



TechDirect, September 1, 2023

Welcome to TechDirect! Since the August 1 message, TechDirect gained 2,719 new subscribers for a total of 43,778. 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.

> Upcoming Live Internet Seminars

SERDP/ESTCP Innovative Tools for Characterizing PFAS Distribution and Mass Discharge in Groundwater - September 7, 12:00PM-1:30PM EDT (17:00-18:30 GMT). Join SERDP and ESTCP on Thursday, September 7, for a webinar featuring DoD-funded research efforts to develop innovative tools for PFAS sampling and monitoring. First, Dr. Rainer Lohmann (University of Rhode Island) will discuss his work on developing and testing passive PFAS samplers in groundwater, surface water (fresh and salt water), and porewater. Second, Dr. Craig Divine (ARCADIS) will talk about the assessment of a novel multi-port well system to aid in PFAS site characterization efforts. For more information and to register, see <https://serdp-estcp.org/webinars>.

ITRC Optimizing Injection Strategies and In situ Remediation Performance - September 12, 1:00PM-3:15PM EDT (18:00-20:15 GMT). ITRC developed the guidance: Optimizing Injection Strategies and In Situ Remediation Performance (OIS-ISRP-1) and this associated training course to identify challenges that may impede or limit remedy effectiveness and discuss the potential optimization strategies, and specific actions that can be pursued, to improve the performance of in situ remediation by: refining and evaluating remedial design site characterization data; selecting the correct amendment; choosing delivery methods for site-specific conditions; creating design specifications; conducting performance evaluations, and optimizing under-performing in situ remedies. The target audience for this guidance and training course is: environmental consultants, responsible parties, federal and state regulators, as well as community and tribal stakeholders. This training will support users in efficiently and confidently applying the guidance at their remediation sites. An optimization case study is shared to illustrate the use of the associated guidance document. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

ITRC PFAS Introductory Training - September 14, 2023, 1:00PM-3:00PM EDT

(17:00-19:00 GMT). Per- and polyfluoroalkyl substances (PFAS) are a large and complex class of anthropogenic compounds whose prevalence in the environment are an emerging, worldwide priority in environmental and human health. The ITRC PFAS Team, formed in 2017, has prepared readily accessible materials to present PFAS information to stakeholders, regulators, and policy makers. The PFAS team represents a diverse cross-section of expertise and experience working on PFAS. This training will include emerging science on PFAS, including topics such as Properties of PFAS, Fate and Transport, Sampling and Analysis, and Treatment Technologies. The technical presentations will be focused on those who are relatively new to PFAS. The training will last approximately 90 minutes and include time for questions. For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

SERDP and ESTCP Transitioning from Active Remedies to Monitored Natural Attenuation - September 21, 12:00PM-1:30PM EDT (17:00-18:30 GMT). Join SERDP and ESTCP on Thursday, September 21, for a webinar featuring DoD-funded research efforts on transitioning from active to passive remedies at DoD sites. First, Dr. David Adamson (GSI Environmental Inc.) will discuss the development of a web-based application to assist site managers in assessing transition from active remedies to natural attenuation. Second, Dr. Paul Tratnyek (Oregon Health and Science University) will talk about the development of a quantitative framework for predicting abiotic attenuation under natural and transitional site management scenarios. For more information and to register, see <https://serdp-estcp.org/webinars>.

ITRC Pump & Treat Optimization - Thursday, September 21, 2023, 1:00PM-3:15PM EDT (17:00-19:15 GMT). This training aims to summarize existing information and best practices while also developing a systemic and adaptive optimization framework specifically for P&T well-network design and management. P&T systems have been one of the most commonly used methods for hydraulic containment and treatment of contaminated groundwater at sites with large groundwater plumes. This method cleans up groundwater contaminated with dissolved chemicals by pumping groundwater from wells to an above-ground treatment system that removes the contaminants. The primary audience for this training is environmental project decision-makers, which may include federal, state, tribal, and various local agency employees; contractors to these agencies; and potentially liable parties and their engineers and consultants as well as involved stakeholders. Generally, those involved in designing, building and operating, and optimizing pump & treat systems would benefit. For more information and to register, see <https://www.itrcweb.org> or <https://www.clu-in.org/live>.

Updates in Use of Qualified Data in HRS Evaluations - September 28, 2023, 1:00PM-2:00PM EDT (17:00-18:00 GMT). This one-hour session will review updates to EPA's fact sheet Using Qualified Data to Document an Observed Release and Observed Contamination and changes to how certain types of qualified data can be used in Hazard Ranking System (HRS) evaluations. 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). For more information and to register, see <https://www.clu-in.org/live>.

ITRC 6PPD & 6PPD-quinone: Understanding and Mitigating the Emerging Global Contaminants -September 28, 2023, 5:00PM-6:15PM EDT (21:00-22:15 GMT). The Interstate Technology & Regulatory Council (ITRC) together with the Australasian Land and Groundwater Association (ALGA) is holding a Workshop on the emerging contaminants, 6PPD and 6PPD-quinone. The Workshop will feature speakers from the United States, Australia, and Europe (NICOLE). The aim of this Workshop is to provide background on 6PPD and 6PPD-quinone, review the environmental and health risks, and highlight what is being done globally to find a solution. Time will be allotted for audience questions and answers. 6PPD-quinone was an unknown chemical until 2020

when Tian et al. identified it as the toxic agent killing coho salmon in Washington State. 6PPD-quinone is a reaction product of ozone and 6PPD, a tire anti-degradant that has been used for decades throughout the world and is recognized as one of the most toxic chemicals compared to substances with USEPA aquatic life criteria. In the short time since 6PPD-quinone's isolation and characterization, scientists have been working to better understand its prevalence and behaviors in the environment. For more information and to register, see <https://www.itrcweb.org> or <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>.

> New Documents and Web Resources

Research Brief 344: Benzene Exposure During Pregnancy Affects Later-Life Metabolic Health. Prenatal exposure to the air pollutant benzene may lead to a higher risk of metabolic diseases later in life, according to a study in mice partially funded by the NIEHS Superfund Research Program (SRP). Benzene affects neurodevelopment, predisposing offspring to harmful metabolic effects, according to a research team led by Marianna Sadagurski, Ph.D., of the Wayne State University SRP Center. For more information and to read the Brief, please visit https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=344

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:

- Improved Longevity and Selectivity of PFAS Groundwater Treatment Using Sub-Micron Powdered Activated Carbon and Ceramic Membrane Filter System
- Multi-Laboratory Validation Study for Analysis of PFAS by EPA Draft Method 1633: Wastewater, Surface Water, and Groundwater Matrices
- Ex Situ Soil Washing to Remove PFAS Adsorbed to Soils from Source Zones
- Biological Factors Influencing Sorption and Biodegradation of Chemicals of Concern on Particulate/Colloidal Activated Carbon

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 10 resources, events, projects and news items were added to EUGRIS in June through August 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

RemTech Europe - Hybrid, September 18-22, 2023. RemTech Europe, an international conference and exhibition on land and water remediation markets and technologies, is scheduled for 18-22 September 2023. The aim of the Conference is to share information on knowledge, innovation and case histories, to encourage the development of remediation processes and the application of new and sustainable technologies. RemTech Europe also brings together experts, problem owners and suppliers of available services and technologies while providing a platform for discussion between stakeholders. The conference will be broadcast fully in English. For more information and to register, please visit <https://www.remtechexpo.com/en/remtech-europe> .

Design and Construction Issues at Hazardous Waste Sites (DCHWS West), October 25-27, 2023, Denver, Colorado. 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 and to register, please visit <https://sites.google.com/samephiladelphiaipost.org/dchws/west-symposium/fall-2023-dchws> .

Environmental Sustainability and Energy Resilience Symposium, November 28-December 1, 2023, Arlington, Virginia. 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. Registration is now open at <https://www.dodinnovationsymposium.org/>

Save the Date! ITRC Annual Meeting, April 8-11, 2024, Long Beach, CA. Environmental professionals from the state, tribal and federal government, private sector, and stakeholder groups come to ITRC's Annual Meeting to collaborate on critical environmental topics and guidance. Registration is expected to open in November, 2023. For more information, please visit <https://itrcweb.org/itrcwebsite/events/2024-annual-meeting>

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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