



TechDirect, May 1, 2015

Welcome to TechDirect! Since the April 1 message, TechDirect gained 268 new subscribers for a total of 34,945. If you feel the service is valuable, please share TechDirect with your colleagues. Anyone interested in subscribing may do so on CLU-IN at <http://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.

> Fellowship Opportunity

2015 EPA Greater Research Opportunities (GRO) Fellowships for Undergraduate Environmental Study. The U.S. EPA, as part of its GRO Fellowships program, is offering undergraduate fellowships for bachelor level students in environmental fields of study. Subject to availability of funding and other applicable considerations, the Agency plans to award approximately 34 new fellowships. Eligible students will receive support for their junior and senior years of undergraduate study and for an internship at an EPA facility during the summer of their junior year. The fellowship provides up to \$20,700 per academic year of support and \$8,600 of support for a three-month summer internship. The deadline for receipt of applications is May 19, 2015. For more information, see http://epa.gov/ncer/rfa/2015/2015_gro_undergrad.html

> Upcoming Live Internet Seminars

ITRC Issues and Options in Human Health Risk Assessment - A Resource When Alternatives to Default Parameters and Scenarios are Proposed - May 5, 2015, 1:00PM-3:15PM EDT (17:00-19:15 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 <http://www.itrcweb.org> or <http://clu-in.org/live>.

NARPM Presents...EPA and the NIEHS Superfund Research Program: Collaborating to Meet Community Technical Assistance Needs at Superfund Sites - May 6, 2015, 1:00PM-3:00PM EDT (17:00-19:00 GMT). Through this webinar, participants will learn about EPA's pilot Partners in Technical Assistance Program (PTAP) and see through case studies how collaboration with the NIEHS Superfund Research Program (SRP) grantees has succeeded in meeting technical assistance needs of communities near Superfund sites. The objective of the pilot PTAP is to expand opportunities for cooperation between EPA and colleges, universities or nonprofits with the shared goal of assessing and addressing the unmet technical assistance needs of impacted communities. PTAP partners collaborate with EPA and voluntarily commit to assist communities with their unaddressed technical assistance needs. EPA is currently piloting the PTAP approach with the NIEHS Superfund Research Program grantees. Webinar participants will hear a brief overview of PTAP as well as the NIEHS SRP. Case studies reflecting past and current PTAP work will be presented, followed by time for discussion on how EPA site teams can utilize PTAP. For more information and to register, see <http://clu-in.org/live>.

ITRC Soil Sampling and Decision Making Using Incremental Sampling Methodology Parts 1 and 2 - May 7 and 14, 2015. This 2-part training course along with ITRC's Web-based Incremental Sampling Methodology Technical and Regulatory Guidance Document (ISM-1, 2012) is intended to assist regulators and practitioners with understanding the fundamental concepts of soil/contaminant heterogeneity, representative sampling, sampling/laboratory error and how ISM addresses these concepts. Through this training course the participant should learn: basic principles to improve soil sampling results, systematic planning steps important to ISM, how to determine ISM Decision Units (DU), the answers to common questions about ISM sampling design and data analysis, methods to collect and analyze ISM soil samples, the impact of laboratory processing on soil samples, and how to evaluate ISM data and make decisions. In addition this ISM training and guidance provides insight on when and how to apply ISM at a contaminated site, and will aid in developing or reviewing project documents incorporating ISM (e.g., work plans, sampling plans, reports). For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

SERDP and ESTCP Webinar Series: Managing Munitions Impacts in Both Marine and Subsurface Environments - May 7 and 23, 2015. On May 7, Dr. Carl Friedrichs (Virginia Institute of Marine Science) and Dr. Joseph Calantoni (Naval Research Laboratory) will discuss factors affecting munitions mobility underwater and in situ measurements. On May 23, Dr. Thomas Jenkins (Private Consultant) and Dr. Paul Hatzinger (CB&I Federal Services) will discuss new tools for characterizing and remediating munitions and energetics at military ranges. Both webinars target end users including practitioners, the regulatory community and researchers with the objective of providing cutting-edge and practical information from sponsored research and technology demonstrations in an easily accessible format. For more information and to register, see <https://www.serdp-estcp.org/Tools-and-Training/Webinar-Series>.

ITRC Groundwater Statistics for Environmental Project Managers - May 12, 2015, 1:00PM-3:15PM EDT (17:00-19:15 GMT). Statistical techniques may be used throughout the process of cleaning up contaminated groundwater. It is challenging for practitioners, who are not experts in statistics, to interpret, and use statistical techniques. ITRC developed the Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) and this associated training specifically for environmental project managers who review or use

statistical calculations for reports, who make recommendations or decisions based on statistics, or who need to demonstrate compliance for groundwater projects. The training class will encourage and support project managers and others who are not statisticians to: use the ITRC Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) to make better decisions for projects; apply key aspects of the statistical approach to groundwater data; and answer common questions on background, compliance, trend analysis, and monitoring optimization. ITRC's Technical and Regulatory Web-based Guidance on Groundwater Statistics and Monitoring Compliance (GSMC-1, 2013) and this associated training bring clarity to the planning, implementation, and communication of groundwater statistical methods and should lead to greater confidence and transparency in the use of groundwater statistics for site management. For more information and to register, see <http://www.itrcweb.org> or <http://clu-in.org/live>.

Remedial Acquisition Framework (RAF) Overview - May 13, 2015, 1:00PM-3:00PM EDT (17:00-19:00 GMT). This webinar will provide an updated overview of the RAF, its contract structure and expected schedule. For more information and to register, see <http://clu-in.org/live>.

Mine Tailings Fundamentals: Current Technology and Practice for Mine Tailings Facilities Operations and Closure - May 19 and 20, 2015. This two-part webinar in the CLU-IN mining webinar series will focus on mine tailings facilities. Some of the topics to be covered include design, construction, operation, closure, and maintenance and operation. Each session is designed to provide sufficient time for presentations and interaction with the participants. Part One (Tuesday, May 19): Topics related to mine tailings facilities will include design features, siting, operation, and maintenance. Examples will be presented to discuss issues that can arise during the operation of tailings facilities and how to take steps to prevent them. Part Two (Wednesday, May 20): This presentation on best management practices for mine tailings facilities will provide details related to decommissioning mine tailings piles. The majority of this webinar will focus on considerations for final covers used in closing tailings facilities. Some of the details to be presented include cover design, performance, and operation and maintenance. For more information and to register, see <http://clu-in.org/live>.

> New Documents and Web Resources

Climate Change Adaptation Technical Fact Sheet: Contaminated Sediment Remedies (EPA 542-F-15-009). In February 2013, the U.S. EPA released the draft U.S. Environmental Protection Agency Climate Change Adaptation Plan. The plan examines how EPA programs may be vulnerable to a changing climate and how the Agency can accordingly adapt in order to continue meeting its mission of protecting human health and the environment. EPA's Superfund Program has undertaken associated efforts to identify potential impacts of climate change on site remediation projects and to identify adaptation strategies. A key component of the Superfund climate change adaptation action plan involves developing tools that can help project managers and other cleanup stakeholders to identify, prioritize and implement site-specific measures for increasing remedy resilience to climate change impacts. This fact sheet addresses remedies for contaminated sediment. It is intended to serve as an adaptation planning tool by (1) providing an overview of potential climate change vulnerabilities and (2) presenting possible adaptation measures that may be considered to increase a remedy's resilience to climate change impacts. This tool was developed in context of the Superfund Program but its concepts may apply to site cleanups conducted under other regulatory programs or through voluntary efforts (April 2015, 8

pages). To learn more about climate change adaptation in the Superfund Program, visit <http://www.epa.gov/superfund/climatechange>. View or download the fact sheet at <http://www.epa.gov/superfund/climatechange/cca-tech-fact-sheet-sediment.pdf>.

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 <http://clu-in.org/products/tins/>. The following resources were included in recent issues:

- Combining Low-Energy Electrical Resistance Heating with Biotic and Abiotic Reactions for Treatment of Chlorinated Solvent DNAPL Source Areas: ESTCP Cost and Performance Report
- Integrated Stable Isotope-Reactive Transport Model Approach for Assessment of Chlorinated Solvent Degradation: User's Guide
- Microorganism and Enzyme Immobilization: Novel Techniques and Approaches for Upgraded Remediation of Underground-, Wastewater and Soil
- A Practitioner's Guide for the Analysis, Management and Remediation of LNAPL
- Addressing Methane at Anaerobic Bioremediation Sites
- Compendium of Redevelopment Successes at Petroleum Underground Storage Tank Sites, Version 1
- Compendium of Emergency Response Actions at Underground Storage Tank Sites, Version 2
- The Plume Fringe: A Zone of Increased Potential for Biodegradation in Contaminant Plumes
- An Integrated Field and Laboratory Study of the Bioavailability of Metal Contaminants in Sediments
- An Assessment of Aquifer/Well Flow Dynamics: Identification of Parameters Key to Passive Sampling and Application of Downhole Sensor Technologies
- Biopolymer as an Alternative to Petroleum-Based Polymers to Control Soil Erosion -- Iowa Army Ammunition Plant: ESTCP Cost and Performance Report

Research Brief 244: Switchgrass and Bacteria Work Together to Remove PCBs from Soil. Researchers at the University of Iowa Superfund Research Program (SRP) Center have found that switchgrass, a plant native to central North America, can effectively remove polychlorinated biphenyls (PCBs) from contaminated soil. When PCB-degrading bacteria is added, removal of PCBs from the soil can increase further. This phytoremediation method may be an efficient and sustainable strategy to removing PCBs from hazardous waste sites. For more information, see http://tools.niehs.nih.gov/srp/researchbriefs/view.cfm?Brief_ID=244.

EUGRIS Corner. New Documents on EUGRIS, the platform for European contaminated soil and water information. More than 9 resources, events, projects and news items were added to EUGRIS in April 2015. 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. The following resource was posted on EUGRIS:

MAGPLAN Management Plan to Look for Point Sources in Groundwater in Urban Areas. The groundwater of the entire inner city of Stuttgart will be investigated during the project MAGPlan to identify the most serious sources endangering the groundwater and the mineral water springs of Stuttgart. During the project, existing sources of pollution will be identified and the remediation of the main sources will be considered. For more information, see <http://www.magplan-life.eu/>.

> Conferences and Symposia

Best Practices for Site Characterization Throughout the Remediation Process, Chicago, IL, May 12-14, 2015. This course is based on best management practices (BMP) implemented by the 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 should 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 <http://www.trainex.org/bpscr>.

2015 Environmental Measurement Symposium - Big Data: Environmental Measurement and Monitoring Data in the 21st Century, Chicago, IL, July 12-17, 2015. The 2015 Environmental Measurement Symposium, which is the combined meeting of the Forum on Laboratory Accreditation and the National Environmental Monitoring Conference (NEMC), is co-sponsored by The NELAC Institute (TNI) under a cooperative agreement with the U.S. EPA. Some of the highlights for the week include: a special half-day general session focused on the conference theme; over 160 oral and poster presentations on a variety of cutting-edge environmental monitoring issues; meetings of TNI Committees to further TNI efforts on environmental laboratory accreditation, proficiency testing, and accreditation of field sampling and measurement organizations; an exhibit program showcasing the latest innovations in environmental monitoring; five special keynote presentations on topics of general interest; and an open meeting of U.S. EPA's Environmental Laboratory Advisory Board. For more information and to register, see <http://www.envmeasym.org>.

Call for Proposals! 2015 Tribal Lands and Environment Forum, Minneapolis-St. Paul, MN, August 17-20, 2015. In addition to topics on solid/hazardous waste management, brownfields, UST/LUSTs, Superfund, emergency response, and cross-over land/water issues associated with these fields the 2015 Tribal Lands and Environment Forum is requesting proposals on the areas of ground/surface water quality and management, habitat restoration (including wetlands, streams, and fisheries for example), and drinking water/wastewater systems. The deadline for all proposals is May 11, 2015. For more information and to submit a proposal, see http://www4.nau.edu/itep/conferences/confr_tlf.asp.

2015 National Brownfields Training Conference, Chicago, IL, September 2-4, 2015. Brownfields 2015 promises something for all levels of stakeholders and practitioners. The conference program includes speakers, discussions, mobile workshops, films, and other learning formats that are calibrated to provide you with case study examples, program updates, and useful strategies for meeting your brownfield challenges head on. For more information and to register, see <http://www.brownfieldsconference.org/en/registerinfo>.

LNAPLs: Science, Management, and Technology - ITRC 2-day Classroom Training, Seattle (area), WA, September 15-16, 2015; Austin, TX, November 18-19, 2015. Led by internationally recognized experts, this 2-day ITRC classroom training will enable you to develop and apply an LNAPL Conceptual Site Model (LCSM), understand and assess LNAPL subsurface behavior, develop and justify LNAPL remedial objectives including maximum extent practicable considerations, select appropriate LNAPL remedial technologies and measure progress, and use ITRC's science-based LNAPL guidance to efficiently move sites to closure. Interactive

learning with classroom exercises and Q&A sessions will reinforce these course learning objectives. For local, state, and federal government; students; community stakeholders; and tribal representatives, ITRC has a limited number of scholarships (waiver of registration fee only) available. For more information and to register, see <http://www.itrcweb.org/training>.

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 <http://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 Jeff Heimerman at (703) 603-7191 or heimerman.jeff@epa.gov. Remember, you may subscribe, unsubscribe or change your subscription address at <http://clu-in.org/techdirect> at any time night or day.

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