratham, NH
Ian T. Osgerby, Scott E. Acone, U.S. Army Corps of Engineers, New England, Concord, MA
Andrew J. Boeckeler, Stefanie A. Getchell, Nobis Engineering, Inc., Concord, NH

Session 3a: ANALYSIS
168C Campus Center
Moderator: A. Dallas Wait, Gradient Corporation, Cambridge, MA
1:30 pm
Chemical Field Screening for Real Time Decision Making During Remedial Investigations
Kei Cragie, Lewis Horzempa, Terra Tech EC, Boston, MA
Scott Clifford, USEPA Region I – New England Regional Laboratory, North Chelmsford, MA
2:00 pm
Field Validation of Helium as a Tracer Gas During Soil Vapor Sample Collection
Jeffrey E. Banikowski, Swiatoslav Kaczmar, John Hunt, O’Brien & Gere Engineers, Inc., Syracuse, NY
Russell Pellegrino, ESS Laboratory, Concord, NH
2:30 pm
A LC/MS Multi-Analyte Screening Method for Deleterious Organics in Water
Jim Krol, Joe Romano, Waters Corporation, Milford, MA
Lawrence Zintek, EPA Region 5 Laboratory, Chicago, IL
3:00 pm Break

Session 3b: INDOOR AIR
168C Campus Center
Moderator: A. Dallas Wait, Gradient Corporation, Cambridge, MA
3:30 pm
A Vadose Zone Soil Gas Sampler- Its Design, Implementation and Performance
Tali T. Wong, John G. Aja, O’Connor Associates Environmental Inc., Calgary, AB, Canada
4:00 pm
A Practical Approach to Distinguishing Vapor Intrusion Indoor Air Impacts from Background
Adam J. Last, Corporate Environmental Advisors, West Boylston, MA
4:30 pm
Indoor Air As A Source of VOC Contamination in Shallow Soils Below Buildings
Thomas E. McHugh, Phillip C. de Blanc, Roger J. Pokluda, Groundwater Services, Inc., Houston, TX
5:00 pm
Overview of Two Large-Scale Residential Sub-Slab Depressurization System Installation Programs
Lucas A. Heilicher, Erzészet M. Poci, William A. Baker, IV, Metcalf & Eddy, Inc., Walthington, CT
Ronald Cunn, Steven, State of Connecticut Department of Environmental Protection, Hartford, CT

List of Exhibitors
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B5 Bio Insite, LLC
B6 EA Engineering, Science, and Technology
B7 Alpha Analytical Labs
B8 Shaw Group
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B14 LFR Inc.
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B16 Northeast Analytical
B17 ONSET Computer Corp
B18 Adventus Remediation Technologies
B19 Environmental Insite LLC
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B21 GeoVation Technologies, Inc.
B22 Aztech Technologies
B23 Groundwater Analytical
B24 Kerfoot Technologies, Inc.
B25 Solinst Canada
B26 DPRA, Inc.
B27 RespirTek, Inc
B28 FMC Corporation
B29 Columbia Analytical Services, Inc.
B30 Eastern Analytical, Inc.
B31 RJS Associates, Inc.
B32 Accutest Laboratories
B33 Environmental Remediation and Financial Services, LLC
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B35 ESS Laboratory
B36 W.L. Gore & Associates, Inc.
B37 NY/LI Water & Environmental Services, Inc (GES)
B38 US EPA Technology and Field Services Division
B39 CETCO Sediment Remediation Technologies
B40 LBI Technologies, Inc./Liquid Boot R
T1 EnviroDirectory New England
T2 Horizon Technology, Inc.
T3 O’Brien & Gere
T4 Sonic Environmental Solutions, Inc.
T5 ATC Associates, Inc.
T6 ISOtec
T7 CL Solutions
T8 Ion Signature Technology, Inc.
Microbial Dechlorination of Polychlorinated Dibenzo-p-dioxin/furan Congeners by a Dehalococcoides Containing Culture
Fang Liu, Rutgers University, New Brunswick, NJ
Donna E. Fennell, Rutgers University, New Brunswick, NJ

Efficacy of Bioremediation with Hydrogen Release Compound (HRC) as a Replacement for a Pump and Treat System
Michelle Von Arb, Anna Willett, Stephen S. Koenigsberg, Regenesis, San Clemente, CA

Rapid Biological Treatment of Residual DNAPL with Slow Release Electron Donor HRC-X
Anna Willett, Stephen S. Koenigsberg, Regenesis, San Clemente, CA

HEAVY METALS

Heavy Metal Fractionation in Roof Run-Off in Ille-Ile, Nigeria

Environmental Cleanup Technology in Industrialized and Transportation Districts of Inorganic Pollutants in Aquatic South Texas Chrip C. Tan, John J. Hernandez, Texas A&M International University, Laredo, TX

Characterization, Specification and Remediation of Lead in Urban Garden Soils
Heather Clark, Rachel Erdli, Daniel J. Brabander, Western College, Weisley, MA

Establishing Baseline Concentrations of Trace Metals at an Old Landfill
Kelly Ashton, Justine Cook, Robert Frontlimg, Tait Chirerige, The Richard Stockton College of New Jersey, Pomona, NJ

Remediation of Heavy Metals Contaminated Sediments by Stabilization/Solidification Technology
Giuliana Intrini, Lorenzo Libert, Michele Notamical, Tulliano Pastore, Federico Cangialosi, Federico Tazzoli, Technical University of Bari, Taranto, Italy

Natural Gene Transfer to Develop Resistance to Metal Toxicity in Microbial Communities at the Oak Ridge Reservation Field Research Center
David Moreels, Safyeh Taghavi, Craig Carafola, Jeff Fitts, Daniel van der Leie, Brookhaven National Laboratories, Upton, NY

Treatment of Heavy Metals in Stormwater Using Wetland and Wetland Mesocosms
Swarna Muthukrishnan, U.S. Environmental Protection Agency, Edison, NJ

Effects of Class B Sewage Sludge Applications on Agricultural Fields in Northwest Ohio
Jeter E. Rader, Alison Spongberg, Kevin Czajkowski, Theresa Benko, David Raymond, Adventus Remediation Technologies, Chicago, IL

Modeling the Competitive Effect of Phosphate, Sulfate, Silicate and Tungstate on the Adsorption of Molybdate onto Goethite
Nan Xu, Washington Braida, Dimitris Dermatas, Chists Chirivoevi, A responses, Indian Institute of Technology, Castle Point on Hudson, Hoboken, NJ

In-Situ Bioremediation of Low-Level Dieldrin Impacted Soil
David Raymond, Adventus Remediation Technologies, Mississauga, Ontario, Canada
Alan S. Seeley, Adventus Remediation Technologies, Ontario, Canada

 Remediation of the Value of Organoclay in Permeable Barriers
George R. Alther, Biomin, Inc., Farmdale, MI

Large-Scale Physical Models of Thermal Remediation of DNAPL Source Zones in Aquifers
Ralph S. Baker, TerraTherm, Inc., Firmouth, MA
Uwe Hieeler, University of Stuttgart, Stuttgart, Germany
Gorm Heron, TerraTherm, Inc., Bakersfield, CA
John C. LaChance, TerraTherm, Inc., Firmouth, MA
Myron Kuhlman, MK Tech Solutions, Inc., Houston, TX
Aime M. Farber, Hans-Peter Koschitzky, Oliver Troschitz, University of Stuttgart, Stuttgart, Germany

Economic Basis and Application of Thermally-Enhanced Soil Vapor Extraction
John M. Bierensche, Ralph S. Baker, TerraTherm, Inc., Firmouth, MA
Uwe Hieeler, University of Stuttgart, Stuttgart, Germany
Gorm Heron, TerraTherm, Inc., Bakersfield, CA

Successful Remediation at Contaminated Sites with a Very Tight Soil Matrix
Richard T. Cartwright, MECC, LLC, East Amherst, NY
R. Thomas Numbers, MECC, LLC, Williamsburg, VA

Surfactant/Desorption of Polychlorinated Dibenzo-Dioxins and Polychlorinated Dibenzo Furans (PCDDs/PCDFs) in the Presence Of Cyclodextrins
Shamir J. Calhoun, Andre Dumouchel, Monique M. Punt, SANC Canada, Ottawa, Ontario, Canada
Cari E. Brown, Environment Canada, Ottawa, Ontario, Canada

Remedial Action Optimization, Marine Corps Mountain Warfare Training Center, Bridgeport, California
Christopher Corey, Christopher S. Seipel, Shaw Environmental, Inc., Irvine, CA
Kathie Beverly, Naval Facilities Engineering Command, Southwest Division, San Diego, CA

Results of the Hydraulic Testing of the Fuel Spill-1 Remedial System Design at Massachusetts Military Reservation
Ronald J. Citterman, CH2M HILL, Otis ANGB, MA
Frank Lewis, CH2M HILL, Englewood, CO
John Glass, CH2M HILL, Herndon, VA
John Schofield, Air Force Center for Environmental Excellence, Otis ANGB, MA

Remedial Action Optimization, Marine Corps Mountain Warfare Training Center, Bridgeport, California
Christopher Corey, Christopher S. Seipel, Shaw Environmental, Inc., Irvine, CA

Ex Situ Treatment of MTBE-Containing Groundwater by an UV/Peroxide System

Steam Injection Expedites Removal of Viscous NAPL at a Mass Complex
Tim Kemper, Eric Vining, Shaw Environmental, Hopkinson, MA
Barbara Riley, GE Transportation

Remediation and Restoration of a Sensitive Wetland Located in Western Massachusetts
Corey B. King, AMEC Earth and Environmental, Westford, MA
Celeste M. Hunt, AMEC Earth and Environmental, Westford, MA
Matt Adkins, CSX Transportation, Inc., Lathia Springs, GA
REMEDY (cont.)

Multiple Technologies Optimize Remediation of Tetrachloroethylene (PCE) At Former Drycleaning Site in a Residential Neighborhood Clifford R. Lippitt, S. W. Cole Engineering, Inc., Bangor, ME

Arjen J. Luijster, U.S. Environmental Protection Agency, Boston, MA

Gary J. Creaser, S. W. Cole Engineering, Inc., Bangor, ME

Case Study: Full-Scale Application of Innovative and Standard Remediation Technologies on a Chlorinated Solvent/DNAPL Site Craig W. MacPhie, Larry Hogan, ENSR International, Westford, MA

Design and Implementation of a Remedial Action at the Powerhouse Superfund Site Neil Thurber, Metcalf & Eddy, Wakefield, MA

Greg Michelin, TRC Environmental Corporation, Lowell, MA

Leslie McVicar, U.S. EPA Region 1, Boston, MA

Don Dwight, Metcalf & Eddy, Wakefield, MA

Dale Weiss, TRC Environmental Corporation, Lowell, MA

High-temperature Burning of Oil Sludges and Oil Contaminated Soils Vladimir O. Nekuchey, UHite University, Ukhita, Komi, Russia

E.G. Krapivsky, UHite State University, Ukhita, Komi, Russia

N.E. Beljaw, UHite State University, Ukhita, Komi, Russia

A.D. Chermskik, Sant-Peterburg, ZAO “TD Turmalin”, Russia

Design Considerations for Electrical Safety of Remediation Equipment Dennis Rentschler, ENSR International, Westford, MA

Keeping the Buses Moving: Remedial Design Constraints at an Active Facility Frank Riccardi, Brian McCormack, Kelley C. Race, Weston & Sampson Engineers, Inc., Peabody MA


Remedial Investigation Techniques and Remediation Technologies for a Tidally-Influenced Deltaic Plain in the Sub-Arctic David B. Ward, Charles Rives, Steve Humpal, Jacobs Engineering Group, Anchorage, AK

SEDIMENTS

Use of a Bench-scale Treatability Study to Determine Cost-effective Disposal Methods for Contaminated Sediments Doris D. Pope, Jennifer Smith, A.F. Weston, Conestoga-Rovers and Associates, Niagara Falls, NY

Studies of Trace Metals and Natural Radionuclides in Bottom Sediments from Around a Campos Basin Oil Field Offshore Platforms Sergio F. Jerez-Vegueria, Universidade Federal Fluminense, Niterói, RJ, Brazil

José M. Godoy, Pontifícia Universidade Católica do Rio de Janeiro, Rio de Janeiro, RJ, Brazil and Instituto de Radioproteção e Dosimetria, Jacarepaguá, Rio de Janeiro, RJ, Brazil

Analysis


William A. Huber, Quantitative Decisions, Merion Station, PA

Nylon-Mesh Passive Samplers and 1,4-Dioxane: A Case Study in Fractured Rock in Florida P. James Linton, John C. Alonso, Blasland Bouck and Lee, Inc., Tampa, FL

Analysis of NDMA by Modified Method 1625 Utilizing Chemical Ionization and Large Volume Injection Scott McLean, James F. Occhialini, Arin Jones, James Todor, Alpha Analytical Labs, Westbrook, MA

Speciation of Metal Ions in Aquous Systems Using X-ray Photoelectron Spectroscopy Hyllton G. McWhinney, Tony L. Grady, Manikata Inukumshu, Prairie View A&M University, Prairie View, TX


Analysis of Contaminated Soils and Sediments Using X-ray Tube and Isotope Source Portable XRF instruments Laura Stupi, David Mercuro, Niton LLC, Billerica, MA

Sampling and Analysis of Cranberries in an Area of Plume Discharge Nigel Tindall, CH2M HILL, Otis ANG Base, MA

Jon Davis, Air Force Center for Environmental Excellence, Otis ANG Base, MA

Pat de Groot, Marc Slechta, CH2M HILL, Otis ANG Base, MA

BROWNFIELDS

A Case Study: In-Situ Soil Pre-Characterization Study and Real-Life Limitations Encountered Daniel Walsh, Michael Flynn, Precision Environmental Management Corporation, Billerica, MA

CHEMICAL OXIDATION

KMo4 and Hydraulic Fracturing, An Innovative Technology Combination for Passive ISCO Destruction of Chlorinated Compounds Margaret W. Bubunic, S. W. Cole Engineering, Inc., Cincinnati, OH

William W. Slack, FPR Inc., Cincinnati, OH

James R. Richardson, FPR Inc., Clemson, SC

A Three Year Application of Bulk Quantities of Sodium Permanaganate for In-Situ Chemical Oxidation (ISCO) of Chlorinated VOCs Raymond J. Cadorette, Lawrence Neshbitt, Shaw Environmental, Inc., Hopkinton, MA

USEPA Superfund Innovative Technology Evaluation (SITE) of Persulfate Oxidation for the Remediation of Chlorinated Solvents M. Amine Dahmani, Kunchang Huang, University of Connecticut, Storrs, CT

George E. Hoag, Hoag Environmental Systems, Storrs, CT

In-situ Remediation of PCE and TCE in Soils Using Sodium Persulfate Chuck Elmdorf, Kevin Dyson, E.I.T., Peter J. Palko, P.E., CHM, Panther Technologies, Inc., Medford, MA

Hydraulically Controlled ISCO of TCE and TCA in Groundwater Chuck Elmdorf, Kevin Dyson, E.I.T., Peter J. Palko, P.E., CHM, Panther Technologies, Inc., Medford, MA

Aggressive Chemical Oxidation Using Oxygen and Hydrogen Peroxide Injection to Address Significant LNAPL Plumes Cullen Flanders, Groundwater & Environmental Services, Inc., Charleston, TX

Steven A. Peck, Regensied, Oceanide, CA

Field Results with an Alkaline In-Situ Chemical Oxidation Process Stephen S. Koenigsberg, Steve Peck, Michelle Von Arby, Regensied, Sari Clentz, CA


Low-cost Chemical Oxidation at Gasoline Release Sites via Air Hydrogen Peroxide, Oxygen and Air Injection (HydroAir) Jennifer Roushey, Charles B. Whisman, Groundwater & Environmental Services, Inc., Exton, PA


Peter Herlihy, Applied Process Technology Corp., Pleasant Hill, CA

ENVIRONMENTAL FATE

Achievement of a Beneficial Reuse Designation for a Specialized High Volume Byproduct R. Marie Coleman, Hazardous Substance & Waste Management Research, Inc., Tallahassee, FL

Vicker P. Cavey, JEA, Jacksonville, FL

Douglas J. Covert, Hazardous Substance & Waste Management Research, Inc., Tallahassee, FL

Susan N. Hughes, JEA, Jacksonville, FL

Michael Marcus, S & ME, Spartanburg, SC

Matt McClure, JEA, Jacksonville, FL

Christopher M. Yeaf, Florida State University, Tallahassee, FL

ENVIRONMENTAL FORENSICS

Application of Chemical and Process Forensics for Contaminant Source Identification at the Fuel Storage Facility Kerry W. Culp, Memorial-Battle Institute, Duxbury, MA

Philip W. Beall, Battle Memorial Institute, Houston, TX

William G. Steinher, Yakov Galperin, Battle Memorial Institute, Duxbury, MA

Chemical Heterogeneity Among Marine Bunker Fuels Scott A. Stout, Gregory S. Douglas, Allen D. Uhler, NewField Environmental Forensics Practice LLC, Rockland, MA

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Community Communications: Powerful and Meaningful Printed Materials Shannon B. Gleason, ENSR International, Westford, MA

Increasing Sand Strength with Bacteria Mary J.S. Roth, Laurie F. Caslake, Blaire L. Banagan, Lafayette College, Easton, PA

MODELING

Modeling Zinc and Sodium Chloride Migration in Vadose Zone Soils Beneath Stormwater Infiltration Services J. Bradley Mikula, Shirley E. Clark, Katherine H. Baker, Penn State Harrisburg, Middletown, PA


Chunnang Zheng, University of Alabama, Tuscaloosa, AL

Jim Weaver, US EPA, Athens, GA

Joe Haas, New York State Department of Environmental Conservation, Stony Brook, NY

ACID MINE DRAINAGE

Natural Attenuation of Acid Mine Drainage from Microcosms of Davis Mine in Rowe, Massachusetts Caryl Ann Becerra, Erika Lopez, Sarina Ergas, Klaus Russlein, University of Massachusetts, Amherst, MA

Stabilization of Mine Waste Rock Using Moss Manika Henderson, Dr. Grant G. Mitman, Montana Tech of The University of Montana, Butte, MT

Wednesday, October 19, 2005
Call For Exhibitors

We are happy to invite you to exhibit at the 22nd Annual International Conference on Soils, Sediments and Water October 16-19, 2006 University of Massachusetts, Amherst

The Soils, Sediments and Water Conference has become a leading national/international conference in this important environmental area. The conference attracted nearly 800 attendees last year including a wide variety of representation from state and federal agencies; the military; various industries including railroads, petroleum, transportation and utilities; the environmental engineering and consulting community; and academia. The exhibit area is located in the center of the conference activity to assure maximum contact and exposure with interested conference participants and potential customers. Exhibition space is limited to 39 booths to insure a high ratio of attendees to exhibitors. The rental fee for an 8’ by 10’ exhibit booth space is $995.00. Outdoor areas are available for equipment demonstrations at an additional cost.

Presentation topics
- chemical analysis
- hydrocarbon identification
- site assessment / field sampling
- regulatory programs and policies
- environmental fate and modeling
- soil chemistry
- hazard, exposure, and risk assessment
- standard remedial technologies/corrective actions
- innovative remedial technologies
- diesel fuel contamination
- contamination at military installations
- contamination at shipping ports
- chlorinated hydrocarbons, pesticides and heavy metals
- jet fuel contamination
- radioactive contamination

Why should you exhibit
Attendees buy products and services such as:
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For more information or to reserve your booth space contact:
Denise Leonard
Northeast Regional Environmental Health Center N344, Morrill University of Massachusetts Amherst, MA 01003
Tel: (413) 545-1239 • Fax: (413) 545-4692
Email: dleonard@schoolph.umass.edu

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Call For Papers

22nd Annual International Conference on Soils, Sediments and Water

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Analysis, Site Assessment, Fate, Environmental and Human Risk Assessment, Remediation and Regulation

General topics
- bioremediation
- chemical analysis
- cleanup standard setting
- environmental fate and modeling
- hazard exposure and risk assessment
- heavy metals
- hydrocarbon identification
- innovative technologies
- jet fuel contamination
- regulatory programs and policies
- sediments
- site assessment/field sampling
- soil chemistry
- standard remedial technologies/corrective actions
- case studies on any of the above

Special Topics
- acid mine drainage
- arsenic
- biotransformers
- biotechnology
- chlorinated hydrocarbons, pesticides (PCBs, etc.)
- contamination at military installations
- dioxin
- ecological risk assessments
- environmental forensics
- MTBE
- mercury
- phytoremediation
- radionuclides
- railroad sites
- risk based cleanups (RBCA)
- state regulatory programs
- UXOs

Submission Information
For either a paper or poster to be considered please submit a one-page abstract containing:
- presentation title
- 300 word narrative
- and for each author, name, degree, title, affiliation and complete address and phone number.

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Deadline for submissions is February 8, 2006

For more information contact
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N344, Morrill
University of Massachusetts
Amherst, MA 01003
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Email: dleonard@schoolpub.umass.edu

Conference Co-Directors:
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- Edward J. Calabrese, Ph.D.
- Clifford Bruell, Ph.D.

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Robert H. Clemens, AMEC Earth & Environmental, Inc.
Andrew Coleman, Ph.D., Electric Power Research Institute
Janine Commerford, MA Department of Environmental Protection
Abhijit V. Deshmukh, Ph.D., University of Massachusetts
James Dragan, Ph.D., The Dragun Corporation
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Mohamed Elanabarawy, 3M (ret.)
Linda Fiedler, U.S.EPA
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Millie Garcia-Surette, MPH, MA DEP, South East Region
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Dominico Grasso, The University of Vermont
Peter R. Guest, Parsons
Eric Hince, Geovation Technologies, Inc.
Barry L. Johnson, Assistant Surgeon General (ret.)
Evan Johnson, Tighe and Bond, Inc.
William B. Kerfoot, Kerfoot Technologies, Inc.
Stephen S. Koenigsberg, Regenesis Bioremediation Products
Bill Kucharski, Ecology & Environment, Inc.
David Ludwig, Blasland, Bock & Lee, Inc.
Rosemary McCafferty, Haley & Aldrich, Inc.
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Robert Morrison, Ph.D., DPRA, Inc.
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Willard Murray, Ph.D., P.E.
Lee Newman, Ph.D., University of South Carolina
Eric Nichols, PE, LFR/Levine-Fricke
David S. Page, Ph.D., Bowdoin College
Gopal Pathak, Birla Institute of Technology
Frank Peduto, P.E., Spectra Environmental Group
Karen Pelto, MA Riverways Program
Ioana G. Petrisor, Ph.D., DPRA Inc
David Reckhow, Ph.D., University of Massachusetts
Joseph Robb, AMEC Earth & Environmental, Inc.
Brian D. Rogers, Plexus Scientific Corporation
Corinne Schultz, Unity Environmental Technologies, LLC
Nicholas P. Skoulis, Ph.D., DABT, Arch Chemicals, Inc., Director of Toxicology
David B. Smith, US Geological Survey
Frank Sweet, ENSR International
Christopher Teaf, Ph.D., Florida State University
James C. Todaro, Alpha Analytical Labs
Mark Vigneri, Environmental Remediation and Financial Services, LLC
A. Dallas Wait, Ph.D., Gradient Corporation
Richard Waterman, EA Engineering, Science, and Technology, Inc.
Jason C. White, Ph.D., The Connecticut Agricultural Experiment Station
Katie Winogorski, 3M
Peter Woodman, Ph.D., Risk Management Incorporated
Ed Zilliox, Ph.D., FPL Environmental Services

FEDERAL
John Abraham, HLM Consultants
John Cullinane, US Army Engineer Waterways Exp. Sta.
John Glaser, US Environmental Protection Agency, ORD
Douglas W. Grosse, US EPA
Leslie Karr, Naval Facilities Engineering Service
Lynn Kucharski, AMEC Earth and Environmental
Jeffrey Marqusee, SERDP and ESTCP
Paul Rakowski, P.E. DEE, Naval Facilities Engineering Command
Mike Reynolds, Ph.D., USA - Cold Regions Research and Engineering Laboratory (CRREL)
Alex Sherrin, US EPA Boston
Mike Sowinski, DPRA, Inc.
Henry H. Tabak, US EPA, ORD
Monday, October 17, 2005

Workshops
10:00am – 5:00pm 1) Theory and Use of Field Portable X-ray Fluorescence for Soil Analysis (804-08 Campus Center)
10:00am – 5:00pm 2) In-Situ Chemical Oxidation Workshop (101 Campus Center)
1:00 – 5:00pm 3) The Role of Anaerobic Biodegradation Processes in Passive and Enhanced Monitored Natural Attenuation Programs (904-08 Campus Center)
1:00 – 3:00pm 4) Application of Classic and Emerging Techniques in Environmental Forensics (917 Campus Center)
2:00 – 5:00pm 5) Environmental Fate of Hydrocarbons in Soils and Groundwater (168C Campus Center)

Tuesday, October 18, 2005

Platform Presentations
8:30am – Noon
Session 1: Environmental Biotechnology (Campus Center Auditorium)
Session 2: Ecological Restoration and Natural Treatment Systems (101 Campus Center)
Session 3: Pesticides (168C Campus Center) Session starts at 8am
Session 4: Heavy Metals (11th Floor, Campus Center)
1:30pm – 5:30pm
Session 1: Arsenic (Campus Center Auditorium)
Session 2: Bioremediation (101 Campus Center)
Session 3: Bioremediation Strategies for Contaminated Soils and Sediments (168C Campus Center)
Session 4: Ozone (11th Floor, Campus Center)
Poster Session 4:00pm – 6:00pm, Exhibit Area, First Floor, Campus Center
Social 4:30 – 6:00pm, Exhibit Area, First Floor, Campus Center
Workshops (Evening 7:00pm – 10:00pm)
6) Applied Environmental Forensics Workshop (101 Campus Center)
7) Massachusetts Contingency Plan Method 2 Risk Characterizations (168C Campus Center)

Wednesday, October 19, 2005

Platform Presentations
8:30am – Noon
Session 1: Perchlorate: Emerging Issues and Innovative Remedial Approaches (Campus Center Auditorium)
Session 2: Soil Geochemical Background on a Continental Scale (101 Campus Center)
Session 3a: Risk Assessment (168C Campus Center)
Session 3b: Environmental Fate (168C Campus Center)
Session 4: Environmental Stewardship and Proactive Management at Small Arms Ranges (11th Floor, Campus Center)
1:30pm – 5:00pm
Session 1: Ecoterrorism: Research Issues (Campus Center Auditorium)
Session 2: Environmental Forensics (101 Campus Center)
Session 3a: Legal/Regulatory (168C Campus Center)
Session 3b: MTBE (168C Campus Center)
Session 4: Bioremediation of Acid Mine Drainage Wastes (11th Floor, Campus Center)
Poster Session 4:00pm – 6:00pm, Exhibit Area, First Floor, Campus Center
Social 4:30 – 6:00pm Exhibit Area, First Floor, Campus Center
Workshops (Evening 7:00pm – 10:00pm)
8) In-Situ Thermal Remediation (101 Campus Center)
9) Perchlorate: The Path to Regulatory Standards Setting and Future Assessment & Cleanup Implications (Campus Center Auditorium)
10) NIMS (National Incident Management System) and the Environment (168C Campus Center)

Thursday, October 20, 2005

Platform Presentations
8:30am – Noon
Session 1: Evolving Strategies for Dealing with Contaminated Sediments (Campus Center Auditorium)
Session 2: Pay-for-Performance Remediation Technologies - Methods & Case Studies of Science & Economics (101 Campus Center)
Session 3: Phytoremediation (168C Campus Center)
Session 4: Site Assessment (11th Floor, Campus Center)
1:30pm – 5:30pm
Session 1: Remediation (Campus Center Auditorium)
Session 2: Chemical Oxidation (101 Campus Center)
Session 3a: Analysis (168C Campus Center)
Session 3b: Indoor Air (168C Campus Center)

EXHIBITS
Throughout the First Floor Concourse.

POSTER SESSION
Over 100 posters on display Tuesday and Wednesday 4:00-6:00pm, in back of Exhibit Area

SOCIALS (CASH BAR)
Tuesday and Wednesday 4:30-6:00pm Exhibit Rooms – interact with poster presenters, exhibitors and other conference attendees

JOB LISTING/RESUME BOARD
Located outside the doors to the Campus Center Auditorium

ADDITIONAL LISTINGS
See the Daily Activity Board beside the Registration Desk for additional listings of Breakfast Forums, Socials and other Special Events

MESSAGES
Remember to check the Message Board just outside the doors to the Campus Center Auditorium.
It’s where you’ll find your messages from other conference attendees, as well as those from home or home office.

IF YOU NEED TO BE REACHED during the conference, tell co-workers and family to call: (413) 545-2591 or fax (413) 545-0050

ANNOUNCEMENT
We are proud to announce the Adventus Americas Student Award for platform and poster presentation
$500 Awards will be given the best student platform and poster presentations