



TechDirect, October 1, 2016

Welcome to TechDirect! Since the September 1 message, TechDirect gained 298 new subscribers for a total of 36,548. If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing may do so on CLU-IN at <https://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 (SBIR) Phase I. The U.S. EPA announces the release of its SBIR Phase I Solicitation to support the development and commercialization of innovative environmental technologies. The solicitation is posted on FedConnect, and all applications must be submitted through this electronic system. EPA is one of 11 federal agencies that participates in the SBIR Program as a result of the Small Business Innovation Development Act of 1982. EPA is calling for small businesses to apply for Phase I awards up to \$100,000 to demonstrate proof of concept in the following topic areas: air and climate, manufacturing, toxic chemicals, water, water and homeland security, and greener buildings. See the full solicitation for specific subtopics under each topic area and for details on how to apply. Successful Phase I companies are eligible to apply for Phase II funding, up to \$300,000 for two years with a commercialization option of up to \$100,000, to further develop and commercialize their technologies. Proposals are due October 20. For more information and application instructions, see <https://www.epa.gov/sbir/sbir-funding-opportunities>.

> Upcoming Live Internet Seminars

US Small Business Funding Opportunities (SBIR/STTR) for Environmental Technologies at NIEHS SRP, EPA, NSF, and USDA - October 3, 2016, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This webinar is designed to help small businesses and academic researchers better understand the different agencies that fund environmental technologies, and the fundamental goals of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)

programs. The SBIR and STTR programs are one of the largest sources of funding for eligible U.S. small businesses [<https://www.sbir.gov/faqs/eligibility-requirements>] to develop innovative high technical risk technologies that have potential for substantial commercial or societal benefits. The webinar is hosted jointly by the SBIR/STTR programs within the National Institute of Environmental Health Sciences Superfund Research Program (NIEHS SRP), the U.S. Environmental Protection Agency (EPA), the National Science Foundation (NSF), and the United States Department of Agriculture. Hear agency experts - Heather Henry from NIEHS SRP; April Richards from EPA; Prakash Balan from NSF; and Charles Cleland from USDA - highlight the unique characteristics of each of their environmental funding options, details of their SBIR/STTR programs, and tips on how to develop a successful SBIR/STTR application. A majority of the time will be dedicated to a Q&A session at the end of the webinar. For more information and to register, see <http://clu-in.org/live>.

ITRC Issues and Options in Human Health Risk Assessment - A Resource When Alternatives to Default Parameters and Scenarios are Proposed - October 4, 2016, 1:00PM-3:15PM EDT (17:00-19:15 GMT). After participating in this ITRC training course, the learner will be able to apply ITRC's Decision Making at Contaminated Sites: Issues and Options in Human Health Risk (RISK-3, 2015) document when developing or reviewing site-specific risk assessments by: identifying common issues encountered when alternatives to default parameters and scenarios are proposed during the planning, data evaluation, toxicity, exposure assessment, and risk characterization and providing possible options for addressing these issues; recognizing the value of proper planning and the role of stakeholders in the development and review of risk assessments; and providing information (that includes links to additional resources and tools) to support decision making when alternatives to default approaches, scenarios and parameters are proposed. 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 - October 6, 11, and 13. 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 <https://clu-in.org/live>.

The Interplay Between Environmental Exposures and Infectious Agents: Sessions I, II, and III - October 17, 31, and November 7. The NIEHS Superfund Research Program (SRP) presents the Risk e-Learning series, The Interplay Between Environmental Exposures and Infectious Agents. The seminar series examines the interactions between environmental exposures and infectious agents in the development of disease. The series will highlight researchers from around the country who are doing innovative research to better understand this relationship between environmental exposures, infectious agents, and immune response. For more information and to register, see <http://clu-in.org/live>.

NAVFAC OER2 Webinar: Recent Developments in Petroleum Site Management - October 19, 2016, 2:00PM-3:00PM EDT (18:00-19:00 GMT). This webinar will review new developments in the cleanup of groundwater and soils at contaminated petroleum release sites. First, the presenters will review the current status and evolving nature of the Navy's petroleum cleanup efforts. This will be followed by a summary of key regulatory issues, focusing on the differences between relevant petroleum regulatory programs. Next, new technologies for measuring natural source zone depletion (NSZD) will be presented, providing viewers with a state-of-the-art update on ways to measure NSZD in petroleum source zones. Methods to increase the NSZD rate will then be presented, highlighting important new developments in the analysis and interpretation of a key analytical measurement, Total Petroleum Hydrocarbons (TPH). The presenters will combine their extensive practical, regulatory, and research knowledge to explain petroleum site management at Navy sites. For more information and to register, see <https://cc.readytalk.com/cc/s/registrations/new?cid=wikhffdm6d2>.

ITRC Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management - October 20, 2016, 1:00PM-3:15PM EDT (17:00-19:15 GMT). Chemical contaminants in soil and groundwater can volatilize into soil gas and migrate through unsaturated soils of the vadose zone. Vapor intrusion (VI) occurs when these vapors migrate upward into overlying buildings through cracks and gaps in the building floors, foundations, and utility conduits, and contaminate indoor air. If present at sufficiently high concentrations, these vapors may present a threat to the health and safety of building occupants. Petroleum vapor intrusion (PVI) is a subset of VI and is the process by which volatile petroleum hydrocarbons (PHCs) released as vapors from light nonaqueous phase liquids (LNAPL), petroleum-contaminated soils, or petroleum-contaminated groundwater migrate through the vadose zone and into overlying buildings. The ITRC Technical and Regulatory Guidance Web-Based Document, Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management (PVI-1, 2014) and this associated Internet-based training provides regulators and practitioners with consensus information based on empirical data and recent research to support PVI decision making under different regulatory frameworks. The PVI assessment strategy described in this guidance document enables confident decision making that protects human health for various types of petroleum sites and multiple PHC compounds. This guidance provides a comprehensive methodology for screening, investigating, and managing potential PVI sites and is intended to promote the efficient use of resources and increase confidence in decision making when evaluating the potential for vapor intrusion at petroleum-contaminated sites. By using the ITRC guidance document, the vapor intrusion pathway can be eliminated from further investigation at many sites where soil or groundwater is contaminated with petroleum hydrocarbons or where LNAPL is present. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

Leveraging Resources for Brownfields Revitalization: Meet the Funders - Economic Development - October 25, 2016, 1:00PM-2:30PM EDT (17:00-18:30 GMT). Brownfield grants from the U.S. Environmental Protection Agency are one of many sources of funds that can support redevelopment of contaminated sites. This webinar will highlight a number of economic development resources available from the U.S. Department of Housing and Urban Development, the Economic Development Administration, and the U.S. Department of Agriculture to leverage your brownfield dollars. The webinar will also feature two communities that have successfully used grants, loans and other support from these agencies for their revitalization efforts. It is the second in OBLR's webinar series on what communities need to know to successfully leverage resources for brownfields revitalization. For more information and to register, see <http://clu-in.org/live>.

Military Munitions Support Services - Remedial / Removal Actions - October 27, 2016, 1:00PM-4:00PM EDT (17:00-20:00 GMT). This will be a Military Munitions

Support Services seminar with subject matter experts discussing Remedial / Removal Actions. For more information and to register, see <http://clu-in.org/live>.

> New Documents and Web Resources

Optimization Review Report: Saunders Supply Company Superfund Site Suffolk County, Virginia, EPA Region 3 (EPA 542-R-16-004). The Saunders Supply Company Superfund Site is located in Suffolk County, Virginia, in EPA Region 3, and is a 7-1/3 acre former wood treating plant. The source areas included wastewater ponds, treatment areas, and burn pits located on the Saunders property and were remediated by removing liquids and contaminated soil. Primary contaminants are currently pentachlorophenol (PCP), arsenic, and chromium in groundwater. The site is in the operation and maintenance (O&M) phase and uses a groundwater pump and treat (P&T) system to control migration of the contaminants and remove contaminant mass from the aquifer. An optimization review team was assembled and met with regulatory stakeholders and consultants at the site to observe site conditions, review site data and remediation goals, and discuss the technical aspects of the existing remedy and its performance toward achieving remediation goals. This report summarizes the findings and recommendations of the optimization review team (August 2016, 49 pages). View or download at <https://clu-in.org/techpubs.htm>.

Superfund Research Program Research Brief 261: Importance of Young Dissolved Organic Carbon to the Release of Arsenic in Aquifers. Carbon from relatively new sources of organic material on the surface, or young carbon, can stimulate microbial communities deep in aquifers, leading to the release of arsenic into water, according to a recent field study by Columbia University Superfund Research Program (SRP) Center researchers. The researchers found that near-surface sources of organic carbon are central in microbial metabolism, even in aquifers that are far below and separated from the land where carbon is derived. For more information, see https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=261. To get monthly updates on research advances from the SRP you can subscribe to their Research Brief mailing list at <https://list.nih.gov/cgi-bin/wa.exe?SUBED1=SRP-BRIEF&A=1>.

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 <https://clu-in.org/products/tins/>. The following resources were included in recent issues:

- Field Demonstration of Propane Biosparging for In Situ Remediation of N-Nitrosodimethylamine (NDMA) in Groundwater
- Coupling Between Overlying Hydrodynamics, Bioturbation, and Biogeochemical Processes Controls Metal Mobility, Bioavailability, and Toxicity in Sediments
- Microelectrode Geochemical Observatory for In Situ Monitoring of Metals Concentration and Mobility in Contaminated Sediments
- Influence of Coupling Erosion and Hydrology on the Long-Term Performance of Engineered Surface Barriers
- Estimating the Economic Impacts of Ecosystem Restoration: Methods and Case Studies

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 9 resources, events, projects and news items were added to EUGRIS in September, 2016. 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:

Holistic Management of Brownfield Regeneration - All Outputs (HOMBRE project). At the heart of HOMBRE is the ambition to create a paradigm shift to Zero Brownfields where Brownfields become areas of opportunity that deliver useful services for society, instead of derelict areas that are considered useless. This ambition will be met by looking at how synergies between different types of services might leverage change where none was possible before. Each Brownfield has its own potential for delivering useful combinations of services and hence new opportunities. Public project outputs are available from <http://www.zerobrownfields.eu/Displaynews.aspx?ID=573>

> Conferences and Symposia

2016 National Training Conference on the Toxics Release Inventory (TRI) and Environmental Conditions in Communities, Washington, DC, October 19-21, 2016.

The theme of this year's conference is TRI at 30: Working Together To Reduce Toxic Releases. This year marks the 30th anniversary of the Emergency Planning and Community Right-to-Know Act (EPCRA), which supports and promotes emergency planning and provides the public with information about releases of toxic chemicals in their community through the Toxics Release Inventory (TRI). Join us for dynamic discussions, valuable networking opportunities, and the chance to help shape the next 30 years of community right-to-know. This conference is the TRI Program's main public outreach and training event, bringing together EPA, localities, states, tribes, federal agencies, companies, community groups, researchers, and non-governmental organizations. The registration fee is \$200. For the updated conference agenda and registration, see <https://www.epa.gov/toxics-release-inventory-tri-program/2016-tri-national-training-conference>.

Design and Construction Issues at Hazardous Waste Sites - West, Denver, CO, October 25-26, 2016. Based on the resounding success of the Design and Construction Conference (DCHWS) that has been held over the past 10 years in Philadelphia, the Society of American Military Engineers Denver Post have agreed to "pilot" a DCHWS West delivery in Denver in October of 2016. Potential topics include: design and construction issues and challenges associated with addressing hardrock mining sites; cleanup approaches and challenges associated with remediating large watersheds with contaminated sediments and/or surface water; remediation experiences and challenges associated with addressing hazardous waste contamination in residential/high traffic environments; and experiences and challenges executing adaptive site management strategies at hazardous waste sites in the western United States. For more information and to register, see <http://www.samedmp.org/dchws-west>.

Facility Decommissioning Training Course, Virginia Beach, VA, October 4-6 and Las Vegas, NV, November 14-17, 2016. The purpose of this course is to provide information on the basic steps in the decommissioning process and impart lessons learned from past experiences in decommissioning. In this manner, elements learned at this training course will assist in decision-making, planning, and implementation associated with the decommissioning of various types of nuclear facilities. Moreover, a major objective of this training course is to demonstrate the need for early and complete project planning to achieve safe and cost-effective decommissioning of research reactors and other small nuclear installations. For more information and to register, see <http://www.dd.anl.gov/ddtraining/>.

Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and

Management - ITRC 2-day Classroom Training, Framingham, MA, November 9-10, 2016. Preapproved for continuing education for CT LEPs, DE PGs, MA LSPs, NE Water Well Standards, NJ LSRPs, and SC PGs. This 2-day ITRC classroom training is based on the ITRC Technical and Regulatory Guidance Web-Based Document, Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management (PVI-1, 2014) and led by internationally recognized experts. Within the training class - hear about EPA's Technical Guide For Addressing Petroleum Vapor Intrusion At Leaking Underground Storage Tank Sites (June 2015). The ITRC guidance document and EPA guide are complementary documents with the ITRC training course providing the "how-to" knowledge and skills for screening, investigating, and managing the petroleum vapor intrusion pathway. The class will enable you to develop the skills to screen-out petroleum sites based on the scientifically-supported ITRC strategy and checklist; focus the limited resources investigating those PVI sites that truly represent an unacceptable risk; and communicate ITRC PVI strategy and justify science-based decisions to management, clients, and the public. 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 <https://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 <https://clu-in.org/techdirect> at any time night or day.

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