Subject: [EXTERNAL] Register Now: Biogeochemical Interactions in Remediation Webinars April 22, May 13, and May 20

Dear Colleagues,

The NIEHS Superfund Research Program (SRP) invites you to join us for our next Progress in Research webinar series "Biogeochemical Interactions Affecting Bioavailability for *in situ* Remediation," April 22, May 13, and May 20. This series will feature work from SRP Individual Research Projects, problem-solving grants focusing on the mechanisms of biogeochemical interactions impacting remediation of contaminated sediment, surface water, and groundwater. By understanding these complex interactions, we are better equipped to optimize remediation strategies and, therefore, improve science-based decision making for site management, priority-setting, and remedy selection. This series will share the results from these research projects.

The webinars are free and open to the public. More information and links to register are also available on the SRP Progress in Research website.

Session I – Innovative Approaches for Chlorinated Compound Bioremediation in Groundwater
April 22, 2019 • 1:00 – 3:00 p.m. EDT
Session I Registration

In session 1, we will hear from SRP-funded individual research projects at Johns Hopkins University, University of Tennessee, and University of California, Berkeley. The first session will also include a brief series introduction, highlighting the cohort of awardees funded under "Biogeochemical Interactions Affecting Bioavailability for *in situ* Remediation of Hazardous Substances (R01)."

Researchers led by Edward Bouwer, Ph.D., at Johns Hopkins Whiting School of Engineering are evaluating a novel technology — a flow-through barrier containing granular activated carbon coated with anaerobic and aerobic microorganisms — to see if it can completely break down chlorobenzenes and benzene contaminants, which are known or suspected carcinogens. The researchers seek to understand the environmental processes and conditions that influence interactions among contaminants and the barriers to improve its effectiveness in contaminated groundwater. Laboratory and field tests are being conducted at the Standard Chlorine of Delaware, Inc. Superfund site where dense non-aqueous phase liquid (DNAPL) chlorobenzene contamination is present in wetland sediments and groundwater. For more information, please visit: Dual-Biofilm Reactive Barrier for Treatment of Chlorinated Benzenes at Anaerobic-Aerobic Interfaces in Contaminated Groundwater and Sediments.

At the University of Tennessee, Frank Loeffler, Ph.D., and his research team are investigating the role of the microbial community for supplying specific nutrients called corrinoids, which organohalide-respiring *Dehalococcoidia* require to dechlorinate and detoxify solvents such as tetrachloroethene (PCE) and trichloroethene (TCE). The team is designing and validating the B12-qChip — an innovative, high-throughput quantitative PCR tool — that can be used to recognize when the bioavailability corrinoids limits dechlorination activity. Using samples from Third Creek, a polluted creek in Knoxville, Tennessee, they are conducting detailed studies that combine cultivation-based approaches, high-throughput sequencing, bioinformatics analyses, and state-of-the art analytical procedures to reveal the best biogeochemical conditions for bioremediation. For more information, please visit: Biogeochemical Controls over Corrinoid Bioavailability to Organohalide-Respiring Chloroflexi.

Assistant Project Scientist Shan Yi, Ph.D., will describe a project at the University of California, Berkeley led by Lisa Alvarez-Cohen, Ph.D., using a combination of molecular, biochemical, and analytical tools to evaluate how microbes used for trichloroethene (TCE) bioremediation interact with co-existing organisms in various geological, chemical, and biological conditions. The researchers are constructing simplified groups of microbes living symbiotically that they will expose to stresses such as changes in salinity as well as the introduction of potential competitive electron acceptors to the system (e.g., sulfate ions) to see how TCE bioremediation is affected. They will also combine intercellular data gained from both microarray and RNA sequencing techniques to develop mechanistic models that describe the effects of geochemical parameters on bioremediation. For more information, please visit: Metabolic Interactions Supporting Effective TCE Bioremediation under Various Biogeochemical Conditions.

Session II – Bioavailability of Mixtures of PAHs, Chlorinated Compounds, and Metals
May 13, 2019 • 1:00 – 3:00 p.m. EDT
Session II Registration

In session 2, we will hear from SRP-funded individual research project grantees at Virginia Institute of Marine Science, University of California, Riverside, and Colorado School of Mines. These investigators are focusing on mixtures of aged, legacy contaminants (PAHS; DDT & PCBs; and metals, respectively) and will share results of how biogeochemical interactions impact uptake of contaminants into the food chain at several Superfund sites.

Session III – Mercury Bioremediation and Biotransformation Under Varying Biogeochemical Conditions
May 20, 2019 • 1:00 – 3:00 p.m. EDT
Session III Registration

In session 3, we will hear from SRP-funded individual research project grantees at Duke University and University of Maryland-Baltimore County. These investigators are conducting mechanistic laboratory studies to understand how varying site conditions might impact microbiological processes and, in turn, shift the direction of bioremediation in sediments.

We encourage you to invite your colleagues, and we hope you can make it!
Thanks,
Heather

It is EPA's policy to make reasonable accommodation to persons with disabilities wishing to participate in the agency's programs and activities, pursuant to the Rehabilitation Act of 1973, 29 U.S.C. 791. Any request for accommodation should be made to Jean Balent at balent.jean@epa.gov or 703-603-9924.

Heather F. Henry, Ph.D.
Program Administrator
Superfund Research Program
National Institute of Environmental Health Sciences
Phone: 984-287-3268
Mobile: 919-609-6061
Email: henryh@niehs.nih.gov
SRP Funding Opportunities