

HEADLINES

SRP Progress in Research: TCE, PCBs, and Phthalates - Exposure, Mechanisms of Disease, and Clean-Up Remedies

Join us for the *next session* in the SRP Progress in Research webinar series on **August 24, 1-3 pm ET!** The webinar will feature the University of Kentucky and Northeastern University SRP Centers. Kentucky researchers explore how nutrition and exercise might offer protection from polychlorinated biphenyl (PCB) toxicity, and they are developing new sustainable remediation approaches using nanotechnology. Northeastern researchers are studying chlorinated solvents and phthalates, contaminants that could be linked to high preterm birthrates in Puerto Rico.

If you missed the Progress in Research webinar on July 9, we encourage you to check out the archive: *Reducing Exposure to Mercury, Arsenic, and Asbestos*. More than 400 people listened to excellent presentations from the Dartmouth SRP and University of Pennsylvania SRP Centers, which led to some great questions and discussion.

SRP Welcomes New Small Business Grantees

The Superfund Research Program is pleased to welcome newly funded Small Business Innovation Research / Small Business Technology Transfer Research (SBIR/STTR) grantees! These grants are awarded to small businesses to develop innovative applications to translate and communicate environmental health research to improve public health.

In this round, Picoyune and Entanglement Technologies Inc. were awarded Phase II SBIR grants to continue their research and development efforts over the next two years. Both firms previously had Phase I SBIR grants to establish the feasibility and commercial potential of projects.

Picoyune, led by Jay James, is developing a powerful and portable mercury analyzer by combining a nanoparticle-based detector with a thermal/catalytic sample introduction system. *Entanglement Technologies Inc.*, led by Bruce Richman, is developing a trace trichloroethylene vapor sensor with real-time measurement capabilities.

2015 SRP Annual Meeting

Visit the 2015 *SRP Annual Meeting website* for general information about the November 17-20 meeting, to be held in San Juan, Puerto Rico, and to reserve a hotel room. Registration will open later this summer. This year's host, the Northeastern University SRP Center, will continue to update the website as information becomes available.

Submit Nominations for the NIEHS 50th Anniversary Celebration

The National Institute of Environmental Health Sciences (NIEHS) will celebrate its 50th

EMPLOYMENT OPPORTUNITIES

Graduate Scholar – Bayer CropScience

The primary responsibility of the Graduate Scholar role is to utilize publicly available high-throughput screening data, i.e. Tox21, ToxCastTM, and ExpoCastTM, generated on Bayer compounds to identify potential endpoints/pathways of interest for possible development of assays which could be integrated into a toxicity screening program. The duration of this position, located in the Research Triangle Park, will be for two years, with the possibility of extension. For additional details on the position, preferred qualifications, and to apply, see the [Bayer Jobs website](#).

Postdoctoral Research Associate – Northeastern University and Silent Spring Institute

This two-year Postdoctoral Research Associate will be part of the new NIEHS Training Program, "Transdisciplinary Training at the Intersection of Environmental Health Science and Social Science" (EH+SS), co-directed by Northeastern University's Social Science Environmental Health Research Institute and Silent Spring Institute. This Training Program will prepare scholars to be future leaders in social science-environmental health science collaborations. A combination of learning at Northeastern and Silent Spring Institute will be complemented by externships at community-based organizations. The Postdoctoral Research Associate will spend 2/3 of their time at Silent Spring Institute and 1/3 at Northeastern. For more information and to apply, see the [Northeastern jobs page](#).

Brown SRP Postdoctoral Fellowship Environmental Health State Agencies Liaison

The Brown SRP Center seeks applicants for an Environmental Health State Agencies Liaison (SAL) postdoctoral fellow who will advocate for the public's health through facilitating the flow of knowledge and information about environmental health research, practice and policy among participating academics, government leaders, and community members in a true university-state-community partnership. The position is designed to ensure that Rhode Island communities and government agencies are informed by and engaged with basic research on environmental pollution and health impacts. For more information, see the [Science Jobs page](#).

Anniversary on November 1, 2016. To commemorate this important event, NIEHS is documenting the Institute's history, research highlights, and public health achievements. Therefore, NIEHS invites you to nominate milestones for possible inclusion in the 50th anniversary commemoration. A milestone could be a person, event, scientific achievement, public health impact, or significant historical moment. Visit the [NIEHS 50th Anniversary Milestones Project page](#) to submit your nomination. Nominations are due by **Monday, September 15**.

IN THE NEWS

NIEHS SRP News Stories

Take a moment to read about some of our colleagues' latest activities in this month's NIEHS newsletter:

- [NIEHS small business innovation shines at biotech convention](#)
- [Big data presents big challenges, big opportunities in environmental health](#)

Visit the SRP news page for more stories about the Program:

- [SRP researchers come together to review early-life exposure to arsenic and health effects](#)
- [NIEHS workshop addresses challenges for determining health effects of mixtures](#)
- [SRP representation at the federal remediation technologies roundtable](#)
- [LSU SRP co-hosts successful combustion by-products conference](#)
- [UC Davis researchers find key mechanism that causes neuropathic pain](#)

Collaborative Publication Highlights Community Engaged Research on PCBs in Schools

Boston University (BU) SRP Community Engagement Core and the University of Iowa SRP Research Translation Core published a paper in the journal *Environmental Science and Pollution Research* that highlights the importance of interaction between scientists and activists using the example of the [8th International PCB Workshop](#) and its focus on the problem of PCBs in schools. The paper, [PCBs in schools-where communities and science come together](#), reflects an ongoing collaboration with communities facing this contamination problem. For more on the topic, check out the recorded BU SRP partnership call with the Collaborative on Health and the Environment: [PCBs in Schools – Still a Problem?](#) featuring David Sherr (BU SRP Center Director), Robert Herrick (Harvard School of Public Health), and Keri Hornbuckle (Iowa SRP Center).

Dartmouth Scientists Track Mercury Pollution

A recent Dartmouth Now story, [Dartmouth Scientists Track Mercury Pollution](#), highlights work done by Sam Beal, former trainee of the Dartmouth SRP Center, with Brian Jackson. The study, using a 600-year-old ice core, shows that global mercury pollution increased dramatically during the 20th century, but, beginning in the late 1970s, mercury concentrations in the atmosphere decreased faster than previously thought.

Hammock Featured in Interview for New Publication on Neuropathic Pain

UC Davis SRP Center Researcher Bruce Hammock recently led a [study](#) that identified a key mechanism in neuropathic pain. The discovery could eventually benefit millions of patients with chronic pain from trauma, diabetes, shingles, multiple sclerosis or other

Assistant Professor Positions – West Virginia University

The West Virginia University Department of Geology & Geography invites applications for tenure-track assistant professor positions in [physical hydrogeology](#), [mineralogy/earth minerals](#), and [human dimensions of water \(in the geography program\)](#). The positions are in the department of Geology and Geography. Review of applications will begin Sept. 15, 2015 and continue until the positions are filled. See the [WVU open positions page](#) for more information.

Postdoctoral Associate - Duke Cancer Institute, Duke University Medical Center

A full time postdoctoral position is available in the Genitourinary (GU) Oncology Research Laboratory to study molecular mechanisms underlying tumor aggressiveness. The Laboratory focuses on preclinical studies, correlative science with archived clinical trial specimens and prospective specimen collections and analyses to further understand the biology underlying GU malignancies and to discover better treatment options for patients. The group seeks a highly motivated scientist with a Ph.D. in a biology-related discipline. Experience with molecular biology and genomic profiling assays are desirable. Critical thinking and scientific writing skills are essential. To apply, please email a cover letter, including a brief statement of research interests, CV and the contact information for three references to Jennifer Freedman at jennifer.freedman@duke.edu.

Silent Spring Institute Opportunities

Silent Spring Institute is hiring at all levels – including experienced PhD, postdoctoral fellow, masters level, or research assistant—for projects that involve environmental health and community-engaged research. Researchers will work in teams that integrate social science and communications with environmental science and health research.

Use your data science expertise to improve environmental health! [Silent Spring Institute](#) is also hiring at all levels for projects that involve data management, analysis, and visualization for novel studies of chemical exposures and toxicity. The positions require great versatility and transdisciplinary thinking. Researchers work in teams and are also involved in public communications and proposal development.

Visit the [Silent Spring Institute opportunities page](#) for more information on the job openings.

Postdoctoral Position – University of California, San Francisco

The UCSF Program on Reproductive Health and the Environment is seeking a Postdoctoral Scientist in environmental epidemiology and biostatistics. This training opportunity is designed to give the postdoctoral scientist experience in all aspects of the research process from design,

conditions that cause nerve damage. Read more about the innovative discovery in an interview with Hammock in [PainWeek](#), where he discusses how endoplasmic reticulum stress in the peripheral nervous system is a significant driver of neuropathic pain.

Duke SRP Flame Retardant Research Includes Couches on Capitol Hill

A recent [blog](#) post highlights the ongoing furniture foam analysis project conducted by Duke University's Superfund Research Center. In a new effort, samples of foam were collected from couch cushions in six U.S. Senate offices. A free analysis by Duke revealed that half of the samples tested positive for TDCPP, a toxic flame retardant chemical. The blog also highlights a [2012 finding](#) by SRP researchers that more than 85 percent of couches contain chemical flame retardants, and 41 percent used TDCPP.

Reflections on KC Donnelly Externship at EPA

Lisandra Santiago-Delgado, a SRP trainee, writes about her externship in an [Oregon State University news post](#). She conducted research utilizing steam injections on a laboratory scale to thermally remediate creosote-contaminated soils at the EPA Robert S. Kerr Research Laboratory in Ada, Oklahoma. She describes benefits to her research and career potential from experiencing first-hand what it would be like to have a career in the federal government.

LSU SRP Center Engages Community about a Proposed Barge Cleaning Facility

On July 7, the Louisiana State University (LSU) SRP Community Engagement Core and the Louisiana Environmental Action Network (LEAN) hosted a community discussion about a proposed barge-cleaning facility on the levee of the Mississippi River in Baton Rouge. Approximately 100 residents and community stakeholders were in attendance. Cleaning barges requires offloading the cargo, flaring any leftover toxic chemicals, and releasing any non-toxic chemicals. According to LSU SRP grantee Margaret Reams, the LSU SRP Center has a neutral stance on the proposal; however, its chemical experts were available to provide information and answer questions about flaring and potential environmental effects. See the [Advocate Newspaper](#) and [WAFB Channel 9 news](#) to read more.

Karagas Quoted in Nature News

Dartmouth SRP Center scientist Margaret Karagas was quoted in a [Nature News article](#) on a new study that shows cooking rice by repeatedly flushing it with fresh hot water using a percolation method could reduce arsenic in cooked rice. In the long term, the best strategies for removing arsenic from rice will come from ongoing efforts to breed low-arsenic strains and alter growing techniques, according to Karagas. But, she says, "This paper is really interesting because it is offering a short-term solution to the problem."

TRAINEE SPOTLIGHT

Kelly Fader – Michigan State University

Kelly Fader is a graduate student in the Michigan State University (MSU) SRP Center under the guidance of Timothy Zacharewski. Using a toxicogenomic approach, her research examines intestine-liver interactions that

implementation, to publication. The successful candidate must have a Ph.D. in epidemiology, biostatistics, environmental health, risk assessment, or other environmental health related field. Candidate must have statistical experience and experience with R, Stata or SAS. For more information see the [job announcement](#).

Professor of Environmental Health – University of North Carolina

The University of North Carolina at Chapel Hill Department of Environmental Sciences and Engineering is seeking applicants to fill a tenure-track position in environmental health at the rank of Assistant, Associate, or Full Professor. The Department seeks to advance its well-established research and educational programs in environmental health sciences. The successful candidate will demonstrate strong potential for interdisciplinary collaboration within the Department, the School of Public Health, the curriculum in toxicology, and the scientific community at large. For more information, visit the [UNC jobs page](#).

Postdoctoral Research Fellow – Brown University

A postdoctoral research fellow position is available to study the **basic mechanisms of disease related to environmental exposure to metals** in the laboratory of Tom Bartnikas, M.D., Ph.D., in the Brown University department of pathology and laboratory medicine. Emphasis will be placed on career development, communication skills, grantsmanship, interdisciplinary research, and implications of basic research for diagnosis and prevention of human disease. The candidate is expected to have a Ph.D. in toxicology, molecular or cell biology, biochemistry or a related field. For more information and to apply, see the [job description](#).

CURRENT RESEARCH BRIEF

Research Brief 248: [Cellulose Nanomaterials in Environmental Cleanup Technologies](#) (Mark Wiesner, Duke University SRP) is available online.

Past [Research Briefs](#) are available on the SRP website.

To receive the monthly Research Briefs in your e-mail, please send your e-mail address to HeacockM@niehs.nih.gov.

If you have ideas for future Research Briefs, please submit them to: HeacockM@niehs.nih.gov.

SRP-SUPPORTED EVENTS

16th International Conference of the Pacific Basin Consortium for Environment and Health

August 10-13, 2015
Depok, Indonesia

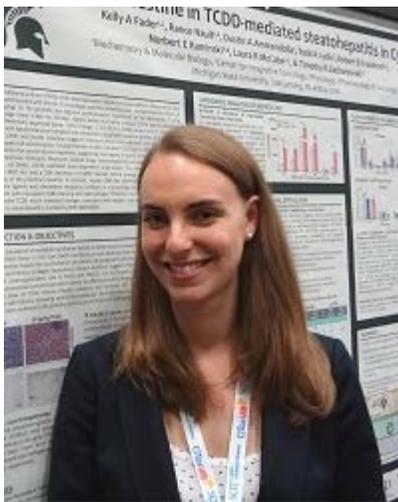
[Website](#)

contribute to the development of non-alcoholic fatty liver disease (NAFLD) and metabolic syndrome upon exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD).

TCDD is a ubiquitous environmental contaminant that exerts its effects primarily through activation of the aryl hydrocarbon receptor (AhR). The Zacharewski laboratory has previously reported that exposure to TCDD induces hepatic steatosis in C57BL/6 mice, and that dietary fat is the primary lipid source responsible. Fader is currently investigating whether TCDD-mediated differential gene expression along the gastrointestinal tract plays a role in facilitating lipid delivery and thus lipid accumulation in the liver. Whole genome microarray analysis suggests that dietary lipid transport and processing, and immune response are dysregulated by TCDD in the jejunum, the primary intestinal section responsible for lipid absorption.

This year, Fader received the first place Student Research Award from the Molecular & Systems Biology specialty section of the Society of Toxicology (SOT). She also received a prestigious Doctoral Foreign Study Award from the Canadian Institutes of Health Research, a 3 year fellowship which covers her stipend and a research allowance.

In addition to her excellent work in the lab, Fader also serves as the graduate student representative for the Biomolecular Sciences Recruiting Committee, Safety Committee, and Colloquium Committee within the Biochemistry and Molecular Biology department at MSU. When she isn't working on her graduate project, she loves traveling, hiking, and spending time with her niece. Originally from Canada, she is also an avid Toronto Blue Jays fan!



SRP Progress in Research Webinar Northeastern University and University of Kentucky

August 24, 1:00-3:00 pm ET

[Website](#)

UC Entrepreneurship Academy

Co-Sponsored by the University of California, Davis SRP

September 15 - 17, 2015

Davis, California

[Website](#)

12th International Phytotechnologies Conference: Phytotechnologies for Sustainable Development

September 27 - 30, 2015

Manhattan, Kansas

[Website](#)

International Symposium on Persistent Toxic Substances

Co-Hosted by the University of California, Riverside

November 16 - 20, 2015

Riverside, California

[Website](#)

2015 Annual Meeting of the Superfund Research Program

November 18-20, 2015

San Juan, Puerto Rico

[Website](#)

The International Chemical Congress of Pacific Basic Societies

December 15-20, 2015

Honolulu, Hawaii

[Website](#)

HOT PUBLICATION

SRP Researchers Review Early-life Exposure to Arsenic and Health Effects

Evidence is mounting that early-life arsenic exposure is related to development of cancer later in life, according to a recent review. The international author group, led by UNC SRP Center researcher Rebecca Fry, Ph.D., with participation by SRP researchers at UC Berkeley and Columbia University, also calls for future research to address potential mechanisms that underlie increased risk as well as human studies that integrate early-life exposure, molecular alterations, and later disease outcomes. The authors discuss epigenetic reprogramming, or changes in gene expression that are not caused by changes in the DNA sequence, as a potential mechanism for adverse health effects associated with early-life arsenic exposure and a major research focus area. They also describe studies that point to the development of cancer stem cells and alterations to the immune system as plausible pathways for arsenic's carcinogenic effects. The [review article](#) was published in the journal *Environmental Health Perspectives*.

AWARD WINNERS

UPDATES FROM OTHER SRP CENTERS

The e-Posted isn't the only way you can find out about news and events from the SRP Centers. The [SRP Grantee Newsletters and Pages website](#) has links to SRP Center electronic newsletters and Facebook pages. Check it out to see the latest SRP news!

To see the latest SRP grantee publications, visit the [SRP publications page](#).

Visit the [SRP Materials for Grantees page](#) for information intended to assist grantees, such as SRP administrative supplements information, SRP best practices, NIEHS logo use, and the Data Collection Form.

The [SRP Events page](#) contains up-to-date SRP grantee and staff events.

The SRP website also has [Search Tools](#) to help

Caitlin Howe Awarded First Prize for Poster

Congratulations to Columbia SRP Center student Caitlin Howe, who won first prize for her poster at the 10th International Conference - One Carbon Metabolism, B vitamins, and Homocysteine - in Nancy, France this July. Her poster highlighted her work on the influences of one carbon metabolism indices, folic acid supplementation, and post-translational histone modifications in arsenic exposed Bangladeshi adults.

Trainee Lydia Jennings Receives NSF Fellowship

Check out a recent University of Arizona (UA) SRP Center news story to learn more about Lydia Jennings, a graduate trainee who has received a 2015 National Science Foundation Fellowship. The program supports outstanding graduate students who have demonstrated their potential for significant achievements in science and engineering research. Check out the [UA SRP website](#) to learn more about Jennings and her research.

FUNDING OPPORTUNITIES

2015 HHS Small Business SBIR/STTR Omnibus Grant Solicitations

The HHS has issued the NIH Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) [Grant Solicitation Notice](#). Standard application due dates are September 5, January 5, and April 5. SRP SBIR/STTR grants are awarded to foster the commercialization of technologies, products, and devices developed by the SRP and others. If interested in applying, please contact Heather Henry at henryh@niehs.nih.gov or (919) 541-5330.

Please see the [SRP SBIR/STTR page](#) and the [NIEHS SBIR/STTR webpage](#) for application information as well as other SBIR/STTR opportunities within NIEHS.

you learn more about projects funded by the Program.

JOIN THE @SRP_NIEHS KNOWLEDGE NETWORK ON TWITTER

NIEHS uses Twitter, a popular social media tool, for information sharing. A "microblogging" service, Twitter allows users to distribute substantive content through messages called Tweets. Many SRP Centers also have accounts, and it would be great if all participated! Follow us [@SRP_NIEHS](#) to instantly hear news about the Program, noteworthy publications, events, and job opportunities for trainees.

CONTACT INFORMATION

Information on NIEHS SRP Program Contacts can be found here: [NIEHS SRP Program Staff and Contacts](#).