National Institute of Environmental Health Sciences

Superfund Research Program

e-Posted Notes

May 8, 2015 (Issue 136)

HEADLINES

SRP and EPA Webinar Highlights Partnerships in Technical Assistance

On April 6, SRP co-hosted a webinar in collaboration with the U.S. Environmental Protection Agency (EPA) on collaborating to meet community technical assistance needs at Superfund sites. Through the webinar, participants learned about EPA's pilot Partners in Technical Assistance Program (PTAP) and saw through case studies how collaboration with SRP grantees has succeeded in meeting technical assistance needs of communities near Superfund sites. Case studies featured work from SRP Centers at Oregon State University, University of Arizona, and University of North Carolina at Chapel Hill. If you missed the seminar, a full recording is posted on the *EPA CLU-IN website*, which also included more information about the presenters and additional resources.

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:

- *UNC Environmental Resource Program recognized for partnerships and community service*
- *Arsenic linked to blood pressure increases during pregnancy*

Visit the SRP News Page for more stories about the Program:

- *Ghosh Awarded Prestigious Environmental Engineering and Science Awards*
- *A Community Garden as a Living Laboratory*
- *Henry and Ranville Visit EPA Region 8, Meet Government Stakeholders*
- *SRP Well Represented at 2015 SOT Meeting*

Carlin Visits the Dartmouth SRP Center

NIEHS SRP Administrator Danielle Carlin had a chance to engage with researchers and learn about their work at her recent visit to the Dartmouth SRP Center on April 20-22, 2015 in Hanover, NH. She met with the Bruce Stanton, the Center Director, had individual meetings and laboratory tours with all of the Project and Core Leaders, and met with trainees. She toured the laboratory where Margaret Karagas conducts epidemiological studies, where Celia Chen keeps killifish which are used to conduct her studies of bioaccumulation of methylmercury, the greenhouse where Mary Lou Guerinot grows rice for study of accumulation of arsenic in the rice grain, and Brian Jackson's laboratory where he is able to detect very small quantities of the various species of arsenic in food, blood, and urine samples. She learned more about the Dartmouth Center, saw the Center operations in action, and further developed the

EMPLOYMENT OPPORTUNITIES

Postdoctoral Position – University of California, Davis

A post-doctoral scholar position is available immediately in the laboratory of Michele A. La Merrill at the *University of California at Davis*. This position will support the La Merrill lab investigation in gene x environment interaction in the etiology of insulin resistance utilizing 1) experimental genomics, 2) molecular biology, and 3) molecular epidemiology. The scholar will work on the UC Davis genomics and/or molecular biology aims to identify mechanisms underlying insulin resistance. Application review began on April 30 and will remain open until the position is filled. See the *job description and candidate qualifications* for more information.

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, 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*.

Silent Spring Institute Opportunities

Use your data science expertise to improve

relationship between SRP Program Staff and the Center.

Duke SRP Center Research Featured in ATSDR Seminar

Duke SRP Center researcher Joel Meyer travelled to the Agency for Toxic Substances and Disease Registry (ATSDR) headquarters in Atlanta to give a talk as part of the ATSDR seminar series. Meyer's talk, "Mitochondria: Underappreciated Target of Toxicity," highlighted his SRP research related to understanding mechanisms of toxicity. He and Gretchen Kroeger, from the Duke SRP Research Translation Core, answered questions and met with ATSDR members throughout the afternoon after the talk.

Maier Featured in Scientific American: What About Earth's Microbiome?

University of Arizona SRP Center Director Raina Maier was featured as a guest writer for an April blog post in Scientific American. In the article, Maier described a concept we don't hear about all too often: the earth's microbiome. As news items pop up about the importance of the human microbiome, Maier describes the vast number of microorganisms living in the earth's crust and waterways, which is analogous in terms of keeping our planet healthy – and is similarly threatened by human activity. Read Maier's fascinating article in *Scientific American*.

A Fish Tale: A Review of the Science of Fish Contamination, Consumption, and Advisories

In a call on May 6, SRP scientists and colleagues examined both the ecological and human health risks of environmental contamination of fish. Dartmouth SRP Center investigator Celia Chen gave a presentation on the fate and effects of metal contaminants in aquatic food webs both in freshwater and estuarine ecosystems. The call, co-hosted by the Boston University (BU) SRP Center and the Collaborative on Health and the Environment (CHE), was moderated by BU SRP researcher Wendy Heiger-Bernays. For background resources, slides, and a recording of the call, visit the *CHE website*.

Oregon State Develops Video on PAHs

To help explain the importance of their research to a lay audience, the Oregon State University (OSU) SRP Center developed a video: *Polycyclic Aromatic Hydrocarbons: What Are They and Why Do They Matter.* The video sheds light on what PAHs are and what exposure to them might mean. Check out the *video* to learn about PAHs and the OSU SRP Center.

Penn Seminar Focuses on Patents and Intellectual Property

As part of the University of Pennsylvania SRP Center seminar series, speaker Robert Schenkel, Penn Director of Special Business Projects, presented an overview of patents and intellectual property. The presentation was recorded and is available on the *U Penn website*. If you are interested in patenting your work or learning more about the process, we encourage you to check out the presentation.

Punshon Featured in U.S News

Dartmouth SRP scientist Tracy Punshon was recently featured in a *U.S. News and World Report story* on a Dartmouth study that shows a pregnant woman's placenta can indicate exposure to arsenic in both mother and child. The findings "support placenta as a potentially useful biomarker of arsenic exposure, particularly in studies of

environmental health! *Silent Spring Institute* is 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.

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 245: *Using Lead Isotopes to Identify Sources of Metal and Metalloid Contaminants* (Eric Betterton, University of Arizona SRP Center) 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

Fate and Remediation of Chlorinated Benzenes and Benzene in a Wetland
Grantee event: Featuring Johns Hopkins University Individual Research Grant Research
May 20, 2015, 11:00 am – 1:00 pm ET
Baltimore, Maryland and Online
Website

Social Science - Environmental Health Interdisciplinary Collaborations Conference
Co-Sponsored by the Northeastern University SRP
May 21 - 22, 2015
Boston, Massachusetts
Website

14th International Congress on Combustion By-Products and their Health Effects
Co-Sponsored by the Louisiana State University SRP
June 14-17, 2015

placental function. They suggest greater maternal-fetal transfer when placental arsenic is high," Punshon said. The *paper* appears in the Journal of Exposure Science and Environmental Epidemiology.

Löffler Provides Insight into the Microbial World in Webinar

On April 15, Frank Löffler, an individual research project grantee at the University of Tennessee, presented in a webinar entitled, "Mythbusters – Misconceptions in Environmental Remediation," which had an audience of more than 600 people. The webinar was hosted by *Microbial Insights* and featured a panel, including Löffler, who responded to questions submitted by the audience. Visit the *Microbial Insights webinar page* to view an archive of the webinar (you must register with your name and email address to view the archived recording).

Interweaving Knowledge Resources to Address Complex Environmental Health Challenges

In a recent *commentary* in Environmental Health Perspectives, former NIEHS SRP staff member Beth Anderson and co-authors describe the importance of how interweaving research approaches can contribute to research-driven, solution-oriented problem solving in environmental health. In the commentary, SRP is used as an example of interweaving multiple knowledge resources to develop innovative multi-directional partnerships for research and training. According to the commentary, by providing structure for interweaving science with its stakeholders, the SRP is better able to leverage resources, increase potential for innovation, and proactively ensure a more fully developed spectrum of beneficial outcomes of research investments.

TRAINEE SPOTLIGHT

Blair Paulik – Oregon State University SRP Center

Blair Paulik is a graduate student at the Oregon State University (OSU) SRP Center under the guidance of SRP project leader Kim Anderson. She just left the Society of Environmental Toxicology and Chemistry (SETAC) Europe's Annual Meeting in Spain. There she was one of only a few students from North America to formally represent SETAC North America, through her position as the *North America Student Advisory Council* Vice Chair. Paulik looks forward to returning to the OSU SRP to share her experiences with other SRP trainees!

At OSU, Paulik is deploying passive sampling devices to investigate PAH contamination in air, water, and sediment porewater. She is also performing PAH analysis of shellfish to compare the passive sampler measurements to what is taken up by shellfish. If the sampler measurements match PAHs levels in shellfish, researchers will be able to determine shellfish contamination by putting out passive samplers instead of collecting shellfish, which is cheaper, faster, and less harmful to the local ecosystem than collecting resident organisms. She is performing one such project using passive water samplers and collecting crayfish in the Portland Harbor Superfund site.

Through her work, she has also communicated scientific progress and results to

Umeå, Sweden
Website

Solutions for a PCB-Contaminated Sediment Pond: Altavista's 6-Acre Petri Dish
Grantee Event: Featuring the University of Iowa SRP
June 17-18, 2015
Danville, Virginia
Website

Biomedical and Engineering Entrepreneurship Academy
Co-Sponsored by the University of California, Davis SRP
July 7-9, 2015
Davis, California
Website

FLUOROS 2015: An International Symposium on Fluorinated Organics in the Environment
July 12-14, 2015
Golden, Colorado
Website

Statistical Approaches to Epidemiological Studies of Combined Exposures/Mixtures
July 13-14, 2015
Research Triangle Park, North Carolina
Website

2015 Community Involvement Training Conference
August 4-6, 2015
Atlanta, Georgia
Website

16th International Conference of the Pacific Basin Consortium for Environment and Health
August 10-13, 2015
Depok, Indonesia
Website

Arsenic Summit Meeting
Grantee Event: Hosted by the Dartmouth SRP Center
August 12-14, 2015
Salisbury Cove, ME

Collaborative on Food with Arsenic and Associated Risk and Regulation Workshop
Grantee Event: Hosted by the Dartmouth SRP Center
November 2-3, 2015
Hanover, NH

2015 Annual Meeting of the Superfund Research Program
November 18-20, 2015
San Juan, Puerto Rico

The International Chemical Congress of Pacific Basic Societies
December 15-20, 2015
Honolulu, Hawaii
Website

UPDATES FROM OTHER SRP CENTERS

concerned communities. For example, she is working on a similar project with two northwestern tribes who are concerned about chemical contamination of butter clams, a local tribal food source, because of nearby oil refineries.

She has also gotten interested in science communication to K-12 students as well as other lay audiences. She is currently volunteering as the Outreach Chair for her department's graduate student organization, which involves coordinating and delivering science activities for multiple groups of K-12 students each month. She has also recently been accepted to volunteer with Elsevier's STM Digest, a new group of early career researchers who summarize research articles for lay audiences. These summaries are then published online alongside the research articles.

Paulik loves living in the beautiful Pacific Northwest and is outside as much as possible. When she isn't working on her graduate studies, she loves to go backpacking and also enjoys camping, hiking, and trail running.

HOT PUBLICATION

Distribution and determinants of urinary biomarkers of exposure to organophosphate insecticides in Puerto Rican pregnant women

In a recent *study* from the Northeastern University SRP Center, researchers examined exposure to organophosphate (OP) insecticides during pregnancy by measuring repeated levels of OP insecticide metabolites. They then investigated certain demographic and lifestyle variables as determinants of exposure. Positive predictors of OP insecticide exposure included: age; marital or employment status; consumption of cherries, grape juice, peanuts, peanut butter, or raisins; and residential application of pesticides. According to the authors, further research is needed to understand what aspects of the predictors identified influence OP insecticide exposure during pregnancy.

AWARD WINNERS

Olga Novikov Wins Dean's Award

Boston University (BU) SRP trainee Olga Novikov was named the winner of the BU School of Public Health Dean's Award at the 2015 Graduate Research Symposium. Novikov's research is focused on the aryl hydrocarbon receptor (AHR), a protein implicated as a possible trigger of breast cancer after binding with certain environmental pollutants. To learn more about her research and the award, visit the *BU website*.

Ghosh Awarded Prestigious Environmental Engineering and Science Awards

SRP grantee Upal Ghosh and his research team received two 2015 Excellence in Environmental Engineering and Science awards for the development and application of innovative remediation technologies. Ghosh, a professor at the University of Maryland, Baltimore County, was recognized by the American Academy of Environmental Engineers and Scientists at its conference on April 23. Ghosh received the *2015 Honor Award – University Research* for developing a method for in situ remediation of contaminated sediments with activated carbon, and translating that method into practice. This work was part of Ghosh's previous *SRP Individual Research Project*, which led to the technology transfer efforts. Ghosh also collaborated on a project to remediate Mirror Lake in Delaware using activated carbon, which won a *2015 Honor*

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. 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*.

Award – Small Projects.

Ivan Titaley Selected as PNNL Fellow

Oregon State SRP trainee Ivan Titaley was selected as a sponsored fellow at the Pacific Northwest National Laboratory (PNNL) to get hands-on training in modeling of polycyclic aromatic hydrocarbons. The externship will allow Titaley to apply new modeling techniques in his own research on PAHs. Read more on the *Oregon State SRP website*.

Papp and Davenport Win NSF Fellowship

This spring, the National Science Foundation (NSF) honored University of Kentucky SRP Center trainees Joseph Papp and Doug Davenport, both under the guidance of Dibakar Bhattacharyya. Papp received the prestigious 2015 NSF Graduate Fellowship Award and Davenport received an honorable mention recognition from the graduate fellowship program. To learn more about the trainees, visit the *University of Kentucky website*.

Mark Elie Awarded Best Presentation

Marc Elie, an OSU SRP Center Postdoc trainee with Robert Tanguay, received acknowledgment for the Best Presentation in the "Assessing the Toxicity of Environmental Contaminants" symposium at the 249th American Chemical Society meeting in Denver. His presentation, Assessing the uptake and effects of polycyclic aromatic hydrocarbons and their oxygenated derivatives on zebrafish using a metabolomics approach, focused on his SRP research.

WEBINARS

From Molecules to Business: Better Living Through Green Chemistry

On a Collaborative on Health and the Environment (CHE) call, co-sponsored by the Boston University SRP, three speakers will introduce the principles of green chemistry, illustrated with well-documented endocrine disrupting chemicals and carcinogens. Speakers will explore using these principles to develop technologies for cleaning up hazardous wastes without creating more waste. On the prevention end, speakers will address how many businesses want to develop sustainability plans, yet don't know how to identify safer chemicals for use in their formulations or products. We will learn about tools available for selecting alternatives or safer products and how businesses of all sizes can embrace the principles and increase their economic bottom line. University of Kentucky SRP Center trainee Brad Newsome, the 17th recipient of the annual Karen Wetterhahn Memorial Award, is one of the three speakers on the call.

For more information about the call and to register, visit the *CHE website*.

FUNDING OPPORUNITIES

2015 Biomedical and Engineering Entrepreneurship Academy Accepting Applications

Entrepreneurship Academies, offered at the University of California, Davis, are designed for science and engineering graduate students, postdoctoral researchers, and university faculty who want to explore the commercial, real-world application of their work. Each academy is a three-day intensive program integrating lecture, exercises, and individual projects. Participants work to identify, design, and validate

new business opportunities for their research. Applications are currently being accepted for the *Biomedical and Engineering Entrepreneurship Academy* **July 7-9** (apply by June 12).

Travel support is available to all national Superfund researchers. To qualify for support, participants must also fill out the *Travel Support Request Form* in addition to the application to the academy.

INTERAGENCY NEWS

IRIS Bimonthly Public Science Meeting: PCBs – Effects Other Than Cancer

The IRIS program announced a public meeting on scoping and problem formulation materials that are specific to the IRIS assessment for polychlorinated biphenyls (PCBs) (effects other than cancer). The meeting will be held June 17-18, 2015. Registration is free and can be attended in Arlington, Virginia, or via webinar. Information on how you can participate in the meeting and meeting materials are available on the *EPA IRIS website*. For grantees involved in PCB research, this is an excellent opportunity to be involved in the risk assessment process.

Public Comment Period Now Open: Impacts of Climate Change on Human Health

The draft report, *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment*, was developed by the U.S. Global Change Research Program *Interagency Group on Climate Change and Human Health* as part of the *sustained National Climate Assessment* and as called for under the President's *Climate Action Plan*. This assessment report is intended to present a comprehensive, evidence-based, and, where possible, quantitative estimation of observed and projected public health impacts related to climate change in the United States. Public comments on the draft assessment report are now being solicited and the public comment period is open until **12 pm ET on June 8, 2015**. See the *U.S. Global Change Research Program website* for the full draft and more information on providing comments.