National Institute of Environmental Health Sciences
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Superfund Research Program Metal / Metalloid Remediation Research

The National Institute of Environmental Health Sciences (NIEHS) Superfund Research Program (SRP) funds university and small business multidisciplinary research on human health and environmental issues related to hazardous substances. SRP was initiated under the Superfund Amendments and Reauthorization Act of 1986. The central goal of SRP is to understand and break the link between chemical exposure and disease. Teams of diverse professionals develop, test, and implement unique, solution-oriented approaches to address complex environmental health problems. The following are recent and current SRP grants developing new remediation and detection strategies for heavy metals and metalloids. For more information about the SRP, visit http://www.niehs.nih.gov/srp.

Amendments for Metals / Metalloids

Enhanced Remediation of As Contamination in the U.S. * **Benjamin Bostick, Columbia University** **Phone: 845-365-8659** **Email: bostick@ldeo.columbia.edu** **P42ES010349**	Removal of Arsenic and Heavy Metals from Drinking Water John Lovell, ADA Technologies, Inc Phone: 303-792-5615 Email: john.lovell@adatech.com R44ES011885
Immobilization of Uranium, Arsenic, and Co-occurring Metals in Mine Wastes * **Jose Manuel Cerrato, University of New Mexico** **Phone: 505-272-1299** **Email: jcerrato@unm.edu** **P42ES025589**	Activated Carbon as a Multifunctional Amendment to Treat PCBs and Mercury* Richard Luthy, Stanford University Phone: 650-723-3921 Email: luthy@stanford.edu R01ES016143
Development of in-situ Mercury Remediation Approaches Based on Methylmercury Bioavailability* Upal Ghosh, University of Maryland – Baltimore County Phone: 410-455-8665 Email: ughosh@umbc.edu R01ES024284	Sequestration and Immobilization of Metal and Metalloid Contaminants in Sediments Peggy O'Day, University of California – Merced Phone: 209-228-4338 Email: poday@ucmerced.edu R01ES016201

Monitoring Technologies for Metals / Metalloids

Field-ready & rapid trace-level detection and speciation of As in water Merwan Bernhabib, OndaVia, Inc Phone: 510-576-0476 Email: merwan@ondavia.com R43ES025083	**Lipid Enhanced Nano-Sensors (LENS) for Pb & Hg Detection in Water *** **Steven Lenhert, Zansors, LLC** **Phone: 571-303-1915** **Email: info@zansors.com** **R41ES028643**
Rapid Field Testing Kit for Determining Arsenic Contamination in Groundwater Justin Buck, Cambrian Innovation, Inc. Phone: 617-317-1755 Email: jbuck@cambrianinnovation.com R43ES024628	**Graphene-based Nanosensor Device for Rapid, Onsite Detection of Dissolved Lead in Tap Water *** **Ganhua Lu, NanoAffix Science, LLC** **Email: info@nanoaffix.com** **R41ES028656**
Gold Nanoparticle-Based Hg Analyzer for Soil and Sediment * **Jay James, Picoyune** **Phone: 510-915-0152**	**Low-cost, Easy Test for Determining [Pb] in Drinking Water *** **Lihua Zhang, Intelligent Optical Systems, Inc** **Phone: 424-263-6300**

Questions? Please contact Heather Henry (henryh@niehs.nih.gov) or visit http://www.niehs.nih.gov/srp.

Email: jayjames@picoyune.com **R44ES023729**	**Email: ios_business@intopsys.com** **R43ES028633**

*** Currently Funded**

Bioremediation and Biogeochemistry of Metals / Metalloids

Microbial Communities that Bioremediate Mixtures * **Lisa Alvarez-Cohen, University of California, Berkeley** **Phone: 510-643-5969** **Email: alvarez@ce.berkeley.edu** **P42ES004705**	Engineering Enhanced Plants for Arsenic Remediation David Lee, Edenspace Systems Corporation Phone: 785-587-8200 Email: lee@edenspace.com R41ES016961
Endophyte Assisted Phytoremediation of Arsenic Michael Blaylock, Edenspace Systems Corporation Phone: 703-961-8700 Email: blaylock@edenspace.com R43ES025483	Bacteria-mediated Extracellular Reduction of Chromium Peter Lu, Bowling Green State University Phone: 419-372-1840 Email: hplu@bgsu.edu R01ES017070
Using Microbial Induced Calcite Precipitation by Indigenous Soil Bacteria to Reduce Mobility of Lead in Soil Malcolm Burbank, BioCement Technologies, Inc. Phone: 509-607-2406 Email: burbankm@cdmsmith.com R43ES025132	**Phytostabilization Tech for Mining Waste in (Semi)-Arid Environments: Plant-Microbe Predictors of Sustainability*** **Raina Maier, University of Arizona** **Phone: 520-621-7231** **Email: rmaier@ag.arizona.edu** **P42ES004940**
Nano-scale Mechanisms of Metal(loid) Rhizostabilization Jon Chorover, University of Arizona Phone: 520-626-5635 Email: chorover@cals.arizona.edu R01ES017079	**Investigating Biogeochemical Controls on Metal Mixture Toxicity Using Stable Isotopes and Gene Expressions *** **Jim Ranville, Colorado School of Mines** **Phone: 303-273-3004** **Email: jranvill@mines.edu** **R01ES024358**
Biogeochemical Framework for Hg Methylation Potential During in-situ Remediation of Sediments * **Heileen Hsu-Kim, Duke University** **Phone: 919-660-5109** **Email: hsukim@duke.edu** **R01ES024344**	Novel Mechanism of U Reduction Via Microbial Nanowires Gemma Reguera, Michigan State University Phone: 517-884-5401 Email: reguera@msu.edu R01ES017052
Chemical Mapping of Chromate Uptake, Localization, and Reduction in Remediating Bacteria Joseph Irudayaraj, Purdue University Phone: 765-494-0388 Email: josephi@purdue.edu R01ES017066	Phytoextraction of Cd from Plant Trichomes Ryan Shepherd, Phyllotech Phone: 608-441-2782 Email: ryan.shepherd@phyllotech.com R43ES021682

Drinking Water Remediation Technology for Metals / Metalloids

Anode Modification to Target Pb Removal for Drinking Water Purification using Inverted Capacitive Deionization* **Lindsay Boehme, PowerTech Water, LLC** **Phone: 319-512-9226** **Email: info@powertechwater.com** **R43ES028171**	Removal of Arsenic and Heavy Metals from Drinking Water John Lovell, ADA Technologies, Inc Phone: 303-792-5615 Email: john.lovell@adatech.com R44ES011885

*** Currently Funded**

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