U.S. ENVIRONMENTAL PROTECTION AGENCY

TechDirect, September 1, 2021

Welcome to TechDirect! Since the August 1 message, TechDirect gained 45 new subscribers for a total of 39,973. 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.

> RFI for EPA's Superfund Quality and Sample Support (QSS)

Request for Information (RFI) for the Superfund Quality and Sample Support (QSS) - Responses Due Sept 9, 2021 at 4:30PM ET.
An RFI in support of EPA's Analytical Services Branch of the Office of Superfund Remediation and Technology Innovation, Office of Land and Emergency Management is available via SAM.gov (formerly FBO.gov). The RFI is seeking feedback from large and small businesses with NAICS Code 541611 - Administrative Management and General Management Consulting Services. The deadline to respond to the RFI is September 9, 2021 at 4:30 PM ET. For more information https://sam.gov/opp/1767743e034d4876bd0b6e1f08bc4fa7/view.

> Upcoming Live Internet Seminars

SERDP/ESTCP Management of AFFF Impacts in Subsurface Environments and Assessment of Novel and Commercially Available PFAS-Free Foams, Parts 1 and 2, September 9 and 23, 2021, 1:00PM EDT (17:00 GMT). Join SERDP and ESTCP for a two-part webinar featuring DoD-funded research efforts to manage the impacts of aqueous film forming foams (AFFF) through efforts to destroy per- and polyfluoroalkyl substances (PFAS) in wastewaters and to develop PFAS-free firefighting foam formulations. In Part 1, Dr. Ezra Cates (Clemson University) will provide details on a photocatalytic treatment system for the remediation and management of PFAS-impacted wastewater. Second, Dr. John Payne (National Foam) will discuss the physical and chemical processes of PFAS-free foams that affect performance. In Part 2, Mr. Joseph Quinnan (Arcadis) and Mr. Terence Reid (Aqua Aerobic Systems) will

discuss sustainable, cost-effective groundwater treatment technologies for PFAS removal. Second, Dr. Timothy Long (Virginia Tech) will talk about modular design strategies used to design novel formulations for PFAS-free firefighting foams. For more information and to register, see https://www.serdp-estcp.org/Tools-and-Training/Webinar-Series.

ITRC Vapor Intrusion Mitigation (VIM-1), Sessions 1 and 2 - September 14 and 28, 2021, 1:00PM-3:00PM EDT (17:00-19:00 GMT). When certain contaminants or hazardous substances are released into the soil or groundwater, they may volatilize into soil gas. Vapor intrusion (VI) occurs when these vapors migrate up into overlying buildings and contaminate indoor air. ITRC has previously released guidance documents focused on VI, including the "Vapor Intrusion Pathway: A Practical Guidance" (VI-1, 2007) and "Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management" (PVI, 2014). However, ITRC has received multiple requests for additional details and training on mitigation strategies for addressing this exposure pathway. The ITRC Vapor Intrusion Mitigation Team (VIMT) created ten fact sheets, 16 technology information sheets, and 4 checklists with the goal of assisting regulators during review of vapor intrusion mitigation systems, and helping contractors understand the essential elements of planning, design, implementation, and operation, maintenance and monitoring (OM&M) of mitigation systems. The Vapor Intrusion Mitigation training is a series of eight (8) modules, presented over two sessions. For more information and to register, see https://www.itrcweb.org or https://clu-in.org/live.

Ten Years of Optimization of the Environmental Restoration program at a DoD Facility in North Carolina - September 15, 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, see https://clu-in.org/live.

Ecosystem Services - Benefits and Considerations for the Cleanup of Contaminated Mine Sites - September 21, 2021 - 1:00PM-3:00PM EDT (17:00-19:00 GMT). One way to characterize and improve the benefits of environmental cleanups is to use concepts of "ecosystem services", those benefits that nature contributes to human health and well-being. Join us to learn about how we may consider ecosystem services in cleanup of contaminated site cleanups. This two-part webinar will first introduce ecosystem services concepts from a contaminate site cleanup perspective and discuss ongoing efforts at EPA to connect ecosystem services concepts, tools, and frameworks to different aspects of cleanups. The second part will introduce examples of mine cleanups that have elements relevant to ecosystem services with an overall goal to tee up innovative ideas for characterizing and improving the benefits of environmental cleanups. Overall, an understanding of ecosystem services concepts can be helpful to ecological risk assessors and cleanup project managers working on sites looking for enhancing environmental benefits in their projects. For more information and to register, see https://clu-in.org/live.

Plume Stability Analyses with GWSDAT - September 22, 2021, 11:00AM-12:00PM (15:00-16:00 GMT). The GroundWater Spatiotemporal Data Analysis Tool (GWSDAT) is a user friendly, open source, decision support tool for the analysis and reporting of groundwater monitoring data. Uniquely, GWSDAT applies a spatiotemporal model smoother for a more coherent interpretation of the interaction in spatial and time-series

components of groundwater solute concentrations. This provides a more data efficient method for evaluating and determining contaminant plume stability. New in the latest version (v3.1) is the ability to perform well redundancy analysis by allowing the user to drop a well or a combination of wells from the analysis and investigate the resultant impact, including comparison to full dataset. More information and access to this tool can be found at http://gwsdat.net/. For more information and to register, see https://clu-in.org/live.

Risk Communication Strategies to Reduce Exposures and Improve Health: Sessions 1-4, September 24, October 8, 20, 22, 2021, 1:00 PM-3:00 PM EDT (17:00-19:00 GMT). The NIEHS Superfund Research Program (SRP) is hosting a Risk e-Learning webinar series focused on strategies to communicate potential environmental health risks to reduce exposures and improve health. The four-part series will showcase effective risk communication strategies and how they have been tailored to needs of diverse communities. Presentations will also highlight first-hand experiences designing risk communication messages and campaigns, evaluating impact, and adapting communication strategies for different populations. The webinar series builds on an SRP workshop held in June 2021. The first session focuses on designing and tailoring messages to better communicate risks to vulnerable communities. Presenters will include how they have worked with communities and other stakeholders to develop targeted messages and create effective communication tools. In the second session, presenters will describe research on designing and framing communication messages so that they are sensitive to the cultural and social context of communities. These efforts aim to combat misinformation and mistrust when communicating health and environmental risks. In the third session, presenters will discuss how they have engaged and communicated with underserved and vulnerable communities and developed strategies to tailor messages to these communities so they can participate and use the information equitably. The session will also include a presentation on the NIH Rapid Acceleration of Diagnostic-Underserved Populations (RADx-UP) Program, which funds community engagement programs with a focus on communities most affected by the COVID-19 pandemic. The fourth and final session will feature work by SRP-funded researchers who are translating research into communication tools and tailoring them for specific community needs. These specialized tools work to successfully communicate health risks and increase environmental health literacy. For more information and to register, see https://clu-in.org/live.

ITRC 1,4-Dioxane: Science, Characterization & Analysis, and Remediation - September 30, 2021, 1:00PM-3:15PM EDT (17:00-19:15 GMT). 1,4-Dioxane has seen widespread use as a solvent stabilizer since the 1950s. The widespread use of solvents through the 1980s suggests its presence at thousands of solvent sites in the US; however, it is not always a standard compound in typical analytical suites for hazardous waste sites, so it previously was overlooked. The U.S. EPA has classified 1,4-dioxane as "likely to be carcinogenic to humans." Some states have devised health standards or regulatory guidelines for drinking water and groundwater standards; these are often sub-part per billion values. These low standards present challenges for analysis, characterization, and remediation of 1,4-dioxane. The ITRC team created multiple tools and documents that provide information to assist all interested stakeholders in understanding this contaminate and for making informed, educated decisions. This training is a series of six (6) modules. The six individual modules will be presented together live, and then archived on the ITRC 1,4-Dioxane training webpage for on demand listening. For more information and to register, see https://www.itrcweb.org or https://clu-in.org/live.

> New Documents and Web Resources

Radon Vapor Intrusion Screening Level (RVISL) Calculator for Radionuclide Contaminants at Superfund Sites. This website was developed with the Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL) under an Interagency Agreement with the U.S. Environmental Protection Agency (EPA). The main purpose of this guidance is to provide a RVISL calculation tool to assist risk assessors, remedial project managers, and others involved with risk assessment and decision-making at Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites in developing RVISLs or preliminary remediation goals (PRGs) for indoor Rn-222, Rn-220, and Rn-219 that are risk or dose based and for showing compliance with the UMTRCA indoor radon standards for Rn-222 and Rn-220.The RVISL website is now the generally recommended source of indoor radon screening levels (SLs) from radioactive contaminants at Superfund sites for all EPA regions. The RVISL calculator output provides screening values and risk and dose estimates for residential and commercial/industrial exposures to radon in soil gas, air, and groundwater. For more information, please visit https://epa-visl.ornl.gov/radionuclides/index.html.

Green Remediation Focus Area Updates. EPA releases full updates about sites where green remediation strategies have been implemented, such as at the Camp Lejeune Military Reservation in North Carolina, Pharmacia & Upjohn Company LLC site in Connecticut, and Aerojet-General Corporation site in California (https://clu-in.org/greenremediation/profiles/camplejeune, https://clu-in.org/greenremediation/profiles/pharmaciaupjohn, and https://clu-in.org/greenremediation/profiles/aerojetgeneral). The strategies build on EPA's Principles for Greener Cleanups, which outline the Agency's policy for evaluating and minimizing the environmental footprint of activities involved in cleaning up contaminated sites. Best management practices (BMPs) of green remediation entail specific activities to address the core elements of greener cleanups by: (1) reducing total energy use and increasing the percentage of energy from renewable resources, (2) reducing air pollutants and greenhouse gas emissions, (3) reducing water use and preserving water quality, (4) conserving material resources and reducing waste, and (5) protecting land and ecosystem services. The CLU-IN Green Remediation Focus Area is updated monthly to provide information about new guidance, technical materials or tools for identifying, prioritizing and integrating BMPs in planned or ongoing cleanup activities. The focus area also provides news about relevant training events over coming months and profiles of green remediation strategies used at nearly 40 sites to improve the environmental outcomes of cleanup. Visit the Green Remediation Focus Area at https://clu-in.org/greenremediation.

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:

- Removal of Complex Mixtures of Perfluoroalkyl Acids from Water Using Molecularly Engineered Coatings on Sand and Silica
- Biodegradation of Per- And Polyfluoroalkyl Substances (PFASs) via Superoxide-Hyper-Producing Bacteria
- New Application of Geotechnical Technology to Remediate Low-Permeability Contaminated Media
- Tools for Understanding Transients in Vapor Intrusion
- Preliminary Close Out Report: Spectron, Inc. Superfund Site, Elkton, Cecil County, Maryland
- Application of the Dynamic Mercury Cycling Model (D-MCM) to the South River, Virginia
- Plasma Based Treatment Processes for PFAS Investigation Derived Waste

- Standardizing Polymeric Sampling Method for Measuring Freely-Dissolved Organic Contaminants in Sediment Porewater
- Phytoremediation Advances Fact Sheet
- Sample Collection Procedures for Radiochemical Analytes in Environmental Matrices

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 3 resources, events, projects and news items were added to EUGRIS in August 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

5th Annual Design and Construction Issues at Hazardous Waste Sites (DCHWS West), October 25-27, 2021. The US EPA and Society of American Military Engineers (SAME) will again co-sponsor the DCHWS West which will be held in Denver, Colorado. This event is designed to encourage dialogue and information sharing on design and construction issues relevant to hazardous waste sites in the western United States. The applications of engineering and science associated with cleaning up hazardous waste sites continue to evolve rapidly. The goal of this event is to facilitate an interactive engagement between professionals from government and the private sector related to relevant and topical issues affecting the field. They will make every effort to mirror all aspects of past conferences in terms of format and spirit. For more information, please visit https://sites.google.com/samephiladelphiapost.org/dchws/west-symposium/fall-2021-dchws.

New Dates! 2021 National Brownfields Training Conference - Oklahoma City, OK, December 8-11, 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.