

Superfund Research Program *e-Posted Notes*

June 3, 2022 (Issue 221)

HEADLINES

Enhancing Data Integration, Interoperability, and Reuse

SRP synthesized the experiences of the 19 collaborative projects focused on data management and integration to advance the interoperability and reuse of diverse SRP data streams. Read more in our Perspective, [recently published in Environmental Science & Technology](#), to learn about challenges and opportunities inherent to addressing complex environmental health problems.

Recordings Available: SRP Progress in Research Webinars

Recorded archives are now available for all three sessions of the [SRP Progress in Research Webinar Series: Utilizing Innovative Materials Science Approaches to Enhance Bioremediation](#). The three-part series featured SRP individual research projects that are incorporating advances in materials science to improve bioremediation of contaminants in the environment. To learn more about some of these projects, see the [NIEHS Environmental Factor Newsletter](#).

Federal Remediation Technologies Roundtable Spring Meetings

The Federal Remediation Technologies Roundtable is hosting a two-part public webinar on the topic “Application of Robotics, Machine Learning, and Artificial Intelligence Technologies to Site Remediation.” The [first meeting](#) will be held **June 6**. The [second meeting](#), **June 13**, will feature SRP Health Scientist Administrator Heather Henry, who will present an overview of NIEHS projects that are applying machine learning to support remediation decisions.

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:

- [Prenatal exposure to chemical mixtures worsens working memory in adolescents](#): Prenatal exposure to chemical mixtures worsens working memory in adolescents, according to NIEHS-funded researchers at the Harvard SRP Center.

EMPLOYMENT OPPORTUNITIES

Two Open Positions at the University of Florida

The Department of Environmental and Global Health in the College of Public Health and Health Professions at the University of Florida is recruiting a [tenure-track faculty member](#). The successful candidate will be engaged in research on understanding the health consequences of exposure to multiple stressors — environmental and social — on vulnerable populations.

The University of Florida is also [seeking a new director](#) for the Center for Environmental & Human Toxicology. The position is a 12-month, state-funded, tenure-track faculty position.

Postdoctoral Researcher Sought by UC Riverside

The Department of Chemical and Environmental Engineering at UC Riverside, is looking for a postdoctoral researcher to join Yujie Men's Microbe-Environment Nexus research group. The successful candidate will be pursuing projects related to biodefluorination and will work on the investigation of a bioelectrochemical system. Applicants are encouraged to email their resumes to y-men@engr.ucr.edu.

Oregon State Looking for Toxicology Professor

Oregon State University is seeking applicants with experience creating

Visit the SRP page for more stories about the program:

- [Remembering Mike Denison, Longtime SRP Grantee](#): Environmental toxicologist Michael Denison of the University of California (UC), Davis SRP Center, who was internationally known for his fundamental research on persistent organic pollutants and for developing a widely used test for detecting toxic substances in samples, died March 22 of brain cancer.
- [NIEHS-Funded Technology to Detect Lead in Water Goes Commercial](#): NanoAffix Science, LLC developed a new portable device to detect lead in tap water in real time. The team launched its first commercial device, called NanoAquaSense, at the Water Quality Association's Annual Convention in early April.

SRP Trainees Share Research

Trainees from University of New Mexico and University of Arizona SRP centers [organized virtual meetings](#) to share their research experiences. Over the course of two days, trainees from both centers delivered short presentations about their research and received feedback from peers.

Velez-Vega Featured About Successful Partnerships

[Carmen Velez-Vega](#), of the Puerto Rico Testsite for Exploring Contamination Threats (PROTECT) SRP Center at Northeastern University, was featured as the Grantee Highlight in the [NIEHS Partnerships for Environmental Public Health Newsletter](#). In the piece, Velez-Vega, who leads the Community Engagement Core at the center, discussed her work to establish partnerships to address environmental health concerns among pregnant women and children in Puerto Rico.

Frazar Talks Research and Mentorship

Molly Frazar, a trainee at the University of Kentucky (UK) SRP Center and the [2021 Wetterhahn Award winner](#), gave a radio interview on [Eastern Standard Program](#) about her research and mentorship. A [recorded archive](#) will be available soon.

Texas A&M's New Mobile Air Monitor

The Texas A&M University SRP Center has a new [air quality testing van](#) able to detect hazardous chemical air pollutants in real time. Known as mRAPiD, for "mobile Responding to Air Pollution in Disasters," the van can provide immediate air quality information wherever it is deployed.

Chemicals Connected to Preterm Birth Genes

PROTECT SRP Center researcher Sean Harris led a research team in using statistical analysis to determine which chemicals may contribute to [racial disparities observed in preterm birth](#). The statistical analysis showed that a diverse set of chemicals, detected at higher levels in non-Hispanic Black women, had significantly high numbers of interactions with genes that are involved in preterm birth.

or leading transdisciplinary research programs to serve as a [full-time professor](#) in the Department of Environmental and Molecular Toxicology. The selected candidate will be expected to lead multidisciplinary research programs such as the NIH-supported P30 Environmental Health Sciences Center.

NCSU Seeks Exposure Research Scientist

The Comparative Toxicogenomics Database (CTD) at North Carolina State University (NCSU) is seeking an [exposure research scientist](#). The role will include, among other duties, acting as a knowledge leader for CTD's rapidly expanding exposure module and fashioning novel approaches to analyzing and visualizing exposure data. This is a full-time, fully funded position that can be done either remotely or onsite at NCSU.

CURRENT RESEARCH BRIEF

[SRP Research Brief 330](#): Study Sheds Light on Breakdown Products of PCBs in the Environment (Keri Hornbuckle, University of Iowa)

Past [Research Briefs](#) are available on the SRP website. To receive the monthly Research Briefs or to submit ideas, email Sara Amolegbe (sara.amolegbe@nih.gov).

EVENTS

[Third National PFAS Conference](#)
June 15-17, 2022
Wilmington, NC

[International Data Week](#)
June 20-23, 2022
Seoul, South Korea and Virtual

[Exposome Symposium](#)
July 12-13, 2022
New York, New York

[Brownfields 2022 Conference](#)
August 16-19, 2022
Oklahoma City, OK

Investigating the Interactions between Volatile Organic Compounds and Human Health

This month we spoke with Banrida Wahlang, a former trainee at the University of Louisville (UofL) SRP Center. Wahlang is now a junior research faculty member at the UofL School of Medicine.



What was the purpose of your SRP research working under the mentorship of Matthew Cave?

The goal of my SRP research project was to understand how contaminants in air can affect our health, and how these health effects — such as cardiovascular disease and diabetes — can differ between sexes. Specifically, our research center is studying volatile organic compounds (VOCs), which can originate from industrial processes and household products, influencing both indoor and outdoor air quality.

How did you become interested in this work?

Growing up in Shillong, India, a town at the foothills of the Himalayas, I witnessed how environmental health problems surfaced with ongoing global industrialization. However, conducting studies to assess the health effects of air and water pollution in the area is challenging due to a lack of research infrastructure. My work at the UofL SRP Center allowed me to work with communities in Louisville, Kentucky, that are facing similar environmental health problems. I hope that my training will enable me to be a global leader in environmental health and give back in some way to my community.

Tell us about a recent award you received.

Last year I received a research voucher by the NIEHS Center for Integrative Environmental Health Sciences. The award provided me with the necessary funds to continue my research related to sex-dependent effects of polychlorinated biphenyls (PCBs) on the gut microbiome. As an SRP trainee, I had the opportunity to develop not only my leadership and communication skills, but also my own independent research track leading up to receiving this award.

You were the first author on the paper “Associations Between Residential Exposure to Volatile Organic Compounds and Liver Injury Markers.” How does this study relate to the work conducted in your lab?

For this publication, I worked with other UofL SRP Center researchers. We wanted to examine the relationship between VOCs and markers of liver injury in Louisville community residents. I helped to recruit participants and collect data, conducted laboratory work to measure specific disease biomarkers, worked with biostatisticians to analyze data, and collaborated on the manuscript. It was a great experience to be able to participate in every aspect of the study — from start to

[SETAC Asia-Pacific Conference 2022](#)

September 5-8, 2022
Virtual

[Annual Conference of the International Society for Environmental Epidemiology](#)

September 18-21, 2022
Athens, Greece

[International Society of Exposure Science Annual Meeting: From Exposure to Human Health – New Developments and Challenges in a Changing Environment](#)

September 25-29, 2022
Lisbon, Portugal

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

October 16-19, 2022
Montreal, Canada

[SRP Annual Meeting](#)

December 14-16, 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 through tweets. Many SRP Centers

finish.

What is one piece of advice that you want to share with other SRP trainees?

Be patient, keep going — especially when things get tough — and never stop learning! This world we live in is so complex, and there is always something new to learn. Most importantly, if you build your foundation with honesty, hard work, and integrity, you can weather any kind of storm.

HOT PUBLICATION

Sex-Specific Associations of Prenatal Phthalate Exposure and Adverse Birth Outcomes

Exposure during pregnancy to chemicals found in consumer products was [associated with increased risk of preterm birth](#), according to a study by the [PROTECT SRP Center](#) and collaborators. Preterm birth, when babies are born before completion of 37 weeks of pregnancy, is considered a risk factor for future health complications, including neurological diseases and hearing loss.

Phthalates are a class of chemicals widely used in the manufacturing of household goods. They're used in personal care products and to make plastic more flexible in items like toys, vinyl flooring, shower curtains, and food packaging. Human and animal studies indicate that exposure to phthalates can interfere with normal hormone function and development.

Using urine samples from over 1,000 pregnant women enrolled in the study, the researchers analyzed metabolites – molecules from metabolic breakdown – of common phthalates. Next, they used statistical methods to explore the association between metabolites and adverse health outcomes, such as preterm birth and low birth weight, and whether they differed between female and male babies.

The authors observed a correlation between more phthalate exposure and an increased risk of preterm birth, as well as greater odds of having small female babies and large male babies. The study also identified several metabolites as predictive of adverse birth outcomes. According to the team, this evidence underscores the importance of policy regulations that aim to provide safer personal care products to consumers.

AWARD WINNERS

Plata Recognized for Excellence in Mentorship

Desiree Plata, a researcher at the Massachusetts Institute of Technology (MIT) SRP Center, received the [Frank E. Perkins Award for Excellence in Graduate Advising](#). The award is given each year to an MIT professor who has served as an excellent advisor and mentor to graduate students.

PROTECT's Puerto Rico Team Received Teamwork Award

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.

Team members of the PROTECT SRP Center in Puerto Rico received the [Outstanding Staff Teamwork Award](#) by the Northeastern University College of Engineering. PROTECT's team was selected because of exemplary work and communication within their team and with PROTECT faculty, staff, students, and study participants.

Frazar Named Outstanding Graduate Student

UK SRP Center trainee Molly Frazar received the 2022 Outstanding Graduate Student Award by the university's [Materials and Chemical Engineering Department](#).

James-Todd Awarded Visiting Professorship

Tamarra James-Todd, who leads the CEC at the Harvard SRP Center, was presented with the [2022 Estrellita and Yousuf Karsh Visiting Professorship](#) in Women's Health at the Brigham and Women's Hospital Division of Women's Health in Boston. This visiting professorship invites renowned leaders in women's health to discuss significant advances in the field with medical professionals.

Murphy Wins First at CSETAC

Samantha Murphy, a trainee at the Duke University SRP Center, won [first prize](#) for her poster design at the [Carolinas Society of Environmental Toxicology and Chemistry \(CSETAC\)](#) meeting. Her poster was titled "Understanding Elemental Profiles of Elizabeth River, Virginia, in Environmental Samples."

CALL FOR ABSTRACTS

IPTC Call for Abstracts

What: [2022 International Particle Toxicology Conference \(IPTC\)](#) in Santa Fe, New Mexico.

Description: Call for abstracts for sessions on particle toxicity and human health. IPTC will highlight specific areas of interest including climate-related particulate issues, microplastics, disease risk from particle exposure, novel approaches, and emerging particulates of concern such as nanomaterials.

When: Abstracts due **July 1** to 2022IPTC@salud.unm.edu

Abstracts Requested for GSA Topical Session

What: Geological Society of America Fall Meeting.

Description: Call for abstracts for session on public health and naturally occurring contaminants

When: [Submissions due July 19](#).

FUNDING OPPORTUNITIES

Promoting Health, Safety, and Recovery Training for COVID-19 Essential Workers

What: Develop partnerships with local worker centers and community organizations targeting underserved and disadvantaged communities with higher-than-average COVID-19 transmission rates.

Funder: NIEHS Worker Training Program

When: [Applications due June 6](#).

Somatic Mosaicism Across Human Tissues

What: Five opportunities to support research into how genetic differences in bodily tissues influence biology and disease mechanisms.

Funder: NIH Common Fund Somatic Mosaicism across Human Tissues

When: [Letters of intent due June 8; Applications due July 8](#).

Revolutionizing Innovative, Visionary Environmental Health Research

What: Sustained support for outstanding investigators, giving them intellectual and administrative freedom, to pursue their research in novel directions to achieve greater impacts.

Funder: NIEHS

When: [Applications are due June 9](#).

Implementation Research to Reduce Noncommunicable Disease Burden

What: Support for implementation research to address common risk factors for noncommunicable diseases in low- and middle-income countries and tribal nations during critical life stages and key transition periods.

Funder: NIH

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

Funding Opportunity for Data Science Education Hub

What: Support for activities that increase availability of and access to educational and research opportunities in cloud-based computational genomics and data science for students from groups that are underrepresented in these areas.

Funder: National Human Genome Research Institute

When: [Estimated application due date is July 27](#).

National Aquatic Resource Surveys Data Analysis Innovation Challenge

What: Use data from the National Aquatic Resource Survey to address questions relating to national priorities, including climate change, environmental justice, nutrient management, and other water quality topics.

Funder: U.S. Environmental Protection Agency Office of Water

When: [Letter of intent due May 31; Applications due September 30](#).

INTERAGENCY NEWS

EPA Meets the World: Research Webinar Series

What: U.S. Environmental Protection Agency (EPA) [monthly webinar series](#) featuring presentations from EPA members of Oak Ridge Institute for Science & Education (ORISE) and Oak Ridge Associated Universities and an invited speaker from industry or academia.

When: The next webinar in the series will be **July 7**.

Speakers: Megan MacDonald; ORISE, Zhanyun Wang, Empa-Swiss Federal Laboratories for Materials Testing and Research

DATA SCIENCE AND DATA SHARING

Iowa Releases PCB Dataset

The University of Iowa SRP Center released a dataset that reported the levels of [airborne PCB concentrations](#) from 180 samples collected from 2011 to 2013 at 18 locations in the metropolitan Chicago area. Measurements were obtained using polyurethane foam passive air samplers, deployed for 45 days.

Data Sharing and Reuse Seminar Series

What: The next [Data Sharing and Reuse Seminar](#) will feature the Genomic Data Science Community Network, which aims to provide data and training resources related to genomic data science, accessible by anyone with an internet connection.

When: June 10

Speaker: Rosa Alcazar, of the Clovis Community College.

DataWorks! Challenge

What: Share your story of how data reuse or sharing furthered your research.

Description: The Federation of American Societies for Experimental Biology and NIH are hosting a challenge seeking innovative approaches to data sharing and reuse in biological and biomedical research.

When: [Entries close July 19](#).

FAIR Bioinformatics Training Course

What: The Reproducible and FAIR Bioinformatics Analysis of Omic Data [training course](#) is for anyone who would like to incorporate bioinformatics into their biomedical research.

Description: The course focuses on skills required for analyzing gene expression data in R, which are transferable to proteomics and metabolomics.

When: Applications are due **June 15**.

PHOTO OF THE MONTH



An [SRP-funded research team](#), led by scientists at Yale University, University of Minnesota, and Connecticut Agricultural Station, conduct field work at the Loring Air Force Base. The Aroostook Band of the Micmac Nation, who owns the land at the base, reached out to the team to collaborate on a hemp

phytoremediation project focused on cleaning up per- and polyfluoroalkyl (PFAS) in soil. (Photo courtesy of Christy Haynes)

