



TechDirect, March 1, 2023

Welcome to TechDirect! Since the February 1 message, TechDirect gained 74 new subscribers for a total of 40,530. 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://www.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.

> Upcoming Live Internet Seminars

ITRC Strategies for Preventing and Managing Harmful Cyanobacteria Blooms (Two Part Series) - Interstate Technology and Regulatory Council - March 2 and 9, 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>.

ITRC Microplastics - March 7, 2023, 1:00PM-3:15PM EST (18:00-20:15 GMT). In response to one of the biggest emerging environmental concerns, ITRC formed the Microplastics Team in 2021 to develop the Microplastics Guidance Document. Plastics have become pervasive in modern life and are now used in a wide range of commercial and industrial applications. Microplastics may result from the degradation and fragmentation of larger plastics, or they may be intentionally produced for specific applications and products. Regardless of their origin, microplastics are now ubiquitous in our environment. Because of their small size and pervasiveness in the environment, microplastics, along with any other contaminants which are adhered to the microplastics, may be inadvertently consumed by humans and other organisms. For

more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

ITRC Microplastics Policies & Research Around the Globe - March 22, 2023, 5:00PM-6:30PM EDT (21:00-22:30 GMT). The Interstate Technology and Regulatory Council (ITRC) together with the Australasian Land and Groundwater Association (ALGA) is holding an expert panel on the latest news on microplastics policies, regulations, and research from both the US, Australia, and other countries. The Panel will include two US speakers and two Australian speakers. The Panel will compare and contrast different country responses and have a discussion on next steps for microplastics. Time will be allotted for audience questions and answers. For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

SERDP ESTCP Webinar Environmentally Sustainable Methods to Remove AFFF from Firefighting Delivery Systems - March 23, 2023, 12:00PM-1:30PM EDT (17:00-18:30 GMT). This webinar will feature DoD-funded research efforts develop approaches for remediating AFFF-impacted fire suppression systems. First, Dr. Christopher Bellona (Colorado School of Mines) will present his research to develop a rinsing procedure to remove PFAS from AFFF delivery equipment, as well as to evaluate a closed-circuit high-pressure nanofiltration/reverse osmosis system for the concentration and treatment of AFFF residuals. Second, Dr. Johnsie Lang (Arcadis) will discuss her work to develop laboratory and field demonstrations for removing PFAS entrained on surfaces. For more information and to register, see <https://serdp-estcp.org/webinars>.

ITRC Environmental Data Management (EDM): Best Practices for Exchanging Environmental Data - April 6, 2023, 1:00PM-2:30PM EDT (17:00-18:30 GMT). The ITRC Environmental Data Management Best Practices Team (EDMBP Team) prepared a series of guidance documents and case studies on best practices for all phases of EDM to address the need for guidance on managing large stores of environmental data. Environmental data management (EDM) is a broad field that encompasses all aspects of environmental research and regulation, from habitat studies and wildlife management plans to health advisories and remediation of hazardous waste sites. The EDMBP Team developed three Roundtable training sessions to support the Guidance Document and case studies. An additional offering is scheduled for May of 2023. You are welcome to register for any of the series, but they do not build upon each other. For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

> New Documents and Web Resources

Chromated Copper Arsenate Focus Area. Chromated copper arsenate (CCA) is a pesticide that has been used as a preservative in pressure-treated wood since the 1940s. When injected into the wood, CCA protects it from rotting due to decay-causing insects and microbes. From the 1970s through 2003, most of the wood excluding cedar and redwood used in outdoor residential structures such as decks, gazebos, picnic tables, and playsets, was treated with CCA (U.S. Consumer Product Safety Commission, undated). Effective December 31, 2003, manufacturers voluntarily discontinued use of chromated arsenicals in pressure-treated wood for residential use. CCA is still used, however, in products such as utility poles, pilings, docks, and retaining structures. To learn more, please visit <https://www.clu-in.org/cca/>

Climate Adaptation Profile: Allen Harbor Landfill, Davisville Naval Construction Battalion Center (NCBC). EPA recently released a climate adaptation profile describing measures taken at the Allen Harbor Landfill near North Kingstown, Rhode

Island. The remedy involved constructing a multimedia cap above consolidated waste materials associated with past NCBC operations that included disposing of materials such as construction debris, solvents and waste fuel. The site is vulnerable to erosion and overland runoff due to storm surge, tidal force and wave action of Allen Harbor, on the western shore of Narragansett Bay. Vulnerability to these natural forces is exacerbated by sea level rise; a 7-foot rise in sea level is anticipated along North Kingstown within 75-100 years. Design and construction of the capping system included multiple measures to address the vulnerabilities, such as designing the cap to reach an elevation higher than the feasibility study criteria. A stone revetment and breakwater structure were constructed along the length of the capped landfill's shoreline to protect the landfill cover surfaces from erosion during tidal rise and storm surges. Additionally, a two-acre strip of intertidal wetland containing saltwater-tolerant plants was restored between the revetment and breakwater structure to further reduce erosive effects of localized wave action. To view or download, please visit

<https://www.epa.gov/superfund/climate-adaptation-profile-allen-harbor-landfill>.

Superfund Research Program Brief 338: Combining Analytical Chemistry and Machine Learning to Detangle Mixtures. NIEHS Superfund Research Program (SRP)-funded researchers demonstrated a significant step toward identifying individual chemical components in complex mixtures. Their approach uses advanced analytical techniques and sophisticated machine learning approaches while overcoming the time-consuming separation steps that preceded traditional chemical analysis. For more information and to read the brief, please visit

https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=338.

Development of a Quantitative Framework for Evaluating Natural Attenuation of 1,1,1-TCA, 1,1-DCA, 1,1-DCE, and 1,4-Dioxane in Groundwater. The DoD has developed a new screening tool to simulate the natural attenuation of dissolved compounds in groundwater. The tool helps to evaluate historical monitoring data and to develop lines of evidence supporting MNA as a viable remedial approach. The model is programmed in a spreadsheet format and a User's Guide provides helpful instructions. The tool incorporates key fate and transport mechanisms and various biotransformation processes. The following modules are included: solute transport of 1,4-dioxane with biotransformation via an oxidative pathway, solute transport of chlorinated ethenes with biotransformation modeled as a sequential first order reductive dechlorination process, and solute transport of chlorinated ethanes with two different degradation pathways including reductive dichlorination or an abiotic process. The MNA Rate Constant Estimator Tool was developed under the DoD ESTCP as part of Project Number ER-201730. For more information and to download the tool, please visit

<https://www.serdp-estcp.org/projects/details/bd9c56ae-002e-40fc-88cf-4a9c8566de93/er-201730-project-overview>.

New ITRC Microplastics Guidance Available. Microplastics (MP) are ubiquitous in our environment and pose one of the biggest emerging threats to the global environmental community. The science surrounding MP, their potential health effects, and knowledge of their fate and transport is very new and ongoing, with research articles being published at a rapidly accelerating rate. Even techniques and best practices for sample collection and analysis of these tiny particles and fibers are still very much evolving. ITRC's Microplastics Team has synthesized the available information on MP into a single comprehensive guidance document, covering everything from ecological effects and mitigation and abatement strategies to environmental distribution! Learn more at <https://mp-1.itrcweb.org/>

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:

- Summary Report: Strategic Workshop on Management of PFAS in the Environment
- Modeling and Monitoring Tools to Support Passive and Active NAPL Remediation Approaches

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than five resources, events, projects and news items were added to EUGRIS in February 2023. These can be viewed at <http://www.eugris.info/whatsnew.asp> .

> Conferences and Symposia

2023 ITRC Annual Meeting - Boston, MA, March 20-23, 2023. This in-person event will include a plenary session, awards ceremony, receptions, and working group meetings for ITRC's many Technical Teams. In addition to the meeting, ITRC will also host a state-specific PFAS training on Friday, March 24. The ITRC Annual Meeting brings together environmental leaders and professionals from state agencies; Tribes; EPA, DOE, DOD, and other federal agencies; industry; and NGOs to work together in the development of revolutionary, consensus-based environmental guidance. For more information and to register, please visit <https://itrcweb.org/meetings/upcoming>

Spring 2023 Design and Construction Issues at Hazardous Waste Sites (DCHWS) - Philadelphia, PA, March 29-31, 2023. The event is a collaborative effort between the Society of American Military Engineers (SAME) and the United States Environmental Protection Agency (US EPA). The applications of engineering and science associated with cleaning up hazardous waste sites continue to evolve rapidly. The goal of DCHWS is to facilitate an interactive engagement between professionals from the government and the private sector related to relevant and topical issues affecting our field. For more information and to register, please visit <https://sites.google.com/samephiladelphiaipost.org/dchws/east-symposium/spring-2023-dchws>.

2023 National Brownfields Training Conference - Detroit, MI, August 8-11, 2023. The National Brownfields Training Conference is the largest event in the nation focused on environmental revitalization and economic redevelopment. Usually 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 2023 offers something for you! For more information, please visit <https://brownfields2023.org/call-for-ideas/>

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://www.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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