

Superfund Research Program e-Posted Notes

February 5, 2016 (Issue 145)

HEADLINES

NIH Fellowships and Career Development Awards Webinar

We encourage all trainees to join us for a webinar on **March 3, 2016, at 2 pm ET** to discuss NIEHS grant opportunities for trainees. Many young investigators have their eyes set on academic careers. An early challenge they'll face is applying for and getting their first funded grant. In this webinar, Drs. Michael Humble and Carol Shreffler, program administrators in the Division of Extramural Research and Training, NIEHS, will give important tips on how to write successful, competitive fellowship and career development applications, as well as a few common missteps that should be avoided. The goal is to shed light on grantsmanship issues for junior investigators/postdocs who are planning to write F31, F32 or K99/R00 applications.

Visit the [NIEHS WebEx registration page](#) to register for the webinar.

SRP Small Business Water Innovation - An Integrated Approach to Sustainable Solutions

This series will feature [SRP Small Business Innovation Research / Small Business Technology Transfer \(SBIR/STTR\) grantees](#) working on new technologies for detection and remediation of hazardous substances in water. Please save the dates:

- March 21, 2016, 1 – 3 pm ET: Sustainable Approaches to Remediation
- March 23, 2016, 1 – 3 pm ET: Innovative Detection Technologies

We will be sending out additional information and registration links soon.

Coming in Spring 2016: SRP Water Innovation - An Integrated Approach to Sustainable Solutions

Stay tuned for the upcoming Risk e-Learning Web Seminar series, which will highlight SRP grantees and partners working toward sustainable solutions to improve drinking water. The Progress in Research and the Risk eLearning webinars this

EMPLOYMENT OPPORTUNITIES

Tenure-Track Faculty Position – Oregon State University

The Department of Environmental & Molecular Toxicology (EMT) in partnership with the Linus Pauling Institute at Oregon State University (OSU) seeks highly motivated applicants at the Assistant or Associate Professor level to participate in the development and delivery of graduate programs and to establish an extramurally-funded research program in Environmental Health Sciences. Applicants with research programs centered on one or more of the following or closely related areas are particularly encouraged to apply: inflammation, molecular and cellular signaling, genetics, epigenetics, pharmacogenomics, carcinogenesis, cancer chemoprevention, metabolomics and systems biology or closely related areas that impact human health. Applicants at the Associate level must demonstrate a track record of sustainable extramural research funding, research productivity, leadership, and collaborative research. The position is open until **March 30, 2016**. Visit the [OSU jobs page](#) and search for posting #0016865 for more information and to apply.

Senior Research Scientist - Northeastern University

The Northeastern University

spring are focusing on innovation in water technologies and research. For more information, visit the [SRP Risk eLearning website](#).

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:

- [Killifish adapt to PAH exposure, but at what cost?](#)
- [Environmental epidemiologist Chen elected vice president of Taiwan](#)

NIEHS's Papers of the Year Include Three Manuscripts From the UCSD SRP Center

Three papers from the University of California, San Diego (UCSD) SRP Center were selected by senior NIEHS staff as 2015 [Papers of the Year](#). The three papers were chosen out of more than 2500 published manuscripts from extramural and intramural NIEHS funding to represent three of the 13 papers from research funded by grants. All UCSD SRP Center papers were about toxicant-induced liver damage, including fibrosis and cancer, which are focus areas for the UCSD SRP Center. Read more about the papers on the [UCSD SRP Center website](#).

Frickel Featured on Rhode Island Public Radio

A Brown University SRP Center team, led by Community Engagement Core (CEC) leader Scott Frickel, Ph.D., is working to uncover the history of green spaces in Providence, Rhode Island. Green spaces are regarded by many as being beneficial to the health of urban dwellers. With funding from SRP, Frickel added Providence to an existing study that looks at how industrial sites have changed over decades in New Orleans, Minneapolis, Philadelphia, and Portland, Oregon. In the study, he is including how green spaces are changing and sent a team of students to document four Providence neighborhoods. For more information on the project, see a story on the [Rhode Island Public Radio](#).

Dartmouth Video Explains Award-Winning BioArt Image

The annual BioArt competition highlights scientific images that are both beautiful and illuminating. In 2015, two images from Dartmouth earned honors at the competition, one each from the labs led by Thomas Jack and Dartmouth SRP Center researcher Mary Lou Guerinot, who are both professors of biological sciences. In a [video](#) developed by Dartmouth, Guerinot and Suzana Car, a graduate student in Guerinot's lab, talk about their image, a micrograph of a leaf of the plant Arabidopsis, a model organism used in their scientific research. The image shows where zinc accumulates in the leaf, revealing some surprises to the researchers.

PROTECT Center is seeking a Senior Research Scientist/Engineering with experience and a focus on environmental health, specifically one or more of the following: health informatics, geospatial informatics, and environmental epidemiology. This individual will work closely with scientists from different disciplines across multiple institutions to analyze large, complex environmental/biological datasets. This position requires a Ph.D. or equivalent in Environmental Engineering, Epidemiology, Biostatistics, Geology, Biomedical or other related quantitative fields with 3-6 years of experience which includes progressively more responsible, independent research work evidenced by publications, inventions, or equivalent efforts. See the [Northeastern University jobs page](#) for more information.

Several Positions in Environmental Toxicology - University of California at Riverside

The University of California, Riverside is embarking on a major new hiring initiative that will add 300 tenure-track positions in 33 cross-disciplinary areas selected through a peer-reviewed competition. They are currently looking to fill four positions in the area of environmental toxicology at both the junior and senior levels. For more information and to submit an application, see the [UC Riverside recruitment page](#).

Research Scientists - Silent Spring Institute

The Silent Spring Institute is looking for research scientists in data science and informatics, chemistry/biochemistry and biomonitoring, and molecular biology or endocrinology. They have three postings at this time for a data

Hahn Featured in Martha's Vineyard Times

Boston University SRP Center researcher Mark Hahn is profiled in The Martha's Vineyard Times' Science and Scientists column. This regular column is devoted to scientific research taking place today, along with profiles of the island's scientists and their work, and facts of scientific note on the island. Check out the article on the [MVTimes website](#), which features Hahn's work on molecular mechanisms of sensitivity, resistance, and genetic adaptation of animals to some of the world's most toxic substances, all of which pose serious health hazards to humans and other animals.

Dartmouth SRP Hosts Events for Private Well Owners

Dartmouth SRP Center Community Engagement Core Coordinator Kathrin Lawlor attended the first of 12 in-person intervention events to inform communities about arsenic in well water. The event took place in Londonderry, New Hampshire and included a display and handout materials specifically designed by Dartmouth. These events are intended to reach community members where they live to inform them of potential concerns of arsenic and well water and encourage well testing.

TRAINEE SPOTLIGHT

Caitlin Howe, Columbia University

Caitlin Howe is a doctoral student under the guidance of Columbia University SRP Center researcher Mary Gamble. She is working to better understand how one-carbon metabolism, a biochemical pathway with many nutritional influences, affects arsenic toxicity through two potential mechanisms: 1) facilitating arsenic metabolism, and 2) protecting against arsenic-induced epigenetic dysregulation.



Howe is examining whether arsenic metabolism is modified by two B vitamins, folate and cobalamin, involved in the synthesis of S-adenosylmethionine (SAM), a naturally occurring compound in the body and product of one-carbon metabolism. Using samples from the Folate and Oxidative Stress Study, a cross-sectional study of arsenic-exposed Bangladeshi adults, she observed that among individuals deficient for both folate and cobalamin, SAM was associated with a higher proportion of monomethyl arsenic and with a lower proportion of dimethyl arsenic in blood. This

scientist, machine learning expert, or statistician; a chemist, chemical engineer, or biochemist; and an individual with expertise in molecular biology and endocrinology. For more information, visit the [Silent Spring Institute website](#).

Positions at Gradient

Gradient is an environmental and risk sciences consulting firm renowned for their specialties in Toxicology, Epidemiology, Risk Assessment, Product Safety, Contaminant Fate and Transport, and Environmental/Forensic Chemistry. Gradient is seeking a biostatistician, epidemiologist, environmental toxicologist, toxicologist/risk assessor, environmental chemist, and environmental engineer. Excellent analytic and critical thinking, writing, and communication skills are required. For more information, see the [Gradient jobs page](#).

CURRENT RESEARCH BRIEF

Research Brief 254: [Low-Dose Organic Arsenic Exposure Negatively Affects the Immune System in the Lung](#) (Bruce Stanton, Dartmouth College) 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

From Lab Bench to Commercial Product: A Case Study of Quad Technologies and a Discussion

suggests that when nutritional methyl groups are limiting, complete methylation of inorganic arsenic is impaired. Thus, individuals with deficiencies in these B vitamins may be more susceptible to arsenic toxicity (see her [paper](#) for more). She is also investigating how arsenic and one-carbon metabolism influence post-translational histone modifications.

In July 2015, Howe received an F31 fellowship from NIEHS to support training and research related to influences of arsenic and folate on histone methylation marks for her dissertation project. Last year, she won first prize for her [poster](#) at the 10th International Conference on One Carbon Metabolism, B vitamins and Homocysteine, held at the Medical School of the University of Lorraine in Nancy, France. She also won a first place poster award at the 2012 SRP Annual Meeting.

Howe is originally from New Hampshire, but moved to Southern California to attend Pomona College, where she studied biology and Spanish. Growing up in New Hampshire and spending time in Southern California, she developed a love for the outdoors. Now that she lives in New York, she spends more time taking advantage of the museums and great food, but still goes hiking when she can! She also enjoys playing tennis.

HOT PUBLICATION

Discovery of a Novel Therapeutic Target for Liver Fibrosis

Chronic damage to the liver eventually creates a wound that never heals. This condition, called fibrosis, gradually replaces normal liver cells—which detoxify the food and liquid we consume—with more and more scar tissue until the organ no longer works. Researchers at the Salk Institute led by UC San Diego SRP Center researcher Ronald Evans have identified a drug that halts this unchecked accumulation of scar tissue in the liver. Their results indicate that bromodomain-containing protein 4 (BRD4) is a driver of chronic fibrosis and a promising therapeutic target for treating liver disease. They found that a small molecule, called JQ1, successfully inhibited BRD4 and prevented and reversed fibrosis in animals. See the [press release](#) on the Salk Institute website and the [paper](#) in the journal Proceedings of the National Academy of Science for more information.

CALL FOR ABSTRACTS

Toxicology and Risk Assessment Conference – Call for Poster Abstracts

The 2016 Toxicology and Risk Assessment Conference (TRAC), **April 4-7, 2016 in Cincinnati, Ohio**, will focus on topics in risk assessment principles and practice. The conference provides attendees with an overview of current research, methodologic, and practice issues that are the focus of risk assessment efforts

of Commercializing Academic Discoveries

Grantee Event: Co-Sponsored by the Northeastern University SRP
February 8, 2016, 1:00 - 2:00 p.m.
EST

Webinar

[Website](#)

NIEHS Grant Opportunities Webinar for Trainees

March 3, 2016, 2 – 3 pm ET

Webinar

[Website](#)

Developing a Pan American Hub for Environmentally and Socially Compatible Mining

Grantee Event: Co-Sponsored by the University of Arizona SRP
March 7, 2016

Lima, Peru

[Website](#)

SRP Small Business Water Innovation - An Integrated Approach to Sustainable Solutions

Session I: Sustainable

Approaches to Remediation

March 21, 2016, 1 – 3 pm ET

Registration page coming soon

SRP Small Business Water Innovation - An Integrated Approach to Sustainable Solutions

Session II: Innovative Detection Technologies

March 23, 2016, 1 – 3 pm ET

Registration page coming soon

Toxicology and Risk Assessment Conference

April 4-7, 2016

Cincinnati, Ohio

[Website](#)

Central and Eastern European Conference on Health and the Environment (CEECHÉ)

Grantee Event: Co-Hosted by the University of Kentucky SRP

April 10 - 14, 2016

Prague, Czech Republic

[Website](#)

in various Federal agencies, academic institutions, industry, and other organizations.

A poster session on the evening of April 5, 2016 will feature trainees and is designed to provide participants the opportunity to share their work in a focused, collegial environment. The meeting organizers invite poster abstract submissions of broad interest to toxicology and risk assessment. The poster abstract deadline is **March 15, 2016**. See the [TRAC website](#) for more information.

FUNDING OPPORTUNITIES

NSF Funds Big Data Hubs, Releases Big Data Spokes Initiative

On November 2, the National Science Foundation (NSF) announced four awards, totaling more than \$5 million, to establish four Big Data Regional Innovation Hubs (BD Hubs) across the nation. NSF also released a new solicitation - [the BD Spokes initiative](#) - for projects that will leverage the BD Hubs' data. Each BD Spoke will focus on a specific BD Hub priority area and address one or more of three key issues: improving access to data, automating the data lifecycle, and applying data science techniques to solve domain science problems or demonstrate societal impact. See the [NSF Press Release](#) for more information. Proposals are due **February 25, 2016**.

The Open Science Prize - Enabling Discoveries for Health Big Data Open Science Prize Opportunity

The NIH Big Data to Knowledge initiative has partnered with Wellcome Trust, with additional support from the Howard Hughes Medical Institute, to launch a global science competition for new products or services to advance "open science," a movement to make scientific research data broadly accessible to the public. The Open Science Prize challenge consists of a two-phase competition. The first phase of the competition is accepting applications through **February 29, 2016**.

More information about the Open Science Prize including eligibility and examples of potential innovations can be found on the [Open Science Prize website](#). Eligible teams must be a collaboration of a U.S. and an international partner.

Multiproject Center Grants Request for Applications

The NIEHS is announcing the continuation of the Superfund Hazardous Substance Research and Training Program (P42) Request for Applications (RFA) to address the broad, complex health and environmental issues that arise from the multimedia nature of hazardous waste sites. SRP Center grants support problem-based, solution-oriented research Centers that consist of multiple, integrated projects representing both the biomedical and environmental science disciplines. The Center cores are also tasked with administrative, community engagement, research translation, research support, and training functions. Letters of

NIEHS Environmental Health Science FEST

December 5 - 8, 2016
Durham, North Carolina
[RSVP](#)

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 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 through 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

Intent are due on **March 11, 2016**. Applications are due on **April 11, 2016**. For more information, see the [SRP Funding Opportunities - Multiproject Center Grants page](#).

If you missed the informational webinar to answer questions about [RFA-ES-15-019](#) on December 1, 2015, the archive is available on the U.S. Environmental Protection Agency (EPA) [CLU-IN Training & Events Web page](#) for materials from the webinar and an archive.

Research to Action Program Funding Opportunity Announcement

Research to Action (R2A) is a program whose purpose is to bring together community members and environmental and occupational health researchers to investigate the potential health risks of environmental and occupational exposures that are of concern to the community. Data collection, translation of research into public health action, and project evaluation are all required. Learn more by visiting the [Research to Action Web page](#) and reading about current and past projects.

A new Research to Action funding opportunity will open **May 5, 2016**. This opportunity encourages applications using community-engaged research methods to investigate the potential health risks of environmental exposures of concern to the community and to implement an environmental public health action plan based on research findings. The overall goal is to support changes to prevent or reduce harmful environmental exposures and improve the health of a community. See the [Funding Opportunity Announcement](#) for more information.

INTERAGENCY NEWS

EPA Announces 2014 Toxics Release Inventory Report

In 2014, 84 percent of the 25 billion pounds of toxic chemical waste managed at the nation's industrial facilities was not released into the environment due to the use of preferred waste management practices like recycling, energy recovery and treatment, according to the U.S. Environmental Protection Agency's (EPA) annual Toxics Release Inventory (TRI) report. The remaining 16 percent was released to the air, water or placed in some type of land disposal. Most of these releases are subject to a variety of regulatory requirements designed to limit human and environmental harm.

This year, the TRI report is available on a website, giving users easier access to key information, including analyses and interactive maps showing data at a state, county, city, and zip code level. Other new features of this year's analysis include integrated demographic information, profiles of federal facilities and the automotive manufacturing sector, and a discussion forum where users can share feedback about the report. To access the 2014 TRI National Analysis, including local data and

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

analyses, visit the [EPA TRI website](#).

Request for Public Comments: EPA Guidelines for Human Exposure Assessment

The EPA announced a 45-day public comment period for the External Review Draft of the “Guidelines for Human Exposure Assessment.” EPA is seeking public comment prior to external peer review. All comments received in the docket by **February 22, 2016** will be shared with the external peer review panel for their consideration. Comments received beyond that time may be considered by EPA when it finalizes the document.

In order to promote consistency and transparency in EPA risk assessments, the Agency produces guidance that articulates the current state-of-the-practice at EPA. The current guidance document for human exposure assessment, *Guidelines for Exposure Assessment*, was published in 1992, reflecting the state-of-the-science in the 1970s and 1980s. Since its publication, the field of exposure science has undergone significant transformation in methods and approaches. EPA programs have incorporated many of these advances into their policies and practices. Accordingly, the exposure guidelines are being revised and updated to reflect these changes.

Visit the [EPA website](#) for more information.

