

Superfund Research Program e-Posted Notes

April 8, 2016 (Issue 147)

HEADLINES

Risk e-Learning Webinar: SRP Water Innovation – An Integrated Approach to Sustainable Solutions

The NIEHS Superfund Research Program (SRP) and EPA's Contaminated Site Clean-Up Information (CLU-IN) invite you to join us for the first session in a series of free Risk e-Learning webinars, [SRP Water Innovation – An Integrated Approach to Sustainable Solutions](#): Session I - Introducing the Big Picture, on **Monday, April 25 from 2:00 – 4:00 pm EDT**. This session will introduce challenges and opportunities related to protecting water quality and promoting access to safe, drinkable water.

Session presenters:

SRP Director **Bill Suk, Ph.D.**, will begin the session by making the connection between SRP research and water innovation. The SRP funds multidisciplinary research addressing the complex and evolving challenges associated with Superfund and related hazardous waste sites. Some of this research can be directly applicable to addressing challenges in water quality and the development of the next generation of water technologies.

David Sedlak, Ph.D., from the University of California, Berkeley SRP Center will introduce the challenges in the water sector and discuss opportunities for boosting water sustainability. He also will discuss water reuse — the practice of using municipal wastewater effluent to sustain aquatic ecosystems and augment drinking water supplies — as well as the treatment and use of contaminated groundwater as water supplies.

Wendy Heiger-Bernays, Ph.D., and **Madeleine Scammell, D.Sc.**, from the Boston University SRP Center will discuss their work with a Massachusetts town after the discovery of 1,4-dioxane in private drinking water wells and concerns regarding a capped landfill as the source. They will provide an overview of relevant aspects of the Safe Drinking Water Act in relation to this particular unregulated drinking water contaminant and potential health risks.

Moderator: Heather Henry, Ph.D., Health Scientist Administrator, NIEHS Superfund Research Program, NIEHS SRP

EMPLOYMENT OPPORTUNITIES

Research Traineeship at Bayer CropSciences

Bayer CropSciences is seeking highly motivated, flexible, goal oriented trainees interested in experiencing research in a fast-paced industry setting. The research traineeship is for undergraduates, Ph.D. graduate students, or recent Ph.D. graduates in the fields of biochemistry, entomology, nematology, plant pathology, microbiology, or related areas. The position is a 3-month full-time paid traineeship, where individuals will have the opportunity to conduct experiments alongside scientists in research and development. Please send your resume to elyse.rodgers-vieira@bayer.com to apply.

Northeastern University and Silent Spring Institute – Postdoctoral Fellow

Northeastern is seeking a candidate with doctoral training in an environmental health-related discipline such as exposure assessment, molecular or computational toxicology and biology, environmental chemistry, statistics, bioinformatics, or epidemiology. In addition, this fellowship is part of a unique environmental science-social science collaboration, and the candidate should have an interest in working in a public health context and receiving training in community-

Please visit the [CLU-IN webinar page](#) to register. To learn more about the webinar series, please visit the [SRP Water Innovation – An Integrated Approach to Sustainable Solutions webpage](#).

In addition to the Risk e-Learning series, the SRP also broadcast a Progress in Research webinar series featuring SRP small business grantees working on detection and remediation of hazardous substances in water. See the [SRP Progress in Research page](#) for more information and to access an archive of the webinars.

SRP Well Represented at the SOT meeting

SRP grantees from all over the country gathered in New Orleans, LA, for the SOT meeting March 13-17. It was great to see such strong SRP representation at the meeting!

At SOT, LSU postdoctoral researcher **Sridhar Jaligama** received the Drug Discovery Toxicology specialty section Emil A. Pfitzer postdoctoral award and the Inhalation and Respiratory SS Student Award, along with a postdoctoral student travel award. UC Berkeley trainee **Fenna Sillé** received the Best Presentation by a Postdoctoral Trainee Award from the Immunotoxicology Specialty Section. Oregon State graduate student **Derik Haggard** was the recipient of the 2016 Eric A. Andreasen Memorial Graduate Student Award for Excellence in Research and Scholarship. UC Berkeley professor **Luoping Zhang** received the Distinguished Chinese Toxicologist Lectureship Award. SRP trainees **Anna Chlebowski** (Oregon State University), **Rance Nault** (Michigan State University), and **James Watt** (Boston University School of Public Health) received Graduate Student Travel Awards to attend the 2016 meeting. UC Berkeley trainees **Kevin Zhang** and **Joey Chaing** also won student travel awards.

Thanks to Fenna Sillé, Nishad Jayasundara, and Alison Sanders for organizing the SRP trainee gathering during the meeting.

It was great to see so many SRP grantees at the meeting and congrats to all the award winners and presenters!

EPA's Federal Technology Transfer Act (FTTA) Program: Opportunities for NIEHS grantees

On a webinar on May 19 at 1 pm ET, staff from the U.S. Environmental Protection Agency (EPA) Federal Technology Transfer Act (FTTA) Program will highlight opportunities for NIEHS university grantee researchers to partner with the EPA to evaluate and further develop some of their research products. They will provide an overview of the process to enter into this partnership through a Cooperative Research and Development Agreement (CRADA) as well as defining intellectual property (IP) and confidential business information (CBI) protection. Collaborative partnerships provide a win-win scenario with the ability to share expertise, leverage each other's resources, and further each partner's research efforts. This webinar session will

based participatory research and the social context of environmental science. This two-year appointment 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 Silent Spring Institute and Northeastern University's Social Science Environmental Health Research Institute. The postdoctoral fellow will spend 2/3 of her/his time at Silent Spring Institute and 1/3 at Northeastern. For more information, visit the [Northeastern University jobs page](#).

Northeastern University - Senior Research Scientist

The Northeastern University 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,

cover the basic concepts of technology transfer collaborations and intellectual property, as well as introduce you to the EPA FTTA staff who will assist you in establishing a collaborative partnership with EPA researchers. To register, visit the [WebEx webinar page](#).

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:

- [Nomura describes new approach to identifying chemical toxicity](#)
- [Hammock recognized with first McGiff Memorial Award](#)
- [NIEHS mourns the loss of Barry Dellinger](#)
- Paper of the month: [Device improves detection of pollutants in water and sediment](#)

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

- [Chemical discovered at UC Davis may be new tool for depression therapy](#)
- [PROTECT mobilizes to minimize risk of Zika virus](#)

PROTECT and CRECE Release New Reproductive Health Bulletin for Healthcare Professionals

The Northeastern SRP PROTECT Center and the Northeastern Center for Research on Early Childhood Exposure and Development in Puerto Rico (CRECE) collaborated to produce a [Reproductive Health and the Environment Bulletin](#), which presents up-to-date research about environmental exposures and preterm birth. The bulletin provides a comprehensive overview of research on health outcomes associated with exposure to pesticides, bisphenol A (BPA), perfluoroalkyl substances (PFAs), phthalates, polybrominated diphenyl ethers (PBDEs, or flame retardants), air pollution, lead, and polychlorinated biphenyls (PCBs). The bulletin focuses especially on the reproductive outcomes of these exposures, including early-onset puberty, decreased fertility, and preterm births. See the [Northeastern PROTECT website](#) for more information.

Low-level Arsenic May Impact Fetal Growth, Dartmouth-led Study Finds

The Dartmouth SRP Center and the Dartmouth Children's Center recently reported that arsenic exposure during pregnancy at levels common in the United States is related to birth outcomes. The [study](#) shows that fetal growth may be impacted by low levels of arsenic that pregnant women consume in drinking water and food. See the [Dartmouth press release](#) for more about the study.

Graziano Featured in Story on Arsenic in Drinking Water

Columbia SRP Center Director Joe Graziano was interviewed by

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](#).

CURRENT RESEARCH BRIEF

Research Brief 256: [A New Dilution Tool to Facilitate High-Throughput Assay Techniques](#) (Tingrui Pan, University of California, Davis) 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

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

Grantee Event: Co-Hosted by the University of Kentucky SRP
April 10 - 14, 2016
Prague, Czech Republic
[Website](#)

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

Grantee Event: Co-Sponsored by the Northeastern University SRP
April 11, 2016, 1:00 - 2:00 p.m. ET
Webinar
[Website](#)

the Associated Press and a local Austin newspaper about a report on arsenic in drinking water in Texas. The report states that arsenic levels in drinking water exceed federal safety levels in more than 60 rural Texas communities. Graziano was featured in a story in the [Austin paper](#) and the [Chicago Tribune](#), where he discussed the need to inform residents of ways to reduce exposure and to test children for arsenic.

Graziano and his research team were also recently featured in a Fogarty International Center highlight on their [study](#), which found that an arsenic education program based in elementary schools was successful in convincing families to switch to safe water sources. Students who received arsenic education were five times more likely to switch to a safer well, compared to control groups. The children receiving the intervention also had a significantly greater decline in urinary arsenic, a biomarker of exposure, than the controls. See the Fogarty [Global Health Matters Newsletter](#) to read more.

Eighth International PCB Workshop Journal Released

Proceedings from the Eighth International PCB Workshop: PCBs in Schools, Exposures, Effects, Remediation and Regulation in Woods Hole, MA were released in the February 2016 journal [Environmental Science and Pollution Research](#).

A primary objective of the PCB Workshop was to provide a single forum for experts on issues of analysis, fate and transport, exposure assessment, metabolism and disposition, toxicity, and public health policy – a unique opportunity for scientists to come together and learn from each other. 95 articles are included in the journal. The University of Iowa Superfund Research program and the Boston University Superfund Program organized the conference, which convened more than 200 attendees.

Dartmouth Holds New Hampshire Arsenic Consortium

Almost 70 people attended the [New Hampshire Arsenic Consortium](#) meeting on March 24. The group heard information on the latest arsenic research from the Dartmouth Superfund Research program and Children's Health Center, the USGS, NH DHHS and NH DES as well as information on recent outreach and education efforts and a review of the Consortium accomplishments over the years. The afternoon breakouts were full of great energy to keep the momentum going forward and chart the course for continuing to address arsenic exposure in the region from water and food.

TRAINEE SPOTLIGHT

Linnea Honeker – University of Arizona

Linnea Honeker is a doctoral student at the University of Arizona SRP Center under the guidance

SRP Water Innovation – An Integrated Approach to Sustainable Solutions Session I: Introducing the Big Picture

April 25, 2016, 2:00 - 4:00 p.m. ET
Webinar

[Website](#)

Role of Aryl Hydrocarbon Receptor Polymorphisms on TCDD-mediated Suppression of Human B cell Function Presented by Norbert Kaminski, Michigan State University SRP North Carolina Society of Toxicology Event

April 26, 2016, 2 – 3 pm ET
Webinar

[Website](#)

NIEHS and the Society of Toxicology - Past, Present, and Future: 50 Years of Collaboration

July 13, 2016, 1:00 - 4:00 p.m. ET
Research Triangle Park, North Carolina

[Website](#)

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,

of Raina Maier. Her work focuses on the roles of bacteria during phytostabilization of mine tailings in terms of promoting plant health and metal stabilization.



One of Honeker's projects has been to modify and assess the effectiveness of a method for examining colocalization of metals and bacteria on plant root surfaces using a combination of x-ray fluorescence (XRF) and fluorescence in situ hybridization (FISH). Another project focuses on examining microbial communities on plant root surfaces (using FISH) and in the rhizosphere (using 16S rRNA gene amplicon sequencing) to find associations with plant health and other environmental conditions. Her samples come from the Iron King Mine and Humboldt Smelter Superfund Site located in Dewey-Humboldt, AZ where the University of Arizona SRP Center has an ongoing phytostabilization study.

For her excellent work, Honeker has received a number of awards, including an NSF Graduate Research Fellowship, the Great Lakes scholarship for students in STEM fields, and a P.E.O Scholar Award, a merit-based scholarship awarded to women pursuing doctoral degrees. She was also selected as a "[PhytoScholar](#)" to attend the 12th Conference of the International Phytotechnology Society in 2015.

Outside of school, her current focus is on taking care of her 2-month-old daughter, Audrey Rose. She hopes that the research does can help contribute to creating a cleaner world for her daughter's future. Before she became a mom, her hobbies included cycling, running, swimming, hiking, and yoga and she looks forward to returning to those activities soon!

HOT PUBLICATION

Using Field Data and Numerical Modeling to Assess Vapor Intrusion Risk

The U.S. Environmental Protection Agency (EPA) recommends a multiple lines of evidence approach to make informed decisions at vapor intrusion sites because the vapor intrusion pathway is notoriously difficult to characterize. The findings from a recent [SRP study](#) provide insight into how the multiple lines of evidence approach can be used to inform decisions by using field data collected using regulatory-relevant sampling techniques, and a well-established 3-D vapor intrusion model. The study includes

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

SRP researchers from University of Kentucky, Brown University, and Boston University.

This study incorporates groundwater, soil gas, indoor air field measurements, and numerical models to evaluate vapor intrusion exposure risks in a Metro-Boston neighborhood known to exhibit lower than anticipated indoor air concentrations based on groundwater concentrations. They collected and evaluated five rounds of field sampling data over the period of one year.

Field data results showed a steep gradient in soil gas concentrations near the groundwater surface. However, as the depth decreased, soil gas concentration gradients also decreased. Together, the field data and the numerical model results suggest that a subsurface feature is limiting vapor transport into indoor air spaces at the study site and that groundwater concentrations are not appropriate indicators of vapor intrusion exposure risks in this neighborhood. This research also reveals the importance of including relevant physical models when evaluating vapor intrusion exposure risks using the multiple lines of evidence approach.

AWARD WINNERS

Northeastern SRP Trainees Win Individual Awards

Northeastern SRP PROTECT Center trainees Marvic Carmona De Jesus, Reza Ghasemizadeh, Kelly Hogan, and Lauren Johns are the 2015 recipients of the PROTECT Trainee Individual Development Plan (IDP) Awards, which provide winners with a \$1,500 stipend to be used toward a conference or research lab visit to a PROTECT partner or related institution. Congratulations to the award winners for their successful efforts in enhancing their extracurricular experiences and increasing their professional skills. See the [Northeastern SRP website](#) for more information.

WEBINARS

From Lab Bench to Commercial Product: A Case Study of Quad Technologies & A Discussion of Commercializing Academic Discoveries

The Northeastern SRP PROTECT Center would like to invite you to attend their next webinar, "From Lab Bench to Commercial Product: A Case Study of Quad Technologies & A Discussion of Commercializing Academic Discoveries," on **Monday, April 11, 1:00 – 2:00pm EST**. This webinar was rescheduled from its original advertised date in February. This webinar will be co-hosted by the Michael J. and Ann Sherman Center for Engineering Entrepreneurship Education at Northeastern University, and will be presented by Shashi Murthy, Professor of Chemical Engineering and the Founding Director of the Sherman Center at Northeastern University, and Sean Kevlahan, CEO and Co-Founder of Quad Technologies.

If you are interested in attending, please contact Melanie Smith at m.smith@neu.edu, or 617-373-2976, to RSVP and receive the WebEx invitation needed to attend. For more information, visit the [Northeastern SRP website](#).

Flint: Lessons Learned – Lead Poisoning, Its Prevention, and Its Consequences

On a webinar on **April 12 from 2 – 3:30 pm EDT**, a panel of leaders will discuss lessons learned from Flint for housing, public health, environmental, and other concerned practitioners and advocates to consider about lead poisoning, its prevention, and its consequences. The webinar is sponsored by the National Safe and Health Housing Coalition. Visit the [GoToMeeting page](#) for more information and to register.

CALL FOR ABSTRACTS

Advancing the Science of Community Engaged Research

The Community Engaged Research conference on **August 25-26 in Washington D.C.** will convene researchers and community stakeholders in order to advance knowledge of the innovative methods and promising practices being used in the rapidly developing field of community engaged research. Learning labs will provide “how to” opportunities for small group learning on specific issues and practices, and think tanks will advance discussion and problems solving for issues that can impede or accelerate community engaged research. The calls for poster abstracts and Learning Lab proposals are now open. The deadline for submission is **April 30 at 5:00 pm ET**. Visit the [meeting website](#) for more information.

FUNDING OPPORTUNITIES

Innovation Lab Announcement - Approaches to Biomedical Data Science, Challenges of Wearable and/or Ambient Sensors

Junior faculty members (Assistant/Associate Professors) are encouraged to apply for the 2016 Innovation Lab on Interdisciplinary Approaches to Biomedical Data Science Challenges **June 15-19, 2016** at the UCLA Lake Arrowhead Conference Center in Lake Arrowhead, CA. The application deadline has been extended on a rolling basis until **April 11, 2016 11:59 PM ET** and spots are filling up quickly. The Innovation Lab will focus on biomedical big data coming from wearable and/or ambient sensors (e.g. wearable electronics, mobile devices, environmental sensors). The goal of the event is to foster the formation of new interdisciplinary collaborations that will generate creative strategies for addressing challenges associated with the visualization, modeling, and analysis of biomedical big data coming from wearable or ambient sensors.

Early-career investigators (Assistant/Associate Professors) from Mathematics, Statistics, and Computer Science disciplines who have never worked with biomedical data are highly encouraged to apply using the [quantitative application process](#). Early-career investigators (Assistant/Associate Professors) who conduct biomedical research using mobile health approaches are highly encouraged to apply using the [biomedical application process](#). Selected participants will take part in a mentored, five-day workshop to generate the formation of new interdisciplinary teams to tackle these data science challenges. At the end of the workshop, teams will have developed an idea for a research proposal that could be submitted to the NIH or NSF. For more information about the Lab and the application process, please visit the [BD2K Innovation Lab website](#).

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. 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](#).

Integrating Human Health and Well-Being with Ecosystem Service

The U.S. Environmental Protection Agency (EPA) announces the release of the [Integrating Human Health and Well-Being with Ecosystem Services](#) Request for Applications (RFA). This RFA goal is to fund community-based research that will foster better understanding of how human health and well-being are interconnected with—and depend on—ecosystem services. Specifically, this research examines how communities can integrate ecosystem services with human health and well-being to inform their decision-making and management practices. This RFA aims to develop information that allows communities to integrate environmental, societal and economic information and to better manage multiple stressors and their cumulative impacts on humans and ecosystems. The ultimate goal is to help communities achieve their own objectives while taking advantage of more relevant and accessible information about ecosystem services. Partnerships and community engagement are strongly encouraged for this research. Applications must be submitted by

April 21, 2016 for consideration. For more information, visit the [EPA website](#).

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 2016 IRIS Public Science Meeting Schedule

EPA has posted the dates for the 2016 IRIS Public Science Meetings. The IRIS Public Science Meetings offer the public the opportunity to provide input and participate in discussions about problem formulation, preliminary assessment materials, and draft IRIS assessments. For more information on upcoming IRIS Public Science Meetings, visit the [IRIS website](#).

Federal Agencies launch Small Business Innovation Research (SBIR) Microsite on Sensor Technology for the 21st Century

On March 1, SBIR.gov posted a new microsite on [Sensor Technology for the 21st Century](#) to provide a central web location to help sensor developers locate SBIR and/or STTR funding opportunities across federal agencies. The U.S. Government is a significant driver of sensor innovation: investing in low cost, portable, easy-to-use technologies to facilitate the collection of real time, reliable measurement information. This important effort will help small businesses interested in sensor technologies find relevant SBIR solicitations; encourage cross-Agency adoption of projects as they move through funding phases; and avoid duplicative investments across the government in sensor technology.

This effort was developed in coordination with the federal working group on Exposure Science in the 21st Century and the National

Nanotechnology Initiative under the White House National Science and Technology Council. See the [SBIR site](#) for more information.

EPA Adds Sites to National Priorities List to Reduce Risk to Public Health and Environment

The U.S. Environmental Protection Agency (EPA) is adding five and proposing to add eight hazardous waste sites to the Superfund program's National Priorities List (NPL). These are sites with known or threatened hazardous waste releases that could pose risks to public health and the environment. The newly added sites are in Illinois, Iowa, Nebraska, New Jersey, and New Mexico and include a former zinc smelter, former dry cleaner, former manufacturers, and a groundwater plume. For more information about the new and proposed sites, visit the [EPA website](#).

