

# Superfund Research Program e-Posted Notes

April 6, 2018 (Issue 171)

## HEADLINES

### The SRP Welcomes New Small Business and Time-Sensitive Research Grantees

The SRP is pleased to congratulate three small businesses on their recent SRP Small Business Innovation Research / Small Business Technology Transfer Research (SBIR/STTR) grants. [ClycloPure, Inc.](#), led by Gokhan Barin, received a Phase I SBIR grant to develop novel, high-affinity cyclodextrin polymers for cost-effectively remediating hazardous per- and polyfluoroalkyl substances in water. Led by Chett Boxley, [GlycoSurf, LLC](#), was awarded a Phase I SBIR grant to develop a new technology to recover rare earth metals while remediating metal contaminated waste streams. [Compact Membrane Systems, Inc.](#), led by Sudipto Majumdar, was awarded a Phase II SBIR grant to develop novel membrane processes for recovering pharmaceutical solvents in manufacturing.

We are also welcoming the University of Miami and congratulating them on their recent Time-Sensitive Research Grant. Led by Naresh Kumar, the [University of Miami](#) will be studying environmental redistribution of polychlorinated biphenyls and community exposure after Hurricane Maria.

### Save the Date: Risk e-Learning Webinar Series

The [spring 2018 Risk e-Learning webinar series](#) will focus on new approaches and alternatives for toxicity, fate and transport, and ecotoxicity testing.

Please save the dates below for the upcoming series:

- May 14, 2018, 1:00 - 3:00 p.m. EDT
- May 23, 2018, 1:00 - 3:00 p.m. EDT
- May 31, 2018, 1:00 - 3:00 p.m. EDT

## 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:

## EMPLOYMENT OPPORTUNITIES

### Postdoctoral Scholar – Oregon State University

A full-time postdoctoral scholar position is available in the laboratory of David E. Williams, Helen P. Rumbel Professor for Cancer Prevention at Oregon State University within the Linus Pauling Institute in Corvallis, Oregon. The Williams lab is an excellent training ground for individuals desiring advanced training in metabolism of xenobiotics with an emphasis on environmental carcinogens as well as the influence of diet on cancer.

The postdoctoral scholar will contribute to an NIEHS-funded study in humans, which employs micro-dosing of humans with [<sup>14</sup>C]-benzo[a]pyrene to examine, for the first time, the dose-response and pharmacokinetics of a polycyclic aromatic hydrocarbon (PAH) as well as characterization of metabolites formed *in vivo*, impact of a binary mixture, diet and genotype of various PAH-metabolizing enzymes.

The position is available as soon as possible. Applications will be reviewed as they are received. For more information, see the [position announcement](#).

### Environmental Risk Assessor / Epidemiologist – Virginia Tech

Virginia Tech's Department of Population Health Sciences seeks to

- [Karletta Chief Featured in Science Friday Film](#): University of Arizona SRP Center grantee Karletta Chief was featured in an installment of a short film collection sponsored by Science Friday and the Howard Hughes Medical Institute. The film on Chief, “Breakthrough: Bitter Water,” tells the story of her family roots and the goals of her scientific research in the aftermath of the Gold King Mine Spill.
- [Breast Cancer Link to Environment Highlighted at Symposium](#): NIEHS grantees recently participated in a symposium on Breast Cancer and the Environment. Co-sponsored by the Duke University SRP Center and led by Joel Meyer, the symposium spanned research from mechanistic bench studies to large scale epidemiology studies to shed light on how environmental exposures contribute to breast cancer.
- Paper of the Month: [Toxin Formed During Oxidative Water Treatment Process](#): Researchers from the UC Berkeley SRP Center have reported that common water treatment methods that remove phenols and other hazardous compounds may produce low levels of toxic byproducts in water. According to the authors, the results highlighted the potential risks of using oxidative treatment on contaminated drinking water sources, and the need to understand and address the fate of toxic byproducts throughout the water treatment process.

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

- [Iowa SRP Center Model Enables Accurate Air Pollutant Measurements](#): The University of Iowa SRP Center released a Web-based application to help researchers and regulators more accurately determine pollutant concentrations in air using passive air samplers.
- [SRP Researchers Create Ultrastretchable Nano Barrier for Numerous Applications](#): Novel textured coatings made from graphene can act as ultrastretchable barriers to stop chemicals and other molecules from passing through, according to new research from the Brown University SRP Center.
- [SRP Grantees Work to Improve Water Quality for Native Communities](#): Researchers at the University of New Mexico SRP Center are studying the effects of exposure to uranium and mixed metals mining waste in water on Native Americans in the southwest. Funded in the fall of 2017, their work is already making headlines.

### Horney Featured in Grantee Highlight

Texas A&M University SRP Center grantee Jennifer Horney was featured in a Partnerships for Environmental Public Health [Grantee Highlight](#). The highlight describes her work to understand the health impacts of disasters. Horney describes how building relationships with community groups enabled the SRP Center researchers to hit the ground running in the aftermath of Hurricane Harvey.

### Kentucky Trainee Featured in University News

attract a tenured or tenure-track faculty member in environmental health. Priority will be given to applications at the Assistant Professor rank.

The position is part of a robust and diverse cluster of faculty contributing to transdisciplinary research, teaching, and/or outreach initiatives that align with Virginia Tech’s “Global Systems Science Destination Area.” This initiative is focused on transdisciplinary solutions to critical social problems stemming from human activity and environmental change. Visit the [Global Systems Science page](#) for more information.

This position will be based on the main campus of Virginia Tech, a land-grant university in Blacksburg, Virginia, situated in the scenic New River Valley. For more information and to apply, visit the [job posting](#).

### Tenure Track Faculty Position – University of Rochester

The Department of Environmental Medicine at the University of Rochester School of Medicine and Dentistry invites applications for an Assistant or Associate Professor in the tenure track. The Department is especially interested in candidates with a passion for biomedical research focusing on how the environment shapes health and influences disease. Applicants interested in studying the fundamental mechanisms of toxicity, developmental origins of health and disease, and/or environmental effects on stem/progenitor cells are particularly encouraged to apply.

The Department is home to an outstanding interdepartmental NIEHS P30 Core Center and the Rochester Toxicology Training Program, as well as two clinical programs in occupational medicine. Applicants must have a Ph.D. or M.D. degree, a track record of

Joshua Preston, an undergraduate trainee working with the University of Kentucky SRP Center, was recently featured in the University's [UKNOW](#) News. Preston described his work with the SRP Center's Project 2, which investigates postnatal complications of PCB exposure, as well as his recent Junior Astronaut Scholarship and NIH internship.

## TRAINEE SPOTLIGHT

### Wang Explores Enhanced Sorbents to Bind Harmful Chemicals in the Intestine

Meichen Wang is a second year Ph.D. student at Texas A&M University (TAMU) under the guidance of Timothy Phillips, Ph.D. Through her research, Wang is developing broad-acting sorbents that bind to harmful chemicals in the intestine and prevent their absorption in the body to protect human health.



Wang and her team are developing several sorbent materials, including calcium and sodium montmorillonite clays that are enhanced with the nutrients carnitine and choline. They anticipate that these sorbent materials could be useful dietary supplements in humans and animals to reduce their exposure to chemical mixtures during emergencies and natural disasters.

One of the materials developed is being patented, and several large companies in the U.S. and in China have expressed interest in using it. In a [recent paper](#), Wang explains how they developed sorbents with a high capacity for capturing aflatoxin and other hazardous chemicals. According to Wang, these sorbents could be delivered in nutritional supplements, foods that are vulnerable to aflatoxin contamination, flavored beverages, or animal feed during environmental emergencies. She also suggests these materials could be used for other hazardous environmental chemicals, including pesticides, polycyclic aromatic hydrocarbons, metals, and microbes.

In addition to winning a poster award at the 2017 SRP Annual meeting, Wang was recognized with an Outstanding Poster Presentation award from the TAMU Interdisciplinary Faculty of Toxicology. She also received two scholarships from the university for academic excellence.

Outside the lab, Wang enjoys running and swimming. She also likes going for hikes, exploring new restaurants, and playing board games.

## HOT PUBLICATION

research accomplishments, and demonstrated interest in tackling significant topics relevant to environmental health and toxicology using state-of-the-art approaches. Visit the [University of Rochester job opportunities website](#) for more information and to apply.

### Research Scientist Position in Environmental Health – Northeastern University

A position is open for a Senior Research Scientist in environmental health to conduct and support research for centers that study exposure to environmental contamination in Puerto Rico and its contribution to adverse birth outcomes and early child development. The Senior Research Scientist will work closely with scientists from different disciplines across multiple institutions to collect and analyze large and complex environmental/biological datasets. He/she will perform basic or applied research on critical or difficult problems involving the development of new theories or methodologies. For more information and to apply, see the [job announcement](#).

### Postdoctoral Research Associate – Northeastern University

The SRP Center at Northeastern University has an open Postdoctoral Research Associate position, which will require an experienced research scientist or engineer with a focus on environmental health and engineering, specifically on one or more of the following: health informatics, geospatial informatics, environmental epidemiology, and environmental modeling. This individual will work closely with scientists from different disciplines across multiple institutions to analyze large and complex environmental/biological datasets. Primary responsibility is ensuring that the research is complete. The

## Comparing Residential Contamination in a Houston Environmental Justice Neighborhood Before and After Hurricane Harvey

Researchers from the Texas A&M University (TAMU) SRP Center [recently found evidence](#) of polycyclic aromatic hydrocarbon (PAH) redistribution due to extreme flooding from Hurricane Harvey. PAHs are complex environmental contaminants that have been linked to cancer and diseases of the liver, skin, and immune system.

The team compared residential PAH contamination in a Houston, TX neighborhood before and after Hurricane Harvey. In 2016, the researchers collected household dust samples. Then after the floodwaters of the hurricane receded in fall 2017, the team returned and collected soil samples. The authors describe three different methods for comparing PAH concentrations and conclude that the PAHs found before and after Hurricane Harvey are likely from similar sources and were redistributed during the disaster.

PAHs in residential soils may increase the risk of inhalation, ingestion, or dermal exposure to these pollutants. According to the authors, these findings are an important first step in demonstrating how acute post-disaster environmental exposures may add to ongoing chronic environmental exposures. Describing the concentrations and sources of PAHs in residential dust and soils is an important part of developing interventions to protect human health and understanding the environmental health impacts of disasters.

## AWARD WINNERS

### Aschengrau Wins Excellence in Teaching Award

Boston University (BU) SRP Center researcher Ann Aschengrau was awarded an Excellence in Teaching Award for Reproductive Epidemiology from the BU School of Public Health. [Aschengrau's work](#) focuses on the impact of early life exposures to environmental and social stressors on substance use.

### Bhattacharyya 2018 Recipient of the William B. Sturgill Award

University of Kentucky SRP Center researcher Dibakar Bhattacharyya received the 2018 William B. Sturgill Award, which is presented annually to a graduate faculty member for outstanding contributions to graduate education at the University. Bhattacharyya is developing integrated cost-effective [technologies](#) for remediating chlorinated organic compounds.

### Swanson Recipient of Fellowship and Award

Hollie Swanson from the University of Kentucky (UK) SRP Center was selected as a 2017 – 2018 Fellow for the Professional

appointment generally does not extend beyond two years.

The candidate must have a Ph.D. or equivalent in environmental health, computer science, epidemiology, statistics, geology, biomedical or other related quantitative fields. He/she should have advanced knowledge of modeling, analysis tools, and statistical packages. Previous experience in proposal development is strongly preferred. The ability to communicate and collaborate with a geographically dispersed group is essential. For more information, see the [job announcement](#).

## CURRENT RESEARCH BRIEF

### [Research Brief 280: Toxic Byproducts Formed During UV Water Treatment](#)

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](mailto:heacockm@niehs.nih.gov)).

## SRP EVENTS

### [ASPET Annual Meeting at Experimental Biology 2018](#)

April 21 - 25, 2018  
San Diego, California

### [2018 Toxicology and Risk Assessment Conference](#)

April 23 - 26, 2018  
Cincinnati, Ohio

### [3rd International Conference on One Medicine One Science](#)

April 29 - May 2, 2018  
Minneapolis, Minnesota

### [Central and Eastern European Conference on Health and the Environment \(CEECH\)](#)

June 10 - 14, 2018  
Krakow, Poland

### [Innovations at the Intersections of](#)

Mentoring Skills Enhancing Diversity (PROMISED) Program. She also received the [Women in Medicine and Science Leadership Award](#) from the UK College of Medicine. Swanson is a co-investigator on a project exploring the impact of obesity on PCB toxicity.

## WEBINARS AND TRAININGS

### Applied Bioinformatics and Environmental Genomics Courses at MDI Biological Laboratory

[MDI Biological Laboratory](#), in collaboration with the Dartmouth SRP Center, is pleased to offer two courses in July 2018 for advanced graduate students, post-doctoral trainees, and researchers interested in incorporating bioinformatics into their research. Though the two courses are independent, participants may benefit from taking both courses. The first course offers experiences in bioinformatics that pave the way for the more complex experimental designs used in the second course.

[Applied Bioinformatics](#) (July 7-12, 2018) is an introductory course designed to prepare trainees and researchers at all levels to incorporate bioinformatics into their research. Hands-on experience is provided in bioinformatic data analysis of biomedical data such human or mouse gene expression.

[Environmental Genomics](#) (July 13-21, 2018) is a hands-on real-world project training experience for Ph.D. students and early career scientists, designed to provide trainees with sufficient knowledge to initiate their own research programs. The course introduces wet bench and data analysis methods required to acquire and analyze RNA-Seq data in the context of gene-environment interactions and their effects on individuals, populations, and ecosystems.

The application deadline is **June 8, 2018**.

### Community Involvement Training Program

The [Community Involvement Training Program](#) (July 18-19, 2018) will be held at the InterContinental Kansas City at The Plaza Hotel. The U.S. Environmental Protection Agency (EPA) Community Involvement Training (CIT) Program brings together people from EPA, agency partners, and stakeholders who plan and implement community involvement, partnership, stewardship, outreach, and education programs. The CIT provides an important, comprehensive, in-person forum to promote interactions among and between the EPA and state, local, federal, and tribal community representatives as well as academia and private industry. There will also be a Superfund Only Day (formerly known as "Superfund Monday") on Tuesday, July 17.

### One Water Summit

The [One Water Summit](#) (July 10-12, 2018) is hosted by U.S.

[the Aquatic Sciences: Water Quality, Health, Materials, Technologies](#)

June 24 - 29, 2018

Holderness, New Hampshire

## GET UPDATES FROM OTHER SRP GRANTEES

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, 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.

Water Alliance and Metropolitan Council and will bring hundreds of water leaders from across the country together at the Hyatt Regency Minneapolis for thought-provoking conversations on how to achieve a sustainable water future for all.

## CALL FOR ABSTRACTS

### 2018 Tribal Environmental Health Summit

Abstracts are now being accepted for the [2018 Tribal Environmental Health Summit](#), June 25-26, 2018, in Corvallis Oregon. The summit, which is co-sponsored by the Oregon State University SRP Center, will focus on sustaining long-term partnerships and projects with Native American Communities. The abstract deadline is **May 31, 2018**.

## FUNDING OPPORTUNITIES

### 2018 Environmental Education (EE) Local Grants Request for Proposals

The [EE Local Grants Request for Proposals](#) (RFP), originally issued in January, has been modified to expand the scope of the environmental issues that can be addressed. The changes to the RFP provide applicants with greater flexibility to address environmental issues relevant to their communities.

The deadline has been extended to **April 11, 2018**.

### Integrative Action for Resilience: Progress Through Community-Research Partnerships

A funding opportunity from the Robert Wood Johnson Foundation (RWJF), [Integrative Action for Resilience: Progress Through Community-Research Partnerships](#), is available for community leaders, organizations, and researchers. The opportunity focuses on helping communities prepare for, withstand, and recover from disasters, and understanding the combination of factors that lead to resilient communities.

RWJF wants to bring together people who have not worked together in the past. They are not seeking joint proposals at this time. Instead, they are inviting two types of applicants:

- Those who are working on the front lines to mitigate the effects of sudden or long-term stress on their community.
- Researchers who have experience working within communities and who have mixed quantitative and qualitative research methodologies

The application deadline is **April 11, 2018, 3:00 pm EDT**.

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

If you are a graduate or postdoctoral trainee from the U.S. planning to attend the CEECH meeting in Krakow, Poland, you

may be eligible to apply for a [travel stipend](#). Please contact Dr. Slawomir Lomnicki (slomni1@lsu.edu) for more information. The CEECHE theme this year is “Environmental and Health Issues in Fast Changing Economies” and the meeting will be held June 10-14, 2018. There is no application deadline for this travel stipend.

### **Groundwork USA Funding and Technical Assistance Opportunity**

Groundwork USA, in partnership with the National Park Service and EPA, is now accepting Letters of Interest from communities wishing to begin the process of applying for Groundwork USA program funding and technical assistance and to join the Groundwork Network. For complete details on the application and selection process, including eligibility requirements, submission details, and evaluation criteria, visit the [Groundwork USA website](#).

The application deadline is **April 30, 2018**.

### **2019 National Urban and Community Forestry Grant Program Department of Agriculture**

The U.S. Forest Service anticipates approximately \$900,000 in grant funds to be awarded through the 2019 National Urban and Community Forestry Challenge Cost-Share [Grant Program](#).

The application deadline is **April 30, 2018**.

### **EPA Wetland Program Development Grants**

Wetland Program Development Grants ([WPDGs](#)) provide eligible applicants an opportunity to conduct projects that promote the protection, management, and restoration of wetlands. States, tribes, local governments, interstate associations, and intertribal consortia are eligible to apply for the Regional WPDG Request for Proposals. Application deadlines **vary by region**.

### **Department of Commerce FY17 Economic Development Assistance Programs**

The Economic Development Administration (EDA) [solicits applications](#) from applicants in rural and urban areas to provide investments that support construction, non-construction, technical assistance, and revolving loan fund projects under EDA's Public Works and Economic Adjustment Assistance programs. Grants and cooperative agreements made under these programs are designed to leverage existing regional assets and support the implementation of economic development strategies in distressed communities. This opportunity does not have a submission deadline.

## **DATA SCIENCE AND DATA SHARING**

### **SRP Encourages Sharing Datasets**

Data is an important product of scientific research. The sharing of research data by making it available in public repositories or as

supplemental data in publications is important because it accelerates new discoveries, stimulates new collaborations, and increases scientific transparency and rigor.

SRP grantees have produced many publicly available datasets that are available in repositories or as supplemental data in publications. You can [view a listing](#) of the publicly accessible datasets related to SRP-funded publications or [search publications](#) with publicly accessible datasets on our website.

We are continuing to compile this data and would like you to send us your publicly available datasets! You can submit additional datasets via the SRP [Data Collection Form](#) and include them in your annual updates.

### **Publicly Available PUF-PAS Sampling Rate Model Interface**

The University of Iowa SRP Center released the first in a series of web-based applications designed to transfer International Society for Respiratory Protection research methods and data to researchers, regulators, government, the public, and other stakeholder communities.

The first application, the [PUF-PAS Sampling Rate Model Interface](#), can be used to accurately predict the sampling volume of passive air samplers equipped with polyurethane foam (PUF-PAS) deployed anywhere in the world.

PUF-PAS samplers are frequently used to capture persistent organic pollutants (POPs), but a key challenge is understanding how much air passed through a sampler to predict the concentration POPs in air. The tool combines user inputs, publicly available hourly meteorological data, and known physical and chemical properties of the POP compounds in a mathematical model to predict sampling volume.

### **PHOTO OF THE MONTH**



After Hurricane Harvey made landfall in Texas, Oregon State University (OSU) SRP Center researchers responded quickly by preparing hundreds of passive wristband samplers and adapting their disaster response Institutional Review Board protocol to the flooding disaster in the greater Houston area. Here, SRP trainees package silicone wristbands in Kim Anderson's laboratory for [deployment](#). Members of the OSU team flew down to Houston and began handing out wristbands 21 days after the Hurricane struck. Participants in Houston wore the wristbands for a week to measure their exposure to environmental contaminants after the disaster. (Photo courtesy of the OSU SRP Center)

## INTERAGENCY NEWS

### U.S. EPA Updates ECOTOX

The EPA recently updated their publicly available application for environmental chemical toxicity data, called [ECOTOX](#), which is useful for assessing the effects of chemical exposures on aquatic life, terrestrial plants, and wildlife.

[ECOTOX 5.0](#) is now available in beta version. The update includes more advanced data and search capabilities, a default output focusing on critical data, new graphical data visualization tools, and direct linkages to other EPA chemical knowledgebases. These updates will help regulated industries, regulators, researchers, and others to more rapidly and easily search for data of interest, and to identify the most critical data from outputs in response to data queries. EPA welcomes [feedback](#) on the beta version before it is finalized.

ECOTOX is the primary source of toxicity data used by EPA regulatory programs to develop chemical assessments to meet requirements for the Clean Water Act; the Federal Insecticide, Fungicide, and Rodenticide Act; and the Comprehensive Environmental Response, Compensation, and Liability Act.

### New Draft Strategic Plan to Reduce Animal Testing Open to Comment

EPA is holding a public meeting on April 10 to obtain input on the new [draft Strategic Plan](#) to reduce the use of vertebrate animals in chemical testing.

Comments will be accepted on the draft Strategic Plan until **April 26**.

### Superfund and Technology Liaison Program Fact Sheet

The [Superfund and Technology Liaison \(STL\) Program Factsheet](#) was recently updated with current information about STL regional contacts and technical support centers. The STL program was established to facilitate regional access to EPA Office of Research and Development laboratories, provide technical support, and assist with the integration of science and technology

into decision-making for hazardous waste programs.

