

Superfund Research Program *e-Posted Notes*

February 3, 2017 (Issue 157)

HEADLINES

SRP Welcomes New and Returning R25 Grantees

The SRP welcomes two new Occupational and Safety Training Education Programs on Emerging Technologies (R25) grantees [Hunter College of CUNY](#), [LSU Health Sciences Center - New Orleans](#), and returning grantees [Harvard School of Public Health](#) and [University of Minnesota](#).

These R25 grants are awarded to institutes of higher education to develop continuing education and academic curricula on occupational health and safety management practices in areas of emerging technologies, including emerging hazardous waste products, green chemistry, and sustainable remediation. The curricula will be available to industrial hygienists, graduate students, and other personnel involved in the evaluation, management, and handling of hazardous substances. For more information about the grants, visit the [SRP R25 page](#).

SRP Activities at the 2017 SOT Meeting

If you are headed to the Society of Toxicology (SOT) Annual Meeting March 12-16, 2017 in Baltimore, Maryland, we encourage you to participate in several SRP-related activities:

A Historical Highlights session, NIEHS Superfund Research Program: A History of Cutting-Edge Science and Innovative Technologies, will be held on **Wednesday, March 15 from 12:30-1:50 pm**. SRP Program Administrator Danielle Carlin and UNC SRP Center Director Rebecca Fry are chairing the session, with presentations by SRP Director Bill Suk, Fry, and SRP Center Directors Robert Tanguay (Oregon State SRP), Stephania Cormier (Louisiana State SRP), and Bernhard Hennig (University of Kentucky).

Carlin is also organizing the Research Funding Insights Room where applicants can make appointments to speak with a Program Officer or a Scientific Review Officer from NIEHS or other NIH institutes and outside agencies regarding the grants process. John Hollander of NIEHS has also arranged a session entitled Research Funding 101: Multiple Perspectives on the NIH Grant Process. This session will feature talks by Mike Humble from NIEHS and a successful early stage investigator. The

EMPLOYMENT OPPORTUNITIES

PRHE Director of Research Translation – UC San Francisco

The Director of Research Translation in the Program on Reproductive Health and the Environment (PRHE) is responsible for leading a nationally and internationally recognized academic program on research translation focused on reproductive environmental health at the University of California, San Francisco. The position is within the Department of Obstetrics, Gynecology and Reproductive Sciences. UC San Francisco seeks candidates whose experience, teaching, research, or community service has prepared them to contribute to our commitment to diversity and excellence.

Applications are due March 9, 2017. For more information, visit the [UCSF recruitment page](#).

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

Research Funding Insights session will be held in CC Room 301 on **Monday, March 13, 3:00-4:30 pm**. The Research Funding Insights room, in CC Room 336, will be open all day Monday, Tuesday, and Wednesday. Please see the [SOT Program](#) for more information about these SRP-related sessions.

There will also be an SRP trainee networking event organized by Craig Marcus (the Oregon State SRP Center Training Core leader), Michael Petriello (University of Kentucky SRP trainee), and Erin Madeen (Oregon State SRP alumni). Be on the lookout for an email from Danielle for more information.

Several NIEHS SRP staff are attending the SOT Annual Meeting and would love to visit your poster or listen to your talk if you have one. Please send an email to srpinfo@list.nih.gov to let SRP staff know about your SOT activities so they can stop by!

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:

- [Manganese exposures may worsen parkinsonism in welders](#)
- [DNA repair pathways help cells tolerate trace levels of hexavalent chromium](#)

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

- [Using Zebrafish for Chemical Screening and Sustainable Chemical Design](#)

Globe-Trotting Pollutants Raise Some Cancer Risks Four Times Higher Than Predicted

Oregon State University (OSU) SRP Center researchers and partners were featured in an OSU press release for their findings in a recent [paper](#) published in the journal PNAS. The work focuses on a new way of looking at how pollutants ride through the atmosphere, which quadruples the estimate of global lung cancer risk from polycyclic aromatic hydrocarbons (PAHs), a pollutant caused by combustion. The research, which was primarily supported by the Pacific Northwest National Laboratory and funded in part by the SRP, showed that tiny floating particles can grow semi-solid around pollutants, allowing them to last longer and travel much farther than what previous global climate models predicted. Scientists said the new estimates more closely match actual measurements of the pollutants from more than 300 urban and rural settings. See the [OSU press release](#) to learn more.

New Website for HEAR Database Launched

The Boston University SRP Center has launched a new website for the Health and Environment Assistance Resources (HEAR)

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](#).

Faculty Positions – University of Minnesota School of Public Health

Two new faculty positions are available at the University of Minnesota School of Public Health, in the Division of Environmental Health Sciences. One position is for a tenure-track or tenured [Assistant/Associate Professor in Exposure Science](#). The other position is for a tenure-track or tenured [Assistant/Associate Professor in Industrial/Occupational Hygiene](#). The candidates for the tenure track positions must hold a Ph.D. or equivalent degree, and have the ability to develop an independent and sustainable scholarly research program, develop and teach courses, mentor graduate students, demonstrate strong relationship building skills working with individuals from diverse communities and cultures, and participate in outreach and service. Successful applicants will also contribute collaboratively to multidisciplinary efforts as part of their scholarly work. The positions will remain open until filled.

CURRENT RESEARCH BRIEF

Research Brief 266: **Using Surfactants to Enhance Bioremediation of PAHs in Soil** (Michael D. Aitken, University of North Carolina at Chapel Hill) is available on the [SRP Research](#)

database. The HEAR database is a tool for linking legal, scientific and technical experts with community groups who have questions or concerns about environmental issues in their neighborhoods, empowering residents to take action for a healthy environment. A collaborative project of the BU SRP Center and two long-term community partners, Alternatives for Community and Environmental and Toxics Action Center, the HEAR database has been redesigned to make it easier for experts to sign up and provide assistance to community groups.

A wide range of experts, scientists, lawyers, doctors, nurses, architects, engineers, licensed site professionals, and public health students have joined the database and signed up to receive vetted requests for assistance from groups working for a healthier environment across New England. HEAR experts support groups in a variety of ways, including answering questions on health impacts, reviewing legal documents, conducting studies on exposure and providing legal representation. Visit the [HEAR database website](#) to browse stories from successful partnerships, learn more about how the database works and consider becoming a HEAR expert.

Communicating Fish Consumption Advisories to Vulnerable Populations

The University of North Carolina (UNC) SRP Research Translation Core (RTC) has been busy presenting information from their work on fish consumption advisories. On January 18, they were invited by the Lincoln Community Health Center WIC Program in Durham, NC to present information on contaminants of fish in local waterways and key messaging on fish consumption advisories to nutritionists and case managers who provide nutrition information to clients in the WIC program. In addition to presenting, RTC Core leader Kathleen Gray piloted low literacy outreach materials with the WIC employees, getting feedback on edits needed for low literacy and non-English speaking populations. Information about current fish advisories and other resources are available on [Eat Fish, Choose Wisely](#), a website created by the UNC SRP RTC in response to community members' concerns about people eating fish from local waters with fish consumption advisories.

TRAINEE SPOTLIGHT

James Sanders – University of Maryland, Baltimore County

James Sanders is a Ph.D. student under the guidance of Upal Ghosh, an SRP Individual Research Project investigator at the University of Maryland, Baltimore County (UMBC). Sanders is working to measure

[Briefs website](#).

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

253rd American Chemical Society National Meeting and Exposition

April 2 - 6, 2017

San Francisco, California

[Website](#)

Highly Fluorinated Compounds – Social and Scientific Discovery

Co-hosted by the Northeastern SRP Center

June 14 - 15, 2017

Boston, Massachusetts

[Website](#)

15th International Congress on Combustion By-Products and Their Health Effects

Co-hosted by the Louisiana State University SRP Center

June 27 - 30, 2017

Seoul, South Korea

[Website](#)

13th International Conference on Mercury as a Global Pollutant

Co-hosted by the Dartmouth SRP Center

July 16 - 21, 2017

Providence, Rhode Island

[Website](#)

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 information intended to assist grantees, such as SRP

persistent environmental contaminants and improve our understanding of the bioavailability of these contaminants in the environment.



His dissertation work at UMBC is aimed at developing a novel passive sampling device to measure the bioavailable fraction of methylmercury in sediments. If successful, this device will provide a useful tool for risk assessors to predict uptake of methylmercury in the aquatic food chain and to monitor the efficacy of site remediation programs. He has also worked on passive sampling of other metals and of polychlorinated biphenyls at two Superfund sites, and has investigated the interactions of mercury and methylmercury with activated carbon.

You may have seen Sanders at the 2016 SRP graduate student poster competition in December, where he won second place in the environmental science and engineering category. He also won a second place doctoral poster award at the 2016 SETAC World Congress. In addition, he was a member of the first-place team in the Chesapeake Water and Environment Association's 2014 student design competition.

Sanders is an active participant in student government at UMBC. Outside of work, he enjoys music, literature, hiking, and physical fitness. He's also recently taken up wood carving, but is taking it slowly so he can keep all ten fingers to type his dissertation!

HOT PUBLICATION

Differences in Developmental Neurotoxicity of PAH Mixtures Compared to an Individual PAH

In a recent [study](#), researchers at the Duke University SRP Center found that an environmentally-derived mixture of PAHs affected neurodevelopment differently than the single PAH benzo[a]pyrene (BaP). They evaluated the effects of BaP and the PAH mixture, obtained from the Elizabeth River Superfund site, with two in vitro models that assess distinct transitions during neurodevelopment.

In the first model, they found that BaP impaired the transition from cell replication to neurodifferentiation, resulting in higher numbers of cells, but with reduced cell size and deficits in neuronal features (neurite formation, development of dopamine and

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 at [@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.

acetylcholine phenotypes). The environmental PAH mixture did far less damage and only caused modest changes in cell numbers and size and no impairment of neuronal features. In the second model of neuronal stem cells, which evaluates the origination of neurons and glia, the relationship was reversed, with greater sensitivity to the environmental PAH mixtures. The mixture, and not BaP, enhanced neural stem cell differentiation into neurons, whereas both the mixture and BaP suppressed the glial phenotype.

The findings provide mechanistic information on how PAH exposure can lead to neurodevelopmental and behavioral deficits. The findings also show how sensitivity to different PAHs may occur during different developmental stages, which also suggests that vulnerability likely extends throughout fetal brain development and into early childhood.

WEBINARS AND TRAININGS

ECHO-wide Cohort Data – Perspectives from the Data Analysis Center

The [PROTECT](#) SRP Center would like to invite you to attend their next webinar, ECHO-wide Cohort Data – Perspectives from the Data Analysis Center, **Monday, February 6, 1 – 2 pm EST**. The webinar will be presented by Dr. Lisa Jacobson, a Professor of Epidemiology in the Bloomberg School of Public Health at Johns Hopkins University and PI of the Data Analysis Center for ECHO. To learn more about Dr. Jacobson, please visit the [PROTECT webpage](#).

This will be a great opportunity for the ECHO and SRP community to learn more about the Data Analysis Center as they continue to build our cohort data and collaboration.

To attend, you must register for the webinar on the [PROTECT webinar registration page](#). After you register, you will receive a confirmation email message that contains detailed information about joining the event.

BD2K Guide to the Fundamentals of Data Science

The NIH Big Data to Knowledge (BD2K) program is pleased to announce the spring semester of the BD2K Guide to the Fundamentals of Data Science, a series of online lectures given by experts from across the country covering a range of diverse topics in data science. This course is an introductory overview that assumes no prior knowledge or understanding of data science.

The webinar series, which will run through May, consists of weekly presentations from experts across the country. The first semester of the series in the fall covered the basics of data management and representation. In the spring, the course will cover computing, data modeling, and overarching topics. The series will have a new lecture **every Friday at 12 - 1 pm ET**.

For up-to-date information about the series, to join the weekly lectures, and to see archived presentations, visit the [BD2K Training Coordinating Center website](#).

Short Course: Computational Systems Biology and Dose Response Modeling

The Training Core of the MSU SRP will offer an intensive three-day short course, "Computational Systems Biology and Dose Response Modeling," **May 15-17, 2017**. Short course students will learn dynamical systems modeling techniques for quantitative investigation of how biological systems respond to perturbations at the cellular level.

The course includes lectures and hands-on computer simulation exercises on:

- Common network motifs in signal transduction and gene regulatory networks that underlie systems-level cellular behaviors including homeostasis, adaptation, threshold response, binary and irreversible cell fate decisions, and oscillations.
- How molecular circuits comprising genes and proteins give rise to various dynamic and dose-response behaviors. Examples include cellular stress response, cell differentiation, and cell cycle and checkpoint control, etc.
- Use of these simulation techniques to develop computational models for understanding and predicting nonlinear dose response behaviors of environmental toxicants and drugs.

Course instructors are Sudin Bhattacharya, MSU, Wan-Yun Cheng, U.S. EPA, Rory B. Connolly, U.S. EPA., and Qiang Zhang, Emory University.

For questions regarding the course, please contact, Dr. Qiang Zhang, qiang.zhang@emory.edu. If you are interested in attending the course, please contact Kasey Baldwin, kbaldwin@msu.edu.

CALL FOR ABSTRACTS

15th International Congress on Combustion By-Products and Their Health Effects

The 15th International Congress on Combustion By-Products and Their Health Effects (PIC) will be held **June 27-30, 2017 in Seoul, Korea**. The PIC congress is held every two years with the goal to provide an international forum to discuss topics on the origins, fate, and health effects of combustion. The main theme of PIC 2017 is: Coping with expanding regulations: Health and environmental effects of combustion by-products from newly recognized sources of pollution.

The abstract submission deadline is **March 3, 2017**. For more information, visit the [PIC 2017 website](#).

SRP Global Economic Impact Session at ACS

SRP Administrator Heather Henry and Brown SRP Center researcher Kelly Pennell are organizing a symposium at the 254th American Chemical Society Meeting in Washington, DC August 20-24, 2017. The symposium, Global Economic Impact of Environmental Health Research: A Case Study of the NIEHS Superfund Research Program, will highlight SRP research that has led to significant cost and time savings for site remediation and monitoring. It will also touch on the potential global economic impact including benefits for improved public health resulting from innovative technologies.

The deadline to submit abstracts is **March 17, 2017** using the [ACS Meeting Abstracts Programming System](#). Contact Heather Henry (henryh@niehs.nih.gov) if you have questions about the symposium or if you plan to submit an abstract.

FUNDING OPPORTUNITIES

Arsenic Sensor Challenge

The EPA and partners has launched an Arsenic Sensor New Technology Challenge competition to help improve arsenic sensing in water. Measuring arsenic in the environment and in drinking water is important for protecting human health. Drinking water and wastewater treatment facilities are subject to arsenic regulations in order to limit human exposure and environmental contamination. While current analytical methods are suitable for ensuring regulatory compliance, there is a need for rapid, low-cost monitoring of arsenic that would benefit water treatment plant operations, wastewater monitoring, contaminated site remediation, private well owners, scientific research and other interested parties.

Submissions are due by **12 am ET on March 13, 2017**. For more information about the challenge and submitting entries, visit the [Challenge.gov website](#).

Health Policy Research Scholars – Robert Wood Johnson Foundation

Calls for application are open for Health Policy Research Scholars, a national leadership development program of the Robert Wood Johnson Foundation. This program is an opportunity to create real change. The scholars selected for this program will be a part of the next generation of researchers and policymakers, creating a more diverse community who will create policies and solutions that are inclusive and relevant to the communities they serve. Applicants must be entering the first or second year of their doctoral program in September of 2017, from underrepresented populations and/or disadvantaged backgrounds, interested in interdisciplinary approaches and translating their research into health policy, and eager to use their unique perspective to build a Culture of Health to enable

everyone in America to live longer, healthier lives.

Applications are due **March 29, 2017**. For more information about the program, visit the [Health Policy Research Scholars website](#).

2017 Economic Development Assistance Programs

The Economic Development Administration (EDA) has published the FY 2017 Economic Development Assistance Program Federal Funding Opportunity (FFO). The EDA's mission is to lead the Federal economic development agenda by promoting innovation and competitiveness, preparing American regions for economic growth and success in the worldwide economy. Under this FFO, EDA solicits applications to provide investments that support construction, non-construction, technical assistance, and revolving loan fund projects under EDA's Public Works and EAA programs. Grants and cooperative agreements made under these programs are designed to leverage existing regional assets and support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in distressed communities. Proposals and applications will be accepted on an ongoing basis until the publication of a new FFO. For more information, see the [grant opportunity](#).

