

TechDirect, July 1, 2013

Welcome to TechDirect! Since the June 1 message, TechDirect gained 88 new subscribers for a total of 35,018. 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 groundwater.

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.

> Open Solicitation

Small Business Innovation Research Phase I Program. The U.S. EPA, as part of its Small Business Innovative Research (SBIR) program, is seeking Phase 1 applications proposing research to develop and commercialize new environmental technologies in the areas of Safe and Sustainable Water Resources (Topic A. Water), Chemical Safety for Sustainability (Topic B. Innovation in Manufacturing), Sustainable and Healthy Communities (Topic C. Waste), Air/Climate/Energy (Topic D. Air Quality), E. Homeland Security, and F. People, Prosperity, and the Planet (P3) Special Funding Opportunity. The objective of the SBIR program is to increase the incentive and opportunity for small businesses to undertake cutting edge, high-risk, research that has a high potential payoff if the research is successful. SBIR awardees cover a broad spectrum of research disciplines, and fall in line with EPA's national research program, Sustainable and Healthy Communities (SHC). Under this research program, EPA funds and conducts research to improve human health, and preserve the environment for a sustainable future. For more information and instructions, see http://epa.gov/ncer/rfa/2014/2014_sbir_phase1.html .

> Upcoming Live Internet Seminars

Water Acquisition Modeling Technical Workshop - July 16, 2013, 1:00PM-2:00PM EDT (17:00-18:00 GMT). On June 4, 2013, EPA hosted a Hydraulic Fracturing Study Technical Workshop on Water Acquisition Modeling. This one-hour webinar will provide a summary of the workshop and cover workshop themes, including trends and implications of water recycling/reuse, analysis of existing data on water acquisition, and the generalized approach to modeling effects of hydraulic fracturing water acquisition on water availability. For more information and to register, see <http://clu-in.org/live> .

Well Construction/Operation and Subsurface Modeling Technical Workshop - July 16, 2013, 3:00PM-4:00PM EDT (19:00-20:00 GMT). On April 16-17 and June 3, 2013, EPA hosted a Hydraulic Fracturing Study Technical Workshop on Well Construction/Operation and Subsurface Modeling. This one-hour webinar will provide a summary of the workshop and cover workshop themes, including: testing and monitoring techniques for well design, construction and operation; and the process of

subsurface modeling of fluid migration to identify and understand potential impact on aquifers. For more information and to register, see <http://clu-in.org/live> .

ITRC Integrated DNAPL Site Strategy - July 18, 2013, 11:00AM-1:15PM EDT (15:00-17:15 GMT). The ITRC Integrated Dense Nonaqueous Phase Liquid Site Strategy (IDSS-1, 2011) technical and regulatory guidance document will assist site managers in development of an integrated site remedial strategy. This course highlights five important features of an IDSS including: a conceptual site model (CSM) that is based on reliable characterization and an understanding of the subsurface conditions that control contaminant transport, reactivity, and distribution; remedial objectives and performance metrics that are clear, concise, and measurable; treatment technologies applied to optimize performance and take advantage of potential synergistic effects; monitoring based on interim and final cleanup objectives, the selected treatment technology and approach, and remedial performance goals; and reevaluating the strategy repeatedly and even modifying the approach when objectives are not being met or when alternative methods offer similar or better outcomes at lower cost. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live> .

The Clean Up Information Network - July 22, 2013, 2:00PM-3:00PM EDT (18:00-19:00 GMT). Technology Innovation and Field Services Division (TIFSD) staff will cover new changes and additions to the Clean Up Information Network (CLU-IN) website. Participants will also learn about expanded features and new platforms that are being considered for CLU-IN and our internet seminar offerings. For more information and to register, see <http://clu-in.org/live> .

ITRC Green & Sustainable Remediation - July 23, 2013, 2:00PM-4:15PM EDT (18:00-20:15 GMT). Many state and federal agencies are just beginning to assess and apply green and sustainable remediation (GSR) into their regulatory programs. This training provides background on GSR concepts, a scalable and flexible framework and metrics, tools and resources to conduct GSR evaluations on remedial projects. The training is based on the ITRC's Technical & Regulatory Guidance Document: Green and Sustainable Remediation: A Practical Framework (GSR-2, 2011) as well as ITRC's Overview Document, Green and Sustainable Remediation: State of the Science and Practice (GSR-1, 2011). Beyond basic GSR principles and definitions, participants will learn the potential benefits of incorporating GSR into their projects; when and how to incorporate GSR within a project's life cycle; and how to perform a GSR evaluation using appropriate tools. In addition, a variety of case studies will demonstrate the application of GSR and the results. The training course provides an important primer for both organizations initiating GSR programs as well as those organizations seeking to incorporate GSR considerations into existing regulatory guidance. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live> .

Military Munitions Support Services Series, July 25 and August 29. This new series of monthly webinars supports the Military Munitions Support Services (M2S2) community. For more information and to register, see <http://clu-in.org/live> .

Renewable Energy Projects on Federal Lands: A Practical Guide and Examples - August 8, 2013, 2:00PM-4:00PM EDT (18:00-20:00 GMT). This webinar will present a practical guide developed by the U.S. Department of Energy's Federal Energy Management Program (DOE/FEMP) to help navigate the complexities of developing large renewable energy projects at Federal Facilities and attracting the necessary private capital to complete them. The guide is available for download from the DOE FEMP website (<http://www1.eere.energy.gov/femp/pdfs/large-scalereguide.pdf>). In addition, two specific areas will be discussed in which renewable energy was sited on Federal sites with historic contamination. The Massachusetts Military Reservation (MMR), a property historically used for military training activities, has renewable energy projects - wind, solar and geothermal - installed and in development by multiple organizations within the

Department of Defense, the U.S Coast Guard and the Department of Veterans Affairs.

The MMR site participated in the first EPA-NREL RE-Powering Feasibility Studies in 2009 and is among the first feasibility study sites to move forward with a renewable energy development project. For more information on that solar study, go to the RE-Powering Feasibility Study webpage (http://www.epa.gov/renewableenergyland/rd_studies.htm) or access the report directly (<http://www.nrel.gov/docs/fv11osti/49417.pdf>). At the DOE Pantex site near Amarillo, Texas, an 11.5 MW wind energy farm is being developed to generate approximately 45 million kilowatt-hours of electricity annually, meeting more than 60% of the installations annual energy needs. For more information and to register, see <http://clu-in.org/live> .

CEC Training for OSCs...Community Engagement and Communication Tools for the OSC - August 21, 2013, 1:00PM-3:00PM EDT (17:00-19:00 GMT). OSCs are challenged to be well versed in many technical and regulatory aspects of the environmental field. One of the regulatory aspects is the requirement for community involvement as specified in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The NCP outlines specific activities, deliverables and timelines that must be followed during a given removal action. In addition to the required community involvement activities, there are many useful and timely activities that an OSC can engage in to support their removal action and avoid miscommunication and confusion between the agency and the public. This two-hour webinar provides practical information and tools including: take-home handouts outlining the specific requirements for community involvement as set forth in the NCP, a discussion on the development of an Administrative Record and public notifications, lessons learned: A community engagement case study, and useful tips for developing presentations and communicating information. For more information and to register, see <http://clu-in.org/live> .

Estimating Environmental Footprints Using SEFA (Spreadsheets for Environmental Footprint Analysis) - August 22, 2013, 2:00PM-4:00PM EDT (18:00-20:00 GMT). The process of cleaning up a hazardous waste site uses energy, water and other natural or materials resources and consequently creates an environmental footprint of its own. In 2012, the EPA released the "*Methodology for Understanding and Reducing a Project's Environmental Footprint*" which presents green remediation metrics associated with contaminated site cleanup and a process to quantify those metrics in order to achieve a greener cleanup. In conjunction with the Methodology, the EPA developed a set of analytical workbooks known as "SEFA" (*Spreadsheets for Environmental Footprint Analysis*), which can be used to quantify the environmental footprint of a site cleanup. This 2-hour internet seminar will provide an overview of the SEFA tool, demonstrate how to use the tool and provide case studies on sites where the tool has been used. Opportunities will be provided throughout the seminar for participants to submit questions and observations regarding the SEFA tool. For more information and to register, see <http://clu-in.org/live> .

> New Documents and Web Resources

New CLU-IN Focus Area on Optimizing Site Cleanups. EPA has launched a new area on optimizing site cleanups in support of the *National Strategy to Expand Superfund Optimization Practices from Site Assessment to Site Completion*. The Strategy makes fundamental changes to Superfund remedial program business processes to take advantage of newer tools and strategies that promote more effective and efficient cleanups. It unifies previously independent optimization approaches and best practices under the singular activity and term "optimization." This new area combines two existing areas (*Remediation Process Optimization* and *Long-Term*

Monitoring Optimization) and provides technical resources including: an overview of optimization principles, practices and methods; site-specific reports for sites where optimization reviews have been performed; information on upcoming training and events; searchable guidance and publications; links to relevant federal and state optimization web resources; and contact information for EPA headquarters and Regional technical experts. View and use at <http://clu-in.org/optimization>.

Optimization Review: Valley Park TCE Superfund Site, Valley Park, Missouri (EPA 540-R-013-018). The Valley Park TCE Superfund is located in Valley Park, Missouri. The site is an area of mixed industrial, commercial, and residential land use on the floodplain of the Meramec River. Releases of chlorinated solvents at two primary sources (the Wainwright and Valley Technologies facilities) have created a composite plume containing various volatile organic compounds that has affected municipal and commercial production wells. Recommendations are provided to improve remedy effectiveness, reduce cost, facilitate technical improvement, and assist with accelerating site closure (June 2013, 50 pages). View or download at <http://clu-in.org/techpubs.htm>.

Technology Innovation News Survey Corner. The Technology Innovation News Survey contains market/commercialization information; reports on demonstrations, feasibility studies and research; and other news relevant to the hazardous waste community interested in technology development. Recent issues, complete archives, and subscription information is available at <http://clu-in.org/products/tins/>. The following resources were included in recent issues:

- Dense Non Aqueous Phase Liquid (DNAPL) Removal from Fractured Rock Using Thermal Conductive Heating (TCH)
- Demonstration of Regenerable, Large-Scale Ion Exchange System Using WBA Resin in Rialto, CA
- Fluctuation of Indoor Radon and VOC Concentrations Due to Seasonal Variations
- Tree Selection & Growth: Opportunities for Phytotechnologies in Urban Areas
- Use of Amendments for In Situ Remediation at Superfund Sediment Sites
- Investigation of Public Involvement in Long-Term Stewardship Sites of the Superfund Program
- Environmental Molecular Diagnostics: New Site Characterization And Remediation Enhancement Tools
- Contaminated Sites and Health: Report of Two WHO Workshops, Syracuse, Italy, 18 November 2011; Catania, Italy, 21-22 June 2012
- Application of Tools and Databases to Community-Level Assessments of Exposure, Health And the Environment, with Case Study Examples
- Wildlife Scenario Builder and User's Guide (Version 1.0, Beta Test)

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 21 resources, events, projects and news items were added to EUGRIS in June 2013. 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 resource was posted on EUGRIS:

Phytoremediation for bioenergy: challenges and opportunities (2012, Gomes). Phytoremediation has been increasingly used as a more sustainable approach for the remediation of contaminated sites. The costs associated with this remediation method are usually lower than other well-known remediation technologies and some environmental impacts, like atmospheric emissions and waste generation, are inexistent. The biomass produced in phytoremediation could be economically valorized in the form of bioenergy (biogas, biofuels and combustion for energy production and heating), representing an important environmental co-benefit, added to others such as erosion control, improving soil quality and functionality, and providing wildlife habitat.

Several case studies are reviewed and some challenges and opportunities identified. View or download at <http://www.tandfonline.com/doi/pdf/10.1080/09593330.2012.696715>

> Conferences and Symposia

Registration Now Open!! 2013 U.S. EPA Community Involvement Training Conference, Boston, MA, July 30 - August 1, 2013. This dynamic training conference seeks to both inform and train EPA staff as well as Agency stakeholders and partners in best practices to enhance community involvement. This three-day training conference features plenary sessions with guest speakers, topical discussions, multiple 90-minute information sessions, engaging three, four, and seven hour training sessions with continuing education unit (CEU) credits, and field trips demonstrating effective community involvement and cooperative conservation efforts in the Boston area. Additionally, there will be a Tuesday evening reception that will highlight a poster and technology demonstration session to showcase excellent community involvement projects as well as new tools, technology, and software. Registration will be open until July 17, 2013. We encourage you to register early as sessions may fill up quickly. For more information and to register, see <http://www.epa.gov/ciconference> .

U.S. EPA's Region 9 State-of-the-Science Workshop on Mercury Remediation in Aquatic Environments, San Francisco, CA, September 26, 2013. As part of implementing EPA Region 9's strategic plan, ORD and the Region are planning a state of the science workshop to investigate the latest in remediation techniques for mercury contaminated sites in aquatic environments. The workshop will be held on Thursday, September 26th at the EPA office in San Francisco. Participation is also possible via webinar. The objective is to understand the key mechanisms linking source loads, methylation, and bioaccumulation of mercury to guide future remediation decisions. The workshop will examine the effect of current remediation practices, such as removing/capping lake sediments, isolating retort or tailings from waters, and on levels of mercury in fish tissue. We want to know whether removing these mercury sources have a real effect on fish tissue levels and to understand the key mechanisms that actually cause fish tissue levels to drop. And we want to better understand what will directly affect the methylation process at specific sites so that concrete actions can be taken to reduce fish tissue levels. The workshop is open to anyone working on or interested in this topic - regulators, industry, academics and consultants are all invited. There is no cost for the workshop. There are hookup limits to the webinar option, so if you are aware of other interested colleagues, please consider sharing a single registration. For more information and to register, see <http://www.trainex.org/hq> .

LNAPLs: Science, Management, and Technology ITRC 2-day Classroom Training, Garden Grove, CA, October 1-2, 2013. Led by internationally recognized experts, this 2-day ITRC classroom training will enable you to develop and apply an LNAPL Conceptual Site Model (LCSM), understand and assess LNAPL subsurface behavior, develop and justify LNAPL remedial objectives including maximum extent practicable considerations, select appropriate LNAPL remedial technologies and measure progress, and use ITRC's science-based LNAPL guidance to efficiently move sites to closure. Interactive learning with classroom exercises and Q&A sessions will reinforce these course learning objectives. For local, state, and federal government; students; community stakeholders; and tribal representatives, ITRC has a limited number of scholarships (waiver of registration fee only) available. For more information and to register, see <http://www.itrcweb.org/training> .

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. 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. 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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