



TechDirect, December 1, 2016

Welcome to TechDirect! Since the November 1 message, TechDirect gained 908 new subscribers for a total of 37,684. 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.

> Request for Proposals

FY 2017 Brownfields Assessment and Cleanup Grants. These Brownfields grants may be used to address sites contaminated by petroleum and hazardous substances, pollutants, or contaminants (including hazardous substances co-mingled with petroleum). Assessment grants are funded over three years. Applicants may apply for up to \$200,000 in hazardous substances funding or up to \$200,000 in petroleum funding. Community-wide Applicants applying for both hazardous substances funding and petroleum funding may request a combined total up to \$300,000. Assessment Coalition Applicants may apply for up to \$600,000 in hazardous substances funding and/or petroleum funding. Cleanup Grants are funded over three years. Applicants can apply for up to \$200,000 per brownfield site and can submit up to three separate, site-specific cleanup proposals. **The proposal submission deadline has been extended to December 22, 2016.** For more information and application instructions, see <https://www.epa.gov/brownfields/apply-brownfields-grant-funding>.

> Upcoming Live Internet Seminars

ITRC Integrated DNAPL Site Characterization - December 6, 2016, 1:00PM-3:15PM EST (18:00-20:15 GMT). The Integrated DNAPL Site Characterization Team has synthesized the knowledge about dense nonaqueous phase liquid (DNAPL) site characterization and remediation acquired over the past several decades, and has integrated that information into a new document, Integrated DNAPL Site Characterization and Tools Selection (ISC-1, 2015). This guidance is a resource to inform regulators, responsible parties, other problem holders, consultants, community

stakeholders, and other interested parties of the critical concepts related to characterization approaches and tools for collecting subsurface data at DNAPL sites. After this associated training, participants will be able to use the guidance to develop and support an integrated approach to DNAPL site characterization, including: identify what site conditions must be considered when developing an informative DNAPL conceptual site model (CSM); define an objectives-based DNAPL characterization strategy; understand what tools and resources are available to improve the identification, collection, and evaluation of appropriate site characterization data; and navigate the DNAPL characterization tools table and select appropriate technologies to fill site-specific data gaps. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

Re-imagining the Future of Mining Sites - December 7, 2016, 3:30PM-5:00PM EST (20:30-22:00 GMT). Mining activities form an integral part of both historic and current economies in the United States. However, mining operations can also leave behind legacies of contamination. While abandoned mines no longer operate, many continue to have impacts on human health and the environment. At the same time, new and existing mining operations continue to expand. EPA works with mining stakeholders, including other federal agencies, states, tribes, local groups, and industries, not only to address the serious health and environmental challenges posed by some mining practices, but also to support the reuse of these areas to benefit the surrounding community. This webinar will explore the broad spectrum of safe and productive reuses possible at mining sites and present a case study highlighting several of these reuses in practice at a mining site in Salt Lake City, Utah. For more information and to register, see <http://clu-in.org/live>.

ITRC Mining Waste Treatment Technology Selection - December 8, 2016, 11:00AM-1:15PM EDT (16:00-18:15 GMT). ITRC's Mining Waste Team developed the ITRC Web-based Mining Waste Technology Selection site to assist project managers in selecting an applicable technology, or suite of technologies, which can be used to remediate mine waste contaminated sites. Decision trees, through a series of questions, guide users to a set of treatment technologies that may be applicable to that particular site situation. Each technology is described, along with a summary of the applicability, advantages, limitations, performance, stakeholder and regulatory considerations, and lessons learned. Each technology overview links to case studies where the technology has been implemented. In this associated Internet-based training, instructors provide background information then take participants through the decision tree using example sites. Project managers, regulators, site owners, and community stakeholders should attend this training class to learn how to use the ITRC Web-based Mining Waste Technology Selection site to identify appropriate technologies, address all impacted media, access case studies, and understand potential regulatory constraints. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

ITRC Biochemical Reactors for Treating Mining Influenced Water - December 8, 2016, 2:00PM-4:15PM EST (19:00-21:15 GMT). Mining influenced water (MIW) includes aqueous wastes generated by ore extraction and processing, as well as mine drainage and tailings runoff. MIW handling, storage, and disposal is a major environmental problem in mining districts throughout the U.S. and around the world. Biochemical reactors (BCRs) are engineered treatment systems that use an organic substrate to drive microbial and chemical reactions to reduce concentrations of metals, acidity, and sulfate in MIWs. The ITRC Biochemical Reactors for Mining-Influenced Water technology guidance (BCR-1, 2013) and this associated Internet-based training provide an in-depth examination of BCRs; a decision framework to assess the applicability of BCRs; details on testing, designing, constructing and monitoring BCRs; and real world BCR case studies with diverse site conditions and chemical mixtures. At the end of this training, you should be able to complete the following activities: describe a BCR and how it works; identify when a BCR is applicable to a site; use the ITRC

guidance for decision-making by applying the decision framework; improve site decision-making through understanding of BCR advantages, limitations, reasonable expectations, regulatory and other challenges; and navigate the ITRC Biochemical Reactors for Mining-Influenced Water technology guidance (BCR-1, 2013). For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

Hazardous Waste Export-Import Final Rule Requirements and Implementation - December 12, 2016, 1:00PM-4:00PM EST (18:00-21:00 GMT). Webinar to discuss the recently signed Hazardous Waste Export-Import Revisions Final Rule (Docket No. EPA-HQ-RCRA-2015-0147) that will become effective on December 31, 2016. For more information and to register, see <http://clu-in.org/live>.

ITRC Integrated DNAPL Site Strategy - December 13, 2016, 1:00PM-3:15PM EST (18:00-20:15 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>.

Leveraging Resources for Brownfields Revitalization: Meet the Funders - Infrastructure - December 14, 2016, 1:00PM-2:30PM EST (18:00-19:30 GMT). Brownfield grants from the U.S. Environmental Protection Agency (EPA) are one of many sources of funds that can support redevelopment of contaminated sites. This webinar will highlight a number of infrastructure redevelopment resources available from the U.S. Department of Transportation, the U.S. Army Corps of Engineers, and EPA's Office of Water to leverage your brownfield dollars. The webinar will also feature a presentation from a community that has successfully used grants, loans and other support from these agencies for its revitalization efforts. It is the third 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>.

ITRC Geospatial Analysis for Optimization at Environmental Sites - December 15, 2016, 1:00PM-3:15PM EST (18:00-20:15 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 contribute 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; 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>.

SERDP & ESTCP Webinar: "Advances in the Assessment and In Situ Treatment of Contaminated Sediments" - December 15, 2016, 12:00PM EST (17:00 GMT). Join SERDP and ESTCP for two presentations on Department of Defense (DoD) research efforts on the assessment and in situ treatment of contaminated sediments. First, Mr. Gunther Rosen from the Navy's Space and Naval Warfare Systems Command (SPAWAR) will discuss the development and demonstration of an in situ toxicity and bioaccumulation testing technology. His presentation will summarize the evolution of the technology and provide an overview of results from three demonstrations at Puget Sound Naval Shipyard, Marine Corps Base Quantico and Naval Base San Diego. Second, Dr. Bart Chadwick, also from SPAWAR, will talk about pilot-scale performance of in situ treatment with reactive carbon amendments for contaminated sediments at an active DoD harbor site. For more information and to register, see <https://serdp-estcp.org/Tools-and-Training/Webinar-Series/12-15-2016>.

> New Documents and Web Resources

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>.

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:

- Bioinjection Performance Review for the Building 100 Area and 4.5 Acre Site at the Pinellas County, Florida, Site
- Results of the In Situ Reduction Pilot Test, Garfield Groundwater Contamination Superfund Site, New Jersey
- In Situ Bioremediation Pilot Test at the 500 Ramp Area: Data Summary Report, Former Boeing Wichita Facility, Wichita, Kansas
- Soil Dioxin Relative Bioavailability Assay Evaluation Framework
- The Effectiveness of Water-Treatment Systems for Arsenic Used in 11 Homes in Southwestern and Central Ohio, 2013
- UST2 TCE-Source Remedial Action Summary of MPE System Operation, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland
- Integrated Stable Isotope-Reactive Transport Model Approach for Assessment of Chlorinated Solvent Degradation
- Sustainable Range Management of RDX and TNT by Phytoremediation with Engineered Plants
- Cleaning Up America's Nuclear Weapons Complex: 2015 Update for Governors

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 12 resources, events, projects and news items were added to EUGRIS in November 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.

> Conferences and Symposia

Superfund Radiation Risk Assessment Course, Bethesda, MD, January 21, 2017.

On January 21, 2017 EPA and Department of Energy Oak Ridge National Laboratory/University of Tennessee will be conducting a full day class on how to conduct Superfund Radiation Risk Assessments. This offering will be a full-day advanced course that focuses on specific technical and regulatory issues that Remedial Project Managers (RPMs), On-Scene Coordinators (OSCs), and risk assessors address when managing Superfund sites that have a risk assessment conducted for radioactive contaminants. This class is being offered as part of the Health Physics Society (HPS) Winter meeting in Bethesda Maryland. For more information, see http://hps.org/documents/2017_midyear_aahp_courses.pdf

RemTEC, Denver, Colorado, March 7-9, 2017. The Remediation Summit (RemTEC) delivers a truly unique platform focused on advancing environmental science and the remediation industry. At this event, participants will hear essential sources of information on technology, application, and policy affecting the restoration of contaminated sites. This year, USEPA staff will present on a variety of topics including technology transfer. For more information and to register, see <http://www.remtecsummit.com/>.

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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