



TechDirect, February 1, 2020

Welcome to TechDirect! Since the January 1 message, TechDirect gained 91 new subscribers for a total of 39,334. 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 Opportunities

Environmental Security Technology Certification Program (ESTCP) Releases Solicitation Requesting Proposals for Demonstrations of Environmental Technologies. The ESTCP FY 2021 Solicitation was released January 7, 2020. Researchers from Federal organizations, universities, and private industry can apply for ESTCP funding. All proposals must respond to a Topic Area associated with the solicitation. ESTCP projects are formal demonstrations in which innovative technologies are rigorously evaluated. ESTCP demonstrations are conducted at DoD facilities and sites to document improved efficiency, reduced liability, improved environmental outcomes, and cost savings. Pre-proposals are due March 5, 2020, by 2:00 PM ET. For more information, visit <https://serdp-estcp.org/Funding-Opportunities/ESTCP-Solicitations>

> Upcoming Live Internet Seminars

Federal Facilities Online Academy - February 3, 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>.

ProUCL Utilization 2020: Parts 2 and 3 - February 10 and March 9, 2020. ProUCL version 5.1.002 (5.1) is the latest update of the ProUCL statistical software package for

analysis of environmental data sets with and without nondetect (ND) observations. In the first installment of a three part ProUCL e-learning seminar series, instructors presented the live interactive use of ProUCL v5.1 from initial data loading, all the way through the major steps of statistical data analysis in ProUCL. The second installment will be presenting live interactive use of ProUCL v5.1 focusing specifically on the finer points of regression and trend analysis within the ProUCL software. The final installment will focus mainly on background dataset analysis and associated background threshold value (BTV) comparisons within the ProUCL software. To view the archive of Part 1 from January 27, see https://clu-in.org/conf/tio/ProUCLAtoz1_012720/. For more information and to register for the remaining two parts, see <https://clu-in.org/live>.

ITRC Remediation Management of Complex Sites - February 11, 2020, 1:00PM-3:15PM EST (18:00-20:15 GMT). This training course and associated ITRC guidance: Remediation Management of Complex Sites (RMCS-1, 2017), provide a recommended holistic process for management of challenging sites, termed "adaptive site management." By participating in this training course we expect you will learn to apply the ITRC guidance document to: identify and integrate technical and nontechnical challenges into a holistic approach to remediation; use the Remediation Potential Assessment to identify whether adaptive site management is warranted due to site complexity; understand and apply adaptive site management principles; develop a long-term performance-based action plan; apply well-demonstrated techniques for effective stakeholder engagement; access additional resources, tools, and case studies most relevant for complex sites; and communicate the value of the guidance to regulators, practitioners, community members, and others. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

Investigation, Design, Construction, and Optimization of a Large-Scale Combined In Situ Thermal Treatment and Enhanced Bioremediation Remedy - February 12, 2020, 1:00PM-3:00PM EST (18:00-20:00 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. The presentation in Philadelphia focused on remedial design, construction, and operation of the in situ thermal treatment and enhanced bioremediation remedies. The webinar will provide an update on site progress since the end of 2017 and focus on the technical, contractual, and financial challenges associated with transitioning the project from EPA to the New Mexico Environmental Department after 10 years of RA-O. It will also cover the process of transitioning from ERD to monitored natural attenuation and long-term vapor intrusion mitigation and lessons learned. Finally, the webinar will present the GIS-based dashboard that we're using to integrate operation, VOC, geochemical, and microbial data to support continued system optimization (particularly ahead of the transition of RA-O to the state). For more information and to register, see <https://clu-in.org/live>.

ITRC Characterization and Remediation of Fractured Rock - February 13, 2020, 1:00PM-3:15PM EST (18:00-20:15 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>.

ITRC Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management - February 20, 2020, 1:00PM-3:15PM EST (18:00-20:15 GMT).

Chemical contaminants in soil and groundwater can volatilize into soil gas and migrate through unsaturated soils of the vadose zone. Vapor intrusion (VI) occurs when these vapors migrate upward into overlying buildings through cracks and gaps in the building floors, foundations, and utility conduits, and contaminate indoor air. If present at sufficiently high concentrations, these vapors may present a threat to the health and safety of building occupants. Petroleum vapor intrusion (PVI) is a subset of VI and is the process by which volatile petroleum hydrocarbons (PHCs) released as vapors from light nonaqueous phase liquids (LNAPL), petroleum-contaminated soils, or petroleum-contaminated groundwater migrate through the vadose zone and into overlying buildings. The ITRC Technical and Regulatory Guidance Web-Based Document, Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management (PVI-1, 2014) and this associated Internet-based training provide regulators and practitioners with consensus information based on empirical data and recent research to support PVI decision making under different regulatory frameworks. The PVI assessment strategy described in this guidance document enables confident decision making that protects human health for various types of petroleum sites and multiple PHC compounds. This guidance provides a comprehensive methodology for screening, investigating, and managing potential PVI sites and is intended to promote the efficient use of resources and increase confidence in decision making when evaluating the potential for vapor intrusion at petroleum-contaminated sites. By using the ITRC guidance document, the vapor intrusion pathway can be eliminated from further investigation at many sites where soil or groundwater is contaminated with petroleum hydrocarbons or where LNAPL is present. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

OSC Academy Presents...Stand and Deliver Effective Presentations - February 21, 2020, 1:00PM-3:00PM EST (18:00-20:00 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. What is in it for you: more polished platform skills, improved ability to manage content, greater skill using a variety of training methods, enhanced ability to create and use visual aids, and the ability to manage your audience. 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>.

ITRC Issues and Options in Human Health Risk Assessment - A Resource When Alternatives to Default Parameters and Scenarios are Proposed - February 27, 2020, 1:00PM-3:15PM EST (18:00-20:15 GMT). After participating in this ITRC training course, the learner will be able to apply ITRC's Decision Making at Contaminated Sites: Issues and Options in Human Health Risk (RISK-3, 2015) document when developing or reviewing site-specific risk assessments by: identifying common issues

encountered when alternatives to default parameters and scenarios are proposed during the planning, data evaluation, toxicity, exposure assessment, and risk characterization and providing possible options for addressing these issues; recognizing the value of proper planning and the role of stakeholders in the development and review of risk assessments; and providing information (that includes links to additional resources and tools) to support decision making when alternatives to default approaches, scenarios and parameters are proposed. For more information and to register, see <https://www.itrcweb.org> or <https://clu-in.org/live>.

> New Documents and Web Resources

Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS. These recommendations provide clear and consistent guidance for federal cleanup sites being evaluated and addressed under federal programs, including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) and corrective action under the Resource Conservation and Recovery Act (RCRA). The recommendations in this guidance may also be useful for state, tribal, or other regulatory authorities (e.g., federal facility cleanup programs and approved state RCRA corrective action programs); though, many states have promulgated state standards that may be considered ARARs under CERCLA. View or download from <https://www.epa.gov/pfas/interim-recommendations-addressing-groundwater-contaminated-pfoa-and-pfos>.

Evaluation of Rotating Cylinder Treatment System™ at Elizabeth Mine, Vermont (EPA 600-R-19-194). This report presents a case study of the rotating cylinder treatment system™ (RCTS™) operated at the Elizabeth Mine in Strafford, Vermont. Historical mining at the Elizabeth Mine resulted in mining wastes and mine drainage contaminating Copperas Brook, Lord Brook, and the West Branch of the Ompompanoosuc River, which led to the mine site being listed on the Superfund list in 2001. Lime treatment of mining-influenced water is a conventional and effective treatment; however, there are historical issues with high-volume lime treatment plants being energy-intensive, requiring constant monitoring, having low lime-efficiency rates from less than ideal mixing, and difficulties in installing at remote locations. The RCTS™ is an innovative system designed to address those issues. Following several activities to manage mining wastes at Elizabeth Mine, an RCTS™ system, followed by a sedimentation basin, was constructed to treat high concentrations of iron originating from the base of the combined tailings pile. Performance was evaluated from eight years of data. Over the eight years, the maximum annual total iron concentration treated was about 1,700 mg/l and the minimum annual total iron concentration treated was 50 mg/l. The system effectively removed iron to low concentrations, with generally less than 1 mg/l in the effluent from the sedimentation basin. This report covers operation of the treatment system from May 2009 through November 2017 and data analysis was completed August 22, 2018. View or download from https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=CESER&dirEntryId=348023.

Alternative Treatment Technologies to Open Burning and Open Detonation of Energetic Hazardous Wastes (EPA 530-R-19-007). The EPA developed and issued this report in response to inquiries that EPA has received regarding whether there are alternative treatment technologies available to use in place of open burning and open detonation (OB/OD) of energetic hazardous waste, also commonly referred to as waste explosives. This report communicates the current state of alternative technologies that may be applicable for energetic hazardous waste including: munitions and explosives; consumer and commercial fireworks; marine, roadside, and signal flares; auto air bag explosives; and hobby rocket propellants. Specifically, it identifies and describes

alternative technologies that have been developed and their status, the types of waste munitions or energetics a technology can treat, and where deployments have occurred. Thus, it provides the formative steps for evaluating the efficacy and the pros and cons of the technologies for particular applications. View or download from

<https://www.epa.gov/hwpermitting/report-about-alternative-technologies-open-burning-and-open-detonation-energetic>.

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 22 resources, events, projects and news items were added to EUGRIS in January 2020. 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

Best Practices for Site Characterization Throughout the Remediation Process, Atlanta, GA, March 24-26, 2020. This training course is based on best management practices (BMP) implemented by U.S. EPA, partnership organizations, federal and state partners, and consultants. Participants will learn how to streamline projects in a legal, technically sound, and cost-effective manner. By taking the course, participants achieve the following objectives: integrate best practices into traditional project activities, effectively collect and communicate critical project information, design dynamic work strategies, recognize and overcome the challenges presented while implementing a dynamic work strategy, and use BMPs to support all phases of the environmental cleanup life cycle. For more information and to register, see <https://www.trainex.org/BPSCR>.

13th Symposium on Design and Construction Issues at Hazardous Waste Sites, Philadelphia, PA, April 1-3, 2020. The applications of engineering and science associated with cleaning up hazardous waste sites continue to evolve rapidly. Our goal is to facilitate an interactive engagement between professionals from government and the private sector related to relevant and topical issues affecting our field. We will make every effort to mirror all aspects of past symposiums in terms of format and spirit. For more information and to register, see <https://www.same.org/Get-Connected/Find-a-Post/Philadelphia/DCHWS>.

ITRC 2020 Annual Meeting - Minneapolis, MN, April 20-24, 2020. ITRC invites you to attend its 25th Anniversary Annual Meeting! With an expected attendance of over 400 cleanup professionals, the meeting is a great opportunity to network with your peers and collaborate on solutions to some of the top environmental and health challenges nationwide, including: 1,4-dioxane, PFAS, harmful cyanobacterial blooms, soil background & risk, incremental sampling methodology, vapor intrusion mitigation, and green & sustainable remediation with resiliency. Additionally, the meeting includes a keynote plenary breakfast, networking opportunities at an evening reception and morning meet-and-greet, and a six-hour PFAS training class. For more information and to register, see <https://itrc.wildapricot.org/event-3654004>.

U.S EPA and RAIS Screening Level Calculator Training for Chemical and Radionuclide Risk Analysis - Oak Ridge National Laboratory, Oak Ridge, TN, April 14-17, 2020. This 4 day training will review EPA risk assessment tools for chemicals and radionuclides as well as the Risk Assessment Information System. The first day of training will be tours of the spallation neutron source facility and the high flux isotope reactor. The second and third days of the training are focused on chemical risk assessment and include tours of Summit supercomputer and the historic graphite reactor. The optional fourth day of the training is exclusively about radiation risk and

dose assessment. This training is primarily intended for fresh and seasoned environmental professionals working on risk assessment projects at the Federal or State level. The risk calculators covered in this training are used by many State government agencies, Federal agencies, and university staff and researchers. Participants, educators, and project managers will also benefit from the training. A very basic knowledge of risk assessment, computer usage, web browsing, and good manners is assumed. For more information and to register, see <https://rais.ornl.gov/home/spring2020.html>

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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