National Institute of Environmental Health Sciences

Superfund Research Program

e-Posted Notes

May 5, 2023 (Issue 232)

HEADLINES

Join Us Today! SRP Progress in Research Webinar

Session II of SRP's Progress in Research webinar series is **happening today, 12-2 p.m. ET**. The session will highlight how the University of New Mexico (UNM) and Columbia University SRP centers collaborate with Indigenous partners to reduce the health risks associated with exposure to heavy metal contamination. Register now!

Join us later this month for presentations from other SRP multiproject centers:

- Session III: Environmental Justice and Emerging Contaminants (Massachusetts Institute of Technology, University of Rhode Island, University of California, Berkeley), **May 12, 12-2 p.m. ET**
- Session IV: Chemical Exposures Across the Life Course (Duke University, University of Louisville, Wayne State University), **May 19, 12-2 p.m. ET**

If you missed the first session, a recorded archive will soon be available on the Progress in Research webinar series webpage.

Funding Announcement: SRP P42 Centers

NIEHS announced the continuation of the Superfund Hazardous Substance Research and Training Program and is requesting applications to establish P42 Centers, which support problem-based, solution-oriented research that consists of multiple integrated projects representing both the biomedical and environmental science disciplines. Applications are due **October 2**.

SRP is also hosting an informational webinar on **May 15, 12-1 p.m. ET,** to answer questions about the request for applications to address the broad, complex health and environmental issues that arise from the multimedia nature of hazardous waste sites.

Tracking Personal Exposures Over Time and Around the World

Researchers at the Oregon State University (OSU) SRP Center developed a simple, non-invasive approach to monitor personal chemical exposures using silicone wristbands. The highly sensitive wristbands can be used to measure exposure to low levels of hundreds of chemicals, offering a unique tool to better

EMPLOYMENT OPPORTUNITIES

Multiple Openings at Wayne State

The Institute of Environmental Health Sciences/Center for Urban Responses to Environmental Stressors at Wayne State University is recruiting for several new faculty positions. Institute researchers and community partners solve complex environmental health problems through research, community engagement, and education.

Mount Sinai Seeking Data Analyst

The Institute for Health Equity Research at Mount Sinai is seeking a data analyst to support research focusing on health and health care disparities using survey and health systems data. The ideal candidate will have strong quantitative data analysis skills and experience working with SAS, SPSS, STATA, Oracle, Python, R, or a similar statistical software package.

Department of Veterans Affairs Industrial Hygienist Opportunity

The Department of Veterans Affairs (VA) seeks a GS-13 level Industrial Hygienist. The position serves as the facility Industrial Hygienist assigned to the Safety and Emergency Management Service at the VA Palo Alto Health Care System in California. Responsibilities include preparation, writing and timely submission of internal and external documentation, reports, and correspondence.

Positions at the University of Maryland

understand the complex, realistic mixtures people may be exposed to. Read more in the latest SRP Public Health Impact Story.

FRTR Spring 2023 Meeting

The Federal Remediation Technologies Roundtable (FRTR) Spring 2023 General Meeting, to be held **May 16, 9 a.m.-5 p.m. ET, in Washington, D.C.**, will discuss recent advances in site characterization techniques and conceptual site model development. Registration is open for both in-person attendance and online participation.

We also encourage you to join the FRTR email listserv to receive the latest news and FRTR updates.

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:

- New technologies connect environmental exposures to DNA damage, cancer: Bevin Engelward, Director of the Massachusetts Institute of Technology SRP Center, described models and screening tests she developed to explain how exposures affect DNA stability.
- Reducing phthalates in beauty products may lower health risks, disparities: Limiting exposure to products containing endocrine-disrupting chemicals may decrease likelihood of preterm birth and breast cancer, according to Tamarra James-Todd, of the Harvard University SRP Center.

Visit the SRP page for more stories about the program:

- SRP Highlighted at SOT: SRP-funded scientists from across the country gathered in person for the 2023 Society of Toxicology (SOT) Annual Meeting to share their research and exchange ideas.
- New Study Uncovers Mechanism of Heart and Lung Responses to Wildfire Smoke: As climate change fuels longer wildfire seasons, researchers at the University of North Carolina at Chapel Hill (UNC) SRP Center explored the biological mechanism behind cardiopulmonary responses to wildfire smoke.

TAMU Researchers Talk Chemicals and Health

Garett Sansom, of the Texas A&M University (TAMU) SRP Center, was featured on The Empowered Community, where he discussed his research on environmental justice, urban planning, and community resilience.

Weihsueh Chiu was quoted in an Environmental Health Perspectives article about determining the relationship between per- and polyfluoroalkyl substance (PFAS) exposure levels and potential health risks. Chiu was also interviewed by TMJ4 about high levels of exposure to trichloroethylene in a Milwaukee

The University of Maryland is seeking a Community Engagement Coordinator and Education Core Coordinator to support their Center for Community Engagement, Environmental Justice and Health team. The center has facilitated partnerships with community-based organizations, advocacy groups, health practitioners, and policymakers to reduce contamination, improve environmental quality, and enhance community health.

Research Associate Opportunity with UNC

The Center for Public Engagement with Science in the UNC Institute for the Environment seeks a postdoctoral research associate. This research associate will support curriculum development and teacher professional development activities associated with an NIH-supported project: Iterative Design to Engage All Learners.

USC Postdoc Training Fellowship

The Keck School of Medicine of the University of Southern California (USC) is seeking postdoctoral fellows for their Environmental Genomics training program, supported by NIEHS. The program aims to provide training across epidemiology, genomics, biostatistics, bioinformatics, and computational biology to study environmental and genetic risk factors of disease.

Postdoc Scholar Opportunity at OHSU

Oregon Health & Science University (OHSU) is seeking a full-time postdoctoral fellow in environmental health sciences, molecular genetics, or a related field. The postdoc will work as part of a team on an Outstanding New Environmental Scientist R01 award funded through NIEHS.

NIEHS Epidemiology Branch Fellowship

apartment building.

PFAS Regulations in the News

University of Rhode Island (URI) SRP Center investigator Rainer Lohmann was cited in the Washington Post about the U.S. Environmental Protection Agency's (EPA) proposed standards for PFAS in water. Laurel Schaider, also of the center, was quoted in PBS News and a Wired article about the feasibility of the proposed PFAS regulations in terms of protecting health.

In a Bloomberg article, URI researcher Angela Slitt discussed how PFAS deserve more EPA scrutiny, as the levels of PFAS measured in people's bloodstreams continue to rise. URI's Philippe Grandjean was also quoted in Envirotech about the potential harm to mothers and infants of PFAS levels exceeding British safety standards.

Duke University SRP Center researcher Lee Ferguson was quoted in a Greensboro News & Record article about high levels of PFAS in drinking water in Maysville, North Carolina. A CNET article about the proposed standards also references a Duke SRP study on the efficacy of various home water filters at removing PFAS compounds.

Bostick Interviewed by Nature Water

Benjamin Bostick, project leader at the Columbia University SRP Center, was interviewed in a Nature Water Talks podcast about the importance of decentralized water treatment technologies to remove groundwater arsenic contamination.

Vengosh Talks Toxic Metals

Avner Vengosh, of the Duke University SRP Center, was quoted in the Herald-Sun about the risks of toxic metal exposure in Chapel Hill, North Carolina, where the town plans to build a police station and office buildings on a site contaminated with coal ash.

TRAINEE SPOTLIGHT

Protecting Children from PCB Exposure

This month we heard from Amanda Bullert, a trainee at the University of Iowa SRP Center mentored by Hans-Joachim Lehmler.

What is the focus of your research?

My research focuses on how polychlorinated biphenyls (PCBs) — man-made, persistent organic pollutants — affect the brains of children. I study how children can be exposed to PCBs in their school buildings and if there are any neurodevelopmental effects associated with exposure. Recent studies have shown that older school buildings may have a much higher concentration of PCBs in indoor air than in outdoor air.

How did you become interested in this work?

The Epidemiology Branch at NIEHS is seeking talented and motivated applicants with training and experience in epidemiology, biostatistics, environmental health sciences, or the equivalent. A postdoctoral fellowship is available in the Environment and Cancer Epidemiology Group headed by Alexandra White.

CURRENT RESEARCH BRIEF

SRP Research Brief 341: Fighting Fluorine with Fluorine: New Materials Remove PFAS from Groundwater (Alexa May, Weaver Labs)

Watch the latest Research Brief video!

Past Research Briefs are available on the SRP website. To receive the monthly Research Briefs or to submit ideas, email Brittany Trottier (brittany.trottier@nih.gov).

EVENTS

SRP Progress in Research Webinar Session II: Heavy Metals in Native American Communities
May 5, 2023
Virtual

International Symposium on Bioremediation and Sustainable Environmental Technologies
May 8-11, 2023
Austin, Texas

Sustainable Resilient Remediation Webinar
May 11, 2023
Virtual

SRP Progress in Research Webinar Session III: Environmental Justice and Emerging Contaminants
May 12, 2023
Virtual

SRP Funding Opportunities Webinar
May 15, 2023
Virtual

Federal Remediation Technologies Roundtable Spring 2023 General

My upbringing on a farm drove my curiosity about the health effects of exposure to agricultural and industrial products, and I saw firsthand how pesticides and fertilizers impacted my grandparents' health. I felt a disconnect between farmers and the scientists trying to communicate their findings about the negative health effects associated with chemicals used on farms, so my research excites me because it provides a path to bridge that gap. I believe that good science communication can really make a difference in the lives of farmers, patients, environmentalists, and others.

Tell us about a recent award and what it means to you.
It is such an honor to have received the University of Iowa's Dare to Discover Award and see the impact of the work I do every day. I appreciate every opportunity to share and educate the public on the health risks of PCB exposure.

How have collaborations and interdisciplinary science been important to your work?
Due to the numerous opportunities for collaboration within the Iowa SRP — with lead scientists and other students — my research is truly interdisciplinary and involves bioinformatics, toxicology, and analytical chemistry approaches. As a graduate student, I appreciate all the opportunities that Iowa SRP has presented me to become a more well-rounded scientist.

What is one piece of advice that you have for other SRP trainees?
Use every opportunity to present and share your research! Each SRP center has experts in your field of study and in other areas who can provide feedback to make your research more accessible to a wide range of disciplines.

HOT PUBLICATION

Environmental VOCs May Contribute to Health Disparities Among Black Adults

Exposure to volatile organic compounds (VOCs) is associated with increased risk of high blood pressure among Black adults, according to a study from the University of Louisville SRP Center. High blood pressure can contribute to heart disease, and both are more prevalent among Black adults in the U.S. than among any other race or ethnic group in the world. This is the first study to shed light on the potential underlying environmental exposures that might contribute to such health disparities.

VOCs are common urban air pollutants from vehicle exhaust, industrial emissions, and household products, as well as found in cigarette smoke. Nearly all major emission sources disproportionately affect people of color, and socioeconomic and ethnic disparities in pollution exposure have persisted despite an overall decrease in air pollution in the U.S.

The study included a subgroup of about 1,200 participants in the Jackson Heart Study — a cohort of Black adults aged 35-84 in the Jackson, Mississippi area. The team used urine samples to estimate exposure to 17 VOCs and then evaluated associations with blood pressure. They also compared individuals who smoke

Meeting
May 16, 2023
Washington, D.C. and Virtual

Assessing Ecological PFAS Exposure and Effects Webinar
May 18, 2023
Virtual

SRP Progress in Research Webinar Session IV: Chemical Exposures Across the Life Course
May 19, 2023
Virtual

RemPlex Seminar: Assessing Environmental Remediation Technologies – Groundwater
May 23, 2023
Virtual

Superfund Geophysics: Case Studies from Region 4
May 24, 2023
Virtual

International Phytotechnology Conference
May 23-26, 2023
Chicago, Illinois

1,4-Dioxane: Science, Characterization & Analysis, and Remediation Webinar
June 8, 2023
Virtual

TAMU Hazardous Waste Operations & Emergency Response Training Course
June 13, 2023
College Station, Texas

ITRC Microplastics Webinar
June 13, 2023
Virtual

International Society for Environmental Epidemiology – North American Chapter
June 19-21, 2023
Corvallis, Oregon

2023 TechConnect World Innovation
June 19-21, 2023
Washington D.C.

National Environmental Health Association – Annual Educational Conference & Exhibition
July 31 - August 3, 2023

with those who have never smoked to further identify sources of VOC exposure.

Among smokers, higher blood pressure was associated with higher estimated VOC exposure, particularly for the chemical crotonaldehyde. Interestingly, they also reported a strong relationship between VOCs and higher blood pressure in non-smokers, driven primarily by acrolein and styrene.

According to the researchers, higher blood pressure in Black individuals may be attributed in part to VOC exposure from the environment, and interventions to reduce VOC exposure may improve cardiovascular health in this population.

AWARD WINNERS

SRP Shines at SOT

Congratulations to all SRP-funded researchers and trainees who were recognized for their achievements at the 2023 SOT Annual Meeting! Reader more about poster competition winners, best paper awards, outstanding abstracts, and more in this SRP news story.

TAMU Investigators Win CELA Awards

Dongying Li was elected Vice President of Research and Creative Scholarship for the Council of Educators in Landscape Architecture (CELA). Her research examines the relationship between the physical environment and people's behavior and mental health.

Galen Newman won the CELA President's Award, recognizing his contributions to advancing the profession of landscape architecture.

Meyer Awarded NIEHS Grant

Joel Meyer, of the Duke University SRP Center, won an NIEHS grant to study mitochondrial dysfunction and Parkinson's disease. Meyer hopes to narrow the field of candidate chemicals that might be linked with Parkinson's disease by defining mechanisms of toxicity.

FUNDING OPPORTUNITIES

Climate Change and Health Administrative Supplements

What: Climate change and health administrative supplements to help seed new activities and partnerships in climate change and health research and research training.
Funder: NIEHS
When: Applications due **May 8**.

Administrative Supplements to Support Enhancement of Software Tools for Open Science

What: Supplements to support robustness of software tools and workflows, to invest in research software tools, and support collaborations between biomedical scientists and software

New Orleans, Louisiana and Virtual

National Brownfields Training Conference
August 8-11, 2023
Detroit, Michigan

TAMU Disaster Research Training Workshop
December 14-15, 2023
College Station, Texas

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 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.

engineers.
Funder: NIEHS
When: Applications due **May 9**.

Accelerating Data and Metadata Standards in the Environmental Health Sciences

What: Research projects to catalyze community-driven standards development and related implementation in environmental health.
Funder: NIEHS
When: Applications due **May 10**.

Collaborations to Improve the AI/ML-Readiness of NIH-Supported Data

What: Supplements to support collaborations that bring together expertise in biomedicine, data management, and artificial intelligence and machine learning (AI/ML) to make NIH-supported data useful and usable for AI/ML analytics.
Funder: NIH
When: Applications due **May 16**.

Ruth L. Kirschstein National Research Service Award Institutional Research Training Grant

What: Develop or enhance predoctoral and postdoctoral research training to help ensure that a diverse and highly trained workforce is available to meet the needs of the nation's biomedical, behavioral, and clinical research agenda.
Funder: NIEHS
When: Applications due **May 25**.

Time-Sensitive Research Opportunities in Environmental Health Sciences

What: Support novel environmental health research in which an unpredictable event or policy change provides a limited window of opportunity to collect human biological samples or environmental exposure data, with the goal of understanding the consequences of natural and human-made disasters, emerging environmental public health threats, and policy changes in the U.S. and abroad.
Funder: NIEHS
When: Applications due **June 1**.

Research to Action: Assessing and Addressing Community Exposures to Environmental Contaminants

What: Multidisciplinary projects to investigate the potential health risks of environmental exposures of concern to a community and to develop and implement an environmental public health action plan based on research findings.
Funder: NIEHS
When: Applications due **June 5**.

Strategies for Responsibly Reporting Back Environmental Health Research Results

What: Identify, develop, or adapt, as well as test strategies for responsibly reporting back environmental health, non-genomic research, and gene-environment interaction results to research

participants and key partners. See the May 2023 Environmental Factor for more information about this funding opportunity.
Funder: NIEHS
When: Applications due **June 15**.

SBIR E-Learning for HAZMAT and Emergency Response

What: Small Business Innovation Research (SBIR) grant applications to develop technology-enhanced training products for the health and safety training of hazardous materials (HAZMAT) workers, emergency responders in disasters and infectious disease response, and worker resiliency training.
Funder: NIEHS
When: Applications due **July 14**.

NIH Director's New Innovator Award Program

What: Supports early-stage investigators of exceptional creativity who propose highly innovative research projects with the potential to produce a major impact on broad, important areas relevant to the mission of NIH.
Funder: NIH Common Fund
When: Applications due **Aug. 18**.

NIH Director's New Innovator Award Program

What: Supports promising junior investigators who wish to pursue independent research soon after completion of their terminal doctoral degree or post-graduate clinical training, forgoing the traditional post-doctoral training period and accelerating their entry into an independent research career.
Funder: NIH Common Fund
When: Applications due **Sept. 6**.

Chemical Threat Agent-induced Pulmonary and Ocular Pathophysiological Mechanisms

What: Research seeking to understand mechanisms of chemical toxicity and to identify potential molecular or genetic targets that reduce acute effects of chemical threat agents that affect the lungs and eyes.
Funder: NIEHS
When: Applications due **Sept. 20**.

Superfund Hazardous Substance Research and Training Program

What: SRP Center P42 grants to support problem-based, solution-oriented research centers that consist of multiple integrated projects representing both the biomedical and environmental science and engineering disciplines.
Funder: NIEHS
When: Applications due **Oct. 2**.

INTERAGENCY NEWS

EPA Water Toxicity Sensor Challenge

Current methods for detecting and identifying contaminants in water are expensive, time-consuming, and require the use of

specialized laboratories with expensive equipment and highly trained personnel. Because of these limitations, there is a significant interest in developing a new generation of sensors that detect the presence of toxicity in water, as opposed to specific contaminants. Join EPA's Water Toxicity Sensor Challenge to develop a prototype sensor that can detect toxicity faster and cheaper than current methods. Register to compete by **June 10**.

EPA Seeks Public Input for PFAS Rulemaking

EPA is issuing an Advance Notice of Proposed Rulemaking asking the public for input regarding potential future designations of PFAS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act. Comments are due by **June 12**. Read more about the proposed rulemaking on the EPA website.

Green Remediation Best Management Practices

As part of the Principles for Greener Cleanups, EPA released a guidance document outlining the concepts and tools for using best management practices to reduce the environmental footprint of fuel consumption and associated air emissions during remediation of contaminated sites.

New CLU-IN Contaminant Focus Areas: Chlorinated Solvents and PAHs

EPA's Contaminated Site Clean-Up Information (CLU-IN) Contaminant Focus Area bundles information associated with the cleanup of individual contaminants and contaminant groups. CLU-IN named chlorinated solvents and polycyclic aromatic hydrocarbons (PAHs) as new focus areas due to their toxicities and persistence in the environment, particularly at Superfund sites.

DATA SCIENCE AND DATA SHARING

OSU Compiles PAH Data

Researchers from the OSU SRP Center developed an analytics portal that compiles data on PAHs from various Superfund sites across the U.S., as well as their health effects. The interactive website is designed to support exploration and reuse of their data.

Statistical Analysis Approach from UC Berkeley

University of California (UC), Berkeley SRP Center researchers developed a generalized variance estimator for statistical analysis of high-dimensional biological datasets. They tested the approach in the analysis of high-dimensional DNA methylation data from an observational study on the epigenetic effects of tobacco smoking.

DATA Scholar Applications Now Open

Applications are now open for the Data and Technology Advancement (DATA) National Service Scholar Program, hosted by the NIH Office of Data Science Strategy. DATA Scholars are experienced data and computer scientists and engineers looking to tackle challenging biomedical data problems with the potential

for substantial public health impact. The program encourages transformative approaches that lead to increased efficiency, innovative research, tool development, and analytics. Applications are due **May 15**.

Building the Prototype Open Knowledge Network

The National Science Foundation (NSF) is supporting the creation of a prototype Open Knowledge Network — an essential public-data infrastructure to power the next information revolution. Projects funded by this program will use community-driven efforts and make use of publicly available data to create a platform that would empower evidence-based policymaking and scientific breakthroughs, while addressing complex societal challenges from climate change to social equity. NSF is hosting an informational webinar on **May 18, 3-4 p.m. ET**.

NIDDK Data Management and Sharing Webinar Series

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) is hosting a Data Management & Sharing (DMS) webinar series. The multi-part series will provide education and outreach to the scientific community about data management and sharing topics and highlight NIDDK-specific tools and resources for investigators implementing the NIH DMS policy. The next webinar in the series, Finding a Repository for Your Data, will be held **May 31**.

PHOTO OF THE MONTH

Columbia University SRP members traveled to Eagle Butte, South Dakota, to meet with the Cheyenne River Sioux Tribe and train staff from their partner organization, Missouri Breaks Industries Research, on water sampling techniques for private wells in preparation for spring sampling. (Photo courtesy of Columbia University SRP Center)