

# Superfund Research Program e-Posted Notes

July 13, 2018 (Issue 174)

## HEADLINES

### New Multiproject Center Grants (P42) RFA Released

The most recent RFA for [Multiproject Center Grants](#) was released on July 3, 2018. SRP Center grants support problem-based, solution-oriented research Centers consisting of multiple, integrated projects. The Centers also include cores tasked with administrative (which includes research translation), data management and analysis, community engagement, research experience and training coordination, and research support functions.

SRP will host a [Funding Opportunities Webinar](#) on Monday, July 23, from 1:00 to 2:30 p.m. EDT, to provide more information. Additional Resources and Tips for Applicants can be found on [SRP website](#). The application deadline is **December 19, 2018**.

### SRP-Funded Research Saves Millions of Dollars

Hazardous substance remediation and site monitoring tools supported by the SRP have saved more than \$100 million and yielded additional societal benefits, according to a recent [commentary](#) in the journal Environmental Health Perspectives. Focusing on methods that reduce the amount and toxicity of hazardous substances, it illustrates how SRP support of cutting-edge transdisciplinary research has led to new tools and technologies that save money while protecting human health. In addition to cost savings, the commentary documents additional benefits to society resulting from the use of these methods.

### Save the Date: 2018 SRP Annual Meeting

Please save the date for the [2018 SRP Annual Meeting](#) on November 28-30 in Sacramento, California. The University of California (UC) Davis SRP Center, in collaboration with the SRP Centers from UC Berkeley and UC San Diego, will be hosting the meeting at the Hyatt Regency in Sacramento. Planning has begun for the overall program and organizing committees have been formed.

Stay tuned for the call for abstracts! Abstracts for oral presentations will be due mid-August.

### Wetterhahn Applications Now Being Accepted

## EMPLOYMENT OPPORTUNITIES

### Jobs at Gradient

Gradient is [currently recruiting](#) talented and qualified individuals to join their team, including environmental engineers, epidemiologists, biostatisticians, toxicologists, geologists, and database specialists. Critical thinking, supported by a foundation of rock-solid scientific, research, writing, and client development skills are hallmarks of successful Gradient staff.

For more information about Gradient, see its [Careers Overview](#) document.

### Environmental Risk Assessor / Epidemiologist – Virginia Tech

Virginia Tech's Department of Population Health Sciences seeks to 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

The SRP has established the [Karen Wetterhahn](#) award to recognize an outstanding graduate student or post-doctoral researcher that best demonstrates the qualities of scientific excellence exhibited by Dr. Karen Wetterhahn, who passed away in 1997. The award is open to all SRP trainees.

SRP is currently accepting applications for the Annual [SRP Wetterhahn Award](#). The winner will be announced at the SRP Annual Meeting, held this year in Sacramento, CA. The deadline this year for applications for the Wetterhahn Award will be **August 1, 2018** (5:00 p.m. EDT). Please visit our website for [application guidelines](#).

## 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:

- [Millions of Dollars Saved by NIEHS-funded Technologies](#): More than \$100 million was saved through the adoption of tools supported by the Superfund Research Program (SRP), according to a commentary published June 15 in the journal *Environmental Health Perspectives*.
- [Eight Superfund trainees win K.C. Donnelly Externships](#): Eight trainees in the NIEHS Superfund Research Program (SRP) have won the K.C. Donnelly Externship Award Supplements. These competitive awards enable fellows to extend their studies to other SRP-funded centers, government laboratories, or state, local, or tribal government agencies.
- [Global Environmental Health Day Spotlights Research](#): The third annual NIEHS Global Environmental Health (GEH) Day on June 6 highlighted research and projects from around the world that translate research into action. Among the speakers, UNC SRP Center Director Rebecca Fry highlighted her work on prenatal exposure to arsenic in Mexico, Thailand, and North Carolina.
- [Paper of the Month: Enzyme Plays Key Role in Parkinson's Disease](#): New research by SRP grantees and colleagues suggested an enzyme in the brain plays a key role in Parkinson's disease (PD).
- [Web Resources Could Assist Chemical Risk Management](#): Two new papers, including one by Texas A&M SRP Center researchers, describe publicly accessible web-based tools for exploring environmental chemicals and predicting their risk. These resources will help health policymakers to make faster and more accurate decisions about chemical safety and the need for remediation efforts.

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

- [SRP Grantees Discuss Kidney Disease at NIH Workshop](#):

[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](#).

### Faculty Position in Toxicology and Environmental Health – University of Iowa

The University of Iowa, College of Public Health invites applications for a tenure-track faculty position in Occupational and Environmental Health. Applications will be considered at the level of Assistant Professor, Associate Professor, and Professor. Responsibilities of the position include research and teaching in toxicology and environmental health.

It is anticipated that the successful applicant will transition over time to a leadership role in the Interdisciplinary Graduate Program in Human Toxicology. To apply for this position, please visit <http://jobs.uiowa.edu>, faculty requisition ##72734, where you will be asked to submit curriculum vitae, a statement of research interests, and the names of three professional references. Please address inquiries and nominations to the search committee administrator, Ms. Lisa Irving at [lisa-irving@uiowa.edu](mailto:lisa-irving@uiowa.edu).

## CURRENT RESEARCH BRIEF

[Research Brief 283](#): **Researchers Identify Compounds that Reduce Abnormal Blood Vessel Growth in the Eye** (Bruce Hammock, University of California, Davis)

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

Clinicians, basic scientists, epidemiologists, and public health officials met June 25 – 26 to develop a coordinated research agenda for a growing epidemic of chronic kidney diseases. Participants, including SRP staff and grantees, discussed current gaps in knowledge and a path forward to better understand chronic kidney disease in agricultural communities.

- [PCTech Graduates from Competitive Commercialization Program](#): In early June, Superfund Research Program small business grantee and Wyoming-based start-up Pollution Control Technologies (PCTech) completed a nine-month NIH Commercialization Accelerator Program (CAP).
- [SRP Grantees Share Findings and Resources with Stakeholders](#): Members of the Dartmouth College SRP Center have actively engaged community members, regulatory partners, and lawmakers by sharing research results and resources they can use.
- [Sunderland Discusses PFAS Research at ATSDR](#): At a May 10 seminar, Elsie Sunderland, Ph.D., described her research efforts to understand how people are exposed to poly- and perfluoroalkyl substances (PFASs) and to develop quantitative tools tracing PFAS exposures back to their sources.
- [Successful SRP Webinar Series Focuses on Toxicity Testing](#): In the spring 2018 Risk e-Learning webinar series, SRP grantees and colleagues featured research and technologies that may be useful for evaluating the safety of chemicals.
- [Distinguished Lecture Highlights Mechanisms of Liver Cancer](#): In a May 15 seminar at NIEHS, Michael Karin, Ph.D., detailed the sequence of molecular changes in the liver that eventually lead to liver cancer.

### MIT Citizen Science Featured in The Quoddy Times

Massachusetts Institute of Technology SRP Center trainees and Community Engagement Core Leader Kathleen Vandiver were featured in the [Quoddy Times](#) regarding a community meeting where results of a citizen science drinking water study were reported back to participants. The article also provides a link to a useful website where individual [results can be interpreted](#).

### Gallagher Discusses Work in Salmon with Local News and Radio

University of Washington SRP Center Director Evan Gallagher was featured in a [Seattle Times](#) article and on [local National Public Radio](#) discussing his research on salmon. His research team found that juvenile chinook salmon migrating through contaminated estuaries in Puget Sound pick up prescription and illegal drugs that may affect their survival and growth. Gallagher and postdoctoral researcher Chase Williams were also featured in a [recent issue of Sea Star](#), the newsletter of the Washington Sea Grant, focusing on the negative impacts of ocean acidification on the salmon olfactory system.

### LSU SRP Center Research Featured in Science News

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

### SRP EVENTS

[Workshop on Developing a Data Science Competent EHS Workforce](#)

August 14 – 15, 2018

Research Triangle Park, North Carolina

[Total Exposure Health: Bridging Human Exposure & Precision Medicine](#)

September 6 – 7, 2018

Bethesda, Maryland

[International Experimental Biology and Medicine Conference \(IEBMC\)](#)

October 19 – 21, 2018

Chengdu China

[Annual Meeting of the Superfund Research Program \(SRP\)](#)

Hosted by the UC Davis SRP Center in collaboration with the UC Berkeley and UC San Diego SRP Centers

November 28 – 30, 2018

Sacramento, California

### 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, 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

## Brief

A [recent publication](#) out of Louisiana State University SRP Center published in Environmental Science & Technology was featured by the [Science for Environment Policy](#), a free news service of the European Commission Directorate General - Environment. The article, which discusses environmentally persistent free radicals, was sent out to over 21,000 policymakers, academics, and business people across Europe to inform the development of effective, evidence-based policies.

## Hornbuckle Paper on Passive Samplers Listed as 'HOT Article'

University of Iowa SRP Center project leader Keri Hornbuckle and trainee Nick Herkert recently had an article listed as a '[HOT Article](#)' in Environmental Science: Processes & Impacts. [The paper](#) describes how wind speed variability indoors significantly impacts uptake rates of polyurethane passive samplers, and how airflow dynamics impact the precision of calculated airborne concentrations of polychlorinated biphenyls. HOT Articles are selected based on receiving particularly high scores during peer review.

## Lohmann and McCann Talk PFASs with Local News and Radio

University of Rhode Island SRP Center Director Rainer Lohmann was quoted in a local [Cape Code Newsletter](#) about the Center's work to understand where poly-and perfluoroalkyl substances (PFASs) originate, how they impact human health through well water, and how to limit exposure to protect human health. Community Engagement Core Leader Alyson McCann was also interviewed on [WCAI](#) to discuss the Center's work related to PFASs.

## Knap and Horney Discuss Long Term Health Impacts of Hurricane Harvey with Houston Chronicle

Texas A&M University SRP Center researchers Anthony Knap and Jennifer Horney were featured in a [Houston Chronicle Series](#) to discuss the possible long term health impacts resulting from Hurricane Harvey. They describe the Center's work to analyze samples collected before and after the hurricane and to understand how contaminants may be redistributed during extreme weather events.

## Toxicological Sciences Picks University of Iowa Publication for Editor's Highlight

A [paper out of the University of Iowa](#), authored by trainee Gopi Gadupudi and researchers Xueshi Li and Larry Robertson, was listed as an [Editor's Highlight](#) in the June issue of Toxicological Sciences. The paper reports long term functional and metabolic outcomes in mice exposed to a polychlorinated biphenyl compound.

## 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.

## Torres Studies Contaminant Distribution in Karst Aquifers

Norma Torres is a trainee with the Northeastern SRP Center at the University of Puerto Rico at Mayaguez (UPRM) whose research focuses on determining which factors influence changes in groundwater contamination in karst groundwater systems in Puerto Rico. Karst aquifers contain cave systems that are vulnerable to contamination from potentially hazardous substances. Torres has been with the Center since 2011, first as an undergraduate trainee, then as a master's student, and now as a Ph.D. student.



Under the mentorship of [Ingrid Padilla, Ph.D.](#), Torres is exploring how karst aquifer characteristics, human activities, and hydrogeological changes influence the concentration and spatial distribution of groundwater contaminants over time. This work aims to predict the potential for humans and ecosystems to be exposed to contaminants and to provide tools to improve groundwater resources management. Some of her research, focused on understanding the variables that influence [phthalate contamination in these aquifers](#), was recently published in the journal Environmental Pollution.

Torres has received two Individual Development Plan Awards from the Northeastern SRP Center. These awards allowed her to travel to different conferences to present her research and network with leaders in the field. Individual Development Plans encourage trainees to consider their long term research and career goals and the concrete actions they can take to achieve them.

Earlier this year, Torres was selected to receive the Ford Foundation Dissertation Fellowship, which aims to increase diversity in higher education faculty in the United States. Torres, chosen out of over 1,800 applicants, is the first student in UPRM history to be selected for the prestigious award.

“This award means so much to me, not only because it represents years of hard work, but also because of what it means to my community after the hardships we have faced following Hurricane Maria,” Torres said. “I would like to be a role model to other women and people from minority groups to keep moving forward and strive for higher education regardless of the difficult situations they may have in life.”

Outside of the lab, Torres enjoys spending time with family and friends, including her 3-year-old son. She is very involved with her

church and local community, and she enjoys being active and spending time outdoors.

## HOT PUBLICATION

### **TCE Metabolite Causes Placental Cell Death During First Trimester of Pregnancy**

New research out of the Northeastern SRP Center suggests that a metabolite of trichloroethylene (TCE), called S-(1,2-dichlorovinyl)-L-cysteine (DCVC), causes [premature death in placental cells](#) that are critical for normal placental development in early pregnancy. TCE is a manmade chemical commonly used to remove grease from metal machine parts and is also a byproduct created during the manufacture of refrigerants for air conditioning systems.

The team specifically evaluated the influence of DCVC on two cell death pathways in cells, called extravillous trophoblasts, that are important to early placental growth and development. A healthy placenta is necessary for a normal pregnancy because it supplies oxygen and nutrients to the developing fetus. The pathways, one dependent on mitochondria and the other on cell surface receptors, were both found to be activated by DCVC. Interestingly, the study showed that a supplement with the antioxidant vitamin E protected cells from DCVC-induced cell death.

According to the authors, these findings show that DCVC causes placental cells to undergo premature cell death in a dose-dependent manner, which the authors suggest as one mechanism by which TCE exposure contributes to early abnormal placental development and adverse pregnancy outcomes, such as low birthweight and preterm birth.

First author and Northeastern SRP Center Puerto Rico Testsite for Exploring Contamination Threats (PROTECT) trainee Elana Elkin wrote up a [summary](#) of the paper as part of the PROTECT Trainee Spotlight series. The Trainee Spotlight series aims to provide PROTECT trainees with opportunities to practice translating their research in a manner that would be understandable to non-scientific audiences.

## AWARD WINNERS

### **Brewer Selected as UK-CARES Fellow**

Dawn Brewer was selected as the University of Kentucky Center for Appalachian Research in Environmental Science (UK-CARES) Fellow in Science Communication. The year-long program provides early career faculty with skills training for communicating science to a broader audience and enhances their capacity for outreach and success in research, teaching, and service.

### **Upham Receives Distinguished Service Award**

Brad Upham of the Michigan State University (MSU) SRP Center received a Distinguished Service Award for outstanding services to the Society of In Vitro Biology at their 2018 Annual Meeting. Upham leads the Research Translation Core at MSU.

### **Guerinot Awarded Stephen Hales Prize**

Dartmouth SRP researcher Mary Lou Guerinot was awarded the 2018 Stephen Hales Prize from the American Society of Plant Biologists. Guerinot was recognized as a world leader in plant nutrition who has provided outstanding service to the scientific community and as an educator.

## **WEBINARS AND TRAININGS**

### **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**.

## **CALL FOR ABSTRACTS**

### **Total Exposure Health Conference**

Poster abstracts are being accepted for the [Total Exposure Health Conference](#), **September 6-7, 2018**, in Bethesda, Maryland. The conference will focus on the application of exposure science to precision medicine. This conference introduces key exposure and health challenges for the military, military veterans, and the greater public. Advancements in toxicology, exposure science, and precision medicine will be presented and discussed in the context of real-world issues applicable to stakeholder interests. The abstract deadline is **July 26, 2018**.

## **FUNDING OPPORTUNITIES**

### **CDC Childhood Lead Poisoning Prevention Projects**

The Centers for Disease Control and Prevention (CDC) released a funding opportunity ([CDC-RFA-EH18-1806](#)) for research related to Childhood Lead Poisoning Prevention Projects, State and Local Childhood Lead Poisoning Prevention and Surveillance of Blood Lead Levels in Children.

This funding opportunity addresses the Healthy People 2020 lead-related goals and related focus areas such as maternal health, infant and child health, and environmental health. Through the surveillance activities of its awardees, CDC will be able to quantify mean blood lead levels (BLLs) in children and the percent of children with BLLs above CDC's current reference value.

This funding opportunity also supports the National Prevention Strategy's Healthy and Safe Community Environments, which focuses on supporting healthy housing while addressing unsafe housing conditions and health-related hazards. Recipients will target population-based interventions to areas of highest risk based on surveillance data analyses. These activities are essential for CDC to meet its long-term goals of eliminating elevated BLLs.

Applications are due **August 9, 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**

### **Workshop on Developing a Data Science Competent EHS Workforce**

NIEHS is hosting a workshop on [Developing a Data Science Competent EHS Workforce](#) in Research Triangle Park, North Carolina on **August 14 – 15, 2018**. The goal of the workshop is to develop an overall strategy to build a data science competent EHS workforce. The workshop will be organized into three major sessions.

The first session will be designed to understand the current state of data science in the EHS domain as it relates to training, and

through the evaluation of representative scientific use cases, current limitations for data science training in EHS will be identified. The second session will examine existing training resources relevant to the intersection of EHS and data science and will relate EHS training goals to the accomplishments of the Big Data to Knowledge Initiative (BD2K). The final session will formulate how to build EHS training in data science and will be a discussion with participant input into questions formulated before the workshop and during the planning.

### **Searchable Database from Texas A&M**

The Texas A&M University SRP Center Community Engagement Core has developed a [searchable database](#) of resources regarding environmental justice issues in the Houston area. The interactive tool can be used to search for environmental justice topics, health outcomes, and the areas in which they have been studied.

Developed in partnership with the Texas Campaign for the Environment, the tool includes maps showing the proximity to Federal and State Superfund sites, Brownfields sites, and others.

### **NIH Releases Strategic Plan for Data Science**

The National Institutes of Health (NIH) released its first ever [Strategic Plan for Data Science](#) to capitalize on the opportunities presented by advances in data science. The Strategic Plan provides a roadmap for modernizing the storing, managing, standardizing, and publishing the vast amounts of data produced by NIH-funded biomedical research. The plan describes NIH's overarching goals, strategic objectives, and implementation approach for modernizing the NIH-funded biomedical data science ecosystem. Over the next year, NIH will begin implementing its strategy and will continue to seek community input during the implementation phase.

**PHOTO OF THE MONTH**





The Brown University SRP Center co-hosted a sharing event at the Mashapaug Pond site with students from Alvarez High School. About 50 high school students who have been learning about the pond led a guided tour for a group of younger middle school students where they shared what they learned about the history of the site and the more recent clean-up efforts. (Photo courtesy of Brown SRP Center)

## INTERAGENCY NEWS

### **ATSDR Draft Toxicological Profile: Perfluoroalkyls Available for Public Comment**

ATSDR recently released a draft Toxicological Profile on Perfluoroalkyl Substances (PFAS) for public comment. This document includes minimal risk level values (MRLs) for two PFAS chemicals (PFOA and PFOS) and sets new MRLs for two additional PFAS chemicals (PFHxS and PFNA). All four MRLs in the updated version of the Tox Profile are considered draft until they have been finalized following the public comment period.

Commenters should visit [www.regulations.gov](http://www.regulations.gov) and search for the notice using the docket number ATSDR-2015-0004. This notice has a 30-day comment period, the **notice closes on July 23, 2018.**

### **U.S. EPA Opens Three Important Actions for Public Comment**

The EPA released three actions for public comment focused on how EPA plans to evaluate the ten chemicals undergoing risk evaluation, select studies, and use the best available science to ensure chemicals in the marketplace are safe.

- In June 2017, EPA published the scope of the risk evaluations to be conducted for the first 10 chemicals that are the subject of the EPA's initial chemical risk evaluations. They have now published [problem formulation documents](#), which refine the scope of risk evaluations and clarify the chemical uses EPA expects to evaluate. Comments on the problem formulation documents are due on **July 26, 2018**.
- EPA's systemic review approach [document](#) that guides EPA's selection and review of studies. Comments are due on **July 26, 2018**.
- A proposed significant new use rule ([SNUR](#)) to prevent new uses of asbestos. Comments are due on **August 10, 2018**.

