

Superfund Research Program e-Posted Notes

July 12, 2019 (Issue 186)

HEADLINES

Bill Suk Returns from Thailand

Please join us in welcoming back Bill Suk as the SRP director and branch chief of the NIEHS Hazardous Substances Research Branch. He recently returned from [six months](#) in Thailand where he supported environmental health program development through the Fulbright Scholar Program.

A huge thank you from SRP goes to David Balshaw for serving as the interim director over the last six months. As the chief of the NIEHS Exposure, Response, and Technology Branch (ERTB), he worked to strengthen connections between ERTB and SRP. He also worked with program staff to support the exposome concept and the translation of fundamental and mechanistic efforts into applied research.

2019 SRP Annual Meeting

Registration is coming soon for the [2019 Annual Meeting](#), which will be held **November 18-20 in Seattle, Washington**. The University of Washington and the University of Louisville will be planning the meeting. Abstracts for oral and poster presentations will be due **August 23**. Also, we will be accepting abstracts for "SRP 3D" where grantees can opt for a table-top display for device-oriented/technology-enabled projects and tools (also due **August 23**). Early bird registration ends **September 23**.

Call for Applications: Karen Wetterhahn Award

The SRP is currently accepting applications for the Annual [SRP Karen Wetterhahn Memorial Award](#). The winner will be announced and will present their work at the SRP Annual Meeting in Seattle. The SRP established this annual award to recognize an outstanding graduate student or postdoctoral 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**. An SRP trainee is either funded directly by an SRP grant (P42 or R01) or is conducting research/activities funded by an SRP grant. Visit the [SRP website](#) for guidelines and information about how to apply. The application deadline is **August 1 at 5:00 pm ET**.

EMPLOYMENT OPPORTUNITIES

Post-doctoral Research Fellow or Research Associate in Environmental Epidemiology

A post-doctoral research fellow or research associated position is available in the laboratory of Philippe Grandjean at the Harvard School of Public Health. The qualified applicant will have the opportunity to participate in the design and analysis of studies on environmental risk factors for adverse child development. Opportunities include work with an international, multidisciplinary team of researchers and access to rich longitudinal datasets from birth cohort studies.

Applicants should hold a doctoral degree in epidemiology, environmental health, or a related field, or a medical degree with experience conducting and analyzing epidemiologic studies. Applications will be considered from doctoral students who are close to completing their degree requirements. To apply, please send a cover letter, current curriculum vitae, and a brief summary of research interests and experience to Philippe Grandjean (pgrand@hsph.harvard.edu).

Faculty Position in the University of Arizona Department of Community, Environment, and Policy

The Department of Community,

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:

- [Giant Ocean Viruses Make Unique, Important Enzymes](#): A new study, funded in part by the SRP, found that giant viruses, which have genomes larger than 300 kilobase pairs and protein shell diameters greater than 200 nanometers, have genes that encode for unique enzymes called cytochrome P450. Giant viruses are found in deep seas and oceans worldwide. In animals, P450 enzymes metabolize drugs and fatty acids, make steroid hormones, and defend against pollutants.
- [Arsenic may Interfere with Pregnancy and Children's Health](#): During a May 28 talk in the NIEHS Keystone Science Lecture Seminar Series, Oregon State University SRP Center Community Engagement Core leader Molly Kile discussed her work studying pregnant women and their children in Bangladesh to learn about effects of arsenic exposure.

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

- [Key Characteristics Help Researchers Understand Male Reproductive Toxicants](#): New research from the UC Berkeley SRP Center identifies a set of eight key characteristics for male reproductive toxicants – chemicals that cause negative effects on the male reproductive system. Key characteristics explain the actions of certain chemicals inside the body.
- [Silicone Wristbands Identify Common Exposures Across Continents](#): In a new study, funded in part by the Oregon State SRP Center, researchers identified common chemical exposure trends in 14 communities across three continents. The researchers, led by Kim Anderson, Ph.D., used silicone wristbands that capture personal exposures to investigate differences and trends in chemical mixtures in North America, South America, and Africa.
- [Rusyn Receives Inaugural University Professorship, Names it After K.C. Donnelly](#): Ivan Rusyn, Ph.D., director of the Texas A&M University (TAMU) SRP Center, became one of the first five TAMU faculty members to be awarded the title of University Professor. As part of the University Professor accolade, the recipient can name their professorship after a faculty member who made a significant impact on their career and studies. Rusyn chose the late Professor K.C. Donnelly as his award's namesake.
- [TAMU SRP Trainees Receive Valuable Training](#): Ten TAMU SRP Center trainees are now more prepared to respond in a safe manner during an emergency. The trainees, along with Garrett Sansom, Ph.D., Community Engagement Core member, each earned their 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER)

Environment, and Policy in the Zuckerman College of Public Health at the University of Arizona is recruiting for a faculty position at the Full or Associate Professor level. They are seeking an independent investigator who has established expertise in environmental health research, environmental epidemiology, and/or exposure science. They are interested in expertise in the following areas: health equity, environmental justice, one health, climate-associated disease, exposomics, human toxicology, arid environments, environmental microbiology, and the built environment. The ideal candidate should have demonstrated the ability to lead and contribute to interdisciplinary environmental health research teams. The position announcement and information about how to apply can be found on the [University of Arizona Careers website](#).

Faculty Position in Toxicology and Environmental Health at the University of Iowa

The Department of Occupational and Environmental Health is seeking applicants for a faculty position including 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. For more information and application details, please see the [position listing](#).

CalEPA Senior Toxicologist Position

The California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA) is recruiting for a Senior Toxicologist to lead their Cancer Toxicology and Epidemiology Section. For more information and application

certification this May.

Microvi Featured in Scientific American

SRP small business grantee Microvi Biotechnologies was featured in [Scientific American](#) for their new approach to water treatment, which uses microbes to remove nitrates from drinking water. The article describes how their approach could save money, produce less waste, and possibly help fix nitrate pollution in California. Initial testing for the technology began with a now-completed SRP [small business grant](#) focused on removing perchlorate from contaminated water. Perchlorate is an industrial solvent, and it is often found in combination with other contaminants such as nitrate. Scientists at Microvi discovered that they could use their technology to clean up both contaminants.

Sedlak Featured in the Wall Street Journal

UC Berkeley SRP Center researcher David Sedlak co-wrote a [piece](#) on potable water reuse for the Wall Street Journal, June 6. He discusses obstacles that cities need to overcome to make recycled sewage part of their water supplies in the future.

Tanguay's Zebrafish Work Highlighted on Public Radio

Oregon State University SRP Center Director Robert Tanguay has studied the toxicity of polycyclic aromatic hydrocarbons (PAHs) using zebrafish as part of the SRP since 2009. Now, he has received a grant to study the toxicity of per- and polyfluoroalkyl substances (PFAS) using the same zebrafish model. The grant and testing procedures were featured in a [Jefferson Public Radio story](#).

Video Features UW Arsenic Work

A new video, [Diving for Data: Solving the Arsenic Riddle](#), describes UW SRP Center work to understand the environmental consequences of arsenic contamination in South and Central Puget Sound's small freshwater lake. The video features footage from Lake Killarney and provides updates on Jim Gawel's UW SRP work on arsenic in freshwater lakes.

Stapleton Quoted in Charlotte Observer

Duke SRP Center researcher Heather Stapleton was quoted in the Charlotte newspaper, the [Charlotte Observer](#), on potential thyroid cancer clusters near Mooresville, North Carolina. Stapleton has done research around Mooresville to examine potential causes of these elevated cancer rates and possible exposure routes. Among the potential causes considered are increased levels of coal ash from a nearby power plant and naturally occurring radon.

TRAINEE SPOTLIGHT

Evan Gray's Trainee Experiences Prove Beneficial in

instructions visit the [job posting](#). The position will be open until filled.

CURRENT RESEARCH BRIEF

[SRP Research Brief 295](#): Model Predicts PAH Levels in Important Tribal Food Source (Kim Anderson, Oregon State University).

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).

SRP EVENTS

[The 18th International Conference of the Pacific Basin Consortium for Environment and Health: Assessing and Mitigating Environmental Exposures in Early Life](#)
September 15 – 19, 2019
Kyoto, Japan

[16th International Phytotechnology Conference](#)
September 23 – 27, 2019
Changsha City, Hunan Province, China

[Triangle Global Health Consortium](#)
October 16, 2019
Durham, North Carolina

[SETAC North America 40th Annual Meeting](#)
November 3 – 7, 2019
Toronto, Ontario, Canada

[2019 SRP Annual Meeting](#)
November 18 – 20, 2019
Seattle, Washington

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

New Position

Former SRP trainee Evan Gray, Ph.D., is now an assistant professor in civil, environmental, and construction engineering at Texas Tech University (TTU). Previously, he was a postdoctoral research fellow at the Brown University SRP Center. As a trainee, he worked with Robert Hurt, Ph.D., and Agnes Kane, Ph.D., studying ultrathin synthetic sheet-like materials, also known as 2D nanomaterials. Specifically, Gray was interested in what happens in the body when people inhale 2D nanomaterials, how they remain in the body, and whether they pose a health risk.



In 2019, Gray's [SRP-funded paper](#) was recognized by [Environmental Science Nano](#) in its collection of highest quality publications. The paper presents a methodology and framework for classifying 2D nanomaterials in terms of hazards to human health. The framework places nanomaterials into four different classes, depending on if and how they break down, including identifying whether byproducts are hazardous.

The initial study tested specific 2D nanomaterials for persistence in the body and toxicity. With the framework in place, new research explores the toxicity of other 2D nanomaterials, such as those found in lithium ion batteries. According to the authors, the framework presents a way to accelerate the assessment of potential health effects of new 2D nanosheet materials, promoting their safe design as they become more prominent in everyday products.

Gray is continuing to develop screening methods that can be used with the framework developed at Brown. For nanomaterials grouped into the persistent category by the framework, he will use analytical tools to further study how those materials move in biological and environmental systems.

Gray reflects fondly on his time as an SRP trainee, where he was able to mentor students and prepare for his career as a professor. Through research translation and training activities, Gray learned how to make complex scientific topics accessible to the public and academics. Though his first year building his research group and teaching students has been busy, he also enjoys spending time with his wife and kids and venturing out to the mountains.

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.

HOT PUBLICATION

Cost-Effective Solutions to Reduce Arsenic Exposure from Drinking Water in Bangladesh

According to a new [study](#) from the Columbia University SRP

Center, long-term funding of free well testing on a massive scale can reduce exposure to arsenic. In Bangladesh, about 20 million people drink well water containing more than 50 micrograms per liter of arsenic, the Bangladesh drinking water standard. The study focuses on a population of 380,000 in rural Araihasar, Bangladesh over 18 years.

The researchers found that in Araihasar, testing drinking water for arsenic alone reduced the population exposed to arsenic in the short term by about 130,000. Testing helped communities identify the subset of low arsenic wells that could be shared at a total cost of less than US\$1 per person. Testing also had a longer-term impact, as 60,000 exposed people inhabitants lowered their exposure by installing new wells to tap aquifers low in arsenic, costing US\$30 per person.

In contrast, the installation of over 900 deep wells and a single piped-water supply system by the government reduced exposure of about 7,000 inhabitants at a cost of US\$150 per person. According to the authors, the findings make a strong case for long-term funding of free well testing on a massive scale with piped water or groundwater treatment only as a last resort.

AWARD WINNERS

Buettner Honored on Iowa Wall of Scholarship

University of Iowa SRP Center researcher Gary Buettner was honored on the University of Iowa Carver College of Medicine [Wall of Scholarship](#). It highlights three of Buettner's papers, which provide essential concepts, tools, and methods for quantitatively observing and measuring free radicals and oxidative stress in biological systems. These tools are critical to scientists' ability to understand the redox environment of cells and how it influences cellular mechanisms associated with cell growth and development, signaling, and reductive or oxidative stress.

Stanton Receives Unsung Hero Award

Dartmouth SRP Center researcher Bruce Stanton received the Unsung Hero Award at the annual Cystic Fibrosis Foundation New England Chapter Volunteer Award Reception in Manchester, New Hampshire. Stanton spearheaded growth of Dartmouth's cystic fibrosis research community and played a key advisory role in the development of tools and registries, which has had enormous impact on the length and quality of lives of cystic fibrosis patients.

Begay Recognized at Poster Competition

University of New Mexico (UNM) SRP Center trainee Jessica Begay won second place for her poster at the UNM College of Pharmacy Research Day. Her work focuses on assessing the toxicity of metal contaminated wind-blown particulate matter from an abandoned uranium mine on the Navajo reservation.

Chen Invited to EPA Advisory Board

Dartmouth SRP Center Director Celia Chen will serve as a member of the Environmental Protection Agency (EPA) Science Advisory Board Scientific and Technological Achievement Awards 2019-2021 Committee. The Committee reviews scientific publications nominated by EPA managers and recommends recipients for the EPA Administrator for Scientific and Technological Achievement Award.

CALL FOR ABSTRACTS

American Geophysical Union: Data Integration Session

SRP Health Scientist Administrator Michelle Heacock is one of the conveners for an upcoming data integration session at the American Geophysical Union (AGU) fall meeting, December 9-13, in San Francisco. The session, [Data Integration: Enabling the Acceleration of Science Through Connectivity, Collaboration, and Convergent Science](#), will explore the challenges and successes repository managers and communities have in providing support and services to researchers interested in accessing and using data from multiple sources and scientific domains with unfamiliar formats, and unknown quality and uncertainty. Abstracts are encouraged that describe methods for identifying and communicating best practices and challenges in this diverse data environment.

The abstract submission deadline is July 31. Feel free to reach out to Michelle Heacock (HeacockM@niehs.nih.gov) if you have any questions.

Triangle Global Health Annual Conference

The [Triangle Global Health Conference](#) will be held on October 16 in Durham, North Carolina. The 2019 theme is One Health: Creating our Shared Future. You are invited to submit proposals for panel discussions, workshops, storytelling, challenge questions, and poster sessions. The submission deadline for program sessions is **July 15**. The submission deadline for poster presentations is **August 15**. Visit the [abstract submission page](#) for more information and to submit proposals.

FUNDING OPPORTUNITIES

EPA Drinking Water Grants

Visit the [U.S. Environmental Protection Agency \(EPA\) Drinking Water Grants page](#) for a list of current EPA funding opportunities related to groundwater and drinking water.

DATA SCIENCE AND DATA SHARING

Now Available: Supplements for Enhancing Utility and Usage of Common Fund Data Sets

The Common Fund has generated valuable and widely available data sets by multiple programs, containing a variety of multi-dimensional molecular and phenotypic data from several organisms including mice and humans. To maximize the impact of these data, engage a broader community of end-users for wider adoption of these data sets, and obtain feedback to enhance the data portals, the Common Fund plans to support [administrative supplements](#) encouraging the use of Common Fund data sets. Supplements are intended to enable novel and compelling biological questions to be formulated and addressed, and/or to generate cross-cutting hypotheses for future research. **Applications are due July 29** by 5:00 PM local time of the applicant organization.

NIH's All of Us Research Program Launches Data Browser

NIH's All of Us Research Program has announced the beta release of its interactive [Data Browser](#), which provides a first look at the data that participants are sharing for health research. Participants, researchers, and other members of the public may use the online tool to learn more about the All of Us participant community and explore summary data. Currently, participant-provided information, including surveys and physical measurements taken at the time of participant enrollment, as well as electronic health record data are available. The All of Us Research Program data resource will grow to include more data types over time. Read the [press release](#) to learn more.

PHOTO OF THE MONTH



Since 2016, the Oregon State University (OSU) SRP Center has hosted tribal youth campus visits to connect tribal students with campus life and the SRP. This year, tribal high schoolers visited OSU for two days to learn about the ways the SRP works with the tribes to answer important environmental health questions and to learn more about STEM careers. Students took a tour of campus,

heard from a panel of native students at OSU, checked out the zebrafish research lab with SRP Center Director Robert Tanguay, and did some hands-on learning by making an air particle sensor, shown here.

The OSU SRP Center partners with tribal nations in the Pacific Northwest to reduce disparities in environmental chemical exposures. One of their goals is to build cultural competency between universities and tribes. Tribal youth campus visits help make this happen. (Photo courtesy of OSU SRP Center)

