



Superfund Research Program *e-Posted Notes*

December 9, 2022 (Issue 227)

HEADLINES

SRP Celebrates 35 Years of Science and Solutions

SRP is excited to commemorate 35 years of research, training, and outreach with you at the [Annual Meeting, December 14-16](#). We invite you to use the hashtag — **#SRP35** — on social media to share your conference highlights, connect with others, and stay up to date.

SRP Releases New Climate Change Adaptation Commentary

SRP staff recently [published a commentary](#) describing the program's contribution to climate change-related research. It highlights how SRP's multidisciplinary, systems-focused approach can be used as a model to help overcome the challenges from climate change and pivot to additional needs as they arise.

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:

- [Exposure science tackles climate change](#): Hurricanes, wildfires, and melting permafrost headlined the last two sessions of the NIEHS SRP's Climate Change and Health webinar series.
- [NIEHS Director tours Texas community, speaks at research center event](#): Rick Woychik spoke at Texas A&M University (TAMU) on October 27 to celebrate the renewal of TAMU's SRP P42 grant.
- [Extramural Paper of the Month: Alligators exposed to elevated levels of PFAS show signs of immune disruption](#): American alligators could help scientists understand the consequences of long-term exposure to PFAS mixtures, according to researchers at the North Carolina State University (NCSU) SRP Center.
- [Extramural Paper of the Month: Gut microbiome associated with arsenic metabolism in infants](#): Microbes in the human digestive system may complement a person's ability to metabolize arsenic, particularly in the first few weeks of life, according to a study funded partly by SRP.

EMPLOYMENT OPPORTUNITIES

Postdoctoral Fellowship Opportunity at the University of Pittsburgh

Sponsored by the National Cancer Institute of the National Institutes of Health, this position will focus on a multi-disciplinary training experience in cancer control and population sciences. The [postdoctoral fellowship](#) includes integrated training in cancer etiology and preventive research within a large Cancer Center and School of Public Health at the University of Pittsburgh.

Director Opening with NCEH

The National Center for Environmental Health (NCEH) and the Agency for Toxic Substances and Disease Registry is actively recruiting for a Director. The announcement is posted on [USAJOBS](#), and the applicant will be expected to lead and manage environmental health program areas to achieve Center and Agency goals and objectives.

NYU Seeking Clinical Assistant Professor

The School of Global Public Health at New York University is seeking applications for a [clinical assistant professor](#) position within the Department of Social and Behavioral Sciences (SBS). The candidate will teach departmental courses including risk communication, disaster and health courses, and core SBS courses; serve on committees and mentor students;

Visit the [SRP page](#) for more stories about the program.

Nwanji-Enwerem Talks Medicine, Research, and Health Disparities

Former University of California (UC), Berkeley SRP Center trainee Jamaji Nwanji-Enwerem was featured in an NIEHS [Grantee Highlight](#). In the piece, Nwanji-Enwerem describes his research that merges medicine and environmental molecular epidemiology to address health disparities in the U.S. and abroad.

Community Stories Help Researchers Map the Spread of Air Pollutants

Jennifer Richmond-Bryant, director of the Louisiana State University SRP Center, was featured in an NIEHS [Partnerships for Environmental Public Health Newsletter article](#) about her research combining community engagement practices with geographic mapping to understand Colfax, Louisiana residents' concerns about exposure to environmental pollutants from a hazardous waste treatment facility.

PFAS Exposure Covered in the News

Rainer Lohmann, director of the University of Rhode Island (URI) SRP Center, was interviewed in an [ecoRI news article](#) about high levels of per- and polyfluoroalkyl substances (PFAS) in Spring Green Pond, a reservoir in Warwick, Rhode Island, that may pose health risks to local households that eat fish from the pond. Lohmann was also quoted in the Providence Journal about the potential need for health advisories for consuming deer that may contain PFAS.

Lee Ferguson, project leader at the Duke University SRP Center, was quoted in a [Consumer Reports article](#) about the presence of PFAS in nonstick cookware.

Jane Hoppin, project leader at the NCSU SRP Center, was interviewed by the [Journal of the American Medical Association](#) about the effects of PFAS exposure on COVID-19 vaccine response and antibody production. Scott Belcher, also of the center, was quoted in [The Guardian](#) about his research measuring PFAS in alligators along North Carolina's Cape Fear River.

TAMU Researchers Investigate Climate Change, Environmental Restoration

Galen Newman, Dongying Li, and Garrett Sansom, of the TAMU SRP Center, were interviewed about their [upcoming study](#) funded by the U.S. Department of Energy to investigate how climate change will affect future flooding patterns and air pollution, specifically in underserved communities.

Newman and Li were also interviewed in a [Landscape Architecture Foundation article](#) about their research on the environmental, social, and economic benefits of restoring the Houston Arboretum. The project involved establishing new walking trails and wetlands, reintroducing native plant species, and repurposing old or damaged trees.

and build an independent research portfolio.

UK Seeking an Environmental Health Professor

The University of Kentucky (UK) College of Public Health is looking for an [associate professor](#) to expand its environmental health program capacity in exposure science. Candidates will be expected to perform collaborative research, offer mentorship to UK students, and provide service to committees and professional organizations.

UC Merced Hiring Public Health Professor

The Department of Public Health at UC Merced is hiring a tenure-track [assistant professor of public health](#). Applicants should have a strong interest in either infectious disease, global health, policy, implementation science, or evaluation.

CURRENT RESEARCH BRIEF

[SRP Research Brief 336](#): Sampling Device Harnesses Powerful Molecular Interactions, Overcomes Barriers in Detecting Volatile Contaminants (Michael Nantz & Xiao-An Fu, University of Louisville)

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

[Distinguished Lecture Seminar Series: V. Michael Holers](#)
December 13, 2022
Durham, North Carolina, and Virtual

[SRP Annual Meeting](#)
December 14-16, 2022
Raleigh, North Carolina, and Virtual

[Plant Uptake Pathways of Chemical Contaminants Webinar](#)
December 19, 2022
Virtual

Collaborating to Address PFAS Contamination

This month we spoke with Asta Habtemichael, a trainee mentored by Rainer Lohmann at the URI SRP Center.

What is the focus of your research at the URI SRP Center?

My research focuses on bioavailability, bioaccumulation, and biomagnification of PFAS in marine food webs, meaning how the concentration of PFAS within organisms increases over time and up the food chain. In the lab, I conduct experiments to study PFAS in different plankton species.



How did you become interested in this work?

I always believed that science should improve the lives of local communities. During my graduate studies, I learned how indigenous communities can be exposed to PFAS through fish consumption — one of their primary food sources. I am excited to work on this project that contributes to improving food and health security of local and Indigenous communities who are disproportionately affected by environmental pollution.

You were awarded the [2022 Switzer Fellowship](#) — what does that mean to you?

In addition to providing funding for my research, the fellowship serves as an opportunity for collaboration with other members of the Switzer Network, as well as professional development with national and international environmental leaders. The ability to diversify my pool of mentors and peer collaborators will tremendously enhance my preparation for a future environmental health career, where I hope to bring inclusive and integrated approaches to address chemical pollution issues such as PFAS contamination.

What factors have contributed most to your growth as a researcher throughout your time as an SRP trainee?

The well-rounded training and collaborative environments fostered by SRP programs have been a major factor in my growth as a researcher. The training core at the URI SRP Center provides a platform with various activities and resources that promote interdisciplinary, collaborative research as well as professional development opportunities that instill leadership qualities in trainees. Additionally, working directly with local and Indigenous communities has enriched my science communication and community engagement skills.

What is one piece of advice that you have for other SRP trainees?

Take advantage of the opportunities and resources provided. With all the expertise across SRP centers, it is crucial to diversify

[Interstate Technology Regulatory Council Annual Meeting](#)

March 20-23, 2023

Boston, Massachusetts

[National Brownfields Training Conference](#)

August 8-11, 2022

Detroit, Michigan

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.

your mentor pool and seek out opportunities for more collaborative work. Building relationships with communities and working together on mutually beneficial research projects facilitates comprehensive solutions for different environmental issues.

HOT PUBLICATION

Microorganisms can reduce PCB emissions from sediment

[In a recent study](#), researchers at the University of Iowa found that polychlorinated biphenyl (PCB)-degrading microorganisms can reduce PCBs emitted from contaminated sediment into the air.

PCBs are widespread environmental pollutants and evidence has shown that exposure to PCBs increases the risk of developing adverse [health effects](#), such as poor birth outcomes, cardiovascular disease, hypertension, and diabetes.

In this study, researchers hypothesized that PCB emissions from contaminated sediment could be minimized by adding microorganisms that naturally degrade PCBs, a process called bioaugmentation. They tested this in lab-scale bioreactors — devices that support microbial growth in controlled microenvironments — using PCBs from contaminated sediments and *Paraburkholderia xenovorans* strain LB400, a type of bacteria which was isolated from PCB-contaminated landfill soil in 1985.

To test whether the microorganisms could minimize emissions from sediment to air, they measured the concentration of PCBs in the sediment and air in bioreactors with PCB-degrading microorganisms added and in those without over 35 days.

The results showed that bioaugmented treatments decreased total PCB mass in the vapor phase by an average of 57% in comparison to non-bioaugmented controls. The microorganisms preferentially degraded PCBs with lower numbers of chlorine atoms, which are more likely to volatilize from soil than other PCBs.

They also tested the effect of saponin, a compound found in plants that may make PCBs more bioavailable for microorganisms. They found that saponin allowed for a stable abundance of a gene responsible for PCB degradation. This suggests that saponin could aid in biodegradation, the authors noted.

According to the researchers, their results show that PCB-degrading microorganisms can lower PCB emissions from contaminated sediments, potentially reducing human exposure.

AWARD WINNERS

James-Todd Wins Alice Hamilton Award

Tamarra James-Todd, project leader at the Harvard School of Public Health SRP Center, received the 12th annual [Alice Hamilton Award](#), which recognizes a tenure-track woman

investigator whose work makes a significant public health impact.

SRP Trainees Awarded

Srishti Gupta, a trainee at the Harvard SRP Center, received the Fall 2022 [Outstanding Mentor Award](#) from Arizona State University, which recognizes graduate and professional students who demonstrate excellence in mentoring other students.

Hannah Starnes, a trainee at the NCSU SRP Center, [won first place](#) in the graduate student poster competition at the North Carolina Society of Toxicology annual meeting.

Seven TAMU trainees — Toriq Mustapha, Alexandra Cordova, Lucie Ford, Haley Moyer, En-Hsuan Lu, Ruby Hernandez, and Kelly Rivenbark — [received travel awards](#) for their poster presentations at the TAMU SRP External Advisory Committee meeting.

Morello-Frosch Elected to National Academy of Medicine

Rachel Morello-Frosch, project leader at the UC Berkeley SRP Center, was elected to the [National Academy of Medicine](#) as a renowned expert on structural determinants of health, environmental justice, and community-engaged science.

Lewis Wins Environment & Health Award

Johnnye Lewis, Director of the University of New Mexico (UNM) SRP Center, received the 2023 [John P. Wyatt Environment & Health Award](#) from the University of Kentucky, which is given to researchers who have made a major impact on the field of environmental health.

FUNDING OPPORTUNITIES

Community-Led, Health Equity Structural Intervention Initiative

What: Support the development, implementation, assessment, and dissemination of community-led, health equity [structural interventions](#) to reduce health disparities in support of the goals of the [Community Partnerships to Advance Science for Society](#) program. For more details, read the full [Research Opportunity Announcement](#).

Funder: NIH Common Fund

When: [Applications due January 27](#).

Notice of Special Interest: Research on Sex and Gender Influences

What: Administrative supplements to support research highlighting the impact of sex and/or gender influences in human health and illness.

Funder: NIH Office of Research on Women's Health

When: [Applications due January 27](#).

Notice of Special Interest: Research on Women's Health in Understudied Populations

What: Administrative supplements to support research

highlighting health inequities among women in the United States from understudied, underrepresented, and underreported populations in biomedical research.

Funder: NIH Office of Research on Women's Health

When: [Applications due February 1.](#)

Accelerating the Pace of Children's Health Research

What: Research project grants to analyze data from the [Adolescent Brain Cognitive Development Study](#) to increase knowledge of adolescent health and development.

Funder: NIH

When: [Applications due February 5.](#)

Research to Action: 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 a public health action plan based on research findings.

Funder: NIH

When: [Applications due February 5.](#)

Using Telomere Status to Reveal Molecular Mechanisms Underlying Environmental Exposure Susceptibility

What: Research project grants to examine and characterize molecular underpinnings surrounding telomere status and accompanying biological pathways in response to environmental exposures.

Funder: NIEHS

When: [Applications due February 14.](#)

Notice of Special Interest (NOSI): Administrative Supplements to Recognize Excellence in Diversity, Equity, Inclusion, and Accessibility (DEIA) Mentorship

What: Administrative supplements to existing NIH awards to support scientists who have demonstrated compelling commitments and contributions to mentorship and enhancing DEIA in the biomedical sciences.

Funder: NIEHS

When: [Applications due February 18.](#)

Environmental Exposures Impact Risk for Psychiatric Disorders

What: Research linking environmental exposures to psychiatric outcomes by supporting studies that seek to understand the underlying biology of these relationships.

Funder: NIEHS

When: [Applications due February 22.](#)

INTERAGENCY NEWS

Plant Uptake Pathways of Chemical Contaminants

The U.S. Environmental Protection Agency is sponsoring a webinar on [Evaluating Plant Uptake Pathways](#) of Chemical

Contaminants in State Models for Risk Assessments of Contaminated Urban Gardening Sites. The webinar, to be held **December 19, 1-3 p.m. ET**, will provide an overview of the following topics: contaminants of emerging concern (CECs) found at urban gardening sites, state-specific CECs, plant uptake of CECs from urban soil, and plant uptake models.

ITRC Annual Meeting: March 20-23, 2023

The Interstate Technology Regulatory Council (ITRC) is [hosting its annual meeting March 20-23, 2023](#) in **Boston, Massachusetts**. This in-person event will bring together environmental leaders and professionals from state and federal agencies, tribes, industry, and non-governmental organizations to work together in the development of consensus-based environmental guidance. In addition to the meeting, ITRC will also host a state-specific PFAS training on **March 24**.

Save the Date! National Brownfields Training Conference: August 8-11, 2023

The [National Brownfields Training Conference](#) is the largest event in the nation focused on environmental revitalization and economic redevelopment. Usually held every two years, the conference attracts over 2,000 stakeholders in brownfields redevelopment and cleanup to share knowledge about sustainable reuse and celebrate the U.S. Environmental Protection Agency brownfields program's success. The upcoming conference will be held **August 8-11, 2023** in **Detroit, Michigan**.

DATA SCIENCE AND DATA SHARING

University of Iowa Publishes Transcriptomics Dataset

SRP-funded researchers used RNAseq to assess transcript changes that occur in PCB-exposed human preadipocytes, or fat cell precursors, over time. [The dataset](#) provides a transcriptional profile of changes over time in preadipocytes exposed to PCB126 and can be used by other researchers to understand how PCBs affect biological pathways.

Dataset on Membrane Transport Properties Published by UNC

[A dataset](#) published by researchers at the UNC SRP Center describes pressure, permeate flux, and solute rejection data gathered during crossflow filtration experiments. The data was used to model water and solute permeation through membranes and to calculate transport properties, published in their [recent study](#).

NCATS Launces Bias Detection Challenge

The National Center for Advancing Translational Sciences (NCATS) team at NIH is launching the [Minimizing Bias and Maximizing Long-term Accuracy, Utility, and Generalizability of Predictive Algorithms in Healthcare Challenge](#). This challenge will further the mission of NCATS by spurring innovation in the artificial intelligence bias mitigation space — both identification

and minimizing inadvertent amplification/perpetuation of systemic biases. Registration is free and open until **February 15**.

NIH Long COVID Computational Challenge

The [NIH Long COVID Computational Challenge](#) (L3C) seeks to spur and reward the development of artificial intelligence and machine learning models to identify which patients infected with SARS-CoV-2 are likely to develop Long COVID. The prize will be up to \$500,000 and submissions are due **December 15**.

PHOTO OF THE MONTH



Trainees and researchers from the University of Louisville SRP Center hiked around the Valley of the Drums — an unregulated chemical waste disposal site in Brooks, Kentucky — where they learned about the community's history and current contamination status. (Photo courtesy of the University of Louisville SRP Center)