



TechDirect, April 1, 2020

Welcome to TechDirect! Since the March 1 message, TechDirect gained 51 new subscribers for a total of 39,392. 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.

> Funding Announcements

ITRC 2021 Team Proposals. ITRC is accepting proposals that address urgent environmental issues and advance innovative technologies and practices. Selected proposals will begin in January 2021. All applicable environmental topics will be considered, but evaluation criteria will give preference to proposals that address the needs listed in the 2021 ITRC Environmental Priorities list, or proposals which update ITRC documents that are outdated. Proposers are reminded to review the evaluation criteria and present a pre-proposal that is technical in nature, not policy-oriented, nor a research or demonstration project. The first round of pre-proposals are due by Tuesday, April 21, 2020. For more information and application instructions, see <https://itrcweb.org/About/Planning>.

EPA Awards \$2.3 Million in Funding for Small Businesses to Develop Innovative Environmental Technologies. EPA is funding 23 contracts with small businesses through its Small Business Innovation Research (SBIR) program to develop technologies that will help protect human health and the environment. This year's funded technologies are focused on clean and safe water, air quality monitoring, land revitalization, homeland security, sustainable materials management, and safer chemicals. These small businesses are receiving Phase I funding of up to \$100,000. After receiving a Phase I award, companies are eligible to compete for a Phase II award of up to \$400,000 to further develop and commercialize the technology. For more information, see <https://www.epa.gov/newsreleases/epa-awards-23-million-funding-small-businesses-develop-innovative-environmental>.

> Upcoming Live Internet Seminars

FRTR Presents...Synthesizing Evolving Conceptual Site Models (CSMs) with Applicable Remediation Technologies - April 1, 2020, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This webinar features presenters and material from the November 2019 FRTR Meeting held in Reston, VA. The session will include two presentations: Developing Conceptual Site Models of Contaminated Fractured Rocks to Support In-Situ Remediation (presented by the U.S. Geological Survey) and Using Remedy Implementation Information to Guide Remedy Optimization (presented by the Pacific Northwest National Laboratory, U.S. Department of Energy, and EPA). For more information and to register, see <https://clu-in.org/live>.

Federal Facilities Online Academy ♦ April 6, 2020 through September 14, 2020. This voluntary training program has been developed for EPA RPMs, project managers from other federal agencies, State government, and Tribal groups who work on federal facility Superfund cleanups. Please consider participating in all 12 courses, 11 Webinars and 1 In-Person Training, to obtain a certificate upon completion of the entire Federal Facility Academy series. For more information and to register for upcoming sessions or view archived sessions, see <https://trainex.org/offeringlist.cfm?courseid=1819>.

ITRC Connecting the Science to Managing LNAPL Sites a 3 Part Series ♦ April 7, 14, and 28, 2020. 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.itrweb.org> or <https://clu-in.org/live>.

Heat Enhanced Hydrolysis of Energetic Compounds and Field Results - April 8, 2020, 1:00PM-3:00PM EDT (17:00-19:00 GMT). The USACE Omaha District implemented a low temperature thermal pilot study to evaluate the effects of in situ heating to enhance the hydrolysis of munition constituents (MCs) found in soil. Heating of vadose zone soils is occurring through the application of electrical resistance heating (ERH) at sub-steaming temperatures. The site was established to receive and store ammunition and was placed into inactive status in 1967. The area to be targeted by the pilot study is a former leach bed, contaminated with munition compounds, which include hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), trinitrotoluene (TNT), dinitrotoluene (DNT), and pentaerythritol tetranitrate (PETN). The treatment volume soil was heated to an average of 80°C over a period of about two months starting in July 2019 and maintained temperature for four additional months. Following four months of heating, soil samples were collected in November 2019. An additional round of soil sampling occurred after six months of heating in January 2020. The presentation will focus on the innovative approach to enhancing hydrolysis, results of low temperature ERH remediation, including MC data from various confirmation soil sampling events, and lessons learned when implementing a low temperature thermal remedy. For more information and to register, see <https://clu-in.org/live>.

Ecological Risk Assessment Approaches at PFAS-Impacted Sites - April 9, 2020, 12:00PM (16:00 GMT). ERDP and ESTCP have launched a webinar series to promote the transfer of innovative, cost-effective and sustainable solutions developed through

projects funded in five program areas. The webinar series targets Department of Defense and Department of Energy practitioners, the regulatory community and environmental researchers with the goal of providing cutting edge and practical information that is easily accessible at no cost. This session will feature two presenters discussing ecological risk assessment approaches at PFAS-impacted sites. For more information and to register, see <https://www.serdp-estcp.org/Tools-and-Training/Webinar-Series>.

NARPM Presents ♦ Stand and Deliver Effective Presentations - April 16, 2020, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This webinar will provide participants with guidelines on how to make better presentations to the public, their peers, or management. The webinar will help to improve your presentation skills and provide you with tools and techniques to be an interesting and effective presenter. The webinar is intended to help participants increase their comfort in public speaking, control and connect with their audience, handle audience participation, and ultimately deliver the message and take-away points of training courses they are planning to instruct. The webinar will teach participants how to manage nerves, voice, gestures, transitions, visual aids, and content. The webinar also addresses how to manage the audience to include difficult participants, the solicitation of questions, and the response to questions and will include techniques for adapting to diverse audiences. For more information and to register, see <https://clu-in.org/live>.

Superfund Redevelopment Roundtable Webinar Series: Session 2, A Developer ♦s Perspective on Superfund Site Redevelopment - April 21, 2020, 1:00PM-2:30PM EDT (17:00-18:30 GMT). Interested in creative site redevelopment strategies from an experienced developer? The Naval Industrial Reserve Ordnance Plant and FMC Corp. Superfund sites designed and manufactured advanced naval weapons. The developer has built a business industrial park in four phases. Hyde Development worked with Minnesota ♦s environmental agency to enroll the property encompassing the site in the state ♦s Voluntary Investigation and Cleanup Program. Using this alternative cleanup mechanism enabled close coordination between the cleanup and development design stages to support a phased cleanup approach that would allow for phased redevelopment construction. Part of Superfund Redevelopment ♦s roundtable webinar series, this training will focus on opportunities, benefits, strategies, liability protections and risk management for partnerships between developers, and local and state governments. This interactive session will include robust Q&A as well as an opportunity for participants to share their perspectives on how to encourage more and faster Superfund site redevelopment across the country. Presenters will answer questions about available resources and support, share best practices and update participants on the latest tools and guidance. For more information and to register, see <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:

- Implementing Advanced Site Characterization Tools
- Optimizing Injection Strategies and In Situ Remediation Performance
- Investigative Area 12 Operable Unit-2 Interim Remedial Measure Progress Report Hoffmann-La Roche Inc. Site, 340 Kingsland Street, Nutley, New Jersey

- Ethylene Dibromide In Situ Biodegradation Pilot Test Report Bulk Fuels Facility Solid Waste Management Units ST-106 and SS-111, Kirtland Air Force Base, New Mexico
- Proof-of-Concept for the in situ Toxicity Identification Evaluation (iTIE) Technology for Assessing Contaminated Sediments, Remediation Success, Recontamination, and Source Identification
- Biologically Mediated Abiotic Degradation (BMAD) of Chlorinated Ethenes: A New Conceptual Framework

Investigation of a Sustainable Approach to In-situ Remediation of Arsenic Impacted Groundwater (EPA/600/R-19/102, September 2019). Scientists from Region 2 [Nica Klaber and Hunter Young (now R10)], ORD CESER (Richard Wilkin and Diana Cutt), and the U.S. Army Corps of Engineers are co-authors on a new EPA Report, ♦ Investigation of a Sustainable Approach to In-situ Remediation of Arsenic Impacted Groundwater. ♦ This study was conducted at the Vineland Superfund Site (New Jersey) and examined the optimization of an in-situ arsenic immobilization technology to replace or augment an existing pump and treat system for contaminated groundwater. Key processes controlling arsenic immobilization were determined through bench-scale testing, geochemical modeling, and groundwater/aquifer characterization. Field data showed that arsenic and iron concentrations were reduced from levels around 1,000 and 15,000 ♦g/L to levels as low as 10 and 1,000 ♦g/L, respectively. Results from this work can be used to optimize the design and operation of the full-scale system and provide guidance for the design of air sparge systems at sites with similar conditions. The collaborative research was supported through an ORD STLR Funding Project. View or download at https://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=348256&Lab=CESER

> Conferences and Symposia

ASTSWMO 2020 RCRA Corrective Action Conference - Lexington, KY, June 3-5, 2020. The Conference will feature the theme, "RCRA Corrective Action: 2020 and The Road Ahead", to acknowledge 2020 as the milestone year for achieving RCRA corrective action goals and the work that remains beyond 2020. Session topics will reflect the theme. On June 3, the Conference will be open only to State and Territorial (State) members and EPA Headquarters and Regional staff for discussions of regulators' issues. On June 4-5, ASTSWMO is pleased to invite, in addition to State members and EPA, officials from the U.S. Department of Defense (DoD) and other federal government agencies, industry, and other entities. For more information and to register, see <http://astswmo.org/event/astswmo-2020-rcra-corrective-action-conference/>.

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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