U.S. ENVIRONMENTAL PROTECTION AGENCY

TechDirect, April 1, 2017

Welcome to TechDirect! Since the March 1 message, TechDirect gained 300 new subscribers for a total of 38,859. 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.

> Upcoming Live Internet Seminars

How to Register in CDX and Work with Hazardous Waste Export and Import Notices in WIETS - April 3, 2017, 1:00PM-2:00PM EDT (17:00-18:00 GMT). This webinar will walk through (1) how to become registered in EPA's Central Data Exchange (CDX), (2) how to create, duplicate and find the status of export notices in EPA's Waste Import Export Tracking System (WIETS), and (3) how to create, duplicate and find the status of import notices in EPA's WIETS. For more information and to register, see https://clu-in.org/live.

SERDP & ESTCP Webinar Series: 1,4-Dioxane Impacts and Innovative Cleanup Technologies at DoD Contaminated Sites - April 6, 2017, 12:00PM EDT (16:00 GMT). This webinar will feature three speakers, Dr. Hunter Anderson from the U.S. Air Force Civil Engineer Center, Dr. Shaily Mahendra from the University of California at Los Angeles and Dr. Robert Hinchee of Integrated Science and Technology. First, Dr. Anderson will present an overview of 1,4-dioxane and summarize the Air Force's programmatic approach to addressing 1,4-dioxane contamination. Second, Dr. Mahendra will describe the state of knowledge for 1,4-dioxane biodegradation including the effects of co-contaminants and monitoring tools. Finally, Dr. Hinchee will present results from a field demonstration of thermal soil vapor extraction to remediate 1,4-dioxane in the vadose zone. For more information and to register, see https://serdp-estcp.org/Tools-and-Training/Webinar-Series/04-06-2017.

ITRC Groundwater Statistics for Environmental Project Managers - April 6, 2017, 1:00PM-3:15PM EDT (17:00-19:15 GMT). Statistical techniques may be used throughout the process of cleaning up contaminated groundwater. It is challenging for practitioners, who are not experts in statistics, to interpret, and use statistical techniques. ITRC developed the Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) and this

associated training specifically for environmental project managers who review or use statistical calculations for reports, who make recommendations or decisions based on statistics, or who need to demonstrate compliance for groundwater projects. The training class will encourage and support project managers and others who are not statisticians to: use the ITRC Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) to make better decisions for projects; apply key aspects of the statistical approach to groundwater data; and answer common questions on background, compliance, trend analysis, and monitoring optimization. ITRC's Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) and this associated training bring clarity to the planning, implementation, and communication of groundwater statistical methods and should lead to greater confidence and transparency in the use of groundwater statistics for site management. For more information and to register, see http://www.itrcweb.org or https://clu-in.org/live.

Superfund Redevelopment Initiative Series: Restoring Superfund Sites to Public Good - April 13, 2017, 2:00PM-3:30PM EDT (18:00-19:30 GMT). Superfund sites can be reused in many ways, but many local governments are seeing unique opportunities to use sites for public or local government purposes. From roads to firefighting training facilities, local governments who own or acquire Superfund sites are finding ways to put these properties to good use. For more information and to register, see https://clu-in.org/live.

Analytical Tools and Methods: Session I - Field-ready Biosensors to Assess Bioavailability and Toxicity - April 17, 2017, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This webinar series highlights innovative analytical tools and methods developed and used by Superfund Research Program (SRP) grantees. The presenters will feature the benefits of these new tools and methods compared to conventional methods. They also will include information about how the technology has helped to facilitate ongoing SRP research. In the first session, researchers will describe their tools to assess bioavailability/toxicity for more effective human and/or environmental monitoring. Treatment assessments and water quality monitoring that rely only on measuring the reduction of target contaminant concentrations are often insufficient because they do not consider the complex and broader risks that specific contaminants or mixtures and their transformation products pose to the environment and human health. For more information and to register, see https://clu-in.org/live.

ITRC Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management - April 18, 2017, 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.

ITRC Geospatial Analysis for Optimization at Environmental Sites - April 20, 2017, 1:00PM-3:15PM EDT (17:00-19:15 GMT). The purpose of ITRC's Geospatial Analysis for Optimization at Environmental Sites (GRO-1) guidance document and this associated training is to explain, educate, and train state regulators and other practitioners in understanding and using geospatial analyses to evaluate optimization opportunities at environmental sites. With the ITRC GRO-1 web-based guidance document and this associated training class, project managers will be able to: evaluate available data and site needs to determine if geospatial analyses are appropriate for a given site; for a project and specific lifecycle stage, identify optimization questions where geospatial methods can contribution to better decision making; for a project and optimization question(s), select appropriate geospatial method(s) and software using the geospatial analysis work flow, tables and flow charts in the guidance document; with geospatial analyses results (note: some geospatial analyses may be performed by the project manager, but many geospatial analyses will be performed by technical experts), explain what the results mean and appropriately apply in decision making; and use the project manager's tool box, interactive flow charts for choosing geospatial methods and review checklist to use geospatial analyses confidently in decision making. 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 - Finance - April 25, 2017, 1:00PM-2:30PM EST (17:00-18:30 GMT). This "Meet the Funders" webinar will highlight tax and financing incentives available to communities that pursue brownfield redevelopment projects. Speakers from the National Development Council, the Federal Housing Finance Agency, and the Council of Development Finance Agencies (CDFA) will discuss tax incentives, including Tax Increment Financing, New Market Tax Credits, Affordable Housing Community Investment funds, credit and lending support, and other financing tools. A CDFA representative will discuss the EPA-supported technical assistance it can provide to brownfield communities. The webinar will also showcase examples of communities that have successfully used one or more of these resources for their revitalization efforts. It is the fifth 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 https://clu-in.org/live.

> New Documents and Web Resources

NanoRem Project Bulletins. The Taking Nanotechnological Remediation Processes from Lab Scale to End User Applications for the Restoration of a Clean Environment (NanoRem) project focused on facilitating practical, safe, economic, and exploitable nanotechnology for in situ remediation from 2013-2017. This project was undertaken in parallel with developing a comprehensive understanding of the environmental risk-benefit, market demand, overall sustainability, and stakeholder perceptions of the use of nanoparticles (NPs). Twelve NanoRem Bulletins have been created to transfer the knowledge developed within NanoRem to end-users. View or download at http://www.nanorem.eu/Displaynews.aspx?ID=938.

Superfund Research Program (SRP) Research Briefs. 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.

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 16 resources, events, projects and news items were added to EUGRIS in March 2017. 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:

Land recycling in Europe (2017). This study funded by the European Environment Agency looks at land take, or the change from non-artificial to artificial land cover. Some of the land that is 'taken' for urban development is covered with an impervious surface, which severely hampers ecosystem functioning and the related delivery of ecosystem services. This document offers an initial exploration of how to apply LCT and the LCA methodology to the environmental assessment of developing brownfields and greenfields. View or download at http://www.eea.europa.eu/publications/land-recycling-in-europe.

> Conferences and Symposia

Groundwater High-Resolution Site Characterization (HRSC), San Francisco, CA, June 13-14, 2017. This training course focuses on groundwater characterization and discusses (1) the impacts of subsurface heterogeneity on the investigation and cleanup of groundwater and related media, (2) the need for scale-appropriate measurements and adequate data density, and (3) the tools and strategies that are available to overcome the impacts of subsurface heterogeneity. After taking this course, participants will be armed with information that will allow them to improve their subsurface investigation approaches and develop more realistic and comprehensive conceptual site models (CSM). CSMs developed based on HRSC strategies and tools will decrease site uncertainty, improve the remedy selection process for groundwater remedies, and better enable the evaluation, design, and implementation of targeted in situ and ex situ groundwater remedies. The Groundwater HRSC course is an advanced 2-day course. The recommended audience includes EPA, federal, state, tribal and private industry technical project managers, practitioners and other stakeholders involved in groundwater investigation and remediation. For more information and to register, see https://trainex.org/hrsc.

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 Jean Balent at (703) 603-9924 or balent.jean@epa.gov. Remember, you may subscribe, unsubscribe or change your subscription address at https://clu-in.org/techdirect at any time night or day.