Superfund Research Program Annual Meeting
Individual Research Grants (R01)

All times Mountain Standard Time

Agenda

NIEHS Optimizing Natural Systems for Remediation: Utilizing Innovative Materials Science Approaches to Enhance Bioremediation

Unless otherwise indicated, the R01 Program Session will take place in the Weavers Room.

Monday, December 4, 2023

8:30 – 9:00 a.m. **Poster Set-Up –** East Atrium Area

9:00 – 9:15 a.m. **Welcome and Brief Programmatic Updates – Heather Henry**, Program Officer, NIEHS

9:15 – 11:30 a.m. **Flash Talks**

University of Massachusetts – A Novel Strategy for Arsenic Phytoremediation

Yale University – Understanding and Enhancing PFAS Phytoremediation Mechanisms Using Novel Nanomaterials

Texas A&M AgriLife Research – Efficient Bioremediation of Environmentally Persistent Contaminants With Nanomaterial-Fungus Framework (NFF)

University of California, Riverside – Synergistic Material-Microbe Interface Toward Faster, Deeper, and Air-Tolerant Reductive Dehalogenation

Princeton University – Enhancing Transport and Delivery of Ferrihydrite Nanoparticles via Polymer Encapsulation in PFAS-Contaminated Sediments to Simulate PFAS Defluorination by Acidimicrobium sp. Strain A6

Break (15 min.)

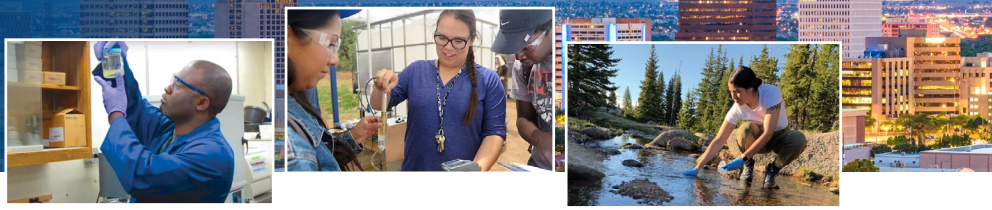
SUNY at Buffalo – Model-Aided Design and Integration of Functionalized Hybrid Nanomaterials for Enhanced Bioremediation of Per- and Polyfluoroalkyl Substances (PFAS)

Oregon State University – Development of Passive and Sustainable Cometabolic Systems to Treat Complex Contaminant Mixtures by Encapsulating Microbial Cultures and Slow-Release Substrates in Hydrogels

Florida State University – Enhancing Bioremediation of Groundwater Co-Contaminated by Chlorinated Volatile Organic Compounds and 1,4-Dioxane Using Novel Macrocyclic Materials

University of Iowa – Elucidating Mechanisms for Enhanced Anaerobic Bioremediation in the Presence of Carbonaceous Materials Using an Integrated Material Science and Molecular Microbial Ecology Approach

University of Maryland, Baltimore County – Leveraging the Chemo-Physical Interaction of Halorespiring Bacteria With Solid Surfaces to Enhance Halogenated Organic Compounds Bioremediation



11:30 a.m. – 12:15 p.m. **Lunch on Your Own — Sawmill Market**

12:15 – 12:45 p.m. **Panel on Roadmap to Application: Case Studies on Regulatory, Scale-Up, and Commercialization Considerations**

12:45 – 1:45 p.m. **Roundtable Discussion: "Combining Bioremediation and Materials Science"**
Moderators: Susie Dai, Texas A&M University; **Lew Semprini**, Oregon State University;
Om Parkash Dhankher, University of Massachusetts Amherst;
Upal Ghosh, University of Maryland, Baltimore County

1:45 – 2:00 p.m. **Roundtable Report Back**

2:00 – 2:25 p.m. **Next Steps Discussion**
Moderator: Heather Henry, NIEHS

2:25 – 2:30 p.m. **Group Photo** — Juniper Garden (tentative)