



TechDirect, April 1, 2021

Welcome to TechDirect! Since the March 1 message, TechDirect gained 64 new subscribers for a total of 39,856. 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.

> Announcement

Interstate Technology & Regulatory Council (ITRC) 2022 Team Proposals. ITRC is accepting proposals that address important environmental issues and advance innovative technologies and practices. Selected proposals will begin in January 2022. All applicable environmental topics will be considered, but evaluation criteria will give preference to proposals that address the needs listed in the 2022 ITRC Environmental Priorities list, or proposals which update existing ITRC documents. Proposers are reminded to review the evaluation criteria. The first round of pre-proposals are due by April 6, 2021. View more information at <https://itrcweb.org/About/Planning>.

> Upcoming Live Internet Seminars

ITRC Characterization and Remediation of Fractured Rock - April 8, 2021, 1:00PM-3:15PM EDT (17:00-19:15 GMT). The basis for this training course is the ITRC guidance: Characterization and Remediation of Fractured Rock. The purpose of this guidance is to dispel the belief that fractured rock sites are too complex to characterize and remediate. The physical, chemical and contaminant transport concepts in fractured rock have similarities to unconsolidated porous media, yet there are important differences. By participating in this training class, you should learn to use ITRC's Fractured Rock Document to guide your decision making so you can: develop quality Conceptual Site Models (CSMs) for fractured rock sites, set realistic remedial objectives, select the best remedial options, monitor remedial progress and assess results, and value an interdisciplinary site team approach to bring collective expertise to improve decision making and to have confidence when going beyond containment and

monitoring -- to actually remediating fractured rock sites. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

Superfund Redevelopment Program Webinar Series - Equitable Redevelopment and Environmental Justice - April 20th, 2021, 1:00PM-3:00PM EDT (17:00-19:00 GMT). One of EPA's key objectives is to make sure everyone enjoys the same degree of protection from environmental and health hazards. Given that Superfund sites disproportionately impact communities of color and low-income communities, the Superfund redevelopment process provides an opportunity to facilitate equitable redevelopment by involving impacted communities in the planning process and identifying how to reduce burdens and increase benefits through the redevelopment process. This webinar will discuss strategies for incorporating equitable redevelopment and environmental justice into Superfund site cleanup and redevelopment. The webinar will cover the key components of equitable redevelopment, the role EPA, local government and developers can play in equitable redevelopment, examples of equitable redevelopment and EPA tools and resources available to address environmental justice at Superfund sites. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

ITRC Optimizing Injection Strategies and In situ Remediation Performance - April 27, 2021, 1:00PM-3:15PM EDT (17:00-19:15 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 underperforming 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>.

An Environmental Cold Case Detective Story: Discovery and Repair of the Soil Cover on the Cell 3 Landfill - April 28, 2021, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The Society of American Military Engineers (SAME) Denver Post and Philadelphia Post along with the US Environmental Protection Agency (EPA) are hosting a series of webinars based on talks given at recent Design and Construction Issues at Hazardous Waste Sites (DCHWS) Symposiums. The mission of the DCHWS symposiums is to facilitate an interactive engagement between professionals from government and the private sector related to relevant and topical issues affecting applications of engineering and science associated with cleaning up hazardous waste sites. The symposiums also serve as a platform to facilitate the exchange of information, encourage dialogue, share experiences, and build and enhance communication among design and construction professionals. For more information and to register, please visit <https://clu-in.org/live>.

ITRC Strategies for Preventing and Managing Harmful Cyanobacteria Blooms - April 29, 2021, 1:00PM-3:00PM EDT (17:00-19:00 GMT). 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://clu-in.org/live>.

Federal Remediation Technologies Roundtable (FRTR) Spring 2021 Meeting: FRTR at 30 years Session 1 Grand Challenges - Wednesday, May 19, 2021, 1:00PM-3:30 pm EDT (17:00-19:30 GMT). The Spring 2021 Meeting of the Federal Remediation Technologies Roundtable (FRTR) will be held as two webinar sessions on May 19 and May 26, 2021. This special 30-year anniversary meeting will convene senior leaders from all FRTR member agencies to discuss progress in remediation programs and opportunities for innovative technology applications at complex sites. As always, FRTR meetings are open to the public. FRTR's objectives for this meeting are to provide an overview of the grand remediation challenges facing member agencies over the next decade, discuss specific technology needs across program and highlight agency program initiatives to advance technologies that will expedite and improve site cleanup. This first session of the FRTR meeting will focus on "Grand Challenges". This session will consist of a virtual panel discussion by senior-level leaders from the FRTR member agencies involved in site remediation programs. The panel discussion will be facilitated by Dan Powell, Chief of the Technology Integration and Information Branch in U.S. EPA's Office of Superfund Remediation and Technology Innovation. For more information and to register, please visit <https://clu-in.org/live>.

Federal Remediation Technologies Roundtable (FRTR) Spring 2021 Meeting: FRTR at 30 years Session 2 Advancing New Technologies - Wednesday, May 26, 2021, 1:00PM-3:30 pm EDT (17:00-19:30 GMT). The Spring 2021 Meeting of the Federal Remediation Technologies Roundtable (FRTR) will be held as two webinar sessions on May 19 and May 26, 2021. This special 30-year anniversary meeting will convene senior leaders from all FRTR member agencies to discuss progress in remediation programs and opportunities for innovative technology applications at complex sites. As always, FRTR meetings are open to the public. FRTR's objectives for this meeting are to provide an overview of the grand remediation challenges facing member agencies over the next decade, discuss specific technology needs across program and highlight agency program initiatives to advance technologies that will expedite and improve site cleanup. This second session will focus on "Advancing New Technologies". This session will consist of a virtual panel discussion by senior-level leaders from the FRTR member agencies involved in research and application of new and innovative site characterization and remediation technologies at complex sites. The panel discussion will be facilitated by Kent Glover of the U.S. Air Force Civil Engineer Center. Dr. Glover is the Air Force Subject Matter Expert (SME) for Remediation Systems and the FRTR Steering Committee Chair. For more information and to register, please visit <https://clu-in.org/live>.

> New Documents and Web Resources

Superfund Research Program Brief 315: Modeling and Field Tests Yield Promising Results for Aquifer Clean Up. NIEHS Superfund Research Program (SRP) grantees have developed novel, slow-release oxidant-paraffin candles that dissolve and degrade chlorinated contaminants in underground aquifers. The grant recipient, small business AirLift Environmental, worked with partners at the University of

Nebraska-Lincoln (UNL) to optimize this groundwater clean-up method and demonstrated its effectiveness in a field study. View more information at https://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=31

Superfund Research Program Technology Profile March 2021. A SRP-funded small business developed smart temperature responsive copolymer flocculants to remove persistent water-soluble contaminants, such as per- and polyfluoroalkyl substance (PFAS), from water. The technology separates solids and liquids by forming flocs, larger aggregations of particles that can more easily be removed from water. View more information at https://www.niehs.nih.gov/research/supported/centers/srp/science_digest/2021/3/technology/index.cfm

NAVFAC Report: Application of Horizontal Wells to Enhance Site Remediation October 2020 (TR-NAVFAC-EXWC-EV-2103). Horizontal wells have become a cost-effective and practical tool to facilitate the remediation of contamination at challenging sites where vertical wells alone may not be able to achieve project objectives. This report provides Navy case studies where it was optimal to install horizontal wells and also reviews recent advances in design and emplacement technologies for horizontal wells. View or download at https://www.navfac.navy.mil/content/dam/navfac/Specialty%20Centers/Engineering%20and%20Expeditionary%20Warfare%20Center/Environmental/Restoration/er_pdfs/h/Horizontal%20Well%20Case%20Studies%2011_13_20_Final.pdf

SuRF-UK Tier 1 Sustainability Assessment Tool. The Sustainable Remediation Forum UK (SuRF-UK) published an updated Tier 1 qualitative sustainability assessment tool. The SuRF-UK Steering Group worked collaboratively with AECOM on updating the spreadsheet taking into account the updated SuRF-UK guidance (Supplementary Reports SR1 and SR2) published in late 2020. It provides a standardized way of completing a Tier 1 qualitative sustainable remediation assessment and is available free of charge. View or download at https://www.claire.co.uk/index.php?option=com_content&view=article&id=1476:surf-uk-tier-1-assessment-tool&catid=14.

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:

- Making Decisions And Making A Difference In Superfund: Administrator's Emphasis List 2017-2021
- Review Of Amendment Delivery And Distribution Methods, And Relevance To Potential In Situ Source Area Treatment At The Hanford Site
- Managing Chlorinated Solvents In Groundwater Using Biological Treatment
- Technical Resources For Addressing Environmental Releases Of 1,4-Dioxane
- Per- And Polyfluoroalkyl Substances (PFAS): Incineration To Manage PFAS Waste Streams

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 8 resources, events, projects and news items were added to EUGRIS in March 2021. 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

Springing Ahead - ITRC Virtual Spring Meeting, April 13-22, 2021. This year's Annual Spring Meeting will be a virtual gathering of ITRC members and non-members alike; a FREE opportunity to learn more about ITRC and the technical teams. Special items to look for in the ITRC Spring Plenary Session (April 13, 2021) include a panel of Environmental Justice experts and a virtual ceremony for the presentation of our Lifetime Achievement and Impact Awards, as well as an optional overview of our 2021 project teams. The rest of the Spring Meeting will include technical team meetings and events for their respective program areas. For more information and to register, please visit <https://itrc.wildapricot.org/event-4179659>.

2021 National Brownfields Training Conference - Oklahoma City, OK, September 27-30, 2021. 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.

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