National Institute of Environmental Health Sciences

Superfund Research Program

e-Posted Notes

September 9, 2022 (Issue 224)

HEADLINES

SRP Annual Meeting: Abstract Submission and Registration Open

The abstract submission portal for the SRP Annual Meeting is open. Submission deadlines for oral and poster presentations have been updated to **September 15** and **September 30**, respectively. Submit your abstracts on the SRP Annual Meeting website.

Early bird registration is open through **October 15**. The annual meeting will be held **December 14-16** in Raleigh, North Carolina. We look forward to seeing you there!

Elana Elkin Wetterhahn Lecture

Elana Elkin, recipient of the 2019 Karen Wetterhahn Memorial Award, will present the Wetterhahn lecture about exposure to trichloroethylene — an industrial chemical used as a metal degreaser — and reproductive toxicity on **October 6, 12:30 – 1:30 ET**. The virtual lecture will be presented via Zoom.

SRP Risk e-Learning Webinar Series: Climate Change and Health

SRP is hosting a Risk e-Learning webinar series focused on scientific research and tools that can be used to promote health and resilience to climate change.

The first session, **October 7, 1 – 3 pm ET**, will feature SRP-funded innovative strategies to reduce toxic exposures and create ecosystems and communities more resilient to changing climatic conditions, such as creating tools to clean up contaminated water and using plants to mitigate drought.

Save the date for second and third sessions, on **November 4, 1 – 3 pm ET** and **November 18, 1 – 3 pm ET** respectively! More information about these two sessions will be available soon.

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 to antibacterial chemical via lactation linked to liver

EMPLOYMENT OPPORTUNITIES

Environmental Engineer Position at EPA

The EPA Office of Land and Emergency Management (OLEM) has multiple environmental engineer/physical scientist openings at several offices across the country. The positions will support OLEM's Office of Superfund Remediation & Technology Innovation, serving as part of the response team to environmental emergencies and informing cleanup, removal, and remedial activities for oil and hazardous materials spills and other incidents.

University of Minnesota Seeking Professor

University of Minnesota's School of Public Health is seeking an Assistant/Associate Professor in Industrial and Occupational Hygiene within the Division of Environmental Health Sciences. Candidates must hold a Ph.D. or equivalent degree, have the ability to develop an independent research program, develop and teach courses, mentor graduate students, participate in outreach and service, and contribute collaboratively to multidisciplinary efforts as part of their scholarly work.

Open Director Position at NCSU

The Center for Human Health and the Environment at NCSU is hiring a new director. The successful candidate will report directly to NCSU's Vice Chancellor for Research and Innovation and is expected to lead an externally

damage in newborn mice: A new NIEHS-funded study sheds light on how triclosan exposure can lead to liver disease and reveals potential health-protective interventions.
- Plant-based material can remediate PFAS, new research suggests: Scientists at Texas A&M Agrilife Research developed a novel technology that can efficiently bind to and break down per- and polyfluoroalkyl substances (PFAS) in the environment.
- Tribal environmental health strengthened by NIEHS-funded scientist and her team: Johnnye Lewis, director of the University of New Mexico (UNM) SRP Center, talks pollution cleanup, community engagement, effective science communication, and more.
- NIEHS trainees build knowledge, win big at virtual poster competitions: SRP summer intern Anna Kremer won first place in the graduate student poster competition.
- Future flooding may exacerbate disparities in exposure to hazardous pollution: Increased flooding from climate change in the U.S. will likely expose more people to legacy waste from former industrial sites, according to an NIEHS-funded study.
- Prioritizing understudied compounds in chemical mixtures could offer insight into breast cancer risk: Researchers funded by NIEHS identified understudied chemicals that frequently occur in the same products as those linked to breast cancer.

Visit the SRP page for more stories about the program.

Lohmann Quoted in Health.com Article

Rainer Lohmann, project leader at the University of Rhode Island (URI) SRP Center, was quoted in a Health.com article about the U.S. Environmental Protection Agency's (EPA) proposed updates to drinking water health advisories for PFAS. According to Lohmann, levels of detection for current technologies are higher than the new advisory levels, which could pose a challenge to companies trying to reduce PFAS concentrations to acceptable limits.

Sedlak Interviewed by NPR

David Sedlak, project leader at the University of California (UC), Berkeley SRP Center, was featured in an NPR Marketplace podcast episode about the water shortage in Rawlins, Wyoming. Sedlak suggested recycling and cleaning wastewater as a method of expanding water supplies in cities prone to drought.

NCSU Featured About PFAS

A recent study by Scott Belcher, of the North Carolina State University (NCSU) SRP Center, was featured in the North Carolina Water Newsletter. Belcher's research focuses on blood PFAS concentrations and autoimmune effects in alligators.

NCSU SRP trainees Hannah Starnes and Kylie Rock were interviewed by Civil Eats about their research on high PFAS levels in fish. Their efforts to track these "forever chemicals" will assist affected communities that rely heavily on an aquatic diet.

Lomnicki Talks Greenhouse Gases

funded nationally and internationally recognized research program that advances interdisciplinary environmental health science research.

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 researching 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. This is a 12-month, state-funded, tenure-track faculty position.

CURRENT RESEARCH BRIEF

SRP Research Brief 333: Combining Arsenic Data Across Populations Sheds Light on Exposure Sources (Alexander van Geen, Columbia University; Andres Cardenas, UC Berkeley; Johnnye Lewis, UNM)

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

National Advisory Environmental Health Sciences Council Meeting
September 13-14, 2022
Virtual

Accelerating Precision Environmental Health: Demonstrating the Value of the Exposome
September 15-16, 2022
Durham, North Carolina

Slawomir Lomnicki, project leader at the Louisiana State University SRP Center, was interviewed in a New Orleans Public Radio article about research showing that a large portion of Louisiana's greenhouse gas emissions and air pollution is concentrated in a small part of the state. Lomnicki discussed how low-income communities and communities of color will be more vulnerable to the health impacts of air pollution and climate change.

Duke Researchers Quoted on Sustainability, Remediation

Heather Stapleton, Duke University SRP Center Director, was interviewed in a Coastal Review article about her lab's research on PFAS exposures in the community of Pittsboro, North Carolina. Stapleton described her work assessing the effectiveness of home point-of-use water filters at removing PFAS compounds from drinking water.

Nishad Jayasundara, also of the center, was quoted in a Scientific American article about a spray-on, rinse-off, biodegradable food-wrapping material. Jayasundara highlighted the importance of further research on the material's safety and potential byproducts when it breaks down in the environment

TRAINEE SPOTLIGHT

Researching Environmental Exposures and Protein Expression

This month we spoke with Bridget Belcher, a trainee at the UC Berkeley SRP Center. Belcher is a doctoral student studying the impact of Superfund chemicals on biological proteins.

What is the focus of your research at the UC Berkeley SRP Center?

I have a long-standing interest in understanding the mechanisms of chemicals that have biological impacts. My research uses probes — small molecules used to study biological systems — to target interactions between chemicals and proteins involved in the metabolism of fatty acid molecules. Certain interactions could lead to fat buildup in tissues and subsequent health problems.

Tell us about how mentorship and collaborations have been important to you.

The principal investigators (PIs) at the UC Berkeley SRP Center, as well as my peers, have provided a synergistic environment to learn about chemical biology and environmental toxicology. My PI, Daniel Nomura, has provided a lot of insight and mentorship, making it easier for me to learn.

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

The collaborative environment provided by the SRP trainee network has been extremely beneficial. I love learning about what

Annual Conference of the International Society for Environmental Epidemiology
September 18-21, 2022
Athens, Greece

Scientific Advisory Committee on Alternative Toxicological Methods Meeting
September 21-22, 2022
Durham, North Carolina and Virtual

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

Clustering and Classification Workshop: Applications to Investigate Adverse Effects of Chemicals on Human Health and Environment
October 3-4, 2022
Virtual

Risk e-Learning Webinar Series
October 7, November 4 & 18
Virtual

42nd International Symposium on Halogenated Persistent Organic Pollutants
October 9-14, 2022
New Orleans, Louisiana

11th Conference on Metal Toxicity and Carcinogenesis
October 16-19, 2022
Montreal, Canada

SRP Annual Meeting
December 14-16, 2022
Raleigh, North Carolina, and Virtual

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.

the other trainees are doing at Berkeley!

What is one piece of advice that you have for other SRP trainees?
Take advantage of the knowledge from people around you! Hearing more experienced trainees and PIs talk about their research is always a great learning opportunity and can help you come up with new ideas for your own projects.

HOT PUBLICATION

New Study Finds Associations Between Common Chemical Mixtures and Breast Cancer

Most environmental studies that assess health risks from chemical exposures have focused on evaluating relationships between individual, well-known chemicals and health effects. A new study from the University of North Carolina at Chapel Hill (UNC) SRP Center identified understudied chemicals that frequently occur in the same products as those linked to breast cancer, which could inform studies on how exposure to chemical mixtures influences disease risk.

Breast cancer — the leading cause of cancer-related death in women — has increasingly been linked to chemicals commonly found in the environment, from consumer products to food and water sources. The researchers used databases containing chemical inventories and cancer information to efficiently categorize chemicals based on their association with breast cancer. They sifted through data on thousands of chemicals to identify compounds that frequently occur in the environment and are understudied in their relation to breast cancer risk.

The team then used the data to determine which of the understudied chemicals most often occur alongside chemicals with known breast cancer associations. They compared the chemical and structural similarities between the understudied group and the breast cancer chemicals to identify those that should be prioritized in future toxicological studies.

The researchers selected 50 understudied chemicals and organized them based on their patterns of co-exposure and similarities to breast cancer chemicals. According to the authors, these chemicals — on their own and in mixtures — may warrant further investigation to understand how everyday exposures may influence breast cancer risk.

AWARD WINNERS

Trainees Excel in Research and Community Impact

Romaisha Rahman, a UNM SRP trainee, has been awarded the William B. and Roberta V. Castetter Endowed Fellowship, which recognizes a doctoral student poised to make a significant impact not only in New Mexico but nationally and internationally.

Kylie Rock, a trainee at the NCSU SRP Center, won the 2022 NC State Impact Scholar award, which will help develop community-engaged research capabilities with a focus on increasing scientific

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.

understanding of PFAS hazards within impacted communities.

Zhenhang Cai, a Texas A&M University (TAMU) SRP trainee, received the Award of Excellence in the Graduate Research category of the 2022 American Society of Landscape Architects, Texas Chapter.

El Hayek Awarded for Pollution Research

Eliane El Hayek, of the UNM SRP Center, was awarded the Women in STEM travel award, which will allow collaboration with the University of Arizona, where El Hayek will explore the role of particle pollution in lung infections and asthma.

The National Institute of Minority Health and Health Disparities (NIMHD) has also funded El Hayek's pilot proposal on microplastics pollution and its implications for soil and native plant health.

SRP Researchers Win NIH Grants

David Reif, who leads the Data Management and Analysis Core at the NCSU SRP Center, won an NIEHS Award to study gene-environment interactions that affect individual susceptibility to chemical exposures.

Andres Cardenas, of the UC Berkeley SRP Center, was awarded an NIMHD grant to study the impact of adverse childhood experiences on Mexican-American children. Cardenas and co-investigators will examine early-life adversity at the individual, household, and community level with the goal of understanding biological aging and risk of obesity.

Pawel Lorkiewicz, of the University of Louisville SRP Center, received an NIH grant to establish a new chemical detection instrumentation system, which will address the analytical needs of the center by significantly increasing chemical detection capabilities.

Alvarez Elected as Distinguished Fellow

Pedro Alvarez, of the Baylor College of Medicine SRP Center, has been elected as a distinguished fellow of the International Engineering and Technology Institute, which recognizes highly accomplished experts in the fields of engineering and technology.

Lohmann Named Fulbright Arctic Initiative Scholar

Rainer Lohmann, a project leader at the URI SRP Center, was named a Fulbright Arctic Initiative Scholar. The award will enable Lohmann to conduct research on the Faroe Islands, where he will study local population exposures to PFAS.

FUNDING OPPORTUNITIES

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: Applications due **September 30**.

Accelerate Children's Environmental Health Research

What: Analyze existing data from the Adolescent Brain Cognitive Development Study to examine the influence of environmental exposures on children's brains and development, and identify protective factors to mitigate environmentally induced changes.
Funder: NIEHS
When: Applications due **October 5**.

Research Enhancement Award Program for Health Professional and Graduate Schools

What: Support for small-scale research projects focused on exposure-related responses from environmental agents that will have a defined impact on environmental health sciences.
Funder: NIEHS
When: Applications due **October 25**.

Incorporating Genetic Diversity into Toxicity Testing

What: Research grants to support chemical toxicity testing that reflects the genetic variability in human populations.
Funder: NIEHS
When: Applications due **November 8**.

INTERAGENCY NEWS

Proposed Designation of PFAS as CERCLA Hazardous Substances

EPA is proposing to designate two PFAS — perfluorooctanoic acid and perfluorooctanesulfonic acid — as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. This proposed rulemaking would increase transparency around releases of these harmful chemicals and help to hold polluters accountable for cleaning up their contamination.

SBIR/STTR Funding Opportunities for Water Nanotechnologies

EPA and the National Nanotechnology Initiative sponsored a webinar covering current and upcoming Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) funding opportunities for water technologies, with a special focus on investments in nanotechnology-enabled solutions. The webinar archive is now available online.

NASEM Releases PFAS Guidance

The National Academies of Science, Engineering, and Medicine (NASEM) released a report with guidance on PFAS exposure, testing, and clinical follow-up. The report recommends that the Centers for Disease Control and Prevention update its clinical guidelines to advise clinicians to offer PFAS blood testing to

patients who are likely to have a history of elevated exposure, with regular monitoring for health impacts.

NIH Climate and Health Scholars Program

The NIH Climate Change and Health Initiative seeks climate and health scientists from outside the federal government to work with NIH staff around the scientific domains outlined in the Strategic Framework through the Climate and Health Scholars Program. Scholars will be hosted by an NIH home Institute, Center, or Office (ICO) and will be invited to collaborate with NIH staff on research, training, and policy activities that share their scientific knowledge.

Call for Proposals: Break the Cycle of Children's Environmental Health Disparities

The Southeast Pediatric Environmental Health Specialty Unit and Break the Cycle of Health Disparities, Inc., invite university students to participate in the annual Break the Cycle of Children's Environmental Health Disparities training program. The program focuses on raising awareness of children's health issues and cultivating future leaders among university students from any background. Interested students should submit a research proposal by **September 16**.

Request for Information: NIH Common Fund Programs

NIH requests ideas for potential new Common Fund programs that may be supported in fiscal year 2025 or later. Submissions are encouraged to be trans-NIH, require a coordinated effort among many investigators, have specific goals and deliverables that can be achieved in 5-10 years, and describe an important opportunity or challenge in biomedical research today. Responses are due **September 30**.

Request for Information: PFAS

The U.S. Food and Drug Administration seeks scientific data and information on current food contact and packaging uses of fluorinated polyethylene, consumer dietary exposure that may result from those uses, and safety of certain PFAS that may migrate from fluorinated polyethylene food containers. Comments are due **October 18**.

DATA SCIENCE AND DATA SHARING

MIT Creates FAIR Data Management Tool

Researchers at Massachusetts Institute of Technology (MIT) described their NExtSEEK tool in a recent publication. The tool allows for active data management, where users collect and organize information that researchers need to improve reusability and reproducibility as well as make data available to the scientific community through public repositories.

TAMU Protocols Added to NIH DR2 Resource Portal

TAMU SRP Center's protocols for environmental sampling and rapid community assessment surveys are now part of the NIH

Disaster Research Response (DR2) Resource Portal. The Rapid Acquisition of Pre- and Post-Incident Disaster Data (RAPIDD) Protocol is a tool for researchers interested in gaining rapid Institutional Review Board approval for studies involving environmental or natural disasters.

URI Releases Dataset of PFAS Concentrations

URI SRP researchers field-tested a novel passive sampler for dissolved PFAS in surface waters. The dataset includes derived sampling rates and concentrations of PFAS in wastewater effluents and Narragansett Bay.

UNC Publishes Data Science Toolkit

The InTelligence And Machine LEarning (TAME) Toolkit for Introductory Data Science, Chemical-Biological Analyses, Predictive Modeling, and Database Mining for Environmental Health Research, developed by researchers at the UNC SRP Center and collaborators, contains training modules on data science, organization, and analysis methods to help researchers extract information from complex environmental health datasets. A recent publication describes the toolkit.

Design Challenge for LitCoin Submission Platform

The LitCoin Pilot Design Challenge seeks to spur innovation by rewarding the most creative and effective plans to construct the LitCoin submission platform. This platform will enable researchers to generate high-quality knowledge and share it with the greater community. Submissions will be evaluated based on the extent of innovation, practical considerations of the design, and ease of assimilation. Applications are due **October 31**.

PHOTO OF THE MONTH

Summer research interns in Nishad Jayasundara's lab at the Duke University SRP Center collect environmental samples and killifish from the Elizabeth River for experiments on how polycyclic aromatic hydrocarbons (PAHs) impact organism health. (Photo courtesy of Jordan Herrington, Duke University SRP Center).