

## TechDirect, November 1, 2007

Welcome to TechDirect! Since the October 1 message, TechDirect gained 210 new subscribers for a total of 29,335. 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>. 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

**Implementing RCRA Land Revitalization Measures - November 6.** This session is primarily for EPA and State RCRA Program Staff. It will focus on approaches to implementing the RCRA Land Revitalization Indicators and Performance Measures. A summary of the February 2007 guidance on implementing land revitalization performance measures will be provided, followed by a discussion from EPA regional staff on the approaches they have used in collecting information and implementing the measures and their experiences. A question and answer period will follow. For more information and to register, see <http://clu-in.org/studio>.

**Nanotechnology and Superfund: Looking Ahead - November 8.** The National Institute of Environmental Health Sciences' Superfund Basic Research Program (NIEHS/SBRP), in collaboration with the Environmental Protection Agency (EPA), presents "Nanotechnology and Superfund - Looking Ahead." The seminar will focus on policy and future research directions in nanotechnology, with a particular focus on Superfund-related issues. Dr. David Rejeski, Director, Project on Emerging Nanotechnologies, Woodrow Wilson Center, will present "Where Does the Nano Go?" discussing end-of-life regulation of nanomaterials and possible regulation under RCRA or CERCLA. Dr. Randy Wentzel, National Program Director, Contaminated Sites/Resource Conservation, ORD/EPA, will provide an "Overview of ORD Draft Nanotechnology Research Strategy (NRS)" covering its development, research themes, and anticipated outcomes. For more information and to register, see <http://clu-in.org/studio>.

**ITRC Planning and Promoting of Ecological Land Reuse of Remediated Sites - November 15.** This training is based on the ITRC Technical and Regulatory Guideline: Planning and Promoting Ecological Land Reuse of Remediated Sites (ECO-2, 2006). The document presents a process to promote ecological land reuse activities considering natural or green technologies instead of more traditional remedies. The guidance demonstrates that natural or ecological end-uses are valuable alternatives to conventional property development or redevelopment. Ecological benefits and a process for calculating their value are included in the guidance and reviewed in this training. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/studio>.

**Resources for Ecological Revitalization at Federal Agencies - November 27.** The U.S. Environmental Protection Agency (EPA)'s Office of Superfund Remediation and Technology Innovation (OSRTI) produces various resources on ecological revitalization for EPA site managers, state agency site managers, consultants, and others interested in restoring disturbed sites. These resources include fact sheets (see <http://www.cluin.org/ecorevitalization>) and Internet seminars on ecological revitalization (see archived seminars on <http://www.cluin.org/live/archive.cfm>). In an effort to provide information on various ecological revitalization resources available at federal agencies, OSRTI is sponsoring this Internet seminar. In this Internet seminar, resources available through federal agencies such as the National Oceanic and Atmospheric Administration (NOAA), the Bureau of Land Management (BLM), and the U.S. Department of Agriculture (USDA) will be discussed. For more information and to register, see <http://clu-in.org/studio>.

**ITRC Protocol for Use of Five Passive Samplers - November 29.** This training supports the understanding and use of the ITRC Protocol for Use of Five Passive Samplers to Sample for a Variety of Contaminants in Groundwater (DSP-5, 2007). The five technologies included in this document include diffusion samplers, equilibrated grab samplers; and an accumulation sampler. The training starts with information common to all five samples then focuses on each sampler as instructors describe the sampler and explain how it works; discuss deployment and retrieval of the sampler; highlight advantages and limitations; and present results of data comparison studies. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/studio>.

**Ecological Restoration Resources Available through EPA - Part 1 - December 3.** Ecological revitalization can return damaged land to a state of health, vitality, and diversity. This presentation will identify fact sheets, papers and training available on revitalization through EPA's OSRTI; and present ongoing work such as compilation of resources available web-based, terrestrial carbon sequestration potential on amended sites, future internet seminars and case studies, and an OSWER document on converting disturbed sites to green space. Although OSRTI conducts research in the interest of the Superfund program, it believes that these resources on ecological restoration can be useful to any site restoration project. This seminar will also feature a case study about the Hog Island and Newton Creek Ecological Restoration project on the restoration of natural communities and ecosystem processes for Newton Creek, the Hog Island Inlet, and Hog Island in Superior, Wisconsin. The ecological restoration process for this site along with information on a template that can be used for other projects will be discussed. For more information and to register, see <http://clu-in.org/studio>.

**ITRC Vapor Intrusion Pathway: A Practical Guideline - December 4.** The ITRC Vapor Intrusion Team developed the ITRC Technical and Regulatory Guidance document Vapor Intrusion Pathway: A Practical Guideline (VI-1, 2007), companion document Vapor Intrusion Pathway: Investigative Approaches for Typical Scenarios (VI-1A, 2007), and this Internet-based training course to be used by regulatory agencies and practitioners alike. This training course provides an overview of the vapor intrusion pathway and information on the framework (evaluation process), investigative tools, and mitigation approaches. The training course uses typical scenarios to illustrate the process. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/studio>.

**Ecological Restoration Resources Available through EPA - Part 2 - December 5.** Ecological Restoration at hazardous waste sites, including RCRA sites, can provide many benefits to surrounding community. The speaker will cover some of the resources available on ecological restoration, including EPA's GreenScapes program. The speaker will also provide a few examples of ecological restoration at RCRA sites. The second presentation will focus on the use of biosolids for restoration of contaminated

sites/reclamation of drastically disturbed lands. Over half of the 7 Million dry metric tons of biosolids produced by wastewater treatment plants in the U.S. are currently land applied in various forms (e.g., aerobically or anaerobically digested, alkaline treated, air or heat dried; liquid, dewatered cake, composted, pelletized), mostly to agricultural land, but also to forest land and reclamation sites. Land reclamation projects involving biosolids have been used to improve soil conditions and support revegetation of highly disturbed and in some cases contaminated sites (e.g., surface mines, mine waste piles, construction sites, barrow pits, sand dunes, areas devastated by forest fires) all across the country, with some projects demonstrating sustainable vegetation and continued soil improvement for more than 30 years. For more information and to register, see <http://clu-in.org/studio>.

**SERDP Funding Opportunities - December 14.** This seminar will provide a summary of the Strategic Environmental Research and Development Program (SERDP) development and opportunities for interested researchers to conduct research and development. This "how to play" briefing will offer essential information for those who wish to understand new funding opportunities within SERDP. The FY09 SERDP solicitation will be released on November 8, 2007 and attendees may use this time to ask general questions about the solicitation. For more information and to register, see <http://clu-in.org/studio>.

## > New Documents and Web Resources

**Integrating Water and Waste Programs to Restore Watersheds: A Guide for Federal and State Project Managers.** This document was produced jointly by EPA's Office of Solid Waste and Emergency Response and Office of Water. Its purpose is to enhance coordination across U.S. EPA, State, and local waste and water programs to streamline requirements, satisfy multiple objectives, tap into a variety of funding sources, and implement restoration activities more efficiently, with a goal of showing measurable results. The manual provides a road map to conducting cross-programmatic watershed assessments and cleanups in watersheds with both water and waste program issues and presents innovative tools to enhance program integration. Finally, the manual provides guidance on integrating assessment and cleanup activities to optimize available tools and resources and thus help restore contaminated waters and sediments efficiently and effectively (October 2007, 197 Pages). The handbook and appendices are available to view or download at <http://www.epa.gov/superfund/resources/integrating.htm>.

**Protocol for In Situ Bioremediation of Chlorinated Solvents Using Edible Oil.** The addition of pure liquid edible oil and edible oil emulsions, referred to as the edible oil process, has been used to stimulate the in situ anaerobic biodegradation of chlorinated solvents and related contaminants at commercial, industrial and military sites throughout the United States. The protocol presented in this document is intended to assist base managers and project engineers in 1) determining if the edible oil process is appropriate for their site; 2) designing and implementing an edible oil engineered system; and 3) evaluating and optimizing remedial performance over time. This protocol also provides background information on the development and scientific basis of this technology (October 2007, 251 pages). View or download at <http://clu-in.org/techpubs.htm>.

**NATO/CCMS Pilot Study: Prevention and Remediation Issues in Selected Industrial Sectors: Sediments, Ljubljana, Slovenia, June 17-22, 2007 (EPA 542-R-07-014).** The NATO/CCMS Pilot Study on Prevention and Remediation in Industrial Sectors held a meeting in June, 2007 on issues relating to sediment sites, as

well as some questions of contamination by persistent organic pollutants (POPs). This report is a set of abstracts of the presentations at the meeting (August 2007, 56 pages). View or download at <http://clu-in.org/techpubs.htm> .

**Interim Report on the Evolution and Performance of the Eichrom Technologies Procept Rapid Dioxin Assay for Soil and Sediment Samples (EPA/540/R-07/001).**

This report was published by the U.S. EPA Superfund Innovative Technology Evaluation Program (SITE). A demonstration of screening technologies for determining the presence of dioxin and dioxin-like compounds in soil and sediment was conducted in Saginaw, Michigan in 2004. The objectives of the demonstration included evaluating each participating technology's accuracy, precision, sensitivity, sample throughput, tendency for matrix effects, and cost. The test also included an assessment of how well the technology's results compared to those generated by established laboratory methods using high-resolution mass spectrometry (HRMS). The demonstration objectives were accomplished by evaluating the results generated by each technology from 209 soil, sediment, and extract samples. The test samples included performance evaluation (PE) samples (i.e., contaminant concentrations were certified or the samples were spiked with known contaminants) and environmental samples collected from 10 different sampling locations. The report describes the test plan, methodology and results for the participating technologies (January 2007, 45 pages). View or download at <http://www.epa.gov/nerlesd1/cmb/pdf/eichrom-web508.pdf> .

**Perchlorate Removal, Destruction, and Field Monitoring Demonstration**

**(CU-0312).** This report was published by the DoD Environmental Security Technology Certification Program (ESTCP). The purpose of the demonstration was to evaluate a complete perchlorate ion exchange process for groundwater that included a unique, regenerable, perchlorate-selective ion exchange resin; an efficient regeneration technique that greatly minimized waste volume; methods for treating regeneration waste from this process that would reduce cost by enabling discharge or reuse; and to demonstrate a new perchlorate field monitor with ppb detection. In order to validate the performance and economics of the proposed processes compared to current perchlorate treatment processes, the following objectives were proposed: Demonstrate perchlorate removal in groundwater from >50 ppb to ≤ 5 ppb with a regenerable, perchlorate-selective ion exchange process. Demonstrate an efficient regeneration technique of the perchlorate-selective ion exchange resin. Regenerant volume should be < 0.1% of treated groundwater stream. Demonstrate removal or destruction of perchlorate (≤ 5 ppb) in the regenerant stream enabling discharge or reuse of the regenerant stream. Demonstrate the performance of a perchlorate field monitor capable of on-line, real-time perchlorate analysis with a minimum detection limit of 1 ppb (October 2006, 150 pages). View or download at <http://www.estcp.org/viewfile.cfm?Doc=ER%2D0312%2DFR%2Epdf> .

**Environmental Screening Assessment of Perchlorate Replacements (CRREL**

**TR-07-12).** This report was published by the U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL). A screening level assessment of the fate, transport, and toxicity of four potential replacements for perchlorate was performed. Resulting data will allow for evaluation and minimization of the potential environmental liability associated with the use of energetic compounds as propellants. This report details methods used and assessment findings (August 2007, 54 pages). View or download at <http://www.crrel.usace.army.mil/library/technicalreports/TR-07-12.pdf> .

**Standardized Analytical Methods for Environmental Restoration following**

**Homeland Security Events - Revision 3.0 (EPA/600/R-07/015).** This report was published by the U.S. EPA National Homeland Security Research Center (NHSRC). Revision 3.0 updates a report issued in 2004. The EPA NHSRC brought together experts from across EPA and its sister agencies to develop a compendium of analytical methods to be used when analyzing environmental samples to address site

characterization, remediation and clearance following future homeland security events. Methodologies were considered for chemical and biological agents of concern in the types of environmental samples that would be anticipated. The primary objective of this effort was to identify appropriate Analytical Methods Subteam consensus methods that represent a balance between providing existing, documented, determinative techniques and providing consistent and valid analytical results (February 2007, 200 pages). View or download at <http://www.epa.gov/nhsrc/pubs/reportSAM030107.pdf> .

**EUGRIS Corner.** New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 41 resources, events projects and news items were added to EUGRIS in October 2007. 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 reports were featured on EUGRIS:

**A Review of Recent Developments in, and the Practical Use of, Ecological Footprinting Methodologies.** This report was prepared for the UK Department for Environment, Food and Rural Affairs. Over the last 15 years or more, debate on the extent to which human development can be maintained in the light of environmental constraints has led to the development of the ecological footprint as a means of measuring the impact of human consumption and production. The ecological footprint provides a measure of the extent to which human activities exceed two specific environmental limits; the availability of bioproductive land and the availability of forest areas to sequester carbon dioxide emissions. Defra has commissioned this study to assess recent developments in ecological footprinting methodologies and to provide a focus on the practical use of ecological footprinting (June 2007, 154 pages). View or download at [http://www.defra.gov.uk/science/project\\_data/DocumentLibrary/EV02024/EV02024\\_5880\\_FRP.pdf](http://www.defra.gov.uk/science/project_data/DocumentLibrary/EV02024/EV02024_5880_FRP.pdf) .

**Europe's Environment: The Fourth Assessment.** The Environment for Europe process brings together 56 countries across three continents to jointly address environmental challenges. In support of this process, the European Environment Agency has prepared a series of assessments of the environment for the pan European region to provide policy relevant, up to date and reliable information on the interactions between the environment and society. This is the fourth report in the series. Where possible the report evaluates progress, primarily against the objectives of the Sixth Environment Action Programme of the European Community and the Environment Strategy for Countries of Eastern Europe, Caucasus and Central Asia. The report has been prepared in close partnership with a range of international organisations, governmental institutions and non governmental organisations across the region (2007, 452 pages). View or download at [http://reports.eea.europa.eu/state\\_of\\_environment\\_report\\_2007\\_1/en/Belgrade\\_EN\\_all\\_chapters\\_incl\\_cover.pdf](http://reports.eea.europa.eu/state_of_environment_report_2007_1/en/Belgrade_EN_all_chapters_incl_cover.pdf) .

**Harmoni-CA website.** Harmoni-CA is a research project supported by the European Commission under the Fifth Framework Programme. This website contains leaflets on several results of many European funded research projects relevant to catchment modeling. In particular, it contains two series of leaflets (1) The green series: Documents such as synthesis reports and guidelines; (2) The blue series: Software such as models and toolboxes. Throughout Europe research and development is and has been carried out to support the implementation of Europe's Water Framework Directive. The European Commission's Directorate-General for Research and Development (EC-RTD) has contributed to this research by co-funding many projects relating to catchment modeling. The purpose website is to bring in a more systematic way results from individual projects together and increase their visibility among practitioners, researchers and other target groups. The leaflets provide information on many projects results. For more information, see <http://www.harmoni-ca.info/flyers/>.

## > Conferences and Symposia

### **EPA's Environmental Information Symposium 2007, St Louis, November 14-16.**

The 2007 Environmental Information Symposium is a unique opportunity to learn more about EPA's Information Management (IM) and Information Technology (IT) strategic direction and policies, understand and get involved in current information initiatives, reach out to new groups, and network with colleagues. Again this year, the meeting will include a variety of two-hour specialized courses, an exhibit area and a series of tracks designed to provide valuable information and learning opportunities for environmental and IT program managers. For more information and to register, see

<http://www.epa.gov/oei/proceedings/2007/proceedings07.htm> .

### **Superfund Basic Research Program: 20 Years of Success and a Vision for the Future, Durham, NC, December 3-5.**

The National Institute of Environmental Health Sciences is commemorating the 20th Anniversary of the Superfund Basic Research Program at the SBRP annual meeting. The scientific meeting will include keynote addresses from internationally-recognized experts in the field of environmental health science; science sessions that highlight the important research being conducted by the SBRP and reflect the breadth of the approaches being conducted by the Program investigators; and a colloquium focused on emerging issues and future directions for environmental health research. This is a great opportunity for you to learn more about SBRP-funded research, and, even more importantly, to interact with SBRP scientists and students. The deadline for registration and to reserve a hotel room at the special meeting rate is November 12. For more information and to register, see

<http://tools.niehs.nih.gov/sbrp/events/index.cfm?id=23> .

### **SERDP and ESTCP Partners in Environmental Technology Technical Symposium & Workshop, Washington, DC, December 4-6.**

Sponsored by SERDP and ESTCP, this event will provide attendees: (1) plenary session speakers offering key insights into environmental issues; (2) concurrent technical sessions covering the latest in environmental research results and technical innovations; (3) poster sessions featuring more than 400 technical posters; (4) exhibit booths offering information about funding opportunities in related research programs; (5) networking opportunities with more than 1,000 environmental professionals; and (6) a concluding session providing a summary of SERDP and ESTCP funding opportunities to conduct research and demonstrations.

For more information and to register, see <http://www.serdp.org/Symposium/> .

**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 106 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/techdrct> at any time night or day.

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