



TechDirect, May 1, 2019

Welcome to TechDirect! Since the April 1 message, TechDirect gained 65 new subscribers for a total of 39,013. 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 2020 Brownfields Environmental Workforce Development and Job Training (EWDJT) Grants. These grants are provided to eligible entities, including nonprofit organizations, to deliver Environmental Workforce Development and Job Training programs that recruit, train, and place local, unemployed and under-employed residents with the skills needed to secure full-time employment in the environmental field. Each Environmental Workforce Development and Job Training (EWDJT) grant may be funded up to \$200,000 over a three year period. The proposal submission deadline is June 10, 2019, and a webinar to assist in preparing proposals will be held on May 1, 2019 at 2:00 p.m. ET. For more information and application instructions, see <https://www.epa.gov/brownfields/fy-2020-environmental-workforce-development-and-job-training-ewdit-grants>.

> Upcoming Live Internet Seminars

Biogeochemical Interactions Affecting Bioavailability for in Situ Remediation - Progress in Research, Superfund Research Program - May 13 and 20, 2019. This webinar series features individual research projects funded by the NIEHS Superfund Research Program (SRP). In 2013, the SRP initiated a targeted research program to better understand how contaminants in the environment are affected by complex biological, geological, and chemical processes. By understanding these complex interactions, we are better equipped to optimize remediation strategies and, therefore, improve science-based decision making for site management, priority-setting, and remedy selection. The individual research project grants support problem-solving research on the mechanisms of biogeochemical interactions that may impact

remediation of contaminated soil, sediment, surface water, or groundwater. For more information and to register for the remaining two sessions, see <https://clu-in.org/live>.

ITRC Connecting the Science to Managing LNAPL Sites a 3 Part Series - May 2, 9, and 16, 2019. 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>.

SERDP/ESTCP Roles of Soil Microbial Communities in Ecosystem Restoration - May 9, 2019. Join SERDP and ESTCP on Thursday, May 9 for a webinar detailing results from Department of Defense (DoD) funded research on the roles of soil microbial communities in ecosystem restoration. First, Dr. James Bever from the University of Kansas will talk about the restoration of native grasslands ecosystems by reintroducing native soil fungi which improves the establishment of desirable native plant species and suppresses invasive plants. Second, Dr. Nichole Barger from the University of Colorado will discuss restoring arid and semi-arid lands through seeding soils with enhanced biocrusts. To view speakers' biographies and to register for this free webinar, please visit <https://serdp-estcp.org/Tools-and-Training/Webinar-Series/05-09-2019>.

ITRC Bioavailability of Contaminants in Soil: Considerations for Human Health Risk Assessment - May 14, 2019, 1:00PM-3:15PM EDT (17:00-19:15 GMT). The basis for this training course is the ITRC guidance: Bioavailability of Contaminants in Soil: Considerations for Human Health Risk Assessment (BCS-1). This guidance describes the general concepts of the bioavailability of contaminants in soil, reviews the state of the science, and discusses how to incorporate bioavailability into the human health risk assessment process. The target audience for this guidance and training course are: project managers interested in decreasing uncertainty in the risk assessment which may lead to reduced remedial action costs, and risk assessors new to bioavailability or those who want additional confidence and training in the current methods and common practices for using bioavailability assessment to more accurately determine human health risk at a contaminated site. As a participant in this training you should learn to: apply the decision process to determine when a site-specific bioavailability assessment may be appropriate, use the ITRC Review Checklist to develop or review a risk assessment that includes soil bioavailability, consider factors that affect arsenic, lead and PAH bioavailability, select appropriate methods to evaluate soil bioavailability, and use tools to develop site-specific soil bioavailability estimates and incorporate them into human health risk assessment. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

Combined Analytical Services Contract (CASC) Pre-Solicitation Webinar, June 4, 2019, 1:00PM-2:30PM EDT (17:00-18:30 GMT). The US EPA Analytical Services Branch (ASB) and Office of Acquisition Solutions (OAS) will present their upcoming Combined Analytical Services Contract (CASC) procurement to industry. The session will be 90 minutes including a 60 minute presentation and 30 minutes for questions and answers. ASB and OAS presenters will highlight important information to review and consider prior to the release of the Request for Proposal (RFP). The RFP will include both Inorganic and Organic Methods (SuperFund Analytical Methods or SFAM) and High Resolution Superfund Methods (HRSM) Statements of Work (SOWs). A written

Q&A will be available following the event. All interested laboratories are strongly encouraged to participate. Please note: this will be the only webinar prior to the release of the RFP. The upcoming analytical services' Statements of Work (SOWs) are available at: <https://www.epa.gov/clp/upcoming-analytical-services>. This event has a target audience of environmental testing laboratories registered under NAICS code 541380-Testing laboratories. For more information and to register, see <https://clu-in.org/live>.

SERDP/ESTCP Treatment Options for the Emerging Contaminants

1,2,3-Trichloropropane and 1,2-Dibromoethane - May 23, 2019. Join SERDP and ESTCP on Thursday, May 23 for a webinar detailing results from Department of Defense (DoD) funded research on in situ treatment of emerging contaminants to improve the effectiveness and reduce costs for DoD land management. First, Dr Paul Hatzinger from APTIM Federal Services will elaborate on a novel reactive gas process for the remediation of vadose zone source areas containing 1,2,3-trichloropropane (TCP). Second, Dr. Paul Koster van Groos from APTIM Federal Services will discuss evaluating natural attenuation and in situ treatment of 1,2-dibromoethane (EDB) at a complex field site. To view speakers' biographies and to register for this free webinar, please visit <https://serdp-estcp.org/Tools-and-Training/Webinar-Series/05-23-2019>.

FRTR Presents...Per- and Polyfluoroalkyl Substances (PFAS) Emerging Characterization and Remedial Technologies, Session 1, June 20, 2019

1:00PM-2:30PM EDT (17:00-18:30 GMT). This is part of a webinar series featuring presentations delivered at the Fall 2018 FRTR Meeting and related material. The meeting's objective was to identify and discuss the emerging science behind PFAS characterization and remedial technologies. This session will include the following topics: (1) What are PFAS, and What are the Issues with Them? (2) Treatment Technologies for PFAS Site Management. For more information and to register, see <https://clu-in.org/live>.

Highlight from the CLU-IN Seminar Archives. Each edition of TechDirect highlights a previously recorded internet seminar from our archives that may be of interest to our readers. We welcome your feedback on this addition to Techdirect.

ITRC Use and Measurement of Mass Flux and Mass Discharge, Sponsor: Interstate Technology and Regulatory Council, Archived Sep 28, 2017 Seminar (2 Hours, 15 Minutes).

The ITRC technology overview, Use and Measurement of Mass Flux and Mass Discharge (MASSFLUX-1, 2010), and associated Internet-based training provide a description of the underlying concepts, potential applications, description of methods for measuring and calculating, and case studies of the uses of mass flux and mass discharge. This Technology Overview, and associated internet based training are intended to foster the appropriate understanding and application of mass flux and mass discharge estimates, and provide examples of use and analysis. The document and training assumes the participant has a general understanding of hydrogeology, the movement of chemicals in porous media, remediation technologies, and the overall remedial process. Practitioners, regulators, and others working on groundwater sites should attend this training course to learn more about various methods and potential use of mass flux and mass discharge information. To replay the archived webinar, visit https://clu-in.org/conf/itrc/umfmd_092817/.

> New Documents and Web Resources

Superfund Research Program Research Brief 292: Nitrous Oxide Halts Breakdown of Chlorinated Compounds. A new Superfund Research Program (SRP)

study showed that nitrous oxide (N₂O), a groundwater contaminant commonly generated from agricultural runoff, inhibits bacterial degradation of certain chlorinated contaminants, including tetrachloroethene (PCE). The study may explain why bioremediation, or the use of bacteria to break down compounds, can stall at some hazardous waste sites. For more information, see

https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=292. 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>.

Draft Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS.

The EPA is seeking public comment on a draft set of recommendations for cleaning up groundwater contaminated with PFOA and PFOS. When finalized, the recommendations will provide a starting point for making site-specific cleanup decisions. The guidance is based on the EPA's current scientific understanding of per- and polyfluoroalkyl substances (PFAS) toxicity and is intended to provide clear and consistent guidance for federal cleanup programs. This information may also be useful for state and tribal cleanup programs, and in carrying out other federal regulatory authorities. Comments are welcome on any part of the guidance, including the use of EPA's Lifetime Drinking Water Health Advisory level of 70 ng/L or parts per trillion as the recommended PRG for groundwater, or whether higher or lower values would be supported. For more information and comment submission instructions, see

<https://www.epa.gov/pfas/draft-interim-recommendations-addressing-groundwater-contaminated-pfoa-and-pfos>.

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:

- Post-Remediation Evaluation of EVO Treatment: How Can We Improve Performance?
- Demonstration/Validation of More Cost-Effective Methods for Mitigating Radon and VOC Subsurface Vapor Intrusion to Indoor Air
- Source Barrier Tool: Contaminant Flux Reduction Barriers for Managing Difficult-To-Treat Source Zones in Unconsolidated Media
- Managing Risks and Liabilities Associated with Per- and Polyfluoroalkyl Substances (PFASs)
- Frequently Asked Questions About The Development And Use Of Background Concentrations At Superfund Sites: Part One, General Concepts
- Groundwater Statistics Tool: User's Guide
- Mine Closure 2018: Proceedings of the 12th International Conference on Mine Closure, 3-7 September 2018, Leipzig, Germany
- Global Review of Pit Lake Case Studies

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 17 resources, events, projects and news items were added to EUGRIS in April 2019. 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:

Mine Closure 2018: Proceedings of the 12th International Conference on Mine Closure (Technical University Bergakademie Freiberg, 2018). Reclamation of mining sites is an interdisciplinary topic that deals with technical questions about soil, water resources, vegetation and wildlife, handling of contamination and brownfields, geotechnical safety, and geochemical processes in tipping, heaps, and tailings ponds.

Specific features of legal, financial, and organizational issues are also recognized. The proceedings of this conference provide an overview of the complex interrelations and specific recultivation issues that attend the process of mine closure. For more information http://mineclosure2018.com/wp-content/uploads/2017/08/Book_prev_index_complete_online.pdf.

> Conferences and Symposia

Federal Remediation Technologies Roundtable Meeting: Modeling in Support of Site Remediation, Reston, VA, May 22, 2019. FRTR member-agencies meet semi-annually and meetings are open to the public. The meeting objectives are to: discuss a general framework for using modeling and analysis technologies with site data to support remediation decisions; explore the use of models as a tool to guide site characterization, development and testing of conceptual site models (CSMs), design of remediation strategies, and monitoring programs to assess remediation effectiveness; review case studies where models have proven useful, and the evolution of those models to address difficulties in the modeling processes at specific remediation sites; and discuss the use of monitoring data to test and confirm CSMs and their derived numerical models. For more information and to register, see <https://frtr.gov/meetings.htm>.

Best Practices for Site Characterization Throughout the Remediation Process, San Francisco, CA, July 29-31, 2019. This training course is based on best management practices (BMP) implemented by the U.S. EPA, partnership organizations, federal and state partners, and consultants. Participants will learn how to streamline projects in a legal, technically sound, and cost-effective manner. By taking the course, participants achieve the following objectives: integrate best practices into traditional project activities, effectively collect and communicate critical project information, design dynamic work strategies, recognize and overcome the challenges presented while implementing a dynamic work strategy, and use BMPs to support all phases of the environmental cleanup life cycle. For more information and to register, see <https://trainex.org/hrsc>.

Call for Ideas! 2019 National Brownfields Training Conference, Los Angeles, CA, December 11-13, 2019. Submit your ideas for dynamic educational sessions that encourage conversation and participation from your fellow attendees. The Brownfields 2019 educational program will motivate brownfields stakeholders to engage, learn, and share their experiences and knowledge of community revitalization challenges and solutions. The conference planning committee is looking for session ideas in six topic areas. Submissions are due by May 31, 2019. For more information and to submit an idea, see <https://brownfields2019.org/education/callforideas/>.

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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