

Superfund Research Program e-Posted Notes

July 14, 2017 (Issue 162)

HEADLINES

Now Accepting SRP Wetterhahn Applications

The NIEHS SRP is accepting applications for the 20th Annual Karen Wetterhahn Memorial Award. The winner will be announced at the SRP Annual Meeting, December 6 - 8, 2017 in Philadelphia, Pennsylvania, and will present his or her research at the meeting.

The SRP has established this annual award to recognize an outstanding SRP graduate student or post-doctoral researcher who best demonstrates the qualities of scientific excellence exhibited by [Karen Wetterhahn](#), who passed away in 1997. All SRP trainees may apply (an SRP trainee is funded directly by an SRP grant (P42 or R01) or is conducting research/activities funded by an SRP grant).

The deadline for applications is August 31, 2017. [Application guidelines](#) and [bios from past winners](#) are posted online. Please contact Danielle Carlin (danielle.carlin@nih.gov) or the assigned program administrator for your SRP grant if you have any questions or are interested in applying or nominating your trainee. We look forward to seeing many great applications!

Guide the Next NIEHS Strategic Plan

As the end of the [2012-2017 Strategic Plan](#) approaches, NIEHS is seeking guidance from the environmental health science community for the next five-year strategic plan. Please share your ideas about NIEHS's future research priorities through the [Trends & Insights survey](#). Your input is critical!

Save the Date: SRP 30th Anniversary Meeting

The [SRP Annual Meeting](#) will be held **December 6 - 8, 2017** in Philadelphia, Pennsylvania. The 2017 meeting will celebrate the 30th anniversary of the program, showcasing SRP's accomplishments to protect human health and the environment. The University of Pennsylvania SRP Center will be hosting the meeting in collaboration with SRP Centers at Boston University, Brown University, Columbia University, Dartmouth College, and Northeastern University.

Program planning is underway, and organizing committees are

EMPLOYMENT OPPORTUNITIES

Research Associate – Michigan State University

The Lee Lab at Michigan State University is seeking a highly motivated researcher to work on an exciting area in lipid and health. The Lee Lab focuses on designing new molecular probes and using state-of-the-art instrumentations to study the signaling mechanism of lipid metabolites on human health. The researcher will work primarily on the design and synthesis of the mimics of omega-3 and omega-6 fatty acid metabolites and will determine their efficacy with a variety of cell-based assays. The candidate also will assist in experiment planning and data collection and analysis. The successful applicant also will train and supervise students and will be responsible for publishing results and assisting in grant preparation.

The application period closes on **July 25, 2017**. For more information, visit the [MSU careers page](#).

Postdoctoral Research Associate – University of Arizona

A postdoctoral position is available in the Maier Environmental Microbiology research group at the University of Arizona for a highly motivated, creative, and independent candidate with a Ph.D. in microbiology / microbial ecology / environmental microbiology or related field. The candidate will be

being formed. We look forward to seeing you in Philadelphia to share, compare, and interact with other SRP researchers. More information coming soon.

IN THE NEWS

NIEHS SRP News Stories

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

- [Persistent chemicals in the spotlight at June SRP events](#)

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

- [UA SRP Center Communicates Findings at Community Forum](#)
- [SRP Participates in Small Business Innovation Conference](#)
- [SRP Highlighted at Data Science Symposium](#)

Maine Passes Legislation to Support Private Well Water Testing, Informed by Columbia and Dartmouth SRP

The [Act to Ensure Safe Drinking Water for Families in Maine](#) (L.D. 454), sponsored by Representative Karen Vachon, R-Scarborough, was passed by the Maine House of Representatives (117-25) on May 30, 2017 and the Maine Senate (34-0) on June 1, 2017. Records and transcripts show that Columbia SRP studies on child IQ, arsenic testing, and arsenic treatment were cited repeatedly in testimony submitted in favor of the bill and by legislators during floor debates. Dartmouth SRP Center Director Bruce Stanton also provided written testimony in support of LD 454. See a [Bangor Daily News story](#) for more about the bill.

New Training Video on Nanomaterials in the Environment

The Midwest Emerging Technologies Public Health and Safety Training (METPHAST) Program, an SRP Occupational and Safety Training Education Program (R25) grantee, released its latest [training video](#) on nanomaterials in the environment. By the end of this module, learners should be able to (1) identify sources for engineered nanomaterials in the natural environment, (2) describe potential ecological effects of nanomaterials, (3) predict pathways for exposure of the public to nanomaterials, and (4) assess human exposure to engineered nanomaterials in the environment. The METPHAST Program is led by Pete Raynor, Ph.D., at the University of Minnesota, who narrates the video. For additional modules from the training program, see the [METPHAST YouTube channel](#).

OSU SRP Findings Featured in Natural Resource Report

According to a recent [study](#) by Oregon State University (OSU)

involved in multiple projects that address biogeochemical contributions of the soil microbiome to the sustainability of marginal arid ecosystems. The primary research focus of this position will be the complex biogeochemical processes and plant-microbe interactions that occur during phytoremediation of pyritic mine wastes. Associated projects include the significance of the soil microbiome to dryland ecosystem sustainability and reclamation and the production of biofuel crops in marginal soils. The successful candidate will integrate multiple molecular biology and bioinformatics tools such as metagenomics, metatranscriptomics, genome reconstruction, and qPCR to define dynamic contributions of specific members of the soil microbiome to geochemical (nutrient) cycling under diverse environmental conditions. For more information, see the [full announcement](#).

Postdoctoral Research Associate in Environmental Epidemiology - Boston University

The Boston University School of Public Health (BU SPH) is offering a postdoctoral research associate opportunity in environmental epidemiology, focusing on the investigation of an epidemic of chronic kidney disease (CKD) in Central America. BU SPH has been [investigating the CKD epidemic](#) since 2009 and is currently launching a large prospective cohort study of workers in Nicaragua and El Salvador. The postdoctoral associate will analyze existing data from past field work in Central America, lead an analysis of electronic medical records and health care claims data from the U.S., and prepare manuscripts for publication. The successful candidate must have recently completed a Ph.D./doctorate in epidemiology, environmental health,

SRP researchers, zebrafish whose parents and grandparents were exposed to benzo[a]pyrene, a chemical associated with air pollution, suffer several physical and behavioral deficits, even though the descendant fish were not themselves exposed. A recent [article](#) in Natural Resource Report describes these findings on the generational effects of benzo[a]pyrene exposure on zebrafish embryos.

Harvard Story on Substitution of Nail Polish Ingredients by R25 Trainee

Harvard R25 grantee Anna Young has been leading a study with nail salon workers to identify sources of exposure to potentially harmful chemicals and inform targeted interventions to reduce these exposures. In a recent [story](#) on the Harvard Hoffman Program on Chemicals and Health website, she describes her research to better understand nail polish ingredients and potential reproductive toxicity concerns for women exposed to these chemicals.

TRAINEE SPOTLIGHT

Britton Goodale Studies Effects of Arsenic on the Lung

Britton Goodale is a postdoctoral fellow at Dartmouth College under the guidance of Bruce Stanton, Ph.D. Goodale's current SRP research focuses on how low-dose arsenic exposure affects the ability of human airway cells to respond to bacterial infections.



Arsenic in drinking water is associated with increased risk of respiratory infection and disease, but the biological effects of arsenic exposures that occur from contaminated food and drinking water are not well understood. As part of the Dartmouth SRP Center, Goodale is investigating how exposure to low-dose organic and inorganic arsenic affects the ability of human lung cells to respond to the opportunistic pathogen *Pseudomonas aeruginosa*.

Her [recently-published research found](#) that airway epithelial cells exposed to arsenic had decreased expression of host defense genes and secreted less of the antimicrobial protein lysozyme. Because airway epithelial cells provide an important first defense against invading pathogens, this decreased antimicrobial activity at the airway surface helps explain how arsenic exposure increases susceptibility to respiratory infection.

Much of Goodale's research uses bioinformatic approaches to investigate how genes, proteins, and signaling pathways are

or related field; have strong quantitative skills; and have an interest in kidney disease / kidney function. Madeleine Scammell, D.Sc., in the Department of Environmental Health will serve as the primary supervisor. This is a two-year position. Travel in the first year will be limited; there is potential for travel in year two. To apply, send a CV and a letter describing your interests to Madeleine Scammell (mis@bu.edu). Please put "Environmental Epidemiology Postdoctoral Associate" in the subject line. For more information, see the [full announcement](#).

Postdoctoral Associate in Community Engagement - Boston University

The BU SPH is seeking a Community Engagement (CE) postdoctoral associate to work with [BU Superfund Research Program \(BU SRP\) Center](#) and [Center for Research on Social and Environmental Stressors in Housing Across the Life Course \(CRESSH\)](#) investigators, Core leaders, and community partners to facilitate, evaluate, and document community engagement activities. The successful candidate must have a Ph.D./doctorate in social sciences or in a public or environmental health field; expertise in qualitative research; knowledge of environmental health / environmental epidemiology; and community engagement experience. The primary postdoctoral supervisor will be Madeleine Scammell, D.Sc. This is a two-year position. To apply, send a CV and a letter describing your interests to Madeleine Scammell (mis@bu.edu). Please put "Community Engagement Postdoctoral Associate" in the subject line. For more information, see the [full announcement](#).

Postdoctoral Fellow – Silent

affected by different forms of arsenic found in drinking water and food, and she was awarded a Ruth L. Kirschstein National Research Service Award (NRSA) from NIEHS to investigate effects of low-dose arsenic exposure on the innate immune response in human lung cells. By combining bioinformatic data mining and analysis with laboratory studies in human cells, this research will provide new data addressing how arsenic affects innate immune pathways and may help to predict the effects of exposure to arsenic in water and food.

Goodale also recently participated in the Collaborative on Food with Arsenic and associated Risk and Regulation (C-FARR), organized by the Dartmouth SRP Center's Research Translation Core, which brought researchers and policy stakeholders together to synthesize current knowledge about arsenic in food and resulting human exposures. As part of this project she co-authored a [paper](#) addressing the state of the science and gaps in knowledge about human exposures and toxicological effects of arsenic compounds in seafood.

Goodale earned her Ph.D. as part of the Oregon State University (OSU) SRP Center. At OSU, her research addressed questions about how polycyclic aromatic hydrocarbons, a group of common air pollutants, disrupt molecular signaling pathways that are critical for normal embryonic development.

Goodale enthusiastically shares techniques that enable better visualization and interpretation of large datasets with fellow researchers, and she helps teach bioinformatics at the Mount Desert Island Biological Laboratory. With colleagues at Dartmouth, she also recently founded a weekly lunch club to help scientists understand the process of analyzing large datasets in their research, using the R statistical computing environment.

When not analyzing data, Goodale enjoys running, skiing, and biking the trails of New Hampshire and Vermont with her dog and husband, cooking, and attempting to garden amidst a large community of deer and woodchucks.

HOT PUBLICATION

Airborne PCBs in Urban and Rural U.S. Schools

A new [study](#) by University of Iowa (UI) researchers shows that polychlorinated biphenyls (PCBs) are present in older schools and that the source of the PCBs is most likely outdated building materials, such as window caulking and light ballasts.

Though none of the schools had PCB levels high enough to meet federal standards for immediate remediation, researchers say the study is important because it shows that reduction of airborne PCBs in schools could be accomplished by removing old caulk around windows and modernizing light fixtures.

PCBs are a class of compounds used for decades in many

Spring Institute and Northeastern University

This two-year appointment is part of the NIEHS Training Program, "Transdisciplinary Training at the Intersection of Environmental Health Science and Social Science" (EH+SS), co-directed by the Silent Spring Institute and Northeastern University's Social Science Environmental Health Research Institute (SSEHRI). The fellowship is part of a unique opportunity to engage in environmental health - social science training. They are seeking a candidate with doctoral training in endocrinology, developmental biology, or cancer biology with a focus on environmental health. Applicants should demonstrate a strong research record as well as experience in statistics, biology, toxicology, chemistry, computer science, or informatics. R programming is an asset.

In addition to a strong background in her/his discipline, the candidate should have an interest in public health, community-based participatory research, and the social context of environmental health. The postdoctoral fellow will spend 2/3 of her/his time at Silent Spring Institute and 1/3 at Northeastern University. The fellow will collaborate with Silent Spring Institute and Northeastern scientists on one or more ongoing research projects and will have access to cutting-edge resources and technologies at Northeastern University and other collaborating institutions.

They currently are seeking applicants for one position to start as soon as possible. Review of applications will begin immediately, and the search will remain open until the position is closed or filled. For more information, see the full job description on the [Silent Spring Institute website](#).

industrial applications, such as electrical equipment. Although commercial production of PCBs was banned in most countries, including the United States, in 1979, they persist in the environment because of their stable chemical structure. Exposure to PCBs, particularly dioxin-like PCBs, has been linked to increased risk of cancer, diabetes, and cardiovascular disease, among other potential health effects.

The study, which collected indoor and outdoor air samples at six schools in Iowa and Indiana from 2012 to 2015, is the largest yet to examine airborne PCBs in schools. It shows that while the presence of PCBs can vary from school to school and even from classroom to classroom, children's exposure rates are roughly the same in rural and urban areas.

It also shows that exposure to PCBs by inhalation may be equal to or higher than exposure through diet, a finding that surprised researchers. Besides PCBs, researchers looked for the first time at OH-PCBs, chemical compounds similar to PCBs, in schools. Although there is still much to learn about OH-PCBs and their potential health risks, some scientists believe they could be more toxic than PCBs.

WEBINARS

SRP Wetterhahn Award Lecture

Join us on August 8 for the annual SRP Wetterhahn Award Lecture, which highlights research from the most recent winner of the [Karen Wetterhahn Memorial Award](#). The 2016 winner, [Elizabeth Martin](#), Ph.D., will present a talk titled, "Prenatal Arsenic Exposure and Sexual Epigenetic Dimorphism: Sexual Dimorphism of 5-Methylcytosine Alterations in Newborn Cord Blood from the BEAR Cohort." The talk will be held at the National Institute of Environmental Health Sciences, Building 101, Rodbell AB on Tuesday, August 8, 2017, from 10:00 to 11:00 a.m. EDT. The event also will be [webcast](#).

FRTR Presents: Heavy Metals-Mining Site Characterization and Treatment

The Federal Remediation Technology Roundtable (FRTR) invites you to attend a series of webinars on the characterization and treatment of heavy metals at mining sites. Each webinar is based on a presentation given at FRTR's Spring 2017 meeting held on May 9, 2017. The webinars are being provided as part of the [CLU-IN Mining Sites Webinar Series](#).

Session 2 will be held on **Wednesday, July 26, 2017, from 1:00 to 3:00 p.m. EDT**. Barbara Butler, Ph.D., Environmental Engineer (EPA) and Charles A. Cravotta III, Ph.D., Research Hydrologist/Geochemist (USGS) will explain potential applications of anaerobic and aerobic water-treatment techniques for remediation of mining influenced water (MIW). To register, please visit the [CLU-IN webinar webpage](#).

Assistant Professor in Environmental Sciences - Louisiana State University

A Tenure Track Assistant Professor in Environmental Sciences position is open at Louisiana State University (LSU). Candidates for this position will be expected to establish a rigorous, extramurally funded research program and teach courses in the field of health physics in the Department of Environmental Sciences within the College of the Coast and Environment. Areas of specialization could include medical, environmental, or reactor health physics. This position works closely with the physics department in the College of Science and the Center for Energy Studies.

The position was posted on January 20, 2017 and will remain open until filled. For more information, visit the [LSU jobs website](#).

CURRENT RESEARCH BRIEF

[Research Brief 271](#): "New 3D Fish Liver Model for Aquatic Toxicology" (Agnes Kane, Ph.D., Brown University)

Past [Research Briefs](#) are available on the SRP website. To receive the monthly Research Briefs or to submit ideas, email Michelle Heacock (heacockm@niehs.nih.gov).

SRP EVENTS

13th International Conference on Mercury as a Global Pollutant
Co-hosted by the Dartmouth SRP Center

July 16 - 21, 2017
Providence, Rhode Island
[Website](#)

Wetterhahn Award Lecture
Elizabeth Martin, Ph.D., University of North Carolina at Chapel Hill

Session 3 will be held on **Thursday, August 10, 2017, from 1:00 to 3:00 p.m. EDT.** Matthew Bobo, Geospatial Section Chief (BLM) and Kate Campbell, Ph.D., Research Chemist (USGS) will focus on different techniques for site characterization and modelling. To register, please visit the [CLU-IN webinar webpage](#).

SRP Risk e-Learning Webinar Archives Now Available

SRP hosted a successful Risk e-Learning webinar series that highlighted innovative analytical tools and methods developed and used by SRP grantees. The sessions focused on field-ready biosensors to assess bioavailability and toxicity, techniques for trace analysis of metals and chemical mixtures, and fate and transport of contaminants, including PFAS and PCBs. We received a lot of interest in these well-attended webinars.

If you were unable to attend, you can find more information and archive links on the [SRP Risk e-Learning page](#).

FUNDING OPPORTUNITIES

SRP Updates Topics for SBIR Grants

SRP's "Hazardous Substances Detection and Remediation Program" supports Small Business Innovation Research Grants (SBIR, R43, R44) to foster the commercialization of technologies, products, and devices for detection and remediation of hazardous substances in the environment. The SRP is specifically interested in proposals applying new engineering, bioengineering, and biotechnology approaches to develop novel strategies to characterize, monitor, and remediate hazardous substances at contaminated sites, for a range of [high priority topics](#).

Please see the [NIH SBIR webpage](#) for application information or visit the [NIEHS SBIR webpage](#) for other SBIR opportunities within the Institute. Annual Application Receipt Dates are January 5, April 5, and September 5, 2017; however, applicants are encouraged to submit their applications several days in advance of the deadline. Please note: SRP no longer accepts Small Business Technology Transfer Grant (STTR: R41, R42) applications.

Community Economic Development Projects

The HHS Administration for Children and Families, Office of Community Services will award approximately \$17.2 million in Community Economic Development (CED) discretionary grant funds to Community Development Corporations for well-planned, financially viable, and innovative projects to enhance job creation and business development for low-income individuals. CED grants will be made as part of a broader strategy to address objectives such as decreasing dependence on federal programs, chronic unemployment, and community deterioration in urban and rural areas.

The closing date for applications is **July 24, 2017**. For more

August 8, 2017 • 10:00 - 11:00 a.m.
EDT
Research Triangle Park, North
Carolina and [Webcast
Flyer](#)

254th ACS National Meeting & Exposition

August 20 - 24, 2017
Washington, DC
[Website](#)

Dioxin 2017

August 20 - 25, 2017
Vancouver, Canada
[Website](#)

1st Annual National Native Health Research Training Conference

September 18 - 20, 2017
Denver, Colorado
[Website](#)

21st North American ISSX Meeting

September 24 - 28, 2017
Providence, Rhode Island
[Website](#)

Southeast Asia Regional Conference on Groundwater Arsenic

November 2-3, 2017
Hanoi, Vietnam
[Website](#)

SETAC North America Annual Meeting

November 12 - 16, 2017
Minneapolis, Minnesota
[Website](#)

SRP Annual Meeting

December 6 - 8, 2017
Philadelphia, Pennsylvania
[Flyer](#)

GET UPDATES FROM OTHER SRP GRANTEEES

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

Visit the [SRP Materials for Grantees page](#) for helpful information, such as SRP administrative supplements

information, see the [grant opportunity page](#).

USDA Seeks Applications for Community Development Grants

The U.S. Department of Agriculture (USDA) is inviting applications for grants to support economic development in rural communities under the [Rural Community Development Initiative](#) (RCDI). These grants will support partnerships between community development groups and rural communities to develop essential facilities and to create jobs and business opportunities.

Qualified intermediary organizations receiving RCDI grants will provide technical assistance and training to help nonprofit organizations and communities develop their capacity to undertake housing, community facilities, or economic development projects. Eligible recipients are nonprofit organizations, low-income rural communities, or federally recognized tribes. RCDI grants are not provided directly to businesses or individuals.

For more information on how to apply, see the May 26 [Federal Register](#). The deadline to submit paper applications is **July 25, 2017**.

EPA Seeks Applications for Research on Lead in Drinking Water

The EPA is seeking applications proposing innovative research on detecting and controlling lead in drinking water. The [National Priorities: Transdisciplinary Research into Detecting and Controlling Lead in Drinking Water Request for Applications \(RFA\)](#) calls for research partnerships and collaborations with local communities that are potentially most vulnerable to exposures to lead in drinking water. Applications are due **August 15, 2017**.

Applications should propose multidisciplinary research of lead in community water supplies, issues with lead in water treatment and distribution, and the potential effects of lead on public health.

Grants awarded under this RFA will support the collection of data and analytical models that help communities identify and remediate the risks associated with lead in drinking water. This research also will help improve understanding of data sampling protocols and of the factors influencing how different communities are exposed to lead in drinking water.

INTERAGENCY NEWS

New Widget Makes It Easy to Share Health Disparities Data

The U.S. Department of Health and Human Services [Healthy People 2020](#) initiative recently launched a web application, called a widget, that makes it easy to share health disparities data on your organization's website. The health disparities widget lets

information, SRP best practices, guidelines for NIEHS logo use, and the Data Collection Form.

See the [SRP Science Digest](#) to read more about recent SRP research highlights and activities.

The [SRP Events page](#) contains information about upcoming meetings, seminars, and webinars.

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

Need to get in touch with an NIEHS SRP staff member? Check out our [Contact Staff](#) page.

users browse by disparity type or Leading Health Indicator (LHI), then view the data in clear graphics. LHIs are critical health issues, such as environmental quality and access to health services, that – if tackled appropriately – will dramatically reduce the leading causes of death and preventable illnesses. The widget is easy to [add to any webpage](#), and content will update automatically.

