



TechDirect, February 1, 2022

Welcome to TechDirect! Since the January 1 message, TechDirect gained 97 new subscribers for a total of 40,133. 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.

> Funding Announcement

Funding Available for Environmental and Installation Energy Technology

Demonstrations. The Department of Defense (DoD), through the Environmental Security Technology Certification Program (ESTCP), supports the demonstration of technologies that address priority DoD environmental and installation energy requirements. The goal of ESTCP is to promote the transfer of innovative technologies through demonstrations that collect the data needed for regulatory and DoD end-user acceptance. Projects conduct formal demonstrations at DoD facilities and sites in operational settings to document and validate improved performance and cost savings. ESTCP is seeking proposals for demonstrations of innovative environmental and installation energy technologies as candidates for funding beginning in FY 2023. The solicitation requests pre-proposals via Calls for Proposals to Federal organizations and via a Broad Agency Announcement (BAA) for Private Sector organizations. Pre-proposals are due March 10, 2022 by 2 p.m. ET. Detailed instructions are on the ESTCP website at <https://serdp-estcp.org/Funding-Opportunities/ESTCP-Solicitations> under Funding Opportunities.

> Upcoming Live Internet Seminars

ITRC Connecting the Science to Managing LNAPL Sites, a 3 Part Series - February 8, 15 and March 1, 2022. The newly updated LNAPLs (Light Non-Aqueous Phase Liquids) 3-part training course series is based on the ITRC guidance: LNAPL Site Management: LCSM Evolution, Decision Process, and Remedial Technologies (LNAPL-3, 2018) and focuses on connecting the science to managing LNAPL sites and helping you: build upon your understanding of LNAPL behavior in the subsurface (Part 1), develop your LNAPL conceptual

site model and LNAPL remedial goals (Part 2), and select/implement LNAPL technologies (Part 3). After this training series, the expectation is that you will have the skills and understanding to use ITRC science-based resources to improve decision making at your LNAPL sites. For regulators and other government agency staff, this improved understanding can hopefully be incorporated into your own LNAPL programs. It is expected that participants will attend this 3-part training series in sequence. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

Federal Facilities Online Academy: Federal Facility Five-Year Review - February 9, 2022, 1:00PM-3:00PM EST (18:00-20:00 GMT). This webinar provides an overview of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) five-year reviews. By taking this course, participants will achieve the following objectives: Understand Five-Year Review purpose and regulatory context; learn how to prepare and conduct a five-year review; identify the information and data needed to support a protectiveness statement; address emerging contaminants and options available to ensure that the federal agencies address these contaminants; identify the different scenarios when EPA makes an independent finding of the protectiveness of the remedy; and learn about similarities and differences between federal and private site five-year reviews. The instructional methodology for this course includes lecture, case studies, and quizzes. There will also be an opportunity for participants to ask questions. The target audience for this course are federal, state, and tribal representatives who work on Federal Facility cleanups. To learn more and register, please visit <https://clu-in.org/live/>.

ITRC Characterization and Remediation of Fractured Rock - February 10, 2022, 1:00PM-3:15PM EST (18:00-20:15 GMT). The basis for this training course is the ITRC guidance: Characterization and Remediation of Fractured Rock. The purpose of this guidance is to dispel the belief that fractured rock sites are too complex to characterize and remediate. The physical, chemical and contaminant transport concepts in fractured rock have similarities to unconsolidated porous media, yet there are important differences. By participating in this training class, you should learn to use ITRC's Fractured Rock Document to guide your decision making so you can: develop quality Conceptual Site Models (CSMs) for fractured rock sites, set realistic remedial objectives, select the best remedial options, monitor remedial progress and assess results, and value an interdisciplinary site team approach to bring collective expertise to improve decision making and to have confidence when going beyond containment and monitoring -- to actually remediating fractured rock sites. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

Introduction to Groundwater High-Resolution Site Characterization - February 14 and 17, 2022, 1:00PM-3:30PM EST (18:00-20:30 GMT). This live two-part webinar series is an introduction to HRSC. The introductory sessions address the following technical content: defining HRSC and how it is implemented, explaining the need for and benefits of HRSC, reviewing the eight components of the CSM and how HRSC informs the CSM, refresher of basic hydrologic properties and how these properties vary within geologic systems, refresher of the principles of contaminant fate and transport and how these characteristics affect the distribution of contaminants in the aquifer, conceptual site models of fate and transport in unconsolidated and fractured rock, and introduction to the challenges of characterizing contaminant distribution in fractured rock. After taking this webinar series, participants will be prepared to dig deeper into the uncertainties created by traditional sampling approaches and learn how HRSC can address these challenges in the in-person HRSC course. Each webinar will be 2.5 hours long. The recommended audience includes EPA, federal, state, tribal and private industry technical project managers, practitioners and other stakeholders involved in groundwater investigation and remediation. To learn more and register, please visit <https://clu-in.org/live/>.

Toward Sustainability of Passive Treatment in Legacy Mining Watersheds: Operational Performance and System Maintenance - February 16, 2022, 1:00PM-3:00PM EST (18:00-20:00 GMT). For 40 years, passive treatment systems (PTS) have been the preferred

option at many abandoned mining sites, in part due to presumptions of continuous water quality improvement performance and limited operation and maintenance commitments. However, documentation to support these presumptions is typically lacking. Long-term regular performance evaluation (12 years) was conducted for a large, multi-process unit PTS receiving artesian-flowing lead-zinc mine waters (?1000 m³/day) at the Tar Creek Superfund site, Tri-State Mining District, USA. Since 2008, the Mayer Ranch PTS has consistently retained >95% of targeted metal mass. The webinar will share how PTS life can be extended if the system is properly designed, sized and preserved with regular, periodic and rehabilitative maintenance and monitoring. The webinar will also highlight how the project was managed by Oklahoma Department of Environmental Quality, and how project administration and building partnerships has been essential to the success of the PTS on the site. To learn more and register, please visit <https://clu-in.org/live/>.

ITRC Optimizing Injection Strategies and In situ Remediation Performance - March 3, 2022, 1:00PM-3:15PM EST (18:00-20:15 GMT). ITRC developed the guidance: Optimizing Injection Strategies and In Situ Remediation Performance (OIS-ISRP-1) and this associated training course to identify challenges that may impede or limit remedy effectiveness and discuss the potential optimization strategies, and specific actions that can be pursued, to improve the performance of in situ remediation by: refining and evaluating remedial design site characterization data; selecting the correct amendment; choosing delivery methods for site-specific conditions; creating design specifications; conducting performance evaluations, and optimizing underperforming in situ remedies. The target audience for this guidance and training course is: environmental consultants, responsible parties, federal and state regulators, as well as community and tribal stakeholders. This training will support users in efficiently and confidently applying the guidance at their remediation sites. An optimization case study is shared to illustrate the use of the associated guidance document. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

> New Documents and Web Resources

Research Brief 325: Biosensor Helps Characterize Contaminants and Health Risks Following Disasters. A sophisticated biosensor may provide information about contaminant distribution in the aftermath of natural disasters, according to an NIEHS Superfund Research Program (SRP)-funded study. Led by former Texas A&M University (TAMU) SRP Center trainee Krisa Camargo and Michael Unger, Ph.D., from the Virginia Institute of Marine Sciences, the team demonstrated this type of tool is useful for quickly characterizing and prioritizing environmental samples for further analysis, particularly in the context of disaster research response. For more information, please visit https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=325

ITRC Soil Background and Risk Assessment Guidance. While some state and federal agencies and other entities have guidance documents regarding soil background, there is not one comprehensive and widely accepted guidance document that summarizes the state of the science on this topic. This ITRC guidance document is intended to fill the gap by providing a comprehensive defensible framework for establishing and using soil background in risk assessments. It focuses on the process of establishing defensible background concentrations of naturally occurring or anthropogenic ambient chemicals to be used for risk assessment at contaminated sites. View and use at <https://sbr-1.itrcweb.org>.

Update on the Benefits of PCB Congener-Specific Analyses (EPA-600-R-21-237). Results of analyses for PCB contamination on environmental matrices may be expressed in terms of PCB congener-specific, total PCB, and Aroclor equivalent concentrations. Given the cost ramifications and potential overlap in results from each analysis, questions exist if results

should be expressed in terms of all three types of analyses as a standard approach. The U.S. EPA Ecological Risk Assessment Support Center (ERASC) reviewed and updated its prior ERASC Memorandum: Response to Ecological Risk Assessment Forum Request for Information on The Benefits of PCB Congener-Specific Analyses NCEA-C-1315, ERASC-002F. This document is designed to assist risk assessment practitioners to choose, in a cost-efficient manner, analyses that meet the objectives of the assessment. View or download at <https://cfpub.epa.gov/ncea/erasc/recordisplay.cfm?deid=351282>.

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:

- Electrokinetic-Enhanced Phytoremediation of Uranium-Contaminated Soil Using Sunflower and Indian Mustard
- Review of Peer-Reviewed Documents on Treatment Technologies Used at Mining Waste Sites
- Guidelines for the Design of Abandoned Mine Land Remediation and Water Treatment
- Development of Toxicity Reference Values (TRVS) for Birds Exposed to PFOS, PFOA and Associated Mixtures of Fluorinated Compounds
- PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024
- Validation of Streamlined Mobile Lab-Based Real Time PFAS Analytical Methods

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than four resources, events, projects and news items were added to EUGRIS in January 2022. 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:

Soil Screening Values for Assessing Ecological Risk (Report ♦ ShARE id26, January 2022). The United Kingdom's Environment Agency has updated its guidelines for screening the risks to soils from chemicals released through the landspreading of waste-derived materials. A spreadsheet tool allows the screening values to be adjusted for site-specific soil properties. View or download at <https://www.gov.uk/government/publications/soil-screening-values-for-assessing-ecological-risk>.

> Conferences and Symposia

Design and Construction of Hazard Waste Sites Spring 2022 Symposium - Philadelphia, PA, March 30-April 1, 2022. The Society of Military Engineers (SAME) hosts the DCWHS Symposium with a goal to facilitate an interactive engagement between professionals from government and the private sector related to relevant and topical issues affecting the clean up of hazardous waste sites. The Spring Symposium features a collection of case studies and technical presentations on site remediation from a wide array of clean up professionals. For more information, please visit https://sites.google.com/samephiladelphiaapost.org/dchws/east-symposium/spring-2022-dchws?mc_cid=3cd8640730&mc_eid=ddbff1f333

2022 Environmental Measurement Symposium - Crystal City, VA, August 1-5, 2022. The Environmental Measurement Symposium (EMS) is the combined meeting of the National Environmental Measurement Conference (NEMC) and the Forum on Environmental Accreditation. The theme of the 2022 conference is Where Do We Go From Here? The Conference will include: a Technical Program featuring oral and poster presentations, a special half-day general session with a keynote speaker focused on the conference theme and updates from EPA program offices, special keynote presentations on the conference theme,

and luncheon presentations; an Exhibit Program showcasing the latest innovations in environmental monitoring; and an Innovative New Technology Showcase. For more information, please visit <https://www.envirosymposium.group/index.php>

Save the (New) Dates! 2022 National Brownfields Training Conference - Oklahoma City, OK, August 16-19, 2022. The National Brownfields Training Conference is the largest event in the nation focused on environmental revitalization and economic redevelopment. Held every two years, the National Brownfields Conference attracts over 2,000 stakeholders in brownfields redevelopment and cleanup to share knowledge about sustainable reuse and celebrate the EPA brownfields program's success. Whether you're a newcomer or a seasoned professional, Brownfields 2021 offers something for you! For more information, please visit <https://brownfields2021.org>

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.

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