

Superfund Research Program e-Posted Notes

October 8, 2021 (Issue 213)

HEADLINES

Webinar Series: Risk Communication Strategies to Reduce Exposures and Improve Health

The NIEHS SRP is hosting a Risk e-Learning webinar series to showcase effective risk communication strategies and how they have been tailored to the needs of diverse communities. Presentations will highlight first-hand experiences designing risk communication messages and campaigns, evaluating impact, and adapting communication strategies for different populations.

The second session, [Combatting Misinformation and Mistrust When Communicating Health Risks](#), is **today, Oct. 8, 1:00-3:00 p.m. EDT**. If you haven't registered yet, there's still time to do so!

If you missed the first session, [Designing and Tailoring Messages](#), a recording is available. See the [Risk e-Learning webinar series webpage](#) for more information about specific sessions, including presentation summaries.

Upcoming sessions:

- Session III: [Engaging Communities and Tailoring Messages to Advance Equity and Justice](#), **Oct. 20, 1:00-3:00 p.m. EDT**
- Session IV: [Communication Toolkits to Communicate Environmental Risks](#), **Oct. 22, 1:00-3:00 p.m. EDT**

New SRP-funded Occupational Health and Safety Training Education Programs on Emerging Technologies

SRP welcomes seven projects that are developing [educational and training programs](#) for industrial hygienists and scientists in the areas of emerging technologies, new environmental contaminants of concern, and disaster response. The programs will provide intensive training and hands-on research experience in occupational health and safety management practices. To learn more about specific projects, see this [Environmental Factor article](#).

Virtual Consortium for Translational/Transdisciplinary Environmental Research

NIEHS reissued a [Funding Opportunity Announcement](#) (FOA) for the Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER). The ViCTER program fosters and promotes early-stage transdisciplinary collaborations and translational research among fundamental, clinical, and

EMPLOYMENT OPPORTUNITIES

EPA Postdoctoral Fellowship

A postdoctoral opportunity is available at the EPA to conduct research related to analytical chemistry and PFAS in Research Triangle Park, North Carolina. The successful applicant will have the opportunity to gain experience in the acquisition and modeling of empirically derived PFAS bioavailability data and will present this research through a combination of reports, presentations, and manuscripts. Applications are due **Oct. 12**. See the [job posting](#) for more information.

Postdoctoral Opportunity – University of Michigan

The University of Michigan seeks a postdoctoral research fellow in environmental toxicology and epidemiology. A doctoral degree from an accredited domestic or foreign institution is required at the time of appointment. For more information, see the [job posting](#) or email Gramm Drennen (drenneng@umich.edu).

APHL-CDC Fellowship and Internship Programs

The Association of Public Health Laboratories (APHL) and the US Centers for Disease Control and Prevention (CDC) partnered to offer a variety of [laboratory fellowship programs](#) to train and prepare scientists for careers in public health laboratories and support public health initiatives. Two classes of fellows will be recruited, the first

population-based researchers in the environmental health field. Applications are due **February 1, 2022**. An informational webinar will be held **Nov. 18, 2-3 p.m. EST** for anyone interested in applying. For more information about the FOA and the webinar, please see the [ViCTER webpage](#) or contact Heather Henry (henryh@niehs.nih.gov).

Call for Abstracts: ACS Spring 2022

The American Chemical Society (ACS) is accepting abstracts for the ACS Spring meeting, to be held March 20-24, 2022.

Submissions are due **Oct. 11**. Selected authors will present at sessions corresponding to one of the ACS divisions. Several sessions in the [Division of Environmental Chemistry](#) are being organized by SRP-funded researchers:

- Advanced (Nano)Materials, Membranes and Manufacturing for Water Treatment and Reuse, organized by SRP individual research project co-leader [Nirupam Aich](#) of the State University of New York at Buffalo.
- Innovative and Practical Approaches for Treatment of Per- and Polyfluoroalkyl Substances (PFAS) and Fluorinated Alternatives, organized by SRP individual project lead [Yujie Men](#) of the University of California, Riverside.
- New Developments in Analytical Methods & Instrumentation for Environmental Science and Technology, organized by University of Iowa SRP-funded researcher [Gregory LeFevre](#).

For more information, contact Louisiana State University (LSU) SRP Center project lead Slawo Lomnicki (slomni1@lsu.edu) who chairs the environmental chemistry program. To see a complete list of topics, see the [ACS call for abstracts](#).

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: Plant leaves work as reliable air monitor in citizen-science study](#): Working with citizen-scientists, SRP-funded researchers demonstrated that leaves can be used as a low-cost, reliable method to assess the level of metals in airborne dust. This method can help assess exposure from former mine sites that emit heavy metals that can be distributed by wind to nearby communities.

Visit the SRP page for more stories about the program:

- [Brown SRP Researchers and Community Come Together on Narragansett Tribal Lands](#): Brown University SRP-funded researchers and Narragansett Tribal leaders joined forces to educate and empower Tribal members to address their environmental health concerns in a way that connects cultural and scientific knowledge.
- [SRP Researchers Inform PFAS Guidance](#): SRP-funded researchers were part of an ad-hoc committee that met six

starting January 2022 with applications due **Oct. 29, 2021**, and the second starting July 2022 with applications being accepted **Nov. 1, 2021–Feb. 28, 2022**. Programs currently accepting fellow and host laboratory applications for January 2022 start dates include:

- Bioinformatics Fellowship
- Environmental Health Laboratory Fellowship
- Infectious Disease Laboratory Fellowship
- Ronald H. Laessig Newborn Screening Fellowship

See the [program page](#) for more information and to apply.

UC Irvine Faculty Cluster Hire

UC Irvine initiated a faculty cluster hire centered on Environmental Health Disparities Research to understand and address the ways in which environmental stress and racism contribute to health disparities in Black communities. The cluster involves four open positions in public health, environmental engineering, anthropology, and medicine. See the [job postings](#) for more information.

CURRENT RESEARCH BRIEF

[SRP Research Brief 322](#): Helping Communities Monitor Air Pollution Using Plants (Monica Ramirez-Andreotta, University of Arizona)

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

Risk Communication Strategies to Reduce Exposures and Improve

times between February and August to hear the experiences of communities across the country affected by exposure to PFAS and use that information to help shape new recommendations.

SRP Presence at ISES and ISEE Annual Meetings

SRP was represented by several researchers and staff members at the [International Society of Environmental Epidemiology](#) (ISEE) and [International Society of Exposure Science](#) (ISES) annual meetings. SRP researchers chaired sessions and gave scientific presentations at both meetings, and many investigators and trainees won best poster and oral presentation awards. Congratulations to all the winners!

ISES also hosted [Sensor & Technology Fairs](#) on Aug. 31 and Sept. 1, which were attended by researchers from various SRP Centers. SRP health specialist Sara Amolegbe and program officer Heather Henry were on the planning committee. SRP-funded small businesses [NanoAffix Science, LLC](#), [Quantitative BioSciences, Inc.](#), and [Stemloop, Inc.](#), were among the list of vendors and researchers that demonstrated their state-of-the-art devices. See this [Environmental Factor article](#) to learn more about NIEHS presence at ISES.

Tanguay Interviewed in KGW8 News Story

Oregon State University (OSU) SRP Center Director Robyn Tanguay was [recently interviewed](#) by a local television station about a new NIEHS [Revolutionizing Innovative, Visionary Environmental Health Research grant](#). With this new grant, Tanguay plans to expose embryonic zebrafish to a library of 10,000 chemicals commonly found in food additives, consumer products, and medicines. This will provide insight into how the structure of a chemical determines its toxicity and how chemical networks are related to human disease.

Chief Featured in KOLD News 13

University of Arizona SRP Center Community Engagement Core (CEC) leader Karletta Chief was featured in a story from [KOLD News 13](#), a television station in Tucson, Arizona. The story describes the launch of a new Indigenous Resilience Center at the University of Arizona led by Chief. The center will focus on advancing Tribal communities' capacity to respond to environmental challenges and become more resilient. In the story, Chief explained that the team will work directly with Tribes to identify their priorities.

UC Berkeley Researchers Discuss Benzene

University of California (UC) Berkeley SRP Center researchers Craig Steinmaus and Luoping Zhang, trainee Imaan Rana, and former trainee Sarah Dahlberg were interviewed by the [Daily Cal](#) about their [recent publication](#). The team found a connection between benzene exposure and increased risk of non-Hodgkin lymphoma, a form of cancer originating in white blood cells.

Lewis Quoted About Uranium Mines

Health: [Session II – Combatting Misinformation and Mistrust When Communicating Health Risks](#)

October 8, 2021, 1:00 PM-3:00 PM EDT
Virtual

Risk Communication Strategies to Reduce Exposures and Improve Health: [Session III – Engaging Communities and Tailoring Messages to Advance Equity and Justice](#)

October 20, 2021, 1:00 PM-3:00 PM EDT
Virtual

Risk Communication Strategies to Reduce Exposures and Improve Health: [Session IV – Communication Toolkits to Communicate Environmental Risks](#)

October 22, 2021, 1:00 PM-3:00 PM EDT
Virtual

[Big Data in Environmental Science and Toxicology: Session 5](#)

Sponsored by the Texas A&M SRP Center
November 3, 2021, 2:00 PM-4:00 PM EDT
Virtual

[Big Data in Environmental Science and Toxicology: Session 6](#)

Sponsored by the Texas A&M SRP Center
December 1, 2021, 2:00 PM-4:00 PM EDT
Virtual

[The Role of Companion Animals as Sentinels for Predicting Environmental Exposure Effects on Aging and Cancer Susceptibility in Humans](#)

December 1-3, 2021
Virtual

[Telomeres & Telomerase](#)

December 14-17, 2021
Virtual

[SRP 35th Anniversary Annual Meeting](#)

Postponed, dates TBD
Please hold December 15-17, 2021, for virtual events

University of New Mexico SRP Center Director Johnnye Lewis was quoted in [Environmental Health Perspectives](#) about uranium mines on the Navajo Nation. In the article, Lewis explains how metal mixtures from abandoned mines move through the environment and can travel to Indigenous lands.

TRAINEE SPOTLIGHT

Lloyd Advances Data Science through Collaboration

Dillon Lloyd is an SRP trainee working with Texas A&M University (TAMU) SRP Center Director Ivan Rusyn and North Carolina State University (NCSU) SRP Center Data Science Core co-investigator Frank Wright. Lloyd's work with the two centers focuses on creating data science tools that facilitate reproducible science.



As a research assistant at NCSU, Lloyd collaborated with Rusyn's group to develop an R Shiny tool, a prepared package of web application scripts, to visualize and analyze location-based data. The tool allows users to analyze their data without any scripting knowledge.

At the [2020 SRP Annual Meeting](#), Lloyd demonstrated how the tool effectively used chemical and biological assay data from samples in Houston to perform geospatial analysis and visualization. He was named the Scientific Presentation Session II winner at the meeting.

"It was good to know that people found my presentation informative, and I hope that explaining how the tools increase reproducibility in science inspired others in the SRP," said Lloyd.

The collaborators also published a [paper describing how they combined data analysis tools](#), some of which Lloyd helped develop, to examine how physical space can impact environmental risks.

Lloyd is now a Ph.D. student in bioinformatics at NCSU and works with NIEHS Biostatistics and Computational Biology branch chief, Alison Motsinger-Reif, to develop modern statistical approaches to understand the causes of common, complex diseases. Additionally, Lloyd recently helped run a session for [TAMU's Big Data workshop](#) and assists with teaching the "Pathway and Network Analysis for Omics Data" course at the [University of Washington Summer Institute](#).

Outside of work, you can find him playing with his dogs and reading.

HOT PUBLICATION

Early Life PFOS Exposure Alters Pathways Related to Alzheimer's Disease

[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

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.

NIEHS-funded researchers at the University of Rhode Island SRP Center [found evidence](#) that exposure to perfluorooctanesulfonic acid (PFOS) early in life may be linked to pathways related to Alzheimer's disease (AD).

PFOS doesn't break down easily and can accumulate over time in the environment and in the body. Previous research demonstrated that some of these substances are linked to brain damage and behavioral disorders, but this is the first study to explore the link between early life exposure and AD later in life.

The team exposed female mice to PFOS during pregnancy and lactation. As adults, their pups had increased levels of GSK3B, a protein involved in inflammatory response, memory impairment, and other processes related to AD. They also found increased levels of ApoE, a protein involved in transporting fats through the bloodstream and injury repair in the brain, in mice exposed to PFOS. The accumulation of ApoE has been associated with insoluble twisted fibers inside brain cells, a common occurrence in AD patients.

In an open field maze test to evaluate rodent behavior, the researchers observed that mice exposed to PFOS traveled further distances and spent more time standing on their back legs compared to mice that were not exposed to the chemical. According to the authors, these behaviors have been previously linked to brain cell damage.

In human brain cells, the team observed that low concentrations of PFOS increased the levels of tau, a protein known to be involved in AD development and progression when dysregulated. They also found higher levels of amyloid proteins, which are known to accumulate and damage the brain in AD patients.

According to the authors, these findings suggest that PFOS exposure early in life may alter rodent behavior and several biological pathways associated with AD, but future research is needed to clarify these mechanisms.

AWARD WINNERS

OSU SRP Members Receive Recognition

Tanguay received the OSU [University Day](#) award for Excellence in Postdoctoral Mentoring, which recognizes and encourages outstanding mentoring of postdoctoral appointees by OSU faculty members. OSU trainee Subham Dasgupta also received a University Day award for his exceptional research contributions to his field, OSU, and the greater postdoctoral community. Both recipients were nominated by peers for their awards.

Former UC Berkeley Trainee Receives NIEHS Training Grant

Former UC Berkeley SRP Center trainee Allen Louie received a predoctoral award from the UC Los Angeles Institutional NIEHS Training Grant in molecular toxicology. Louie conducted research with Martyn Smith while completing his M.P.H. at UC Berkeley and contributed to an NIEHS-funded publication on [the key](#)

[characteristics of carcinogens.](#)

Brown University SRP Center Garners Acclaim

Brown University research data management librarian Andrew Creamer won the [Qualitative Data Management Plan Competition](#) hosted by the [Princeton Research Data Service](#). Creamer serves as a research informationist for several NIH-funded centers and research projects. He helps researchers comply with data management policies and ensures the public has access to publicly funded data and publications.

Former Brown University SRP Center trainee Muchun Liu was awarded a special mention in the [2021 Carbon Journal Prize](#) for the high quality of her [Ph.D. thesis](#) in carbon materials and technology. This included her recent work on organic contaminant removal from water. Liu will also be joining the extended [advisory board of Carbon](#).

Schnoor Named Fellow

Iowa University SRP Center grantee Jerry Schnoor was selected by the [Association of Environmental Engineering and Science Professors](#) as a 2021 Fellow. Schnoor's research focuses on using plants to clean up contaminants, water quality modeling, groundwater, risk assessments, sustainable development, and the impact of carbon emissions on global change.

UC Berkeley Researchers Produce Best Paper

UC Berkeley SRP Center CEC members Rachel Morello-Frosch and Lara Cushing received the inaugural Best Environmental Justice Paper Award from [ISEE North American Chapter](#) at the 2021 ISEE Meeting. They received the award for their 2018 paper on [California's Cap-and-trade program](#).

Styblo Awarded Funding for Individual Research Project

University of North Carolina at Chapel Hill (UNC) SRP Center researcher Miroslav Styblo received an NIEHS-funded individual research grant (R01) to investigate humanized mouse models for arsenic toxicology. Styblo collaborated with UNC SRP Center Director Rebecca Fry on several [arsenic studies in mice](#), including adapting them to characterize interactions between [arsenic exposure and SARS-CoV-2 infection](#).

FUNDING OPPORTUNITIES

Innovative Approaches for Improving Environmental Health Literacy

NIEHS released two funding opportunities for small businesses to work with environmental health researchers to develop novel tools, activities, or materials to build environmental health literacy and support citizen science. Applicants are encouraged to propose improved approaches for communicating environmental health science concepts for diverse audiences, including K-12 education, undergraduate and graduate education, and health care professionals. Those interested in applying must submit a letter of intent by **Oct. 10**. Applications are due **Nov. 10**.

- [RFA-ES-21-008](#): Innovative Approaches for Improving Environmental Health Literacy (R43/R44 Clinical Trial Not Allowed)
- [RFA-ES-21-009](#): Innovative Approaches for Improving Environmental Health Literacy (R41/R42 Clinical Trial Not Allowed)

Investigator Initiated Research in Computational Genomics and Data Science

The National Human Genome Research Institute (NHGRI) released a [funding opportunity](#) for innovative research in computational genomics, data science, statistics, and bioinformatics for basic and/or clinical genomic sciences that are broadly applicable to human health and disease. NHGRI also seeks applications for research leading to improvement of existing software or approaches that are in broad use by the genomics community. Applications are due **Oct. 16**.

Request for Applications: EPA Annual P3 Awards

The U.S. Environmental Protection Agency (EPA), as part of its [People, Prosperity and the Planet \(P3\) Award Program](#), seeks applicants who will research, develop, design, and demonstrate solutions to improve the quality of people's lives and protect the environment. The EPA offers the P3 competition in response to the environmental and public health challenges in the U.S., including those in small, rural, tribal, and/or underserved communities. Applications are due **Oct. 27**. For more information, see the [Request for Applications](#).

Artisanal Mining Grand Challenge: The Amazon

The [Artisanal Mining Grand Challenge](#) seeks innovations that improve the environmental and social outcomes of artisanal and small-scale gold mining in the Amazon region. All proposed innovations should demonstrate a measurable, attributable impact on reducing, mitigating, or eliminating harm to water resources, soil, biodiversity, or human health and well-being. Winners from previous years include SRP-funded small business, [Picoyune](#). Applications are due **Nov. 10**.

Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science

NIH announced a collaboration with the National Science Foundation (NSF) on an interagency funding opportunity, [Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science](#). The solicitation aims to address technological and data science challenges that require fundamental research and development of new tools to address pressing questions in the biomedical and public health communities. Traditional disease-centric medical, clinical, pharmacological, biological, or physiological studies and evaluations are outside the scope of this solicitation. Applications are due **Nov. 10**. For more information, refer to the [NSF Smart Health website](#).

Human Health Exposure Analysis Resource (HHEAR)

Program

Applications are being accepted for the HHEAR program, which provides health researchers 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 **Nov. 12**. For more information and to check your eligibility, visit the [program website](#) or see this [SRP news story](#). To apply, visit the [How to Apply](#) page. For questions related to the application process, contact HHEARHelp@Westat.com. If you have any questions about the HHEAR program, please contact Michelle Heacock (heacockm@niehs.nih.gov).

INTERAGENCY NEWS

Analytical Methods for PFAS

EPA's Office of Water, in partnership with the Department of Defense's Strategic Environmental Research and Development Program, published a draft describing new analytical methods to test for PFAS compounds in the environment. The method was validated for 40 PFAS compounds in wastewater, surface water, groundwater, soil, biosolids, sediment, and fish tissue. The EPA encourages laboratories, regulatory authorities, and other interested parties to review and use the [draft method](#), with the understanding that it is subject to revision.

DATA SCIENCE AND DATA SHARING

Iowa SRP Shares PCB Datasets

University of Iowa SRP Center Director Keri Hornbuckle, researcher Rachel Marek, and trainees Moala Bannavti and Jacob Jahnke [released a dataset](#) describing airborne polychlorinated biphenyl (PCB) concentrations in school rooms. The experiment, led by Bannavti and Jahnke, was designed to understand if PCB distribution differs by classroom in a predominantly minority public school in rural Iowa.

Hornbuckle, researchers Andres Martinez, Hans Joachim-Lehmler, and Xueshi Li, and trainee Panithi Saktrakulkla [shared the results](#) from measuring concentrations of PCBs in sediments. The team collected measurements from New Bedford Harbor in Massachusetts, Altavista wastewater lagoon in Virginia, and the Indiana Harbor and Ship Canal in Indiana.

Decoding Maternal Morbidity Data Challenge

The Eunice Kennedy Shriver National Institute of Child Health and Human Development is hosting a competition to help advance research on maternal health and promote healthy pregnancies. Their goal is to devise innovative data solutions to analyze the [Nulliparous Pregnancy Outcomes Study: Monitoring Mothers-to-be \(nuMoM2b\)](#) dataset. Submissions are due **Oct. 15**. For more information, see the [challenge webpage](#).

NIH Requests Input for Data Science

NIH and the Food and Drug Administration are [requesting information](#) on what resource gaps exist to support next generation sequencing test development, validation, and data interpretation. They are specifically interested in responses from stakeholders using technologies such as artificial intelligence and machine learning. Responses are due **Nov. 1**.

TAMU Big Data in Environmental Science and Toxicology

The TAMU SRP Center is hosting a free, virtual learning series focused on techniques to analyze and share data for environmental and toxicology research. The fifth session, "[Placing toxicology data in the context of exposure](#)," will be held **Nov. 3**. For more information about specific sessions, please see the [course website](#).

Reproducible Research Techniques for Synthesis Workshop

On **Nov. 12-13** and **17-18**, the National Center for Ecological Analysis and Synthesis and DataOne will hold a five-day immersion workshop into widely adopted R-based tools for open science. The workshop will focus on improving researchers' data science skills to share data with the scientific community effectively and efficiently. For more information, see the [event website](#).

Computational Approaches for Cancer Workshop

The [Computational Approaches for Cancer Workshop](#) on **Nov. 14** will bring together professionals with an interest in advancing the use of computational approaches to better diagnose, treat, and prevent cancer. The workshop will focus on sharing insights and challenges to foster collaborations and future innovations to accelerate progress in computationally and data-driven cancer research and clinical applications.

Supercomputing Conference

The International Conference for High Performance Computing, Networking, Storage, and Analysis will be held **Nov. 14-19** in St. Louis, Missouri. The event will focus on learning how high-performance computing is empowering innovations to improve everyday life across the globe. For more information, and to register, see the [conference website](#).

IEEE International Conference on Big Data

The Institute of Electrical and Electronics Engineers (IEEE) is hosting an [International Conference on Big Data](#) **Dec. 15-18**. The purpose of the conference is to facilitate innovation, knowledge transfer, and technical progress in addressing the 5 V's (velocity, volume, variety, value, and veracity) of big data. The event will provide a forum for disseminating the latest results in big data research, development, and application. For more information, see this [NIH news release](#).



LSU SRP Center project lead Jennifer Richmond-Bryant and trainee Chuqi Guo traveled to Colfax, Louisiana, to share information with community members and receive input on the community-engaged air sampling project. The researchers are working with Colfax residents to assess exposure to air pollutants from nearby hazardous waste treatment plants. (Photo courtesy of the LSU SRP Center)