



TechDirect, October 1, 2023

Welcome to TechDirect! Since the September 1 message, TechDirect gained 94 new subscribers for a total of 43,783. 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.

> Solicitation: FY 2024 Brownfields Grants

EPA is soliciting applications for Brownfields Multipurpose, Assessment, and Cleanup Grant funding. These Brownfields Grants allow more vacant and abandoned properties to be turned into community assets that will attract jobs and promote economic revitalization in communities. The application submission deadline is November 13, 2023. For more information, please visit <https://www.epa.gov/brownfields/marc-grant-application-resources>

> Upcoming Live Internet Seminars

Revitalizing Rural Communities: Addressing Contaminated Sites Using the NEW Investment Playbook - October 3, 2023, 1:00PM-3:00PM EDT (17:00-19:00 GMT). Rural community residents and leaders often wish to revitalize their downtowns but do not know where to start or how to pay for the needed planning and infrastructure to move development forward. Written through the lens of rural Appalachia, the revitalization approaches described in the Downtown Revitalization Playbook can be used by small communities across the United States. Rural downtowns often include properties with contaminant concerns, including brownfields and Superfund sites. The health and safety challenges posed by these contaminated spaces, alongside vacant storefronts and empty gathering places, reinforce downtown disinvestment. The playbook provides practical steps to organize a local team with the right mix of skills to reimagine, initiate and attract investment back to rural downtowns. For more information and to register, see <https://www.clu-in.org/live>.

ITRC Strategies for Preventing and Managing Harmful Cyanobacteria Blooms (Two Part Series) - October 5 and 12, 2023. Cyanobacteria are microscopic, photosynthetic organisms that occur naturally in all aquatic systems but most often in freshwater systems. Under certain conditions, cyanobacteria can multiply and become very abundant, discoloring the water throughout a water body or accumulating at the surface. These occurrences are known as blooms. Cyanobacteria may produce potent toxins (cyanotoxins) that pose a threat to human health. They can also harm wildlife and domestic animals, aquatic ecosystems, and local economies by disrupting drinking water systems and source waters, recreational uses, commercial and recreational fishing, and property values. It is likely that continued population growth, land use change, increases in nutrient inputs to our waterways, and the warming climate will favor proliferation of these problematic species. Providing a range of practical approaches to minimize these blooms and their likely societal and wildlife effects is critical to our future vitality, health, and economic prosperity. For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

Tools for PFAS Site Characterization Webinar Series - October 6, 20, and November 8, 2023. The NIEHS Superfund Research Program (SRP) is sponsoring a Risk e-Learning webinar series, hosted by CLU-IN, focused on research efforts to develop tools for sampling, monitoring, detecting, and characterizing per- and polyfluoroalkyl substances (PFAS) contamination. The three-part series will feature SRP-funded researchers and collaborators whose research focuses, in part, on understanding the distribution and fate of PFAS in the environment. To learn more about each session and to register, see <https://www.clu-in.org/live>.

ITRC Sustainable Resilient Remediation (SRR) - October 10, 2023, 1:00PM-3:15PM EDT (17:00-19:15 GMT). Extreme weather events and wildfires are increasing and impacting hazardous waste sites. The primary goal of cleanups, which is protecting human health and the environment, is undermined. Confronted with these risks, environmental professionals should assess, and design remedies that are sustainable and resilient. Sustainable resilient remediation (SRR) is an optimized solution to cleaning up and reusing a hazardous waste site that limits negative environmental impacts, maximizes social and economic benefits, and creates resilience against increasing threats. The objective of the ITRC Sustainable Resilient Remediation (SRR-1) is to provide resources and tools for regulators, stakeholders, consultants, and responsible parties to help integrate sustainable and resilient practices into remediation projects. This guidance updates the Interstate Technology and Regulatory Council's (ITRC) Technical and Regulatory Guidance: Green and Sustainable Remediation: A Practical Framework (ITRC 2011a) and includes a strong resilience component to address the increasing threat of extreme weather events and wildfires.

Recommendations for careful and continuous consideration of the social and economic costs and benefits of a cleanup project are included. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

Introduction to the Hazard Ranking System (HRS) - October 26, 2023, 11:00AM-4:00PM EDT (15:00-20:00 GMT). This course is for those with limited exposure to the HRS and those needing a refresher prior to performing an HRS site evaluation. This course will provide an introduction to the HRS by presenting overviews of its role in the Superfund program and site assessment process and its structure. This training will also provide overviews of the HRS factor categories (Likelihood of Release/Exposure, Waste Characteristics, Targets), including their general structure and the concepts and processes involved in scoring. This session is designed for Environmental professionals that conduct HRS evaluations as part of EPA site assessment in evaluating sites for the National Priorities List (NPL). The live session will include a 1 hour break. For more information and to register, see <https://www.clu-in.org/live>.

Introduction to Brownfield All Appropriate Inquiries - October 30, 2023,

3:00PM-4:30PM EDT (19:00-21:30 GMT). The brownfield amendments to CERCLA and the recent Brownfields Utilization, Investment and Local Development (BUILD) Act provide liability protections for certain landowners and potential property owners who did not cause or contribute to contamination at the property. This webinar offers an introduction or refresher on All Appropriate Inquiry (AAI), the process of evaluating a property's environmental conditions and assessing potential liability for any contamination. For more information and to register, see <https://www.clu-in.org/live>.

Soil Background & Risk Assessment- November 2, 2023, 1:00PM-3:00PM EDT (17:00-19:00 GMT). 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. The Soil Background and Risk Assessment ITRC guidance document released December 2021 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 that can be used when performing risk assessment at contaminated sites. The target audience for the ITRC Soil Background and Risk Assessment Guidance Document (SBR-1) includes risk assessors, risk managers, and site investigators, which may include federal, state, tribal, and various local agency employees; contractors to these agencies; as well as potentially liable parties and their consultants. For training purposes, the ITRC Soil Background and Risk Assessment team produced four videos, two of which will be viewed during the class. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

> New Documents and Web Resources

Research Brief 345: Modified Iron Particles Could Improve Bioremediation of PFAS. Iron particles coated in a nontoxic material may enhance PFAS degradation by a certain bacterium, according to researchers funded by the NIEHS Superfund Research Program. The study could inform bioremediation efforts that harness the microbe, known as Acidimicrobium Strain A6, for cleaning up contaminated soil, sediments, and aquifers. Distinctive PFAS properties, such as high heat tolerance and oil resistance, stem from exceptionally stable bonds between carbon and fluorine atoms. Because PFAS resist breakdown, they can accumulate in exposed organisms and ecosystems, posing a risk to human and environmental health. View and download the brief at https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=345

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://www.clu-in.org/products/tins/>. The following resources were included in recent issues:

- Workshop Report: Innovative Strategies for Long-Term Monitoring of Complex Groundwater Plumes at DOE'S Legacy Sites
- Development of Engineered Metalorganic Framework (MOF) Materials for Perfluorooctane Sulfonate (PFOS) Remediation

ITRC Sediment Cap Chemical Isolation Guidance (SD-1). Capping is a commonly selected approach for the remediation of subaqueous contaminated sediments. This guidance provides a framework for the design, construction, and long-term monitoring approach for the chemical isolation function of sediment caps. It is intended for

regulators, stakeholders, consultants, responsible parties, and owners of contaminated sediment sites where sediment capping has been selected as a remedy. As a supplement to the ITRC's 2014 Contaminated Sediments Remediation guidance document, SD-1 provides more details regarding the design, construction, modeling, and long-term monitoring and maintenance of the chemical isolation. For more information, please visit <https://sd-1.itrcweb.org/>.

NAVFAC Report: Case Studies Using Surface Weighted Average Concentration Methods at Sediment Remediation Sites May 2023 (TR-NAVFAC-EXWC-SH-2315).

Surface weighted average concentrations (SWACs) can be used to estimate mean contaminant concentrations over a specified area using contaminant data collected over different temporal and spatial scales. The SWAC method is used to reduce the influence of sampling bias and interpolate contaminant of concern concentrations in areas with limited sampling locations. SWAC methodologies can also be used to define remedial footprints in the Feasibility Study and evaluate remedy effectiveness. SWACs are an increasingly common approach for assessing compliance with remediation goals at contaminated sediment sites. Navy and United States Environmental Protection Agency case studies are included to highlight the use of SWACs at sediment sites.

View and download the report from

[https://exwc.navy.mil/Portals/88/Documents/EXWC/Restoration/er_pdfs/s/Final%20SWAC%20Case%20Study%20Technical%20Report%20_5_2023.pdf?](https://exwc.navy.mil/Portals/88/Documents/EXWC/Restoration/er_pdfs/s/Final%20SWAC%20Case%20Study%20Technical%20Report%20_5_2023.pdf?ver=93dNskvJwGla5_qHjoEXOq%3D%3D)

[ver=93dNskvJwGla5_qHjoEXOq%3D%3D](https://exwc.navy.mil/Portals/88/Documents/EXWC/Restoration/er_pdfs/s/Final%20SWAC%20Case%20Study%20Technical%20Report%20_5_2023.pdf?ver=93dNskvJwGla5_qHjoEXOq%3D%3D) .

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 September 2023. 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

Design and Construction Issues at Hazardous Waste Sites (DCHWS West), October 25-27, 2023, Denver, CO. The US EPA and Society of American Military Engineers (SAME) will again co-sponsor the DCHWS West which will be held in Denver, Colorado. The applications of engineering and science associated with cleaning up hazardous waste sites continue to evolve rapidly. The event's primary goal is to facilitate an interactive engagement between professionals from government and the private sector related to relevant and topical issues. For more information, please visit <https://sites.google.com/samephiladelphiaipost.org/dchws/west-symposium/fall-2023-dchws>

DOD Environmental Sustainability and Energy Resilience Symposium, November 28-December 1, 2023, Arlington, VA. The Department of Defense's Environmental Sustainability and Energy Resilience Symposium is the nation's largest conference focusing on the DoD's priority environmental and energy issues. The Symposium brings together researchers, technology developers, defense end-users, and regulatory communities to showcase cutting edge environmental and energy technologies and ideas. This event is hosted by the environmental research and energy innovation programs under the Office of the Deputy Assistant Secretary of Defense for Environment & Energy Resilience (DASD E&ER). The Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP) fund research and demonstration projects, harnessing the latest science and technology to improve DoD's environmental performance, reduce costs, and enhance and sustain mission capabilities. The

Operational Energy Capability Improvement Fund (OECIF) and Operational Energy Prototyping Fund (OEPF) programs develop and prototype technologies that provide tactical overmatch for our warfighters and allies. For more information, please visit <https://serdp-estcp.org/events/details/04d444f1-aa19-4e66-bb5c-5163964cc4dd/symposium-2023>

Fall 2023 Federal Remediation Technologies Roundtable Meeting - November 7, 2023 in Reston, VA and On-line. The topic for the Fall 2023 Meeting of the Federal Remediation Technologies Roundtable (FRTR) will be Recent Advances in PFAS Characterization Technologies. The science and technology of site characterization for per-and polyfluoroalkyl substances (PFAS) has advanced in the five years since FRTR last addressed the topic in 2018. Federal agency budgets for PFAS remediation have grown substantially during this time. As a result, site characterization efforts such as Remedial Investigations, as well as early response actions, are underway at many Federal facilities. Funding for field-scale projects to further advance PFAS characterization technology and methodologies also has increased substantially. The FRTR 2023 Fall General Meeting provides an opportunity for member agencies to share results of recent and on-going PFAS projects that are improving our understanding of PFAS characterization technologies. Specifically, invited presentations and roundtable discussions will explore current best practices for PFAS site characterization, emerging technologies and methods, case studies and current agency needs for technology transfer and future research. FRTR member-agencies meet semi-annually, usually in the Washington, D.C. area. These meetings are open to the public. For more information and to register to attend in-person or on-line, please visit <https://www.frtr.gov/meetings.cfm>.

Global Summit on Environmental Remediation - November 13-17, 2023, Richland, WA. The Global Summit is presented by the Center for the Remediation of Complex Sites (RemPlex) in cooperation with the International Atomic Energy Agency (IAEA), in-person at Pacific Northwest National Laboratory with a virtual option. This international forum brings together government, industry, and research institutions to discuss the challenges, barriers, and innovative solutions for successful remediation and long-term stewardship of contaminated sites. The program integrates case studies, technical sessions, a poster session, and optional training workshops-offering networking and knowledge-sharing opportunities for issues facing the international environmental remediation community. For more information, please visit <https://www.pnnl.gov/projects/remplex/2023-summit>.

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 (202) 566-0832 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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