



TechDirect, May 1, 2022

Welcome to TechDirect! Since the April 1 message, TechDirect gained 42 new subscribers for a total of 40,211. 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.

> Interstate Technology & Regulatory Council (ITRC) 2023 Team Proposals

ITRC solicits team proposals from the environmental community annually. The proposal process identifies the topics for the next ITRC Technical Teams. ITRC encourages any environmental and health professionals to submit a proposal. The ITRC Board of Advisors will evaluate proposals based on their relevance to ITRC's mission, goals, and priorities, which can be found on the ITRC proposal process webpage. ITRC encourages proposals that will address these priorities, but we also consider proposals that address environmental issues not included in this list. ITRC will also consider proposals that would update ITRC documents. For more information, please visit <https://itrcweb.org/>. Proposals are due May 6, 2022.

> Upcoming Live Internet Seminars

ITRC Bioavailability of Contaminants in Soil: Considerations for Human Health Risk Assessment - May 3, 2022, 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, please visit

<https://www.itrcweb.org> or <https://clu-in.org/live>.

Restoring the Community Fabric: Planning Redevelopment of the US Finishing/Cone Mills Superfund Site - May 4, 2022, 1:00PM-3:00PM EDT (17:00-19:00 GMT).

The restoration and redevelopment of historic industrial sites to commercial and residential use can provide areawide benefits for communities and local governments. This webinar will highlight the ongoing redevelopment process at the US Finishing/Cone Mills Superfund site in Greenville, South Carolina. Speakers will share the framework for redeveloping the site and creative strategies for overcoming challenges associated with redevelopment. The webinar will discuss the careful coordination between multiple parties to plan the innovative mixed-use redevelopment. Speakers will share lessons learned and recommendations for successfully navigating the redevelopment process and eliciting community buy in. For more information and to register, please visit <https://clu-in.org/live>.

SERDP and ESTCP Predictive and Modeling Tools for Improved Assessments of PFAS Environmental Risks - May 5, 2022, 12:00PM EDT (16:00 GMT).

This webinar will feature DoD-funded research efforts to develop reliable tools for assessing the environmental risks of PFAS. Dr. Paul Tratnyek (Oregon Health & Science University) will discuss methods for evaluating fate-determining physico-chemical properties of most PFAS. Then, Dr. Christopher Salice (Towson University) will talk about an effective model for understanding the factors that influence the bioaccumulation of PFAS in freshwater fish. For more information and to register, see

<https://www.serdp-estcp.org/Tools-and-Training/Webinar-Series/05-05-2022>.

ITRC Integrated DNAPL Site Characterization - May 5, 2022, 1:00PM-3:15PM EDT (17:00-19:15 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 <https://www.itrcweb.org> or <https://clu-in.org/live>.

ITRC Long-term Contaminant Management Using Institutional Controls - May 10, 2022, 1:00PM-3:15PM EDT (17:00-19:15 GMT).

Institutional controls (ICs) are administrative or legal restrictions that provide protection from exposure to contaminants on a site. When ICs are jeopardized or fail, direct exposure to human health and the environment can occur. While a variety of guidance and research to date

has focused on the implementation of ICs, ITRC's Long-term Contaminant Management Using Institutional Controls (IC-1, 2016) guidance and this associated training class focuses on post-implementation IC management, including monitoring, evaluation, stakeholder communications, enforcement, and termination. The ITRC guidance and training will assist those who are responsible for the management and stewardship of ICs. After attending the training, participants will be able to: describe best practices and evolving trends for IC management at individual sites and across state agency programs; use this guidance to improve IC reliability and prevent IC failures, improve existing, or develop new, IC Management programs, identify the pros and cons about differing IC management approaches; use the tools to establish an LTS plan for specific sites; and use the elements in the tools to understand the information that should populate an IC registry or data management system. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

Federal Facilities Online Academy: Land Use and Onsite/Offsite Determinations - May 11, 2022, 1:00PM-3:00PM EDT (17:00-19:00 GMT). Determining Land Use and Onsite/Offsite Determinations is a two-hour webinar course that provides an overview of land use determinations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Reasonably anticipated future land use at CERCLA sites is important in determining the appropriate extent of remediation. Onsite and offsite determinations impact the need for permits and offsite transfer of CERCLA wastes. The instructional methodology for this course includes lecture and group discussion. The target audience for this course is federal, state, and tribal representatives who work on Federal Facility cleanups. Ideally, students should have a basic understanding of land use and the CERCLA process. This course is part of the Federal Facilities Academy training program. Please consider registering for other Federal Facility Academy courses and obtain a certificate upon completion of the entire Federal Facility Academy series (12 courses total). For more information and to register, please visit <https://clu-in.org/live>.

ITRC Connecting the Science to Managing LNAPL Sites a 3 Part Series: Part 1 - May 12 and June 7 & 14, 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>.

Utilizing Innovative Materials Science Approaches to Enhance Bioremediation: Session III - Plant and Fungal-based Bioremediation - May 13, 2022, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The NIEHS Superfund Research Program (SRP) is hosting a Progress in Research webinar series to showcase new breakthroughs to advance sustainable solutions for hazardous substances in the environment. The three-part series will feature SRP individual research projects funded in 2020, who are incorporating new advances in materials science to optimize bioremediation of contaminants in soil, sediment, or water. In each session, awardees will describe their research projects, accomplishments, and next steps. The third and final session will focus on strategies to improve how plant and fungi remove hazardous substances from soil. For more information and to register, please visit <https://clu-in.org/live>.

ITRC 1,4-Dioxane: Science, Characterization & Analysis, and Remediation - May 17, 2022, 1:00PM-3:15PM EDT (17:00-19:15 GMT). 1,4-Dioxane has seen widespread use as a solvent stabilizer since the 1950s. The widespread use of solvents through the 1980s suggests its presence at thousands of solvent sites in the US; however, it is not always a standard compound in typical analytical suites for hazardous waste sites, so it previously was overlooked. The U.S. EPA has classified 1,4-dioxane as "likely to be carcinogenic to humans." Some states have devised health standards or regulatory guidelines for drinking water and groundwater standards; these are often sub-part per billion values. These low standards present challenges for analysis, characterization, and remediation of 1,4-dioxane. The ITRC team created multiple tools and documents that provide information to assist all interested stakeholders in understanding this contaminate and for making informed, educated decisions. For more information and to register, please visit <https://itrcweb.org/> or <https://clu-in.org/live/>

SERDP and ESTCP DoD Natural Resource Management Through Unmanned Aircraft System Technology - May 19, 2022, 12:00PM EDT (16:00 GMT). This webinar will discuss DoD-funded research efforts to improve natural resource management with unmanned aircraft system (UAS) technology. First, Dr. Susan Cohen (Institute for the Environment, University of North Carolina at Chapel Hill) will discuss the development of an operational framework for integrating UAS into the management of natural resources at a U.S. Marine Corps installation. Then, Mr. David Delaney (U.S. Army Engineer Research and Development Center, Construction Engineering Research Laboratory) will talk about a novel and cost-effective UAS technology that automates the process of collecting data from ground-based sensors. For more information and to register, see <https://www.serdp-estcp.org/Tools-and-Training/Webinar-Series/05-19-2022>.

Military Munitions Support Services - Life of a CSM: Concept to Response Complete, May 25, 2022, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The Conceptual Site Model (CSM) serves as a planning instrument, a modeling and data interpretation aid, and a tool for the project delivery team (PDT) to communicate and describe the current state of knowledge and assumptions about potential munitions and explosives of concern (MEC) and MC risks at the site; actual, potentially complete, or incomplete exposure pathways; current and reasonable proposed use of property; and potential receptors. In three MMRP CSM project studies, we will explore how the CSM evolved as work progressed and data gaps were filled, and address lessons learned. The project studies will convey the importance of the systematic planning process, that ensured the CSM development and refinement through a collaborative effort between the PDT, regulators and major stakeholders. For more information and to register, please visit <https://clu-in.org/live>.

ITRC Vapor Intrusion Mitigation (VIM-1) - A Two Part Series - June 2 and 14, 2022, 1:00PM-3:00PM EDT (18:00-20:00 GMT). When certain contaminants or hazardous substances are released into the soil or groundwater, they may volatilize into soil gas. Vapor intrusion (VI) occurs when these vapors migrate up into overlying buildings and contaminate indoor air. ITRC has previously released guidance documents focused on VI, including the "Vapor Intrusion Pathway: A Practical Guidance" (VI-1, 2007) and "Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management" (PVI, 2014). However, ITRC has received multiple requests for additional details and training on mitigation strategies for addressing this exposure pathway. The ITRC Vapor Intrusion Mitigation Team (VIMT) created ten fact sheets, 16 technology information sheets, and 4 checklists with the goal of assisting regulators during review of vapor intrusion mitigation systems, and helping contractors understand the essential elements of planning, design, implementation, and operation, maintenance and monitoring (OM&M) of mitigation systems. The Vapor Intrusion Mitigation training is a series of eight (8) modules, presented over two sessions. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

> New Documents and Web Resources

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:

- Leveraging Machine Learning to Predict Toxicity
- An Electrocoagulation and Electrooxidation Treatment Train to Degrade Perfluoroalkyl Substances and Other Persistent Organic Contaminants in Groundwater
- Field Assessment of Abiotic Attenuation Rates Using Chemical Reactivity Probes and Cryogenic Core Collection
- Case Study Review of Optimization Practices at Navy Petroleum Sites
- Forensic Techniques for Differentiating PFAS Sources
- New Technique Yields Promising Results for Uranium Removal in the Field

Research Brief 328: Sampling Device May Predict Methylmercury Accumulation in Wetlands. NIEHS Superfund Research Program (SRP)-funded researchers, led by Heileen Hsu-Kim, Ph.D., of the Duke University SRP Center, showed that a small plastic sampling device can efficiently predict the potential for methylmercury - an environmental contaminant - to form in freshwater wetlands and to accumulate in organisms living there. In aquatic ecosystems, inorganic mercury changes to methylmercury through microbial activity. Inorganic mercury occurs naturally in the environment but can also be found in some consumer products, as well as in emissions from coal-fired power plants and other industrial activities. The contaminant can build up in animal tissues, with toxic effects to the nervous system. Because methylmercury occurs in greater amounts up the food chain, humans who eat large fish can also be exposed. To view the brief, please visit https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=328

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than three resources, events, projects and news items were added to EUGRIS in April 2022. These can be viewed at <http://www.eugris.info/whatsnew.asp> .

> Conferences and Symposia

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>

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.

[Change Your Address](#) | [Questions & Comments](#) | [Technical Problems](#)
[Privacy and Security Notice](#)
[TechDirect Archives](#)