

# Superfund Research Program e-Posted Notes

August 3, 2018 (Issue 175)

## HEADLINES

### Registration is Open for the 2018 SRP Annual Meeting

Registration is now open for the [2018 SRP Annual Meeting](#), which will be held **November 28 - 30 in Sacramento, California**. The University of California (UC) Davis SRP Center, in collaboration with the SRP Centers at UC Berkeley and UC San Diego, will be hosting the meeting at the Hyatt Regency in Sacramento.

Discounted early-bird ticket pricing is available through **October 6**. All ticket types will increase by \$100 on **October 7** and conference registration will end on **October 27**.

The deadline for [submitting abstracts](#) for oral presentations and the poster session is **August 25**.

### Register Now: SRP Progress in Research Webinars

Join us for the SRP Progress in Research webinars, which will feature work initiated by SRP Centers that received grants in 2017. Each Center will provide a 20-minute overview of its projects and will take questions from audience members. More information about each session and links to register are available on the [SRP Progress in Research website](#).

- **August 23, 2018, 1:00 -3:00 p.m. EDT:** Duke University, University of Arizona
- **September 4, 2018, 1:00 – 3:00 p.m. EDT:** University of Louisville, University of New Mexico, University of Washington
- **September 10, 2018, 1:00 -3:00 p.m. EDT:** Columbia University, Massachusetts Institute of Technology, University of Rhode Island
- **October 1, 2018, 1:00 -3:00 p.m. EDT:** Boston University, Texas A&M University, University of California, Davis

The purpose of these webinars is to facilitate a dialogue between researchers, field practitioners, and stakeholders early on so that new projects are put on a path toward successful technology transfer and application by end users. The webinars are also a great way to learn more about SRP grantees before the upcoming annual meeting.

### Multiproject Center Grants (P42) RFA

## EMPLOYMENT OPPORTUNITIES

### Director of Environmental Science Cyberinfrastructure – NIEHS

NIEHS is currently recruiting for the Director of Environmental Science Cyberinfrastructure (DESC). This is a senior leadership position with primary responsibility for aligning the current and future cyberinfrastructure needs of NIEHS with overall scientific priorities in the field of environmental health sciences. The DESC will develop, implement, and coordinate a multitude of resource environments in information technology and scientific computing to support and propel a wide array of current and future scientific research opportunities at NIEHS.

If you have experience working at the interface between scientific computing and data science and IT services, this position at NIEHS may be of interest to you. Please contact Dr. Gwen Collman ([collman@niehs.nih.gov](mailto:collman@niehs.nih.gov)), the chair of the search committee, if you are interested in – and would like to discuss – this important position.

### Internship – Clean Cities University Workforce Development Program

The Clean Cities University Workforce Development Program (CCUWDP) is an initiative of [Clean Cities](#), a government-industry partnership sponsored by the U.S.

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 (optional).

SRP hosted a Funding Opportunities Webinar on July 23 to provide more information; you can view an [archive](#) of that webinar online. Additional Resources and Tips for Applicants are available on the [SRP website](#). In the near future, SRP staff will post answers to frequently asked questions on the website as well. The application deadline is **December 19, 2018**.

## 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:

- [Environmental Chemistry Goes High-Tech](#): P. Lee Ferguson, a grantee at the Duke University SRP Center, develops sophisticated methods to answer important questions about the chemicals in drinking water and inside homes. Ferguson described his work July 10 as part of the NIEHS Keystone Science Lecture Seminar Series.
- [Paper of the Month: Computational Tool Predicts Chemical Toxicity](#): Texas A&M SRP Center grantee Weihsueh Chiu and colleagues developed a computational tool that uses the properties of a chemical to predict its toxicity. They determined that the tool can predict a toxicity value with an error of less than a factor of 10, making it useful for quickly assessing relative risks of chemicals for which traditional toxicity data or human health assessments are unavailable.
- [Paper of the Month: How Carcinogens Turn Liver Cells into Cancer Cells](#): A study led by UC San Diego SRP Center grantee Michael Karin explains how DNA damage to liver cells can potentially lead to liver cancer. The researchers looked at CD44 proteins, which are located on the cell surface and are involved in binding with other molecules. They found that CD44 proteins may play a role in overriding the body's natural protective response to DNA damage.

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

- [International Conference Promotes Environmental Health Research Exchange](#): NIEHS Superfund Research Program (SRP) staff and grantees focused on environmental health issues in changing economies at the Central and Eastern European Conference on Health and the Environment

Department of Energy's Vehicle Technologies Program. Clean Cities strives to reduce petroleum consumption in the transportation sector in nearly 100 communities across the country. Since the creation of the CCUWDP in 2010, Clean Cities has hosted more than 350 interns in more than 60 Coalitions.

The Clean Cities internship will give students studying communications, public relations, business, marketing, engineering or environmental sciences, the opportunity to grow public awareness and expand the markets of advanced vehicle technologies, alternative fuels, and practices that reduce the consumption of petroleum. Students may participate in research, outreach activities, public education, K-12 outreach, fleet events, and a vast array of transportation-related environmental projects.

Applicants must be a current undergraduate (junior or senior only), graduate student, or within one year of graduation. Applications are due August 8, 2018. To apply, see the [Clean Cities University Workforce Development Program Application](#).

### Jobs at Gradient

Gradient is [currently recruiting](#) talented and qualified individuals to join its team, including environmental engineers, epidemiologists, biostatisticians, toxicologists, geologists, and database specialists. For more information about Gradient, see its [Careers Overview](#) document.

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

The University of Iowa's College of Public Health invites applications for a tenure-track faculty position in

(CEECH), June 10 - 14 in Krakow, Poland. The conference, sponsored in part by SRP, provided a forum for scientists, engineers, and organizations to focus on Central and Eastern European environmental health concerns, which also will inform practices around the world.

- [Ferguson Presents Tools to Assess Unknown Environmental Chemicals](#): At the July 10 Keystone Science Lecture, Duke University SRP Center researcher Lee Ferguson, Ph.D., discussed his work using non-targeted approaches to identify contaminants in water, dust, and other environmental media. His talk drew a wide audience from across the Institute.
- [SRP Grantees Discuss Kidney Disease at NIH Workshop](#): 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 the causes of – and potential treatments for – chronic kidney diseases in agricultural communities.

### **Pennell Featured in PEPH Podcast**

University of Kentucky SRP Center researcher Kelly Pennell was featured in the latest Partnerships for Environmental Public Health (PEPH) podcast, [Vapor Intrusion and Your Health](#). The podcast describes how Pennell and her research team are working to characterize and predict vapor intrusion to help communities understand what it may mean for their health. The PEPH podcast also provides tips for improving air quality at home.

### **Superfund Research Partnerships Network Science and Policy Institute**

The Duke University SRP Center hosted the Superfund Research Partnerships Network Science and Policy Institute in Washington, D.C., July 11 - 13, which brought researchers and trainees from Duke, the University of Kentucky, and the University of Pennsylvania together with partners and policymakers. This unique opportunity included seminars from members of the EPA and ATSDR and interaction with staffers on Capitol Hill. Topics included how to communicate science to policymakers, understanding where research fits into the framework of federal decision making, and how science can be designed to inform policy.

### **Boston University SRP Work Featured on Local News Site**

According to an article from the New Bedford, Massachusetts-based [South Coast Today](#), Boston University (BU) SRP Center science is taking place at local nail salons this summer. About twice a week, a BU research assistant and a local partner visit a salon to collect toenail clippings from women of childbearing age to determine their exposure to toxic metals, such as lead and

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 the [University of Iowa's jobs site](#), where you will be asked to submit a 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).

### **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 [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](#).

mercury. Their work is part of a larger study by the BU SRP Center examining the relationship between prenatal exposure to an array of factors and adolescent risk-taking behavior.

## TRAINEE SPOTLIGHT

### Heffern Studies Effect of Metals on Fish Olfactory System

Kevin Heffern recently completed his Master of Science degree under the guidance of University of Washington (UW) SRP Center Director Evan Gallagher. His research focused on identifying and understanding the effects that certain types of metals, found in polluted water systems like the Lower Duwamish Waterway, may have on a fish's sense of smell. This sense of smell, called olfaction, is critical to numerous behaviors in fish, such as foraging, predator avoidance, prey selection, and natal homing, the process by which salmon return to their stream of birth to reproduce.



Heffern used zebrafish as a model species to assess the effects of cadmium, zinc, chromium, and arsenic on olfactory-mediated neurobehavior. He is the first author on a [recent paper](#) describing his findings. According to the study, both cadmium and zinc altered normal olfactory mediated responses in larval zebrafish, and cadmium increased levels of several oxidative stress response genes. He also observed a protective effect of zinc when present in mixtures of cadmium and zinc.

Before joining the UW SRP Center, Heffern received his Bachelor of Science degree in chemistry at the University of Idaho and subsequently worked as a research contractor for the National Oceanic and Atmospheric Administration (NOAA) at Auke Bay Laboratories in Alaska.

Heffern's involvement with the SRP has provided him opportunities to work with the Research Translation Core and Community Engagement Core staff, leading laboratory tours for middle school youth from the Duwamish Valley Youth Corps. Heffern sees engaging communities through science communication as an important facet of research.

Outside of lab, Heffern enjoys hiking in the North Cascades and woodworking.

## HOT PUBLICATION

### Computational Tool Predicts Chemical Toxicity

Texas A&M SRP Center researchers developed a computational tool that uses the properties of a chemical to predict its toxicity. They determined that the tool can predict a toxicity value with an

## CURRENT RESEARCH BRIEF

[Research Brief 284: Researchers Pinpoint Molecule Fueling Liver Cancer Development](#) (Michael Karin, University of California, San Diego)

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

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

August 14 – 15, 2018  
Research Triangle Park, North Carolina

[10th International PCB Workshop](#)

August 26 - 31, 2018  
Krakow, Poland

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

September 6 – 7, 2018  
Bethesda, Maryland

[15th International Phytotechnology Conference](#)

October 1 - 5, 2018  
Novi Sad, Serbia

[North Carolina Society of Toxicology Annual Meeting](#)

October 15, 2018  
Research Triangle Park, North Carolina

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

October 19 – 21, 2018  
Chengdu, China

[Superfund Research Program 2018 Annual Meeting](#)

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

error of less than a factor of 10, making it useful for quickly assessing relative risks of chemicals for which traditional toxicity data or human health assessments are unavailable. The findings were published in an [article](#) in Environmental Health Perspectives.

Using a comprehensive database of chemicals with existing regulatory toxicity values from federal and state agencies, the researchers developed quantitative structure-activity relationship (QSAR) models. The QSAR models use information about known relationships between chemical structures and biological activity to predict the activities of chemicals that do not have existing toxicity values.

The researchers compared their QSAR model predictions to those based on high-throughput screening (HTS) assays, which are used to rapidly measure potential toxicity of large numbers of chemicals by exposing cells to chemicals and assessing cellular changes. They found that the QSAR model predictions were more accurate and precise than those based on HTS assays.

According to the authors, this tool can fill a critical gap in the assessment of chemicals that lack sufficient toxicity data. The researchers have made the tool publicly available on the [Conditional Toxicity Value Predictor](#) website, where users can calculate predicted toxicity values for chemicals or retrieve existing toxicity values used to build the QSAR models.

## AWARD WINNERS

### Song and Zhu Win Award of Excellence

Texas A&M University SRP Center graduate students Xueqi Song and Rui Zhu earned an Award of Excellence, the top student project honor presented by the Texas Chapter of the American Society of Landscape Architects, for their work on "Resilience Through Regeneration," a master plan to improve a low-income neighborhood in south Houston. In the plan, vacant parcels and crime-attracting, dilapidated buildings in the neighborhood are replaced with single and multifamily housing, while flood vulnerability is reduced with the addition of storm water retention ponds, interconnected community gardens, and green spaces. The recommended changes result in a tripling of the neighborhood's green space, a 15 percent jump in multifamily housing, and significant increases in commercial and institutional space.

### Alvarez-Cohen Appointed Vice Provost for Academic Planning

University of California, Berkeley SRP Center deputy director and project co-leader Lisa Alvarez-Cohen was appointed UC Berkeley's [Vice Provost for Academic Planning](#). In this integrative role, she will coordinate opportunities for academic collaboration, support the development of current and emerging disciplines, and

November 28 - 30, 2018  
Sacramento, California

## 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.

represent the campus's global engagement.

### **Preston Receives University Scholarship**

University of Kentucky (UK) SRP Center undergraduate trainee Josh Preston received the Kate Johnson Scholarship from the UK Lewis Honors College. The purpose of this scholarship is to enable Lewis Honors College students to participate in skill-building or field-based activities.

## **CALL FOR ABSTRACTS**

### **2018 SRP Annual Meeting**

The Scientific Planning Committee is now [accepting abstracts](#) for the 2018 SRP Annual Meeting, scheduled for November 28 - 30 in Sacramento, California. Committee members will select abstracts to fill a limited number of oral presentation slots. They also plan to accept as many of the poster abstracts for presentation as space allows – with priority given to master's and doctoral-level trainees who are not accepted for oral presentations (they will automatically be considered for the trainee poster competition).

The deadline for submitting abstract submissions is **August 25, 2018**. Please do not submit more than one abstract per lead author.

## **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 percentage 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 goal of eliminating elevated BLLs. Applications are due **August 9**.

### **NAS Thriving Communities Grant for Gulf of Mexico**

The National Academies of Sciences, Engineering, and Medicine

Gulf Research Program announced it will fund up to \$10 million in grants to support efforts to enhance coastal community resilience and well-being in the Gulf of Mexico region. This funding opportunity is aimed at bridging the gap between the knowledge and practice of community resilience. It intends to support collaborative projects between researchers and practitioners that will result in actionable strategies Gulf region coastal communities can use to enhance their resilience against stressors associated with climate change, severe weather, or environmental degradation.

Letters of intent are due by **September 19**. Proposals are due **November 28**. More information is available on the [Gulf Research Program website](#).

### **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**.

## **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](#); the workshop will be held **August 14 - 15, 2018**, in Research Triangle Park, North Carolina. It will be organized into three major sessions. The first will cover the current state of data science in EHS as it relates to training; through the evaluation of representative scientific use cases, current limitations in data science training 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 Big Data to Knowledge (BD2K). The final session will be a discussion on how to build EHS training in data science.

### **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



University of Rhode Island (URI) SRP Center researcher Alyson McCann records data in a Massachusetts home as part of the URI SRP Center well water testing project on Cape Cod. The researchers are testing for per- and polyfluoroalkyl substances (PFASs) in private drinking water wells and are [currently inviting residents of Barnstable County](#) who own a home served by a private well to participate. Their overall goals are to improve understanding of the extent of PFAS exposure through private well water on Cape Cod, to identify potential sources, and to support private well testing and treatment to reduce PFAS exposure. (Photo from the URI SRP Center)

## INTERAGENCY NEWS

### **Request for Comment: EPA Problem Formulations and Systematic Review Guidance**

EPA is requesting comments on ten problem formulation documents and the Application of Systematic Review in TSCA Risk Evaluations, published on June 11.

The [problem formulation documents](#) refine the scope of risk evaluations for the first ten chemicals selected under the Frank R. Lautenberg Chemical Safety for the 21st Century Act, which amended the Toxic Substances Control Act (TSCA). The Agency's problem formulation documents are an important interim step prior to completing and publishing the final risk evaluations by December 2019.

EPA's [Application of Systematic Review in TSCA Risk Evaluations](#) will guide the Agency's selection and review of studies and provide the public with continued transparency regarding how EPA plans to evaluate scientific information.

The comment periods for these documents will close on **August 16, 2018**. For more information about risk evaluations, visit the [EPA website](#).