

Superfund Research Program *e-Posted Notes*

February 4, 2022 (Issue 217)

HEADLINES

KC Donnelly Externship Applications Due February 28

Applications for [K.C. Donnelly Externship Award Supplements](#) are due **February 28**. The supplements provide current SRP-funded graduate students and postdoctoral researchers with translational and transdisciplinary opportunities to collaborate with other SRP grantees, government laboratories, and state, local, or tribal agencies.

For more information about the application process, see this [NIH Notice of Special Interest](#) or contact Brittany Trottier (brittany.trottier@nih.gov) and your respective program officer.

Save the Date: SRP Progress in Research Webinars

SRP is hosting a [Progress in Research webinar series](#) to showcase sustainable solutions for addressing hazardous substances in the environment. The three-part series will feature SRP [individual research projects](#) funded in 2020, which are incorporating advances in materials science to improve bioremediation of contaminants in soil, sediment, or water.

- The first session, **April 15, from 1-3 p.m. EDT**, will highlight sustainable technologies to clean up per- and polyfluoroalkyl substances from the environment. Speakers include investigators from the University of California, Riverside, Princeton University, and the State University of New York at Buffalo.
- The second session, **April 29, from 1-3 p.m. EDT**, will present novel tools to remove chlorinated compounds from the environment. This session will feature speakers from Florida State University, Oregon State University, the University of Iowa, and the University of Maryland, Baltimore County.
- The third and final session, **May 13, from 1-3 p.m. EDT**, will focus on plant and fungal-based bioremediation. Speakers include researchers from Texas A&M AgriLife Research, the University of Massachusetts Amherst, and Yale University.

SRP COVID-19 Activities Webpage

The recently updated SRP [Special COVID-19 Supplements and Activities](#) webpage highlights efforts by SRP scientists to respond to the COVID-19 pandemic. The webpage features research projects, community engagement and outreach activities, novel technology development, and publications related to COVID-19. If you are conducting relevant activities or have any publications

EMPLOYMENT OPPORTUNITIES

NIEHS Postdoctoral Position

NIEHS seeks a [postdoctoral trainee](#) who wants to build their career in toxicological sciences to better understand how factors in our environment may impact our health. This fellowship will provide experience in both the Division of the National Toxicology Program and the Division of Extramural Research and Training. The research focus for the postdoctoral position will be on advancing informatics approaches in toxicology and environmental health through a project on autism spectrum disorder.

Applications will be accepted until **February 11**. If you have questions about the position, please contact Andy Rooney (andrew.rooney@nih.gov) or Cindy Lawler (lawler@niehs.nih.gov).

APHL-CDC Fellowship and Internship Programs

The Association of Public Health Laboratories (APHL) and the U.S. Centers for Disease Control and Prevention (CDC) are offering a variety of [laboratory fellowship programs](#) to train and prepare scientists for careers in public health laboratories and to support public health initiatives. Applications are due **February 28**, with an expected start date of July 2022. See the [program page](#) for more information and to apply.

Faculty Positions – University of Washington

you would like to see on the website, you can send your suggestions to SRPinfo@mail.nih.gov.

Using Nutrition to Reduce Harmful Effects of Pollutants

Research at the University of Kentucky SRP Center, led by Bernhard Hennig, shed light on the underlying mechanisms by which exposure to polychlorinated biphenyls (PCBs) can harm the body, how some components of our diets worsen these effects, and how good nutrition can protect health. Read more in the latest [SRP Public Health Impact Story](#).

National Library Programs of Relevance for SRP Research and Outreach

The [Environmental Health Information Partnership](#) is a collaboration between the National Library of Medicine and Historically Black Colleges and Universities and other minority-serving academic institutions. It promotes access, use, and delivery of environmental health information and expands data driven science to reduce health disparities. Another program, the [Network of the National Library of Medicine](#) aims to improve public health by providing U.S. health professionals and community members with equal access to biomedical data and resources to make informed decisions about their health.

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:

- [Extramural Paper of the Month: Database reveals toxic metals in private well water in NC](#): Leveraging two decades of well water data in North Carolina (NC), NIEHS-funded researchers reported residents are exposed to arsenic and lead above the U.S. Environmental Protection Agency (EPA) standards.
- [Complexities of PFAS research focus of congressional hearing](#): Complexities of studying per- and polyfluoroalkyl substances (PFAS) were shared by NIEHS grantees and other experts during a congressional hearing.

Visit the SRP page for more stories about the program:

- [Duke Campaign Promotes Safe Fish Consumption](#): New fish consumption advisories in North Carolina were developed using data collected through the NIEHS Superfund SRP Center at Duke University. The goal is to better protect the health of people who collect and eat fish from the Cape Fear River.

Morello-Frosch Cited in CalMatters

A [CalMatters article](#) cited work by University of California (UC) Berkeley CEC Leader Rachel Morello-Frosch on health threats, such as asthma and poor birth outcomes, associated with proximity to oil and gas wells in California. Morello-Frosch's SRP

The Department of Environmental and Occupational Health Sciences at the University of Washington invites applications for three full-time, tenure-track faculty positions at the rank of [assistant professor](#), beginning in fall 2022. The successful candidate should have expertise in occupational health and safety, environmental epidemiology, or toxicology. A minimum of a Ph.D., M.D., or other appropriate terminal degree in a relevant field is required.

They also invite applications for two full-time [assistant teaching professors](#) (this track is not tenure-eligible) to begin fall 2022. Candidates must have a M.S., M.P.H., or M.S.P.H. with expertise in environmental public health and occupational health and safety.

CURRENT RESEARCH BRIEF

[SRP Research Brief 326](#): New Technique Yields Promising Results for Uranium Removal in the Field (Glycosurf, Boxley; University of Arizona, Maier)

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).

Video summaries of the SRP Research Briefs are available on the [NIEHS Social Media Shorts YouTube page](#).

EVENTS

[NIH Climate Change and Health Webinar Series: Why Climate Change is a Health Threat](#)
February 9, 2022
Virtual

[Advancing Environmental Health Equity Through Implementation Science](#)
February 28 and March 1, 2022
Virtual

[Open Science Conference](#)

research focuses on identifying areas that are disproportionately affected by environmental contaminants and guiding community interventions to address these inequalities.

Sunderland Highlighted in PBS News Hour

Elsie Sunderland, a researcher at the University of Rhode Island (URI) SRP Center, recently appeared on [PBS News Hour](#) discussing her research findings on health outcomes associated with per- and polyfluoroalkyl substances (PFAS) and levels of exposure in the general population.

Environmental Health Perspectives Article Features SRP Research

A [news feature in Environmental Health Perspectives](#) quoted researchers across SRP Centers, including UC Berkeley SRP Center Director Martyn Smith and Columbia University SRP Center Director Ana Navas-Acien. The feature highlighted research by Smith to [categorize key characteristics](#) of cardiovascular toxicants. Smith explains how this work aims to improve understanding of disease mechanisms.

Duke SRP Research Featured Across Media Outlets

Duke University SRP Center researchers were featured in various articles and podcasts about chemical contaminants in water. A [Metro UK news article](#) quoted Duke SRP Center Co-Director Heather Stapleton about her [2020 study](#) on the efficacy of home filters for removing PFAS from drinking water.

The Duke University Pratt School of Engineering's [Rate of Change podcast](#) featured Duke SRP Center researcher Lee Ferguson. Ferguson spoke about detection of GenX in the Cape Fear River and discussed chemical analysis techniques used to detect environmental contaminants in drinking water.

Community Engagement Core (CEC) Program Coordinator Chiara Klein wrote a story for [Star News Online](#) about fishing in the Cape Fear River and center activities to improve safety in this area, including Duke SRP Center's [Stop, Check, and Enjoy campaign](#).

TRAINEE SPOTLIGHT

Eick Transitions from Trainee to Faculty

Former SRP trainee Stephanie Eick just landed a new job as an assistant professor of environmental health at Emory University's Rollins School of Public Health. She is currently mapping out her research program, which will largely focus on environmental health disparities and the effects of chemical and nonchemical stressors—such as social factors and access to healthcare—on pregnancy and children's health.



Eick's work will build on part on her doctoral research as a trainee

March 8-10, 2022

Virtual

[8th Annual Women's Health Awareness](#)

April 9, 2022

Durham, NC

[Third National PFAS Conference](#)

June 15-17, 2022

Wilmington, NC

[International Data Week](#)

June 20-23, 2022

Seoul, South Korea and Virtual

[SETAC 8th World Congress](#)

September 4-8, 2022

Singapore

[11th Conference on Metal Toxicity and Carcinogenesis](#)

October 16-19, 2022

Montreal, Canada

[SRP Annual Meeting](#)

Tentative, November 15-18, 2022

Raleigh, NC

GET UPDATES FROM OTHER SRP GRANTEES

To see the latest SRP grantee publications, visit the [SRP Grantee 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

with the Northeastern University SRP Center. Under the mentorship of Jose Cordero, Eick found that [oxidative stress](#) may be an important contributor to preterm birth in Puerto Rican women.

"As a female, I've always been very interested in maternal and child health. Pregnancy is such a unique timepoint to study because it's a short window during which exposures can have such long-lasting and generational effects," Eick said.

In 2018, a [K.C. Donnelly Externship](#) enabled Eick to study with Craig Steinmaus at the UC Berkeley SRP Center. There, she examined how socioeconomic status and arsenic exposure may interact in ways that potentially [contribute to diabetes risk](#). More recently, Eick co-authored with Steinmaus a review of current research on [connections between obesity and arsenic exposure](#).

Eick later reconnected with Steinmaus when she became a postdoc at UC San Francisco; together they taught an epidemiology course for master's students.

Now that Eick has clinched her own faculty position, she has some advice for SRP trainees:

"Get involved and reach out to others! One of the biggest assets of SRP for trainees is the vast professional network," Eick said. "I was fortunate to work with many great senior faculty, which helped shape how I think about my own research and what I hope my career will look like."

HOT PUBLICATION

Linking Environmental Exposures and Gut Bacteria to Liver Disease

Changes to gut bacteria caused by a type of dioxin [may contribute](#) to the development of non-alcoholic fatty liver disease (NAFLD), according to a study by the Michigan State University SRP Center. The dioxin, known as TCDD, is a byproduct of burning organic materials.

In mice, TCDD exposure has been linked to fat buildup and cell damage in the liver, key characteristics of NAFLD development in humans. The team wanted to understand the underlying mechanisms and the role of the gut microbiome in NAFLD development and progression.

Researchers conducted metagenomic sequencing, which looks at all genes in an organism and their functions, to evaluate differences in bacterial diversity and abundance in mice exposed to TCDD.

They observed that the composition of gut bacteria was different in mice exposed to TCDD and resembled the microbiome of patients with NAFLD. For example, TCDD-exposed mice had more species of Lactobacillus bacteria often associated with NAFLD, diabetes, and liver fibrosis and fewer types of other bacteria, such as Lactobacillus murinus. Decreases in Lactobacillus murinus have been reported in human NAFLD.

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.

The team also reported that in mice exposed to TCDD, increased Lactobacillus species were associated with higher expression of genes responsible for bile acid metabolism. Bile acids play a key role in glucose, lipid, and energy regulation and alterations to their metabolism contribute to liver disease, obesity, and diabetes.

The authors also linked higher abundance of some Lactobacillus bacteria with increased expression of a gene associated with the synthesis of vitamin K12, which is stored in fatty tissue and the liver. These findings were similar to those in publicly available microbiome data from patients with liver disease.

According to the team, these findings highlight similarities between liver damage in mice following TCDD exposure and human NAFLD and point to the gut microbiome as a potential factor affecting disease development.

AWARD WINNERS

Barlaz Elected as AAAS Fellow

North Carolina State University (NCSU) SRP Center researcher Morton Barlaz was elected as a [Fellow of the American Association for the Advancement of Science](#) (AAAS), the world's largest scientific society and publisher of the journal Science. He was recognized for his contributions to the field of environmental engineering, particularly for advancing understanding of solid waste engineering and related fundamental biological and chemical processes. Barlaz's SRP-funded research aims to develop carbon-based sorbents for PFAS removal.

Harvard Trainee Awarded Green Chemistry Fellowship

Harvard University SRP Center trainee Holly Rudel was awarded the [Joseph Breen Memorial Fellowship Award](#) from the American Chemical Society Green Chemistry Institute. The award sponsors the participation of one outstanding graduate or post-graduate scholar in a green chemistry technical meeting, conference, or training program. Green chemistry refers to the discovery and design of chemical products and processes that reduce the use and generation of hazardous substances.

Iowa SRP Scientists Receive Awards

University of Iowa SRP Center Deputy Director Hans-Joachim Lehmler received the [2021 John Doull Award](#) at the annual Central States Society of Toxicology Meeting. This award is presented at the meeting each year to honor the contributions of members to the toxicology field.

Jerald Schnoor was chosen as a recipient of the [2022 Outstanding Achievements Award in Environmental Science & Technology](#) for his research on phytoremediation technology and water quality engineering. The award will be presented at the American Chemical Society National Meeting and Exposition in March.

Duke SRP Researchers Named as "Most Highly Cited"

Duke SRP Center researchers Heather Stapleton and Mark

Wiesner appeared in the Web of Science's annual list of the world's [Most Highly Cited Researchers](#). Researchers in this list have published multiple papers that rank in the top 1%, by citation rate, of all papers in their field. Stapleton and Wiesner were listed in their respective disciplines of environmental chemistry and environmental engineering.

Cardenas Honored with OSU Alumni Award

Andres Cardenas, a researcher at the UC Berkeley SRP Center, received a [Young Alumni Award](#) from the College of Science at Oregon State University (OSU). The award recognizes exceptional achievements in career, public service, and volunteer activities of OSU alumni less than 10 years out from graduation. Cardenas received his bachelor's degree in biochemistry and biophysics, a master's degree in biostatistics, and a Ph.D. in environmental health science at OSU before joining the faculty at UC Berkeley.

TAMU Team Chosen for National Program

A research team from the Texas A&M University (TAMU) SRP Center was selected as one of only 12 teams participating nationwide in [the Landscape Architecture Foundation Case Studies Investigation Program](#). This program pairs university faculty-student teams with landscape project designers to assess the environmental, social, and economic benefits of the projects and produce case study briefs. The TAMU team, consisting of Galen Newman, Dongying Li, and trainee Rui Zhu, will conduct landscape performance evaluations of the Houston Arboretum and Nature Center.

LSU SRP Trainee Receives Research Grant

LSU SRP Center trainee Myron Lard earned an [NIH Supplement to Promote Diversity in Health-Related Research](#) grant. These grants provide funding and mentorship opportunities for highly qualified students from underrepresented racial and ethnic groups. Lard studies environmentally persistent free radicals under the mentorship of Robert Cook.

CALL FOR ABSTRACTS

Pop-Up Writing Opportunity: Environmental Racism and Justice

The National Center for Institutional Diversity at the University of Michigan invites pitch submissions to an essay series focused on environmental racism and environmental justice. The series will appear in the center's online magazine, Spark. The editors encourage pitches pertaining to scholarship that emerged from collaborations between community and academic partners. Please see [the announcement](#) for more information. Submissions are due **February 16**.

Accepting Publications for a Special Issue on Arsenic in Drinking Water

Water, an open-access journal on water science and technology,

is accepting manuscript submissions for a special issue, "[Arsenic in Drinking Water and Human Health](#)." SRP Health Scientist Administrator Danielle Carlin is a guest editor and will help write the editorial to this special issue. NIEHS grantees and other researchers are invited to submit their manuscripts to share their latest findings on the human health effects of arsenic in drinking water. Submissions are due **September 30**.

FUNDING OPPORTUNITIES

Human Health Exposure Analysis Resource (HHEAR) Program

Applications are being accepted for the [HHEAR program](#), which provides researchers free access to laboratory and data analysis services to expand the assessment of environmental exposures in their existing NIH-funded studies. Past and present SRP grantees with ongoing studies can apply for no-cost targeted and untargeted analysis of environmental and biological samples. The next submission deadline is **February 11**. For questions related to the application process, visit the [How to Apply](#) page or contact HHEARHelp@Westat.com. If you have any questions about the HHEAR program, please contact Michelle Heacock (heacockm@niehs.nih.gov).

Crushing Pollution Video Challenge

The U.S. Environmental Protection Agency (EPA) invites students and others, including people who live near industrial facilities, to create videos for its [Crushing Pollution Video Challenge](#) that illustrate how U.S. businesses are reducing toxic chemical releases for the benefit of the environment and communities. The challenge encourages participants to use EPA's Toxic Release Inventory P2 Search Tool to identify a facility that has reported innovative pollution prevention strategies. Submissions are due **March 1**.

Call for Proposals: Restoration Technology Innovation

The Air Force Civil Engineer Center (AFCEC) released a [request for proposals](#) focused on field-scale demonstration and validation of innovative technologies and methodologies for PFAS characterization, treatment, modeling, and remedy resilience. U.S. companies, academic institutions, non-profit institutions, and government agencies are invited to apply. Proposals are due **March 14**. If you have any questions, please contact Jeff Davis (jeffrey.davis.90@us.af.mil) or Kent Glover (kent.glover@us.af.mil).

Environmental Literacy Program: Increasing Community Resilience to Extreme Weather and Climate Change

The National Oceanic and Atmospheric Administration announced a [funding opportunity](#) for projects that help communities develop environmental literacy necessary to improve their resilience to extreme weather and climate change. Projects should demonstrate how they will engage children, youth, or adults to build these capabilities, particularly through active and social learning, during the award period. Applications are due

March 17.

Environmental Justice Video Challenge for Students

EPA and partners launched a [video challenge](#) for students to enhance communities' capacity to address environmental and public health inequities. The challenge is structured in two separate phases, each with its own timeline:

- Phase 1: The goal is for students to create a video demonstrating innovative approaches—using [publicly available data and tools](#)—to identify and characterize environmental justice issues in a select community. Students are strongly encouraged to work in teams and collaborate with community organizations. Submissions are due **April 1**.
- Phase 2: Students will develop a video showing how they worked with community-based organizations to identify ways of addressing environmental justice issues. A due date and details on the specific requirements for this phase are forthcoming.

INTERAGENCY NEWS

EPA Seeks Nominations for Small Business Panel on PFAS

EPA is inviting small businesses, governments, and not-for-profit organizations to participate as Small Entity Representatives (SERs) for a Small Business Advocacy Review Panel. This panel will focus on the agency's development of a rule that would help EPA better understand the sources and quantities of PFAS manufactured in the U.S. and support the agency's [PFAS Strategic Roadmap](#). The Panel members ask a selected group of SERs to provide advice and recommendations on behalf of their company, community, or organization. [Self-nominations](#) must be submitted by **February 16**.

DATA SCIENCE AND DATA SHARING

Iowa SRP Releases New PCB Datasets

Researchers at the University of Iowa SRP Center released [a dataset](#) that reports the levels of PCB concentrations in air from the Chicago area collected in 2009. Iowa SRP researchers also released [another dataset](#) from sediments in a PCB-contaminated wastewater lagoon in Altavista, Virginia. It reveals which PCB compounds are in the surface sediment from the lagoon.

UNC SRP Publishes Gene Transcription Dataset

University of North Carolina at Chapel Hill SRP Center researchers shared [a dataset](#) describing sex-specific differences in gene expression associated with prenatal exposures to arsenic in mice. Using this data, the team observed that arsenic exposure before birth [may contribute to the expression of genes](#) associated with diabetes in males, but not in females.

Open Science Conference

The [9th Open Science Conference](#) will take place **March 8-10**.

The annual, international conference is dedicated to the Open Science movement and provides a unique forum for researchers, librarians, practitioners, infrastructure providers, policy makers, and other important stakeholders to discuss the latest and future developments in Open Science. The German National Library for Economics sponsors the event.

PHOTO OF THE MONTH



Massachusetts Institute of Technology SRP Center trainee Jessica Beard holds an aqueous-phase light-activated sensor for N-nitrosamine developed by MIT SRP Center researchers. Beard, who is mentored by MIT SRP Center researcher Timothy Swager, studies how the compound N-nitrosamine spreads through the environment. (Photo courtesy of the Massachusetts Institute of Technology)