

# FINAL PROGRAM

Presented by  
The Association for Environmental  
Health and Sciences Foundation  
[www.aehsfoundation.org](http://www.aehsfoundation.org)



## The Twentieth International Conference on **Soils, Sediments, Water and Energy**

*Analysis, Fate, Environmental and Public Health Effects, and Remediation*

**March 15-18, 2010**  
**Mission Valley Marriott, San Diego, California**

### SPONSORS

AMEC Geomatrix  
American Petroleum Institute  
CETCO  
Groundwater & Environmental  
Services (GES)  
International Society of Environmental  
Forensics (ISEF)  
Intersol 2010  
Kerfoot Technologies  
Regenesis  
Shell Oil Products US  
US EPA

### OTHER SUPPORT

*Student Competition* – Adventus Group  
*Wine/Welcoming Reception Sponsor* – Groundwater & Environmental Services (GES)

### SUPPORTERS

Adventus Americas  
Calcon Systems  
Chevron  
Cupolex Building Systems  
Geosyntec Consultants  
Land Science Technologies

### Conference Directors

**Paul T. Kostecki, Ph.D.**  
University of Massachusetts  
Amherst, MA

**Edward J. Calabrese, Ph.D.**  
University of Massachusetts  
Amherst, MA

**John Hills**  
*(Honorary Director)*  
Irvine Ranch Water District  
Irvine, CA

**Stephen E. Eikenberry, PG, LPG**  
*(Director Emeritus)*  
AEHS Foundation, Inc.  
Amherst, MA

### Conference Coordinator

**Brenna Lockwood**  
AEHS Foundation, Inc.  
150 Fearing Street, Suite 21  
Amherst, MA 01002  
413-549-5170 Tel  
413-549-0579 Fax  
[brenna@aehsfoundation.org](mailto:brenna@aehsfoundation.org)





Association for  
Environmental  
Health and Sciences  
Foundation

150 Fearing Street  
Suite 21  
Amherst, MA 01002  
Tel: 413-549-5561  
Fax: 413-549-0579  
[www.aehsfoundation.org](http://www.aehsfoundation.org)

Dear Conference Attendee,

Welcome to the *20th Annual International Conference on Soils, Sediments, Water, and Energy and the AEHS Foundation Annual Meeting*. The conference, which had its beginnings in petroleum contaminated soils supported by a few interested parties when we first began in 1990, has evolved to encompass a broad range of important contaminants in different media. It has drawn interest from around the world and has been supported by an impressive array of dedicated professionals serving on the Scientific Advisory Board and from other organizations who have provided the necessary resources. Appreciation goes out to the many Sponsors and Supporters who have generously contributed to our conferences throughout the years.

On September 15, 2009, The Association for Environmental Health & Sciences (AEHS) announced the official launch of the AEHS Foundation. In order to better define and showcase our scope and breadth of engagement, AEHS activities have moved under the auspices of the AEHS Foundation. Recognizing that the core values of AEHS are fundamentally for the public good and that results rely heavily upon the efforts and energy of our members, it was a natural transition to create a non-profit entity. Moving forward, the AEHS Foundation will continue to build upon a global network and offer members education, training, and scientific experiences. AEHS membership and journals, Amherst Scientific Publishers, and the International Society of Environmental Forensics will also be facilitated by the AEHS Foundation.

It is my pleasure to announce that the AEHS Foundation (formerly AEHS) has assumed the management of the International Conference on Soils, Sediments, Water, and Energy which is held annually on the campus of the University of Massachusetts, Amherst. This new arrangement will clear up the confusion which has long existed between the two events, as well as enhance the logistical coordination, reduce costs, and provide more resources for pre and post-conference activities. This change will also benefit AEHS Foundation members by offering a special registration rate at the UMass conference in addition to this conference.

Attendees who registered for the West Coast conference before March 1<sup>st</sup> had the opportunity to become a member of the AEHS Foundation for the current calendar year. Members receive either the *Journal of Phytoremediation, Human & Ecological Risk Assessment*, or *Soil and Sediment Contamination* as a primary journal (as selected on your registration form). Please note that you have the option to add either or both of the other journals for a fee of \$65/additional journal/year. Members will automatically receive hard copies of their journal(s) and online access (including access to back issues). Please see the Foundation website ([www.aehsfoundation.org](http://www.aehsfoundation.org)) or contact the office for details.

The AEHS Foundation is pleased to announce the continuation of the *International Society of Environmental Forensics* (ISEF) whose mission is to provide an international forum dedicated to the consolidation and exchange of information related to environmental forensics. The Foundation and ISEF have presented fourteen highly successful workshops on environmental forensics over the past 8 years. Please check our website for future workshop postings.

The Foundation and Society are committed to serving its membership and providing an essential forum for ideas, discussion, and debate as well as solutions to a wide array of environmental problems. I hope you find that this year's conference is one of the ways we fulfill this goal.

Sincerely,

Paul T. Kostecki, Ph.D.  
President

# Conference at a Glance

Conference map located on last page of program

## Monday, March 15, 2010

10:00 am – 6:00 pm *Registration*.....Foyer  
 2:30 pm – 3:00 pm *Break*.....Foyer  
 5:00 pm – 7:00 pm *Exhibit Hall Hours*.....Salons A-F  
**AFTERNOON PLATFORM SESSIONS**  
 Session 1: **Vapor Intrusion** (1:00 pm - 5:00 pm).....Pavilion  
 Session 2: **Heavy Metals** (1:00 pm - 4:30 pm).....Sierra 5  
 Session 3: **Bioremediation** (1:00 pm - 4:00 pm).....Salon G  
**WELCOME RECEPTION/WINE TASTING SOCIAL**  
 5:00 pm - 7:00 pm (*Free to all registered conference attendees*) .....Salons A-F

## Tuesday, March 16, 2010

7:00 am – 7:00 pm *Registration*.....Foyer  
 9:00 am – 4:00 pm *Exhibit Hall Hours*.....Salons A-F  
 10:00 am – 10:30 am *Break*.....Salons A-F (exhibit hall)  
 12:00 pm - 1:30 pm *Luncheon (speaker)*.....Cabrillo  
*Sponsor Spotlight Presentation: Land Science Technologies, a division of Regenesis*  
*Lunch Speaker: "Environmental Issues in California,"*  
 Dan Pellissier, *Deputy Cabinet Secretary for Energy and Environmental Programs, Office of Governor Schwarzenegger*  
 3:00 pm – 3:30 pm *Break*.....Salons A-F (exhibit hall)

### MORNING PLATFORM SESSIONS

Session 1: **Update on U.S. EPA's Technical Papers and Scientific Investigations of Vapor Intrusion Impacts – Part I** (8:00 am – 12:00 pm) .....Pavilion  
 Session 2a: **Coal-based Energy and the Environment** (8:00 am – 10:00 am) ..... Sierra 5  
 Session 2b: **Urban Runoff** (10:30 am – 12:00 pm).....Sierra 5  
 Session 3: **New Directions in Remediation** (8:30 am – 12:00 pm).....Salon G

### AFTERNOON PLATFORM SESSIONS

Session 1: **Update on U.S. EPA's Technical Papers and Scientific Investigations of Vapor Intrusion Impacts – Part II** (1:30 pm – 5:30 pm) .....Pavilion  
 Session 2: **Innovative Remedial Technologies** (1:30 pm – 5:00 pm).....Sierra 5  
 Session 3: **Remedy Optimization and Expedited Site Closure Strategies with Diagnostic Tools** (1:30 pm – 5:30 pm).....Salon G

### POSTER SESSION & SOCIAL

3:00 pm - 6:00 pm .....Santa Fe 3-4 and Sunroom

### EVENING WORKSHOPS

\*Workshop 1 (6:30 pm – 9:30 pm) **Assessment and Evaluation of Vapor Intrusion at Petroleum Release Sites**.....Sierra 5  
 \*Workshop 2 (7:00 pm – 9:00 pm) **Admissibility of Scientific Evidence in Court** Salon G  
 \*Workshop 3 (6:30 pm – 9:30 pm) **Environmental Fate of Hydrocarbons in Soils and Groundwater**.....Cabrillo I

## Wednesday, March 17, 2010

7:00 am – 7:00 pm *Registration*.....Foyer  
 8:00 am – 9:00 am **LIVE VIDEO WEBCAST with Intersol France**.....Pavilion  
 9:00 am – 4:00 pm *Exhibit Hall Hours*.....Salons A-F  
 10:00 am – 10:30 am *Break*.....Salons A-F (exhibit hall)  
 12:00 pm - 1:30 pm *Luncheon (speaker)*.....Cabrillo  
*Announcement: Student Contest Winners*  
*Lunch Speaker: "AFCEE Contracting Methodologies,"*  
 Javier Santillan, *AFCEE, US Air Force, Universal City, TX*  
 3:00 pm – 3:30 pm *Break*.....Salons A-F (exhibit hall)

### MORNING PLATFORM SESSIONS

Session 1: **Sustainability** (9:00 am – 12:00 pm).....Pavilion  
 Session 2: **Sediments** (9:00 am – 12:00 pm).....Sierra 5  
 Session 3: **Chlorinated Compounds** (9:00 am – 12:00 pm).....Salon G

### AFTERNOON PLATFORM SESSIONS

Session 1: **Environmental Forensics** (1:30 pm – 5:00 pm) .....Pavilion  
 Session 2a: **Site Assessment** (1:30 pm – 3:00 pm) ..... Sierra 5  
 Session 2b: **Risk Assessment** (3:30 pm – 5:00pm) ..... Sierra 5  
 Session 3a: **Regulatory Programs & Policies** (1:30 pm – 3:00 pm).....Salon G  
 Session 3b: **Phytoremediation** (3:30 pm – 5:00 pm).....Salon G

### NAVAL BASE POINT LOMA FUEL FARM SITE TOUR

2:30 pm – 5:00 pm.....meet at registration desk

### POSTER SESSION & SOCIAL

3:00 pm - 6:00 pm .....Santa Fe 3-4 and Sunroom

### EVENING WORKSHOPS

\*Workshop 4 (6:30 pm – 9:30 pm) **Introduction to the California LUFT Manual** .....Sierra 5  
 \*Workshop 5 (7:00 pm – 9:00 pm) **The Role of Stable Isotopes in Environmental Forensic Studies, and their Integration with other Forensic Fingerprinting Techniques**.....Salon G

## Thursday, March 18, 2010

8:00 am – 12:00 pm *Registration*.....Foyer  
 10:00 am – 10:30 am *Break*.....Foyer  
**WORKSHOPS**  
 \*Workshop 7 (8:00 am – 12:00 pm) **Congener/Aroclor PCB Analysis and Data Interpretation** ..... Salon C  
 \*Workshop 8 (8:00 am – 12:00 pm) **Building a Better Background Data Set**. Salon A  
 \*Workshop 9 (8:00 am – 12:00 pm) **In-Well Stripping/Re-Circulation and Two-Phase Extraction Methods**.....Salon H  
 \*Workshop 10 (9:00 am – 12:00 pm) **Net Environmental Benefit to Cleanups Focused on Petroleum and Industrial Sites**.....Salon F  
 \*Workshop 11 (9:00 am – 12:00 pm) **Classic and Emerging Environmental Forensics Cases**.....Santa Fe 3

*\*All workshops are now FREE to state, federal, and municipal regulatory personnel. See registration desk to sign up.*

## General Information

### Exhibit Hours (Salons A-F, Foyer, Sunroom and Pavilion Patio)

Monday, March 15 .....5:00 pm - 7:00 pm  
 Tuesday, March 16 .....9:00 am - 4:00 pm  
 Wednesday, March 17 .....9:00 am - 4:00 pm

### Poster Sessions (Santa Fe 3-4 and Sunroom)

Tuesday, March 16 .....3:00 pm - 6:00 pm  
 Wednesday, March 17 .....3:00 pm – 6:00 pm

### Socials

Monday, March 15 (Salons A-F)  
**Wine/welcome reception** .....5:00 pm - 7:00 pm  
 Tuesday, March 16 (Sunroom/Patio)  
**Accompanies poster session** .....3:30 pm - 6:00 pm  
 Wednesday, March 17 (Sunroom/Patio)  
**Accompanies poster session** .....3:30 pm - 6:00 pm

Conference map located on last page of program

### Exhibitors (See floor plan handout for booth locations)

Accutest Laboratories	DeWind One-Pass Trenching	Land Science Technologies
Advanced Technology Laboratories	DEXSIL Corporation	Maxxam Analytics
Adventus Group	Envirocon	Microbial Insights
Air Toxics	EnviroTech	Microseeps
AirSep Corporation	EOS Remediation, LLC	Naval Facilities Engineering Command
AMEC Geomatrix	FMC Corporation	PerkinElmer
American Integrated Services	Geo-Cleanse International	Piper Environmental Group
APTwater	Geotech Computer Systems	Pro Technical Media
Blaine Tech Services	Gregg Drilling and Testing	Rapid International USA
Boart Longyear	Groundwater & Environmental Services	Regenesys
Brown Bear Corp	H&P Mobile GeoChemistry	RSI Drilling
Calcon Systems	H2O Engineering	Solinst Canada
Calscience Environmental Laboratories	In-Situ	TestAmerica Laboratories
Carus Corporation	Interstate Technology and Regulatory Council	The Westmark Group
Cascade Drilling	JRW Bioremediation, LLC	US EPA
CETCO	Kerfoot Technologies	USEPA OSWER/OSRTI/TIFSD
Columbia Analytical Services		Willowstick Technologies
Cupolex Building Systems		Wintersun Chemical

# Platform Sessions

Monday, March 15, 2010

AFTERNOON SESSIONS

## SESSION 1: VAPOR INTRUSION (1:00 pm - 5:00 pm) Pavilion

Moderator: Elizabeth Miesner, *ENVIRON, Emeryville, CA*

- 1:00 Vadose Zone Profiling -- Considerations for Vapor Intrusion Investigations**  
Daniel Carr and Allan H. Horneman, *Sanborn Head & Associates, Inc., Portland, ME*
- 1:30 Results from an EPA Research Program on the Vertical & Temporal Variations on Soil Gas Concentrations Near and Under a Slab**  
Blayne Hartman, *Hartman Environmental Geosciences, Solana Beach, CA*; Brian Schumacher and John Zimmerman, *EPA-ORD NERL, Las Vegas, NV*; James Elliot, *Tetra Tech, Santa Barbara, CA*; Greg Swanson, *Tetrattech EMI, San Diego, CA*
- 2:00 Developing and Implementing Science and Common-Sense Based Vapor Intrusion Guidance and Regulations**  
Atul M. Salhotra, *RAM Group of Gannett Fleming Inc., Houston, TX*; Heather Nifong, *Illinois Environmental Protection Agency, Springfield, IL*
- 2:30 Break**
- 3:00 Passive (Wind-Driven) Systems for Sub-slab Venting to Mitigate Potential Vapor Intrusion**  
David Bertrand and Todd McAlary, *Geosyntec Consultants, Inc., Guelph, Ontario, Canada*
- 3:30 Technical Approach for Evaluation of Sites with Biogenic Sources of Methane**  
Alice Campbell, *DTSC, Chatsworth, CA*
- 4:00 Vapor Intrusion Assessment for Carbon Tetrachloride Contamination at a Former Grain Storage Facility in Rural Kansas**  
Lorraine LaFreniere, *Argonne National Laboratory, Argonne, IL*; Caroline Roe, *Commodity Credit Corporation, Washington, DC*; Blayne Hartman, *Hartman Environmental Geosciences, Solana Beach, CA*
- 4:30 Exclusion Distance Criteria for Assessing Potential Vapor Intrusion at Petroleum Hydrocarbon Release Sites**  
Matthew A. Lahvis, *Shell Global Solutions (UK), Chester, UK*; George E. DeVault, *Shell Global Solutions, Houston, TX*

## SESSION 2: HEAVY METALS (1:00 pm - 4:30 pm) Sierra 5

Moderator: Rodney Crother, *Stantec, Cypress, CA*

- 1:00 An Innovative Technology for Mercury Immobilization Using Iron Sulfide Nanoparticles**  
Zhong Xiong, *AMEC Geomatrix, Inc., Newport Beach, CA*; Dawn Kaback and Bruce Wielinga, *AMEC Geomatrix, Inc., Denver, CO*; Qiqi Liang and Dongye Zhao, *Environmental Engineering Program, Auburn, AL*
- 1:30 Comparison of Lead Dissolution from Antique and Modern Ammunition**  
Steven L. Larson, W. Andy Martin and Christopher S. Griggs, *U.S. Army Corps of Engineers, Vicksburg, MS*; Catherine C. Nestler and Michelle Thompson, *Applied Research Associates, Inc., Vicksburg, MS*
- 2:00 Comparison of Two Metals Treatment Technologies in Soil, Sludges, and Water: 1990-2010**  
James Jacobs, *Environmental Bio-Systems, Inc., Mill Valley, CA*
- 2:30 Break**
- 3:00 Hydrology and Reclamation of the Jamestown Mine Tuolumne County, California**  
Raymond K. Will and William E. Motzer, *Todd Engineers, Alameda, CA*
- 3:30 Extraction of Cadmium, Copper, Nickel, Lead and Zinc from Contaminated Soils by the SR-PTE Method**  
Tal Golan and Zvi Ludmer, *The Hebrew University of Jerusalem, Jerusalem, Israel*; Neiam Brauner and Amos Ullmann, *Tel-Aviv University, Tel-Aviv, Israel*
- 4:00 A Case Study of In-situ Chemical Reduction of Hexavalent Chromium in Soil and Groundwater**  
Jude T. Francis, *URS Corporation, Los Angeles, CA*

## SESSION 3: BIOREMEDIATION (1:00 pm - 4:00 pm) Salon G

Moderator: Sam Williams, *Geosyntec Consultants, San Diego, CA*

- 1:00 Serving Donuts and Burning Fat: Techniques for Evaluating and Implementing Cost Effective Bioremediation Solutions**  
Brian Hitchens and Sam Williams, *Geosyntec Consultants, San Diego, CA*
- 1:30 Pilot-Scale In-Situ Bioremediation of Uranium at an ISR Mining Site Using Hydrogen Injection**  
Jose Cabezas, Yaneth Gamboa, Waldy Fernandez, Shailaja Narsing, Hariitha Dhaneekula and Lee Clapp, *Texas A&M University-Kingsville, Kingsville, TX*; Craig Bartels, Ron Grant and Dain McCoig, *Uranium Resources, Inc., Kingsville, TX*
- 2:00 What are the Challenges of In-Situ and Ex-Situ Bioremediation of Perchlorate-Contaminated Soil?**  
Laurie LaPat-Polasko and Nimisha Patel, *AMEC Geomatrix, Inc., Scottsdale, AZ*
- 2:30 Break**
- 3:00 In-Situ Chemical Reduction for Organic Explosives in Soil**  
Alan Seech, *Adventus Americas, Inc., Corona Del Mar, CA*; John Valkenburg, *Adventus Americas, Inc., DeWitt, MI*; Richard Valdez, *MWH Constructors, Albuquerque, NM*; Matt Fedowitz, *Plexus Scientific Corporation, Columbia, MD*
- 3:30 Comparison of Passive and Active Large-Scale Bioaugmentation Approaches: Field Demonstration Results**  
Ryan A. Wymore, Kent Sorenson and Mike Lamar, *CDM, Denver, CO*; Joey Trotsky, *Naval Facilities Engineering Service Center, Port Hueneme, CA*



Sponsored by **GROUNDWATER & ENVIRONMENTAL SERVICES**

**Welcome Reception 5:00 pm – 7:00 pm (Salons A-F)**

Please join us for:

**Wine Tasting Social & Networking Reception • Hors d'oeuvres • Exhibits Open**

**20<sup>th</sup> Annual Conference Commemoration**

**AEHS Foundation Achievement Award Ceremony** See page 10 for details

**Free to all registered conference attendees**

# Platform Sessions

Tuesday, March 16, 2010

MORNING SESSIONS

## SESSION 1: UPDATE ON US EPA'S TECHNICAL PAPERS AND SCIENTIFIC INVESTIGATIONS OF VAPOR INTRUSION IMPACTS (8:00 am - 5:30 pm) Pavilion

**Moderator:** Douglas W. Grosse, U.S. EPA, Office of Research and Development, Cincinnati, OH

Increasing attention has been given to understanding the impacts of subsurface vapor contaminant migration into overlying buildings. Many of these impacted structures are residences and manufacturing facilities where current and future occupants can face undesirable health risks. The science of determining, characterizing, and managing these risks is constantly evolving and much remains to be done in assisting regulators, consultants, and other decision-makers to make informed decisions in assessing and mitigating the problem and reducing these risks.

The U.S. Environmental Protection Agency's (EPA's) Office of Research and Development (ORD) has been very proactive in providing technical assistance and support to the EPA program office (Office of Solid Waste and Emergency Response [OSWER]), EPA regional offices, other federal agencies, state regulators, and other interested parties who are dealing with vapor intrusion issues. As part of this effort, EPA will hold a 1-day workshop that will provide a general update on the status of EPA's Vapor Intrusion Guidance efforts, as well as information on some of the most recent significant findings and advancements from technical support activities completed to date. This support comes from research studies, demonstration projects, field

studies, commercial cleanups, and data analyses. Many of the contributors to these efforts have been investigating vapor intrusion for nearly two decades and continue to advance the science of understanding this vexing problem.

Most of the information to be presented during this workshop will focus on the more significant findings contained in the following OSWER-generated documents:

**Background Indoor Air Concentrations of Volatile Organic Compounds in North American Residences: A Compilation of Statistics and Implications for Vapor Intrusion**

**EPA's Vapor Intrusion Database: Preliminary Evaluation of Attenuation Factors**

**Conceptual Model Scenarios for the Vapor Intrusion Pathway.**

In addition, information derived from recent and ongoing studies will be presented to complement the main program agenda, including an opportunity for discussion and questions and answers.

See <http://www.aehsfoundation.org/20th-annual-conference.aspx> for the link to the detailed agenda and registration.



## SESSION 2A: COAL-BASED ENERGY AND THE ENVIRONMENT (8:00 am - 10:00 am) Sierra 5

**Moderator:** Wally Hise, HDR, Salt Lake City, UT

- 8:00 Electricity Generation from Phenol Biodegradation in Microbial Fuel Cells**  
Haiping Luo and Song Jin, University of Wyoming, Laramie, WY; Guangli Liu and Renduo Zhang, Sun Yat-sen University, Guangzhou, China
- 8:30 Generation of Sustainable Biogenic Methane from Gas-depleted Coal Seams**  
Robert Craig and Robert Kindel, Alternative Energy & Environmental Solutions, LLC, Sheridan, WY
- 9:00 Making Microbial Sense of Carbon Dioxide Sequestration: Opportunities for Sustainable Sequestration and Energy Gain**  
Song Jin and Patricia Colberg, University of Wyoming, Laramie, WY
- 9:30 Synergism between Semiconductor Minerals and Microorganisms on Pollutants Degradation and Carbon Dioxide Fixation**  
Yan Li and Anhuai Lu, Peking University, Beijing, China
- 10:00 Break**

## SESSION 2B: URBAN RUNOFF

(10:30 am - 12:00 pm) Sierra 5

**Moderator:** Wally Hise, HDR, Salt Lake City, UT

- 10:30 Urban Runoff Strategies: Adapting to the MS4 Permit and Implementing NPDES Regulations**  
Karen Holman, Port of San Diego Environmental Services Dept, San Diego, CA
- 11:00 Storm Water 101**  
Kris McFadden, City of San Diego, Storm Water Department, San Diego, CA
- 11:30 Selection of Statistical Tools to Contrast Enterococcus Bacteria Contamination on Beaches; an Application in Santa Monica Bay, California**  
Elizabeth Erickson, Rebecca Chou and Chawn Y. Jeng, Cal EPA, RWQCB, Los Angeles, CA; Yifei Tong and Holly MacGillivray, University of Southern California, Los Angeles, CA; Shao-Yuan Leu, Justin Tang and Albert Chu, University of California, Los Angeles, CA

## SESSION 3: NEW DIRECTIONS IN REMEDIATION (8:30 am - 12:00 pm) Salon G

**Moderator:** William Kerfoot, Kerfoot Technologies, Inc, Mashpee, MA

- 8:30 Ozone Application Strategies at Petroleum Fuel Sites that Achieved Case Closure**  
Walter Bahm, State Water Resources Control Board, Sacramento, CA
- 9:00 In-Situ Hydrocarbon Remediation by Soil Vapor Extraction in Conjunction with Ozone and Air Sparging**  
Stephanie Gillaspay and David Norman, Provost and Pritchard Engineering Group, Clovis, CA; Robert Moncrief, III and Stephen C. Barr, H<sub>2</sub>O Engineering, San Luis Obispo, CA
- 9:30 Peroxide-Coated Ozone Emulsions for Spill Cleanup in Groundwater and Frac Water Treatment**  
William B. Kerfoot, Kerfoot Technologies, Inc., Mashpee, MA

- 10:00 Break**
- 10:30 Removing Pharmaceuticals from Contaminated Waters using Radical Reactions**  
Kimberly Rickman, Stephen P. Mezyk, and Edsel M. Abud, California State University at Long Beach, Long Beach, CA; Dionysios D. Dionysiou, Center of Sustainable Urban Engineering Drinking Water, Cincinnati, OH
- 11:00 Pilot Test Results: Perozone® Injection Technology, Kitchener, Ontario**  
Darko Strajin, Trow Associates, Inc., Brampton, ON, Canada
- 11:30 Is Pay-for-Performance Possible?**  
Christopher Watt, LACO Associates, Eureka, CA

Sponsored by  
**KERFOOT  
TECHNOLOGIES**



Special Sponsor Spotlight presentation:  
**LAND SCIENCE TECHNOLOGIES,**  
a division of Regenesys



## LUNCHEON PRESENTATION

Location: Cabrillo Salon

Luncheon 12:00–1:30 • Sponsor Spotlight 12:15 • Speaker 12:30–1:00

**Dan Pellissier, Deputy Cabinet Secretary for Energy and Environmental Programs, Office of Governor Schwarzenegger, Sacramento, CA**

## ENVIRONMENTAL ISSUES IN CALIFORNIA

The presentation will discuss various policies and challenges that arise in cleaning up environmental damage in California.

# Platform Sessions

Tuesday, March 16, 2010

AFTERNOON SESSIONS

## SESSION 1: UPDATE ON US EPA'S TECHNICAL PAPERS AND SCIENTIFIC INVESTIGATIONS OF VAPOR INTRUSION IMPACTS CONTINUED (1:30 pm - 5:30 pm) Pavilion



See Tuesday morning for full description

## SESSION 2: INNOVATIVE REMEDIAL TECHNOLOGIES (1:30 pm - 5:00 pm) Sierra 5

Moderator: Song Jin, University of Wyoming, Laramie, WY

- 1:30 Electrically Enhanced Reductive Dechlorination in Clay Soil**  
Song Jin, Paul Fallgren and Haiping Luo, University of Wyoming, Laramie, WY
- 2:00 A 3D Numerical Flow Model to Support Design of Groundwater Extraction System at Former Landfill**  
Vladimir Prilepin, Tetra Tech EM, Rancho Cordova, CA
- 2:30 In Situ Chemical Reduction Technologies – Differentiators and Technology Implementation**  
Andrzej Przepiora, Adventus Group, Mississauga, ON, Canada; James Mueller, Adventus Americas Inc., Freeport, IL; Richard Brown, ERM, Ewing, NJ; Alan Seech, Adventus Americas, Inc, Corona Del Mar, CA
- 3:00 Break**
- 3:30 Treatment of Chlorofluorocarbons (CFCs) in Soil Vapor Using an Innovative C3 Technology**  
Terry Feng, CH2M HILL, Oakland, CA; Carol Winell, Good Earthkeeping Organization, Inc., Corona, CA; Lowell Kessel, Envirologek, Culver City, CA
- 4:00 DNAPL in Fractured Rock Eliminated by Thermal Treatment**  
Gorm Heron, TerraTherm, Inc., Keene, CA; John LaChance, Devon Phelan, John Bierschenk and Ralph S. Baker, TerraTherm, Inc, Fitchburg, MA
- 4:30 World's First Combined Steam and Conductive Heating Remediation**  
Steffen Griepke Nielsen, Niras A/S, Aarhus, Denmark; Gorm Heron, TerraTherm, Inc., Keene, CA; Henrik Steffensen, Niras A/S, Odense, Denmark; Hans Skou, Region of Southern Denmark, Vejle, Denmark

## SESSION 3: REMEDY OPTIMIZATION AND EXPEDITED SITE CLOSURE STRATEGIES WITH DIAGNOSTIC TOOLS (1:30 pm - 5:30 pm) Salon G

Moderator: Stephen S. Koenigsberg, ENVIRON, Irvine, CA

- 1:30 An Overview of Technologies and Strategies for Optimizing Site Management and Closure**  
Stephen S. Koenigsberg, ENVIRON, Irvine, CA
- 2:00 Developing Technical and Regulatory Guidance for Environmental Molecular Diagnostics**  
Hans Stroo, HydroGeoLogic, Inc., Ashland, OR
- 2:30 Molecular Tools to Detect and Track Nature's Anaerobic Detoxifiers**  
Rosa Krajmalnik-Brown, Arizona State University, Tempe, AZ
- 3:00 Break**
- 3:30 How Stable Isotopes can Play a Role in Environmental Forensics and Remediation Investigations**  
R. Paul Philp, University of Oklahoma, Norman, OK
- 4:00 Phylogenetic Microarray to Measure Microbial Community Dynamics**  
Gary L. Andersen and Todd Z. DeSantis, Lawrence Berkeley National Laboratory, Berkeley, CA
- 4:30 Genomic Insights into Dehalococoides for Bioremediation of Chlorinated Solvents**  
Alfred M. Spormann, Stanford University, Stanford, CA
- 5:00 Automated Environmental Monitoring and Visualization for Optimized Project Management**  
Mark L. Kram, Groundswell Technologies, Inc., Santa Barbara, CA; R. Edward Beighley, San Diego State University, San Diego, CA; Hugo Loaiciga, University of California, Santa Barbara, CA; Clark Easter, Trifecta GIS, Santa Barbara, CA

## General Poster Session I & Social

3:00 pm – 6:00 pm

Location: Sunroom and Santa Fe 3&4

Authors will be available at their posters for individual discussion. Refreshments available in the sunroom, beginning at 3:30 pm.



### STUDENT COMPETITION

We are proud to announce the  
**6th Annual  
Adventus Americas Student Competition**  
at the AEHS West Coast Conference. Competitors are judged anonymously on Monday and Tuesday. Two \$500.00 cash prizes will be awarded to the two best student presentations. Winners to be announced at the Wednesday luncheon.

Must be entered prior to the conference in order to compete.  
Open to both full and part time students.

All workshops are now FREE to state, federal, and municipal regulatory personnel. See registration desk to sign up.

#### Workshop 1 Sierra 5 6:30 pm – 9:30 pm

**Assessment and Evaluation of Vapor Intrusion at Petroleum Release Sites**  
Blayne Hartman, Independent Consultant, Solana Beach, CA  
Todd Ririe, BP, La Palma, CA  
Robin Davis, Utah Department of Environmental Quality, Salt Lake City, UT  
George DeVaul, Shell Global Solutions, Houston, TX  
Tom McHugh, GSI, Houston, TX

#### Workshop 2 Salon G 7:00 pm – 9:00 pm

**Admissibility of Scientific Evidence in Court**  
Kevin C. Mayer, Esq., Liner Grode Stein Yankelevitz Sunshine Regenstrief & Taylor LLP, Los Angeles, CA  
Jim Derouin, Steptoe & Johnson LLP, Phoenix, AZ  
Jeffrey L. Caulfield, Esq, Caulfield & James LLP, San Diego, CA  
Ioana G. Petrisor, Ph.D., Haley & Aldrich, Costa Mesa, CA

#### Workshop 3 Cabrillo 1 6:30 pm – 9:30 pm

**Environmental Fate of Hydrocarbons in Soils and Groundwater**  
James Dragun, The Dragun Corporation, Farmington Hills, MI

# Platform Sessions

Wednesday, March 17, 2010

MORNING SESSIONS

**LIVE BREAKFAST WEBCAST** (8am – 9am) Pavilion

No additional cost - included in conference registration



## Interactive panel discussion with intersol'2010

Live presentations from both intersol'2010 (Paris, France) and AEHS Foundation Conference with time for discussion from both audiences.

The webcast will cover environmental topics relevant to both Europe and the US with a focus on sustainability. **Continental breakfast will be served.**

Moderated by **Susan Henry**, UCI Extension, Irvine, CA and **Everett Wakai**, US Commercial Service, American Embassy, Paris, France

### Presenters: Sustainable and Green Remediation Update

Jake Torrens, AMEC Geomatrix, Oakland, CA, USA

### Sustainable Remediation – A Consultant's Perspective

Yanina Barrera, ENVIRON International Corp, Irvine, CA, USA

### Phytoscreening and Dendrochemistry: Site Assessment and Forensics Using Trees at CIVOCs Sites

Jean-Christophe Balouet, PhD, Environment International, France

### Green Remediation / Feasibility Studies for Implementation of In-Situ

DNBA: Dynamized Natural Bio-Attenuation for Chlorinated

### Hydrocarbons: Case Studies

Frank Karg, HPC Envirotec, France

### Germany is on the Map: The First Case Study of Applied DNBA of Groundwater, Contaminated with Chlorinated Hydrocarbons, using ONE (Oil-Nutrient-Emulsion) and KB1

Christoph Henkler, Planreal, Germany

## SESSION 1: SUSTAINABILITY (9:00 am - 12:00 pm) Pavilion

**Moderator:** Sriram Madhabushi, BAH, San Antonio, TX

### 9:00 Sustainability – Vital to Mitigate Anthropogenic Causes of Climate Change

Ashok Katyal, Resources and Systems International, Inc., Blacksburg, VA; Tad Fox, Science Applications International Corporation, Twinsburg, OH

### 9:30 SiteWise™: A Tool Designed to Calculate Environmental Impacts of Remediation Alternatives

Heather Rectanus, Battelle, San Diego, CA; Russell Sirabian, Battelle, Rochelle, NY; Jody Lipps, Mohit Bhargava and Ramona Darlington, Battelle, Columbus, OH

### 10:00 Break

### 10:30 An Interstate Collaboration for Technical and Regulatory Guidance Document on Green and Sustainable Remediation

Sriram Madabhushi, BAH, San Antonio, TX; Tom O'Neill, NJDEP, Trenton, NJ; Ning-Wu Chang, Dept. of Toxic Substances Control, Cypress, CA

### 11:00 A "Green Oxidant" for In-Situ Chemical Oxidation for the Treatment of Contaminated Soils

Ben Mork, Regenesys, San Clemente, CA; William Farone, Applied Power Concepts, Anaheim, CA

### 11:30 Improving Water Quality by Reducing Pharmaceutical and Residential Wastes, Managing Resources and Preventing Contamination

James Jacobs, Environmental Bio-Systems, Inc., Mill Valley, CA; Jon Elam, TCSD, Mill Valley, CA

## SESSION 2: SEDIMENTS (9:00 am - 12:00 pm) Sierra 5

**Moderator:** David Ludwig, ARCADIS-US, Annapolis, MD

### 9:00 TBD

### 9:30 Polychaete Response to Apatite and Chitin in Metals Contaminated Sediments

Y. Meriah Arias-Thode, Gunther Rosen, and Jim Leather, SPAWARSYSCEN Pacific, San Diego, CA; Jinjun Kan, Anna Obratsova, Yanbing Wang, and Kenneth Nealson, University of Southern California, Los Angeles, CA; Kirk Scheckel, Environmental Protection Agency, Cincinnati, OH

### 10:00 Break

### 10:30 Fox River, Wisconsin: The Largest Sediment Remediation Project in the World

Michael Mann, Stuyvesant Environmental Contracting, Inc, Green Bay, WI; Steve McGee, Tetra Tech EC, Westlake, OH; Glenn Green, J.F. Brennan Co., Inc, LaCrosse, WI

### 11:00 Saltwater Compatible Bentonite-Based Capping Material for Contaminated Sediments - Geotechnical Evaluation and Full Scale Application of Low-Permeability Material

John A. Collins, AquaBlok Ltd., Toledo, OH

### 11:30 Sustainable Sediment Management in a Zero Sum World

David Ludwig, Tim Iannuzzi and Gwen Gibson, ARCADIS-US, Annapolis, MD; Greg McGowan, ARCADIS, Santa Maria, CA

## SESSION 3: CHLORINATED COMPOUNDS (9:00 am - 12:00 pm) Salon G

**Moderator:** Stephen Mezyk, California State University, Long Beach, CA

### 9:00 ITRC Decision Flowchart for the Use of Monitored Natural Attenuation and Enhanced Attenuation—Chlorinated Organics

Kimberly Wilson, South Carolina Dept of Health and Environmental Control, Columbia, SC; Richard Lewis, HSA Engineers & Scientists, Ft. Myers, FL

### 9:30 Controlled Vadose Saturation and Remediation (CVSR) with ISCO for Treatment of VOC Contaminated Soil

Gary Cronk, JAG Consulting Group, Inc., Santa Ana, CA; Stephen Koenigsberg, ENVIRON International Corporation, Irvine, CA; Barbara Coughlin, Mark Travers, and Dave Schlott, ENVIRON International Corporation, Chicago, IL

### 10:00 Break

### 10:30 Statistical Evaluation of the Effectiveness of Remediation Approaches Used to Remediate Dry Cleaners

Steven Luis, Stacey King and Nazgol Zandipour, ENVIRON International Corporation, Irvine, CA

### 11:00 In-Situ Remediation of Soils Impacted by Chlorinated Pesticides

Alan Seech, Adventus Americas, Corona Del Mar, CA; J. Valkenburg, Adventus Americas, Inc., East Lansing, MI; A. Przepiora, Adventus Canada, Waterloo, ON, Canada

### 11:30 Reduction of Halomethanes by Hydrated Electrons in Water and Water/Alcohol Systems

Stephen Mezyk, California State University at Long Beach, Long Beach, CA

## LUNCHEON PRESENTATION Location: Cabrillo Salon

Luncheon 12:00–1:30 • Student Competition Winners Announced 12:15 • Speaker 12:30–1:00

**Javier Santillan**, SME, Restoration, Environmental Engineer, US Air Force, AFCEE, San Antonio, TX

### AFCEE CONTRACTING METHODOLOGIES

The mission and vision for the Air Force Center for Engineering and the Environment (AFCEE) has shifted over time, but maintains a strong commitment to the Air Force through environmental restoration by protecting, preserving, restoring, developing, and sustaining the nation's environmental and installation resources. This presentation will provide a brief overview of AFCEE's history and then focus on the Technical Directorate which supports environmental restoration activities, particularly the Restoration Branch (AFCEE/TDV). AFCEE/TDV's mission statement is to "transform environmental liabilities into operational assets by providing restoration expertise, leadership, and a core knowledge base." Opportunities to access AF restoration projects through AFCEE on a variety of contracting mechanisms will also be discussed along with contracting methodologies in general, and specifically on steps to initiate contracting support to the AFCEE/TDV restoration projects primarily through the Broad Agency Announcement.

# Platform Sessions

Wednesday, March 17, 2010

AFTERNOON SESSIONS

## SESSION 1: ENVIRONMENTAL FORENSICS (1:30 pm - 5:00 pm) Pavilion

Moderator: Ioana Petrisor, *Haley & Aldrich, Costa Mesa, CA*

- 1:30 Emissions of 1,2-Dichloroethane from Holiday Decorations as a Source of Indoor Air Contamination**  
Bill Doucette, *Utah State University, Logan, UT*; Kyle Gorder, *Environmental Restoration Branch, Hill Air Force Base, UT*
- 2:00 Admissibility of Scientific Evidence in Court**  
Ioana G. Petrisor, *Haley & Aldrich, Costa Mesa, CA*; Jeffrey L. Caulfield, *Caulfield & James LLP, San Diego, CA*
- 2:30 Successful Challenges to Expert Opinion Testimony**  
Kevin C. Mayer, *LINER GRODE STEIN YANKELEVITZ, Los Angeles, CA*
- 3:00 Break**
- 3:30 Smoke Damage Assessment from Wildfires and Structure Fires**  
Manuel Dekermenjian, *ENVIRON, Los Angeles, CA*
- 4:00 Disentangling Comingled Gasoline Plumes using Petroleum Forensics**  
Alan Jeffrey, *DPRA/Zymax Forensics, Escondido, CA*
- 4:30 PCB Forensics: Fingerprinting, Finger-Pointing, and a Case for Background Values**  
Sam Williams and Brian R. Hitchens, *Geosyntec Consultants, San Diego, CA*

## SESSION 2a: SITE ASSESSMENT (1:30 pm - 3:00 pm) Sierra 5

Moderator: Richard Vogl, *GeoHydrologic Consultants, Huntington Beach, CA*

- 1:30 A Mesoscale Rainfall Laboratory Lysimeter to Investigate Leaching Potential of Inorganic and Organic Soil Contaminants**  
Steven Larson, W. Andy Martin and Christopher Griggs, *US Army Engineer Research and Development Center, Vicksburg, MS*; Ken Rainwater, *Texas Tech University, Lubbock, TX*; Catherine Nestler, *Applied Research Associates, Inc., Vicksburg, MS*
- 2:00 Using Bacterial DNA to Provide Direct Evidence of Natural Attenuation**  
Daniel Carroll, *Kleinfelder, San Diego, CA*
- 2:30 Investigation Process Optimization - A Streamlined Approach to Site Assessment**  
Sriram Madabhushi, *BAH, San Antonio, TX*; Javier Santillan, *HQ AFCEE, Brooks City-Base, TX*
- 3:00 Break**

## SESSION 2b: RISK ASSESSMENT (3:30 pm - 5:00 pm) Sierra 5

Moderator: Richard Vogl, *GeoHydrologic Consultants, Huntington Beach, CA*

- 3:30 Restoration of Soils and Sediments: Reduction of a True Risk through a Systematic Optimization Process**  
Javier Santillan, *HQ AFCEE, Brooks City-Base, TX*; Sriram Madabhushi, *Booz Allen Hamilton, San Antonio, TX*
- 4:00 Using Radionuclide Secular Equilibrium Calculations in Human Health Risk Assessments**  
Paul Black and Mark Fitzgerald, *Neptune and Company, Lakewood, CO*; David Gratson, *Neptune and Company, Los Alamos, NM*
- 4:30 Risk Beyond Human Health and Ecology**  
Ning-Wu Chang, *Cal EPA, Cypress, CA*; Sriram Madabhushi, *Booz Allen Hamilton, San Antonio, TX*; Tom O'Neill, *NJDEP, Trenton, NJ*

## SESSION 3a: REGULATORY PROGRAMS & POLICIES (1:30 pm - 3:00 pm) Salon G

Moderator: Leslie Karr, *Navy, Port Hueneme, CA*

- 1:30 Technology Performance Verification Testing Through the U.S. EPA Environmental Technology Verification (ETV) Program**  
Heather Rectanus, *Battelle, San Diego, CA*; Ramona Darlington, *Battelle, Columbus, OH*; Russell Sirabian, *Battelle, New Rochelle, NY*; Amy Dindal, *Battelle, Royal Palm Beach, FL*
- 2:00 Considerations and Trends for Closing UST Cases in California**  
Walter Bahm, *State Water Resources Control Board, Sacramento, CA*
- 2:30 Environmental Net Benefit of Partial Cleanups**  
G.D. Beckett, *Aqui-Ver, Inc., Park City, UT*; Tom Sale, *Colorado State University, Fort Collins, CO*
- 3:00 Break**

## SESSION 3b: PHYTOREMEDIATION (3:30 pm - 5:00 pm) Salon G

Moderator: Leslie Karr, *Navy, Port Hueneme, CA*

- 3:30 Hyperaccumulation of Cadmium by Wheat (*Triticum Vulgare*) Plant - A Phytoremedial Approach**  
Rashmi Gurram, *Flushing, NY*
- 4:00 Removal of Trichloroethylene from Shallow Subsurface Environments by Volatilization from Trees and Soil Surface**  
Bill Doucette, *Utah State University, Logan, UT*; Bruce Bugbee and Julie Chard, *Utah State University, Logan, UT*; William Plaehn, *Parsons, Denver, CO*; Kyle Gorder, *Environmental Restoration Branch, Hill Air Force Base, UT*
- 4:30 Trace Elements Uptake (Zn, Cd And Cu) by 3 Dominant Plants of an Infiltration Basin**  
Muriel Saulais, Jean-Philippe Bedell and Cécile Delolme *Université de Lyon, Vaulx en Velin, France*; Damien Lemoine, *Université Claude Bernard Lyon, Villeurbanne Cedex, France*

## General Poster Session II & Social

3:00 pm – 6:00 pm

Location: Sunroom and Santa Fe 3&4

Authors will be available at their posters for individual discussion. Refreshments available in the sunroom, beginning at 3:30 pm.

All workshops are now FREE to state, federal, and municipal regulatory personnel. See registration desk to sign up.

### Workshop 4 Sierra 5 6:30 pm – 9:30 pm

#### An Introduction to the California LUFT Manual

Kevin Graves, *CA SWRCB, Sacramento, CA*  
Dawn Zemo, *Zemo & Associates, Incline Village, NV*  
Joel Coffman, *US EPA Region 9, San Francisco, CA*  
Ben Heningburg, *SWRCB, Sacramento, CA*  
Adrienne Barnes, *Sullivan International Group, Inc., San Francisco, CA*

### Workshop 5 Salon G 7:00 pm – 9:00 pm

#### The Role of Stable Isotopes in Environmental Forensic Studies, and their Integration with other Forensic Fingerprinting Techniques

Paul Philp, *University of Oklahoma, Norman, OK*

# Poster Sessions *Location: Sunroom and Santa Fe 3 & 4*

Posters may be viewed throughout the day on Tuesday, March 16<sup>th</sup> and Wednesday, March 17<sup>th</sup>. Authors will be available for individual discussion at their posters from 3:00 pm – 6:00 pm on their assigned day. Please refer to the schedule below. Refreshments and light hors d'oeuvres will be served during the poster sessions.

## Tuesday, March 16

### **Profiles of Successful Site Remediation with Funding from California's UST Cleanup Funding**

Walter Bahm, State Water Resources Control Board, Sacramento, CA

### **Use of Surfactants for NAPL Solubilization and Extraction**

Fred Blickle, Conestoga-Rovers & Associates, Plymouth, MI; Alan Weston, Talaat Balba, Sophia Dore, Donald Pope, Leah Pabst, Christa Nunn, Conestoga-Rovers & Associates, Niagara Falls, NY

### **Integration of In-Situ Chemox Remediation with Brownfield Development Goals**

Richard Cartwright, MECX LP SDVOSB, East Amherst, NY; Isaac Aboulafia, MECX LP, Houston, TX

### **Assessing Total Maximum Daily Load (TMDL) Impacts, at a Shipyard for Sediment and Water Quality Remediation**

M. Anthony Collins, La Mesa, CA

### **Transport and Biodegradation of Petroleum Hydrocarbon Vapor Components in the Subsurface; a Soil Column Study**

Elsy A. Escobar, Paul Dahlen, and Paul C. Johnson, Arizona State University, Tempe, AZ

### **Physical Properties of Sediments in Large Dam Reservoirs With Particular Attention on Arid and Semi-Arid Zones**

Manoochehr Fathi-Moghadam and Mahmud Shafaei-Bejestan, Shahid Chamran University, Ahvaz, Iran; Hossein Samadi-Boroujeni, Shahrekord University, Shahrekord, Iran

### **Case Studies: Closing Solvent Sites Using Activated Carbon Impregnated with Iron**

Thomas A. Harp, LT Environmental, Inc., Arvada, CO

### **Revisiting a Closed Site: Expedited Treatability Testing and Remediation to Move Site Toward Closure, Again**

James Jacobs, Environmental Bio-Systems, Inc., Mill Valley, CA; Ami Adini and Dinesh Rao, Ami Adini & Associates, Inc., Los Angeles, CA

### **A Health Risk Assessment Methodology for Contaminated Sites due to Environmental Accident**

Yulan Liu and Aizhong Ding, Beijing Normal University, Beijing, China

### **Metal Uptake by Certain Native Plants Occurring on Mine Spoils of the Base Metal Deposits of Bandalamottu Mining Area, Andhra Pradesh, India**

A. Nagaraju and K. Sunil, Sri Venkateswara University, Andhra Pradesh, India

### **Environmental Fate of Polycyclic Aromatic Hydrocarbons in Sediments of Nagoya Port**

Ryoji Naito and Yoshiyuki Nakamura, Port and Airport Research Institute, Kanagawa, Japan; Taro Uruse, Tokyo University of Technology, Tokyo, Japan; Hiroyuki Okumura, Tokyo Institute of Technology, Tokyo, Japan; Hiroaki Tanaka, Kyoto University, Shiga, Japan

### **Aquifer Characteristics and Hydrostratigraphy of the South Las Posas Basin (SLPB), Ventura County, California**

Kenda L. Neil and M. Ali Tabidian, California State University Northridge, Northridge, CA

### **Evaluation of Stakeholder Involvement towards a Comprehensive Reduction of Industrial Land Pollution around the Douala Metropolis, Cameroon**

Billa Cyprian Nkem, Roskilde University, Roskilde, Denmark

### **Online Continuous Process Monitoring of**

### **Statin Pharmaceuticals in Water Reuse Using Fluorescence**

Behnaz Razavi and William J. Cooper, University of California, Irvine, CA

### **Restoring and Maintaining a Lakes Oxygen Supply Using the RezOX gPRO H2O Oxygenator**

Rey Rodriguez, Oksana Melnichuk, and Reinaldo Rodriguez, H2O•R2 Consulting Engineers, Inc., Glendora, CA

### **A Comparison of Oxygen Injection Technologies for Bioremediation of Petroleum Hydrocarbons using iSOC, gPRO, & Matrix Oxygen Injection Technologies**

Rey Rodriguez, Oksana Melnichuk, and Reinaldo Rodriguez, H2O•R2 Consulting Engineers, Inc., Glendora, CA

### **Air Stripper Technology that does NOT require Power?**

Rey Rodriguez, Oksana Melnichuk, and Reinaldo Rodriguez, H2O•R2 Consulting Engineers, Inc., Glendora, CA

### **Physicochemical and Ecotoxicological Characteristics of Urban Wet Weather Effluents (UWWE) from a French Site**

Muriel Saulais, Ruth Angerville, and Yves Perrodin, Université de Lyon, Vaulx-en-Velin, France; Evens Emmanuel, Université Quisqueya, Port-au-Prince, Haïti

### **Chemical Oxidation and Biostimulation Achieves Significant Plume Reduction: A Klozur® CR and PermeOx® Plus Case Study**

James Studer, ChemRem International LLC, Albuquerque, NM; Matthew Burns, WSP Environment & Energy, Woburn, MA; Stephen J. Kretschman and Jeffrey R. Baker, WSP Environment & Energy, Pittsborough, PA

### **ITRC'S Technical and Regulatory Guidance for Bioremediation of Chlorinated Ethene DNAPLS**

Ryan A. Wymore, CDM, Denver, CO; Naji Akladiss, Maine Department of Environmental Protection, Augusta, ME; Tamzen Macbeth, Camp Dresser & McKee, Idaho Falls, ID

## Wednesday, March 17

### **Urban Forest Ecosystem Assessment and Restoration After Hurricane Katrina**

Kamran Abdollahi and Zhu H. Ning, Southern University Agricultural Research and Extension Center, Baton Rouge, LA

### **Aquablok+Organoclay as Permeable Barriers**

George Alther, Biomin, Inc., Ferndale, MI

### **Data Exploration/Reanalysis to Evaluate Applicability of Arsenic Remedial Action Objectives at a Former Railyard**

Mark A. Bowland, ERM-West, Inc., Sacramento, CA; Ken L. Kiefer, ERM-West, Inc., Austin, TX; Ben Leslie Bole, ERM-West, Inc., Walnut Creek, CA

### **Integrated Remedial Technologies Used to Successfully Remediate a Brownfields Site for Mixed Residential and Commercial Use**

Stephanie Dobyms, Regenesys, San Clemente, CA; David J. Russell, AECOM, Treviso, PA

### **Application of ISCO to Petroleum Hydrocarbon Impacted Soil at a South San Francisco LUST Site**

Mark Duffy, Gail Eaton, and Chris White, Tetra Tech EMI, San Francisco, CA

## Wednesday, March 17 (cont.)

### **Metal Speciation from a Marine Sediment by Autotrophic Denitrification**

Herbert HP Fang, The University of Hong Kong, Hong Kong SAR, China

### **Interactive GIS for Project Managers and Stakeholders - Synthesizing and Communicating the Vapor Intrusion Risk**

Brian Hitchens, Geosyntec Consultants, San Diego, CA; Jamey Rosen and Todd McAlary, Geosyntec Consultants, Guelph, Ontario, Canada

### **Analysis of Sediment Dynamics in Latrobe River Basin, Australia using a Process-based Distributed Modeling Approach**

Md Kabir and D. Dutta, Monash University Gippsland, Churchill, Australia

### **Remediation of the Polluted Brownfield in the Celje Basin, Republic of Slovenia**

Cvetka Ribarič Lasnik, Nadja Romih, and Boštjan Grabner, Institute of the Environment and Spatial Planning, Celje, Slovenia; Andrej Uršič and Simona Uršič, Institute of Public Health Celje, Slovenia; Miran Lakota, Faculty of Agriculture and Life Sciences, Hoče, Slovenia

### **Brownfield Redevelopment – Liquid Boot as Gas Vapor Barrier**

Hieu Nguyen, CETCO Remediation Technologies, Santa Ana, CA; Jim Olsta, CETCO Remediation Technologies, Hoffman Estates, IL

### **Remediating Urban Soil through Bio-based Mulch Amendment**

Zhu H. Ning and Kamran Abdollahi, Southern University Agricultural Research and Extension Center, Baton Rouge, LA

### **Surgical Site Closure – Integrating Natural Attenuation and Focused Source Treatment**

Barry Poling, Regenesys, San Clemente, CA; Steven P. Sittler, Arcadis, South Bend, IN

### **Naval Facilities Engineering Service Center Implementation of Sustainable Environmental Remediation**

Issis Rivadineyra and Karla Harre, Naval Facilities Engineering Service Center, Port Hueneme, CA

### **Risk Management Approach to Meet the Demand on Eco-efficient Technologies for Sustainable Revitalization of Brownfields**

Włodzimierz Sokół, Central Mining Institute, Plac Gwarkow, Poland

### **Bioaccumulation of Cadmium under Polyphenolic Compounds Treatment**

Alina Stingu, Irina Volf, and Valentin I. Popa, "Gheorghe Asachi" Technical University of Lasi, Lasi, Romania

### **Facilitating Land Conveyance in Brownfields Projects using Innovative GIS and Visualization Techniques**

Ian Webster and Halil I. Kavak, Project Navigator, Ltd., Brea, CA

**Workshops 7, 8, 9, 10, & 11**

BREAK 10:00 am – 10:30 am Foyer

All workshops are now FREE to state, federal, and municipal regulatory personnel. See registration desk to sign up.

**Workshop 7** Salon C 8:00 am – 12:00 pm

**Congener/Aroclor PCB Analysis and Data Interpretation**

Susan MacMillan, URS Corporation, Portland, OR  
 Kanan Patel-Coleman, URS Corporation, Los Angeles, CA  
 Heather Loso, URS Corporation, Oakland, CA  
 Jill Hedgecock, URS Corporation, San Francisco, CA  
 Usha Vedagiri, URS Corporation, Oakland, CA

**Workshop 8** Salon A 8:00 am – 12:00 pm

**Building a Better Background Data Set**

Karen Thorbjornsen, P.G., Shaw Environmental, Knoxville, TN  
 Jonathan Myers, Ph.D., Shaw Environmental, Inc., Albuquerque, NM

**Workshop 9** Salon H 8:00 am – 12:00 pm

**In-well Stripping/Re-Circulation and Two-Phase Extraction Methods: Applications and Enhancements for Groundwater and Soil Remediation**

Mehmet Pehlivan, PG, CHG, Bays Environmental Remediation Management, Ladera Ranch, CA  
 James A. Jacobs, PG, CHG, REA II, Environmental Bio Systems, Mill Valley, CA  
 Philip Mihopoulos, MACTEC Engineering & Consulting, Irvine, CA

**Workshop 10** Salon F 9:00 am – 12:00 pm

**Net Environmental Benefit to Cleanups Focused on Petroleum & Industrial Sites**

G.D. Beckett, AQUI-VER, Park City, UT  
 Tom Peargin, Chevron, Richmond, CA  
 Richard Mach, Navy, Washington, DC  
 Joel Coffman, US EPA, San Francisco, CA  
 Paul Hadley, CA DTSC, Sacramento, CA  
 Joe Nicolette, ENVIRON, Atlanta, GA

**Workshop 11** Santa Fe 3 9:00 am – 12:00 pm

**Classic and Emerging Environmental Forensics Cases**

Ioana G. Petrisor, Haley & Aldrich, Costa Mesa, CA  
 Julie K. Sueker, ARCADIS, Golden, CO  
 Helder Costa, Haley & Aldrich, Inc., Boston, MA  
 Michael J. Wade, Wade Research, Inc., Marshfield, MA  
 Jeffrey L. Caulfield, Caulfield & James LLP, San Diego, CA  
 James T. Wells, Haley & Aldrich, Santa Barbara, CA

**Announcing the 1<sup>st</sup> Annual AEHS Foundation Achievement Awards**

*Presented at the Welcome Reception, Monday, March 15th, 5:00 pm – 7:00 pm*

The Annual International Conference on Soils, Sediments, Water, and Energy is pleased to announce the creation of the AEHS Foundation Achievement Award. This award is presented to individuals and/or organizations that have shown significant contributions to the field and outstanding environmental stewardship. This year's winners are John Hills, Irvine Ranch Water District, Irvine, CA and The Interstate Technology and Regulatory Council (ITRC). Accepting on behalf of ITRC is Director, Anna Willett.



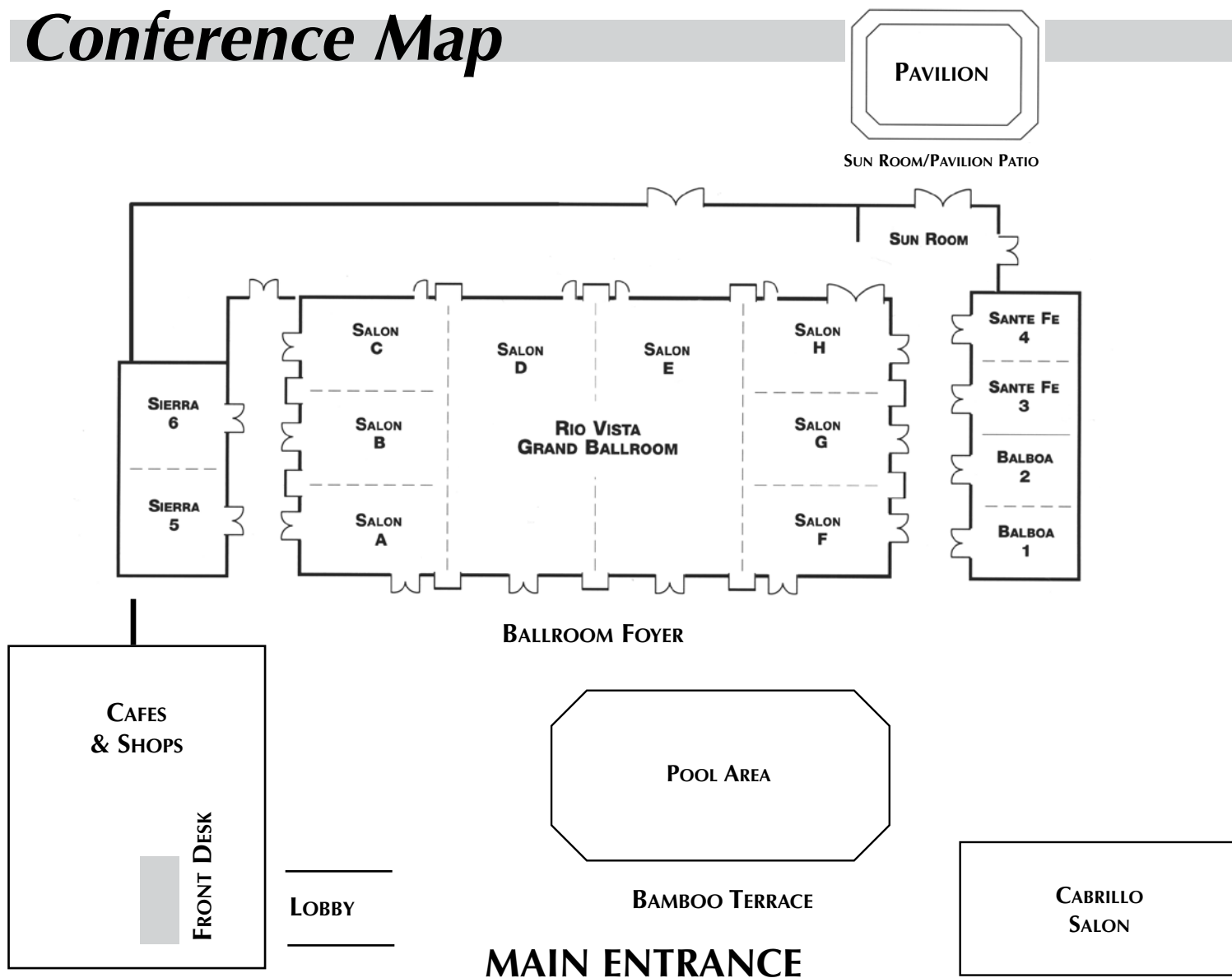
**JOHN HILLS** is the Director of Water Quality and Regulatory Compliance for the Irvine Ranch Water District. At IRWD, he is responsible for monitoring the quality of the District's waste water, potable water, recycled water and urban runoff systems and ensuring that the District operates in full compliance with all regulatory requirements. Prior to joining IRWD, John was the Environmental Services Manager for the City of Anaheim. At Anaheim, he was responsible for ensuring the City's facilities and water and electric utility operations complied with all environmental regulatory requirements. John obtained his Bachelor's degree in chemistry from the California State University at Long Beach and an MBA from Chapman University in Orange.



**ANNA WILLETT** is the Director of the Interstate Technology & Regulatory Council (ITRC). ITRC is a public-private coalition working to eliminate barriers to the use of innovative environmental technologies and approaches, so that compliance costs are reduced and clean up efficacy is maximized. ITRC produces documents and training that broaden and deepen technical knowledge and expedite quality regulatory decision-making, while protecting human health and the environment. With private and public sector members from all 50 states and the District of Columbia, ITRC truly provides a national perspective. Anna has been involved with ITRC since 2003 in a variety of roles, including serving on the ITRC Board of Advisors from 2005-2007 and on the Bioremediation of DNAPLs and In Situ Bioremediation ITRC Teams from 2003-2005.

Anna came to ITRC from Comprehensive Environmental Utility Services, LLC (CEUS), where she was a Senior Vice President and Partner. Prior to CEUS, she was a Senior Engineer, concentrating in remediation engineering and project management, with Haley & Aldrich, Inc., a national environmental engineering firm. Earlier in her career, Anna was responsible for the design, implementation and evaluation of pilot- and full-scale in-situ remediation projects as a Research and Development Manager for Regenesis, a specialty chemical company that serves the remediation industry. Over the course of her career, Anna has evaluated a wide-range of contaminated sites to determine technical and cost effective remedial strategies for specific site conditions. She has contributed to over 60 presentations and publications on remediation, has presented at a wide range of national and international conferences. She holds an M.S. in chemical engineering from Northwestern University and a B.S. in biological engineering from Cornell University.

# Conference Map



## Scientific Advisory Board

The AEHS Foundation attributes the success of this conference, in large part, to a very dedicated and hard working Scientific Advisory Board (SAB). The SAB evaluates abstract submissions, recommends invited papers and presenters, advises with regard to session topics, and serves as conference ambassadors. The SAB is crucial to the conference development. Care is taken to create a board that represents philosophical, scientific, regulatory, and geographical balance.

**Rick Ahlers**, LFR an ARCADIS Company  
**Hossein Alimi**, Global Petroleum and Environmental Geochemistry  
**Y. Meriah Arias-Thode**, SPAWARSSYSCEN  
**Bruce Bauman**, American Petroleum Institute  
**G.D. Beckett**, AQUI-VER  
**Charles Blanchard**, GES  
**Allen Blodgett**, URS Corporation  
**Patrick Brady**, Sandia National Laboratory  
**George Brilis**, US EPA  
**William Cannizzaro**, Pontarolo Engineering  
**Leo Carden**, InfoPro Corporation  
**Rada Chanmugathas**, CA EPA, DTSC  
**William Cooper**, University of California Irvine  
**Rodney Crother**, Stantec  
**Dave Daze**, CETCO  
**Rula Deeb**, Malcolm Pirnie  
**Brendan Dooher**, LFR an ARCADIS Company  
**James Dragun**, The Dragun Corporation  
**Stephen E. Eikenberry**, AEHS Foundation  
**Gary Foote**, AMEC Geomatrix

**Kevin Graves**, CA SWRCB  
**Paul Hadley**, CA EPA, DTSC  
**Susan Henry**, UCI Extension  
**John Hills**, Irvine Ranch Water District  
**Wallace Hise**, HDR  
**James Jacobs**, Environmental Bio-Systems  
**Song Jin**, University of Wyoming  
**Leslie Karr**, NFESC  
**William Kerfoot**, Kerfoot Technologies  
**Steve Koenigsberg**, ENVIRON  
**Paul Kostecki**, AEHS Foundation  
**William Kucharski**, AECOM  
**Fayaz Lakhwala**, Adventus Americas  
**Jim Lingle**, Electric Power Research Institute  
**George Lockwood**, CA SWRCB  
**Dave Ludwig**, Blasland, Bouck and Lee  
**Karen Lyons**, Shell Oil Products US  
**Kevin Mayer**, LINER GRODE STEIN YANKELEVITZ  
**Elizabeth Miesner**, ENVIRON  
**Ben Mork**, Regenesis

**Debbie Neev**, Malcolm Pirnie  
**Ioana Petrisor**, Haley & Aldrich  
**Lynne M. Preslo**, GeoEco  
**Paul Rakowski**, Booz Allen Hamilton  
**Ram Ramanujam**, CA EPA, DTSC  
**Yue Rong**, CA RWQCB  
**Clay Sandidge**, Sandidge Consulting  
**Lee Shull**, ERM  
**Bob Skiba**, Chevron  
**Matthew Small**, US EPA  
**Richard Vogl**, GeoHydrologic Consultants  
**Everett Wakai**, US Commercial Service, France  
**Wade Weisman**, US Air Force  
**Jason White**, CT Agricultural Experiment Station  
**Robert Wilkenfeld**, Chevron Products Company  
**Anna Willett**, ITRC  
**Sam Williams**, Geosyntec Consultants  
**Jesse Yow**, Lawrence Livermore National Laboratory  
**Helen Yu**, San Diego RWQCB  
**Dawn Zemo**, Zemo & Associates

# Call For Papers

Presented by



## The Twenty First Annual International Conference on **Soils, Sediments, Water, and Energy**

*The Association for Environmental Health and Sciences Foundation (AEHS Foundation) is soliciting platform and poster papers for presentation at the 21<sup>st</sup> Annual Meeting. Session topics include, but are not limited to the following areas:*

- Bioavailability
- Bioremediation
- Chemical Analysis
- Chlorinated Compounds
- Cleanup Standard Setting
- Contamination at Military Installations
- Emerging Contaminants
- Environmental Forensics
- Environmental Fate and Modeling
- GIS/Data Visualization
- Heavy Metals
- Innovative Remedial Technologies
- MTBE/Oxygenates
- Natural Attenuation
- Perchlorate
- Pharmaceuticals in Water
- Phytoremediation
- Regulatory Programs and Policies
- Risk Communication
- Soil Chemistry
- Sediments
- Site Assessment/Field Sampling
- Vapor Intrusion
- Case Studies on any of the above

**Analysis, Fate, Environmental and Public Health Effects, and Remediation**

**MARCH 2011, SAN DIEGO, CALIFORNIA**

Please submit a ONE PAGE abstract containing: title, 300 word (maximum) narrative; and for each author: name, degree, affiliation, complete address, telephone, fax, and email. Be sure to follow the Abstract Submission Guidelines on our website ([www.aehsfoundation.org](http://www.aehsfoundation.org)) for correct submission format. Please note: The body of the abstract is to be no more than 300 words. Please remember to indicate whether you wish the abstract to be considered for platform presentation, poster presentation, or either. Correctly formatted abstracts may be emailed to [brenna@aehsfoundation.org](mailto:brenna@aehsfoundation.org). Please send the abstract as a Microsoft Word attachment, saved as the presenting author's last name in lowercase letters. No pdf's please.

**Deadline for submission is July 9, 2010**

**Consider becoming a Sponsor or Supporter of the AEHS Foundation conference. Receive free registrations, free and/or reduced booth space, free advertising and more. Visit [www.aehsfoundation.org](http://www.aehsfoundation.org) for further details and benefits.**

**Past Sponsors and Supporters include:**

- American Petroleum Institute
- Battelle Memorial Institute
- BP
- CH2M Hill
- Chemical Landholdings
- Chevron
- Earth Tech
- ENSR International
- ENVIRON International
- EPRI
- Exponent
- Exxon Biomedical Science
- Foster Wheeler Environmental Corporation
- Gas Research Institute
- GeoHydrologic Consultants
- Gradient Corporation

- Groundwater & Environmental Services
- IT Corporation
- Kerfoot Technologies
- Lawrence Livermore National Laboratory
- LFR
- Municipal Water District of Southern CA
- Naval Facilities Engineering Service Center
- Oxygenated Fuels Association
- Parsons
- Port of Los Angeles
- Regenesis
- Shell Oil Company
- Shell Global Solutions US
- Southern California Edison
- US EPA
- WSP Environmental Strategies

### FOR FURTHER INFORMATION

regarding the conference, submitting an abstract, sponsoring, or exhibiting please see our website [www.aehsfoundation.org](http://www.aehsfoundation.org) or contact:

**Brenna Lockwood**  
AEHS Foundation, Inc.  
150 Fearing St., Suite 21  
Amherst, MA 01002  
Tel: 413-549-5170  
Fax: 413-549-0579  
Email: [brenna@aehsfoundation.org](mailto:brenna@aehsfoundation.org)