

## TechDirect, March 1, 2010

Welcome to TechDirect! March signals the beginning of our 15th year delivering TechDirect. We have been very pleased (and somewhat surprised) at the continued and steady growth of our subscribers over the last 14 years. Since the February 1 message, TechDirect gained 273 new subscribers for a total of 35,650. If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing may do so on CLU-IN at <http://clu-in.org/techdirect>. All previous issues of TechDirect are archived there. The TechDirect messages of the past can be searched by keyword or can be viewed as individual issues.

TechDirect's purpose is to identify new technical, policy and guidance resources related to the assessment and remediation of contaminated soil, sediments and ground water.

Mention of non-EPA documents or presentations does not constitute a U.S. EPA endorsement of their contents, only an acknowledgment that they exist and may be relevant to the TechDirect audience.

### > Upcoming Live Internet Seminars

**ITRC Decontamination and Decommissioning of Radiologically-Contaminated Facilities - March 4, 2010, 11:00AM-1:15PM EST (16:00-18:15 GMT).** This training introduces ITRC's Technical/Regulatory Guidance, Decontamination and Decommissioning of Radiologically-Contaminated Facilities (RAD-5, 2008), created by ITRC's Radionuclides Team. The curriculum is composed of four modules: Introduction and Regulatory Basis for Decontamination and Decommissioning (D&D), Factors for Implementing D&D, Preliminary Remediation Goal (PRG) Calculators, and Case Studies and Lessons Learned. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

**ITRC LNAPL Training Parts 1, 2, and 3 - March 9, 11, and 18, 2010.** Light non-aqueous phase liquids (LNAPLs) are organic liquids such as gasoline, diesel, and other petroleum hydrocarbon products that are immiscible with water and less dense than water. LNAPLs are important because they are present in the subsurface at thousands of remediation sites across the country, and are frequently the focus of assessment and remediation efforts. Part 1 of this training course explains how LNAPLs behave in the subsurface and examines what controls their behavior. Part 1 also explains what LNAPL data can tell you about the LNAPL and site conditions. Relevant and practical examples are used to illustrate key concepts. Part 2 addresses LNAPL characterization and site conceptual model development as well as LNAPL recovery evaluation and remedial considerations. Specifically, Part 2 discusses key LNAPL and site data, when and why those data may be important, and how to get those data. Part 2 also discusses how to evaluate LNAPL recoverability. Part 3 uses the LNAPL conceptual site model (LCSM) approach to identify the LNAPL concerns or risks and set proper LNAPL remedial objectives and technology-specific remediation goals and performance metrics. Part 3 also provides an overview of the LNAPL remedial technology selection framework. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

**Improved Process for Identifying, Prioritizing and Addressing Emerging Pollutants - March 25, 2010, 2:00PM-3:30PM EDT (18:00-19:30 GMT).** As of January 2006, there were more than 239,000 substances on the Chemical Abstracts Service list of regulated chemicals. The production of more than 4,800 of these chemicals exceeded 1,000 metric ton/year. This total does not include the massive quantities of "naturally occurring" contaminants that may enter the human environment due to resource extraction and production such as mining, groundwater pumping and agricultural practices. That said, how is it possible to identify those contaminants of most environmental concern, and then winnow that list further to those contaminants most likely to be the foci of attention in future mega-contamination sites? In short, how can we identify the contaminants most likely to create the next generation of Superfund sites? Motivated by this challenge, a workshop of 24 experts was convened in August 2009 with the express purpose of answering this question. The participants were specifically chosen to encompass the broad spectrum of disciplines with insight into the issue's many different facets, including toxicology; pharmacokinetics; pharmacology; risk assessment; contaminant fate and transport; chemical bioaccumulation, bioavailability and persistence; chemical parameter estimation and modeling; analytic chemistry; chemical production, use and disposal, and monitoring and assessment technology. It is the intent of this seminar to summarize the discussions, conclusions, and identification of challenges that have evolved (so far) out of the workshop. For more information and to register, see <http://clu-in.org/live> .

## > New Documents and Web Resources

**Conference Proceedings for International Perspectives on Environmental Nanotechnology: Applications and Implications (EPA 905-R-09-032).** This conference was held October 7-9, 2008 in Chicago and was attended by almost 200 scientists and engineers from 5 continents. Attendees were from governments, universities, non-government organizations, and the private sector. One of the primary goals for the conference was to assemble people from around the world who are working on the broad swath of environmental nanotechnology applications and implications, in order to advance the robust and prudent multidisciplinary approach needed for this new area. Volume 1 covers environmental applications (remediation, sensing & monitoring, and pollution control) of nanotechnology whereas volume 2 covers implications (toxicity, fate & transport, and risk assessment) of the release of nanomaterials into the environment. The proceedings contain papers based on the presentations provided during the conference and written by the presenting authors. Thus, this treatise presents cutting edge environmental nanotechnology research and development and should serve as a reference on the topic for years to come (November 2009, 611 pages). View or download at <http://www.epa.gov/osp/hstl/stlworkshops.htm> .

**Technology Performance Review: Selecting and Using Solidification/Stabilization Treatment for Site Remediation (EPA 600-R-09-148).** Solidification/Stabilization (S/S) is a widely used treatment technology to prevent migration and exposure of contaminants from a contaminated media (i.e. soil, sludge and sediment). Solidification refers to a process that binds a contaminated media with a reagent changing its physical properties. Stabilization refers to the process that involves a chemical reaction that reduces the leachability of a waste. S/S treatment and application is primarily used at hazardous waste sites. This Technology Performance Review (TPR) includes a discussion on several sites, and addresses important factors to consider in the selection of S/S treatment. Each S/S case study has a brief project description, regulatory status, S/S treatment process that includes binder materials used, and a summary of the performance data. Estimated treatment costs and maintenance activities are also included when available. Estimated costs must be adjusted for

inflation and current material price increases (November 2009, 28 pages). View or download at <http://www.epa.gov/nrmrl/pubs/600r09148/600r09148.pdf> .

**Technology News and Trends (EPA 542-N-10-001).** This issue highlights the use of compound specific isotope analysis (CSIA), an environmental forensics technique used to characterize contaminated sites and the progress of bioremediation and natural attenuation. CSIA measures and compares the ratios of stable isotopes found in compounds of suspected contaminant sources or plumes as well as the feedstock or manufacturing process of materials historically used in a site's vicinity. Isotopic analysis can help discern the potential for multiple spills of the same compound based on their different isotopic "signatures." An isotopic signature can be used to associate a contaminant plume with a particular spill or potentially responsible party. It also can be used to evaluate the extent of contaminant degradation caused by microbes during natural attenuation (February 2010, 6 pages). View or download at <http://clu-in.org/techpubs.htm>

**EUGRIS Corner.** New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 15 resources, events, projects and news items were added to EUGRIS in February, 2010. These can be viewed at <http://www.eugris.info/whatsnew.asp> . Then select the appropriate month and year for the updates in which you are interested. The following report was featured on EUGRIS:

**Green Remediation: Incorporating Sustainable Approaches in Site Remediation (2009), the Proceedings from the International Conference Nov 9-10, 2009 in Copenhagen, Denmark.** View or download at <http://www.eugris.info/DisplayResource.asp?ResourceID=7084>

## > Conferences and Symposia

**Call for Abstracts!! Green Remediation: Environment - Energy - Economics, Amherst, MA, June 15-17, 2010.** The conference will address the full range of environmental, energy and economic aspects of green and sustainable remediation, taking into account the energy requirements of treatment systems, air emissions, water use requirements and impacts on water resources, land and ecosystem use and impacts, energy use and renewables, material consumption, reuse, and waste generation. The conference will provide a forum for scientists, regulators, managers, and other stakeholders from around the globe to interact and share new knowledge in both basic and applied research in green and sustainable remediation. Poster abstracts are encouraged in all areas of green and sustainable remediation, from basic to applied research, from case studies to demonstration projects. For more information and to submit a poster abstract, see

<http://www.umass.edu/tei/conferences/GreenRemediation/GreenCallForAbstracts.html> .

**Vapor Intrusion Pathway: A Practical Guideline ITRC 2-day Classroom Training, Norfolk, VA, March 22-23, 2010.** The ITRC 2-day Vapor Intrusion Pathway class is planned for three locations in 2010: Norfolk, Virginia (March 22-23); Cambridge, Massachusetts (July 12-13); Atlanta, Georgia (October 4-5). Led by internationally recognized experts, this 2-day ITRC classroom training will enable you to learn the latest strategies to conduct site screening and investigations; determine what tools are appropriate to collect quality data and evaluate the results; apply multiple lines of evidence to ensure quality decision-making; build solutions for VI issues through understanding of mitigation options; and network with environmental professionals dealing with this interdisciplinary and complex pathway. Interactive learning with hands-on exhibits, classroom exercises, and frequent Q&A sessions will reinforce these

course objectives and contribute to a practical understanding of this difficult pathway. For more information and to register, see <http://www.itrcweb.org/crt.asp> .

**Alternative Covers for Landfills: Proposing and Evaluating Projects Toward Regulatory Acceptance, Austin, TX, March 30-April 1, 2010.** This 3-day workshop is intended to teach consultants and engineers how to design and submit quality proposals for ET covers, and to teach regulators how to evaluate those proposals. Participants will learn the hydraulic properties of these covers, how to optimize designs with models, and how to ensure that the final product is environmentally protective. Topics will include alternative cover design, construction, operation, and monitoring, including discussions of regulatory issues, soil physics, plant-soil-water relations, hydraulic balance, saturated/unsaturated water movement, and computer modeling. Regional case studies will be emphasized. Results and lessons learned from the USEPA Alternative Covers Assessment Program (ACAP) will be highlighted. For more information and to register, see <http://reg.phytosociety.org> .

**Moral Heat: Ethical Dimensions of Environmental Regulation and Economics in the 21st Century, New York, NY, April 20, 2010.** With presentations from a number of distinguished and well-known academics, business leaders, regulatory officers, and ethics scholars, this multidisciplinary conference will explore the intersections and tensions between the ethics of environmental sustainability, the workings of markets, and the roles of government and civil society in protecting and advancing an ecologically-responsible common good in the 21st century. For more information and to register, see <http://www.fordham.edu/MoralHeat> .

**2010 Conference on Design and Construction Issues at Hazardous Waste Sites, Philadelphia, PA, April 21-23, 2010.** This conference is hosted by the U.S. EPA and the US Army Corps of Engineers. It will provide a forum for discussion among professionals from the private and public sectors regarding design and construction issues at hazardous waste sites including current approaches, management techniques, lessons learned, and application of technologies. An informal discussion session will be held on Wednesday evening, April 21, 2010, to discuss Groundwater Restoration: Expectations versus Reality. On April 22 and 23, 2010, there will be six panel sessions across the topic areas of project management, corporate perspective, remediation technologies, characterization & design, and treatment optimization. For more information and to register, see <https://superfund.usace.army.mil/2010DCHWS> .

**NOTE: For TechDirect, we prefer to concentrate mainly on new documents and the Internet live events.** However, we do support an area on CLU-IN where announcement of conferences and courses can be regularly posted. Currently there are 103 conferences and courses featured. We invite sponsors to input information on their events at <http://clu-in.org/courses> . Likewise, readers may visit this area for news of upcoming events that might be of interest. It allows users to search events by location, topic, time period, etc.

If you have any questions regarding TechDirect, contact Jeff Heimerman at (703) 603-7191 or [heimerman.jeff@epa.gov](mailto:heimerman.jeff@epa.gov). Remember, you may subscribe, unsubscribe or change your subscription address at <http://clu-in.org/techdirect> at any time night or day.

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