

Superfund Research Program *e-Posted Notes*

March 4, 2022 (Issue 218)

HEADLINES

Save the Date: 2022 SRP Annual Meeting

Mark your calendars for the in-person [2022 SRP Annual Meeting](#), tentatively scheduled for **November 15-17** in Raleigh, North Carolina. The meeting is being hosted by the North Carolina State University and the University of North Carolina at Chapel Hill SRP Centers. More information is coming soon.

Register Now: SRP Progress in Research Webinars

Registration is now open for the SRP [Progress in Research webinar series](#). The three-part series will showcase scientific accomplishments by SRP-funded [individual research projects](#) (R01), which are incorporating advances in materials science to improve bioremediation of emerging contaminants and mixtures in the environment. We encourage you to invite your colleagues, and we hope you can make it.

- The [first session](#), **April 15, 1-3 p.m. EDT**, will highlight sustainable technologies to clean up per- and polyfluoroalkyl substances (PFAS) from the environment.
- The [second session](#), **April 29, 1-3 p.m. EDT**, will present novel tools to remove chlorinated compounds from the environment.
- The [third session](#), **May 13, 1-3 p.m. EDT**, will focus on plant and fungal-based bioremediation.

Society of Toxicology Meeting

Are you participating in the upcoming [Society of Toxicology \(SOT\) meeting](#)? If so, please let us know. We want to attend your presentations and visit your posters, in-person or virtually. Please send a list of your presentations and posters to SRPinfo@mail.nih.gov. We look forward to seeing as many of you as possible!

Some SRP staff will also be available in person at SOT and at the SOT Funding Insights Room, during which representatives from federal agencies will be available to answer general grant-related questions. New investigators are encouraged to meet with these agency staff. For more information, please visit the [SOT Program and Online Planner](#). To meet with SRP staff and any other funding agency staff attending virtually, it is recommended that you contact them directly by email to make an appointment.

PFAS Analytical Networking Group

EMPLOYMENT OPPORTUNITIES

Mount Sinai Seeks Postdoctoral Fellows

The Department of Environmental Medicine and Public Health at the Icahn School of Medicine at Mount Sinai seeks applicants for three-year postdoctoral appointments.

Successful candidates must have a doctoral degree, be a U.S. citizen or permanent resident, and have expertise in environmental health research related to children or maternal health. To apply, please send letter of interest and curriculum vitae to Luz Claudio (luz@drluzclaudio.com).

Postdoctoral Opportunity at Emory University

The [Saikawa lab](#) at Emory University is hiring a postdoctoral researcher with a passion for environmental justice and experience conducting community-engaged participatory research. The lab studies soil contamination, air pollution, and climate change. For more information and to apply, see the [job posting](#).

Program Officer – California Breast Cancer Research Program

The [California Breast Cancer Research Program](#) at the University of California seeks a Program Officer who will take a leadership role in independently managing and developing large and complex research grant initiatives in breast cancer, environmental science, disease prevention, and policy research. The Program Officer will

Do you want to join an SRP PFAS Analytical Networking Group? This grantee-led forum would focus on the analytical chemistry aspect of PFAS research, covering topics such as sample preparation, matrix effects, detection and instrumentation, mass balance, data mining, and lessons learned. If you are a currently funded SRP grantee (P42, R01, R21, R25, or SBIR) and would like to learn more about this group, or if you want to co-lead it with [Diana Aga](#) from the University of Buffalo, please contact Heather Henry (heather.henry@nih.gov). Trainees are also welcome and encouraged to join!

Diversity, Equity, Inclusion, and Accessibility Mentorship Opportunity

SRP has signed onto a [Notice of Special Interest](#) (NOSI): Administrative Supplements to Recognize Excellence in Diversity, Equity, Inclusion, and Accessibility Mentorship. This NOSI is intended to supplement existing grants with a demonstrated commitment to exceptional training and mentorship, especially to individuals from groups identified as underrepresented in the biomedical sciences. We hope you will look into this opportunity. For more information about the program and eligibility requirements, please contact your program officer. Applications are due **April 7**.

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:

- [Educational Tool Highlights COVID-19 and Arsenic Research](#): A new online educational resource invites high school students to examine ways that humans are exposed to arsenic and how exposure might influence susceptibility to COVID-19 infection.
- [Building Trust, Sharing Data: Grantee Promotes Participatory Research](#): During her February 14 NIEHS Keystone Science Lecture, Mónica Ramírez-Andreotta, Ph.D., shared the numerous ways she works with communities to integrate their priorities into environmental health sciences research.
- [Exposure to Airborne PCBs an Ongoing Challenge. Expert Says](#): Approaches for studying airborne exposure to polychlorinated biphenyls (PCBs) — and helping communities reduce such exposure — were discussed by Iowa Superfund Research Program Director Keri Hornbuckle, Ph.D., during her February 4 Keystone Science Lecture.
- [Extramural Paper of the Month: Changes in Gut, Liver May Contribute to Alzheimer's Disease Susceptibility](#): NIEHS-funded researchers determined how changes in the gut and liver may contribute to cadmium-induced Alzheimer's disease.
- [Extramural Paper of the Month: Leveraging Unused Samples to Predict Metal Exposures](#): NIEHS-funded researchers demonstrated a robust approach for predicting exposure to arsenic and manganese using a commonly stored but often unused biological sample.

also have opportunities to contribute to addressing structural barriers to health and research, as well as program evaluation. For more information, see the University of California's [job search](#) webpage.

Several Opportunities – University of Washington

The Department of Environmental and Occupational Health Sciences at the University of Washington invites applications for three full-time, tenure-track faculty positions at the rank of [assistant professor](#), beginning in fall 2022. The successful candidate should have expertise in occupational health and safety, environmental epidemiology, or toxicology. A minimum of a Ph.D., M.D., or other appropriate terminal degree in a relevant field is required.

The department also invites applications for two full-time [assistant teaching professors](#) (this track is not tenure-eligible) to begin fall 2022. Candidates must have a M.S., M.P.H., or M.S.P.H. with expertise in environmental public health and occupational health and safety.

The University of Washington Pediatric and Reproductive Environmental Health Scholars (PREHS) K12 Program is looking for fellows who hold a doctoral degree focused on children and reproductive health. PREHS is a new two- to three-year research fellowship program funded by NIH that provides clinically trained scientists with expertise in environmental health, the science of environmental exposures and their health effects on the child life-course from fetal development to adolescence. For more information and to apply, see the [PREHS webpage](#).

CURRENT RESEARCH BRIEF

[SRP Research Brief 327](#): Leveraging Machine Learning to Predict Toxicity (April Gu,

Escobar Featured in Behind the Blue Podcast

University of Kentucky SRP Center researcher Isabel Escobar was interviewed for the University of Kentucky podcast [Behind the Blue](#). The episode is part of a series called Women Making History, which highlights women researchers who are leading their fields of research, crossing traditional academic boundaries, and impacting Kentucky's most pressing challenges, such as environmental impacts on health. Escobar co-leads an SRP-funded project to detect and remediate environmental contaminants.

Horney Quoted on Covid Across Media Outlets

Texas A&M University (TAMU) SRP Center Community Engagement Core (CEC) co-leader Jennifer Horney was interviewed about COVID-19 by a variety of news media. Horney was quoted in [Huffington Post](#), [Parents Magazine](#), [PBS News, Healthline](#), and [Parade](#), and was a featured expert in an [NBC Philadelphia News](#) segment. She provided expertise on topics such as omicron symptoms, how to handle positive test results, and isolation rules.

SRP Cited on PFAS

Multiple SRP researchers were cited as experts on PFAS in recent media. Detlef Knappe, North Carolina State University (NCSU) SRP Center Deputy Director, co-authored and published an article in [Science](#) providing news, updates, and future outlooks on PFAS contamination and remediation. Orlando Coronell, a researcher at the University of North Carolina at Chapel Hill SRP Center, discussed his work on PFAS removal from water for a piece in the North Carolina Water Resources Research Institute [newsletter](#).

An [EcoRI News](#) analysis of PFAS levels in Rhode Island and Massachusetts drinking water cited a [2020 white paper](#) co-authored by University of Rhode Island (URI) SRP Center Director Rainer Lohmann. And [Ohio Capital Journal](#) quoted another URI SRP researcher, Elsie Sunderland, who testified at a House Committee hearing on PFAS.

UC Berkeley SRP Researchers Profiled

Investigators at the University of California (UC) Berkeley SRP Center were recently featured in deep-dive stories on their careers and research areas. Jill Banfield was profiled by the Cal Alumni Association's [California Magazine](#), which highlighted her career as a geomicrobiologist. Banfield co-leads an SRP-funded project to explore how microbes can remove contaminants from groundwater.

David Sedlak was interviewed in [Berkeley Voices](#), a UC Berkeley news podcast. The [episode](#) discussed his work on horizontal levees to remove contaminants from water. Sedlak's SRP-funded research aims to develop strategies that use chemical oxidation to treat contaminated water without producing harmful byproducts.

Northeastern University)

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

[Open Science Conference](#)

March 8-10, 2022

Virtual

[Society of Toxicology Meeting](#)

March 27-31, 2022

San Diego, CA and Virtual

[8th Annual Women's Health Awareness](#)

April 9, 2022

Durham, NC

SRP Progress in Research Webinar

[Session I: PFAS](#)

April 15, 2022

Virtual

SRP Progress in Research Webinar

[Session II: Chlorinated Compounds](#)

April 29, 2022

Virtual

SRP Progress in Research Webinar

[Session III: Plant and Fungal-based Bioremediation](#)

May 13, 2022

Virtual

[Third National PFAS Conference](#)

June 15-17, 2022

Wilmington, NC

[International Data Week](#)

June 20-23, 2022

Seoul, South Korea and Virtual

[Brownfields 2022 Conference](#)

August 16-19, 2022

Oklahoma City, OK

[SETAC 8th World Congress](#)

September 4-8, 2022

Singapore

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

October 16-19, 2022

Montreal, Canada

[SRP Annual Meeting](#)

Tentative, November 15-18, 2022

Sansom Research Highlighted

TAMU SRP Center researcher Garrett Sansom was interviewed by the [Texas Standard](#) about a recent [research paper](#) he authored. The publication gained attention for discussing the negative impact on mental health from repeated exposures to disasters. Sansom's research findings were also highlighted in [Texas A&M Today](#) and [KBTX](#).

TRAINEE SPOTLIGHT

Conserving Cultural Foods Through Chemistry

This month we spoke with Lauren Lewis, a former trainee mentored by Staci Simonich at the Oregon State University (OSU) SRP Center.

Lewis is now a chemist with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Watch this [YouTube video](#), describing

Lewis' training and current work with CTUIR.



What was the focus of your SRP research at the OSU SRP Center?

I used organic components of particulate matter in air as environmental markers to identify potential sources of contamination. The data revealed components that could not be attributed to wildfires or crop-burning activities. For this work, we collaborated with a local American Indian Tribe, and I was given an opportunity to attend the Society of Environmental Toxicology and Chemistry international conference to present my research.

Tell us about a recent honor or award you received and what that recognition meant to you.

While attending OSU, I was awarded the [Peter B. Culter Memorial Scholarship](#). The award is named after the first person to detect radiation over U.S. soil from the Chernobyl nuclear reactor explosion. My early and current chemistry work relates directly to ongoing restoration activities at the Hanford Nuclear Site, where the discovery took place. That minor connection made winning the award that much more meaningful to me.

How does your environmental health research relate to your work as a chemist with CTUIR?

Through my environmental health research, I learned about several toxic chemical classes of increasing concern, as well as ways that scientists view and approach threats to public health. My current work with CTUIR is closely related, as we aim to identify and solve environmental contaminant threats to tribal First Foods – water, fish, deer, roots, and berries. We work closely with other tribes and government organizations to address new issues as well as continuing work related to legacy sites like Hanford.

How did you become interested in this work?

I've been interested in ecology since I was young. As a cook, gardener, and hunter, I wanted to know more about how food quality relates to environmental conditions. As I began looking closely at those relationships, my interest in chemistry surfaced.

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 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.

Now I can use the knowledge I've acquired to help protect our First Foods so that future generations can experience them within their traditional cultural setting.

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

Embrace the process. Some of the Superfund sites have been around longer than I've been alive and working on contamination issues can often feel like an impossible task. Learning to appreciate what failing a task provides in the form of a lesson helps us continue to grow in our field, and even have a bit of fun while we're at it.

HOT PUBLICATION

New Sensor Targets Probable Carcinogen

A team from the [Massachusetts Institute of Technology \(MIT\) SRP Center](#) has developed a [molecular sensor](#) to detect a contaminant called [N-nitrosodimethylamine \(NDMA\)](#), part of a chemical family known as N-nitrosamines.

[N-nitrosamines](#) are probable human carcinogens found widely in air, water, and food. They can form as industrial byproducts—from rubber and pesticide manufacturing, for example—as well as through natural processes, like when stomach acid reacts with proteins in meat.

To address nitrosamine contamination, experts need efficient, inexpensive ways to detect these chemicals in the environment. However, sensors designed to target nitrosamines are rare, according to the MIT team.

Led by Timothy Swager, the researchers created polymers that specifically bind with NDMA. Using spectral analyses, the team confirmed that the polymers, which consist of a cone-shaped cavity containing tungsten, can bind to oxygen in the NDMA.

Next, the team combined the polymers with a quartz-based device used to measure tiny changes in mass. They found that the unit was highly sensitive to NDMA, estimating that it may be able to detect levels as low as 5 parts per billion in air. Even in humid air, the sensor retained relatively high sensitivity—a promising sign for real-world applications.

According to the researchers, their sensor could be a fast and cost-effective way to detect NDMA. In addition, the technology could inform the design of future sensors used to detect other types of nitrosamines.

AWARD WINNERS

Simonich Elected as AAAS Fellow

Staci Simonich, of the OSU SRP Center, was elected as a [Fellow of the American Association for the Advancement of Science \(AAAS\)](#), the world's largest scientific society and publisher of the journal *Science*. Elections honor researchers whose efforts are advancing science or its applications in service to society.

Simonich studies how polycyclic aromatic hydrocarbons move and change in the environment, particularly in soil during remediation.

NCSU SRP Trainees Recognized at SOT

NCSU SRP Center trainee [Adrian Green](#) was awarded the Elsevier Postdoctoral Award by the Computational Toxicology Specialty Section of the 2022 North Carolina SOT meeting. Green's abstract was titled "Pattern recognition in high-dimensional zebrafish behavioral studies using autoencoder based deep learning." Another trainee, [Kylie Rock](#), won second place for an oral presentation describing the center's work using alligators to explore how PFAS may alter the immune system.

Phillips Receives Teaching Award

TAMU SRP Center researcher Timothy Phillips was awarded the [Distinguished Teaching Award](#) by the Association of Former Students at TAMU. The awards honor those who exhibit the highest standards of excellence at the university. Phillips leads an SRP project developing and testing sorbent materials that more effectively bind to hazardous chemicals.

URI Trainee Inducted into Future Leaders Society

URI SRP Center trainee Asta Habtemichael will be inducted into the [Association of American Colleges and Universities Future Leaders Society](#). Habtemichael was recognized for his leadership and community service roles, particularly in justice, equity, diversity, and inclusion initiatives across campus. Habtemichael works with URI SRP Center project leader Rainer Lohmann to study PFAS in marine food webs.

Baker Named NCSU Faculty Scholar

NCSU SRP Center researcher Erin Baker was named into the 2021-2022 class of [NCSU Faculty Scholars](#), which recognizes and rewards emerging academic leaders who demonstrate significant achievement. Baker was recognized for her outstanding academic achievements and contributions to the university through her teaching, scholarship, and service to the university and beyond. Baker co-leads the Core of Advanced Platform Technologies Used for Remediation and Exploration at the center.

Walters Elected to Washington State Academy of Sciences

OSU SRP Center researcher Katrina Waters was elected to the [Washington State Academy of Sciences](#). New members are chosen for their outstanding record of scientific and technical achievement, and their willingness to work on behalf of the academy to bring the best available science to bear on issues within the state of Washington. Baker is the OSU SRP Center Deputy Director and leads the center's Data Management and Analysis Core.

Environmental Epidemiology Cohorts to Support Scientific and Workforce Diversity

NIEHS [solicits applications](#) to support existing environmental epidemiology cohorts and repositories and improve data collection in understudied populations. Through this program, NIEHS aims to promote widespread data sharing and scientific collaborations among environmental epidemiology cohorts, while strengthening scientific and workforce diversity in environmental health. The application deadline is **March 8**.

Environmental Literacy Program: Increasing Community Resilience to Extreme Weather and Climate Change

The National Oceanic and Atmospheric Administration announced a [funding opportunity](#) for projects that develop the collective environmental literacy necessary for communities to build resilience to extreme weather and climate change. Projects should demonstrate how they will engage children, youth, or adults to build these capabilities, particularly through active and social learning, during the award period. Applications are due **March 17**.

FAIR Biomedical Repositories

NIH released a [Notice of Special Interest](#) to support existing data repositories to align with the [FAIR](#) and [TRUST](#) principles and improve their usage, utility, and impact. This opportunity will better enable data discoverability, interoperability, and reuse. The application due date is **March 22**.

Environmental Justice Video Challenge for Students

The U.S. Environmental Protection Agency (EPA) and partners launched a [video challenge](#) for students to enhance communities' capacity to address environmental and public health inequities. The challenge is structured in two separate phases, each with their own timelines:

- Phase 1: The goal is for students to create a video demonstrating innovative approaches to identifying and characterizing environmental justice issues in a select community using [publicly available data and tools](#). Students are strongly encouraged to work in teams and collaborate with community organizations. Submissions are due **April 1**.
- Phase 2: Students will develop a video to display how they worked with community-based organizations to identify strategies and opportunities to address environmental justice issues. A due date and details on the specific requirements for this phase are forthcoming.

Supplements to Support Software Tools for Open Science

NIH announced a [funding opportunity](#) for administrative supplements to invest in and support software tool development by researchers. Through these supplements, NIH aims to help researchers who have developed scientifically valuable software to make tools sustainable, contribute to open science, and take advantage of new data science and computing paradigms. The

application due date is **May 15**.

Transformative Research to Address Health Disparities and Advance Health Equity

The NIH Common Fund has reissued a [funding opportunity](#) to support projects that propose innovative research intended to develop and implement effective interventions to address health disparities and advance health equity. For more information, please see the initiative's [website](#). The application due date is **May 23**.

RADx Tribal Data Repository

NIH released a [Notice of Intent to Publish a Funding Opportunity](#) to support a RADx Tribal Data Repository. This opportunity will provide a repository for American Indian and Alaska Native data, collected from projects supported by the [RADx Initiative](#). The aim is to better understand the impacts of COVID-19 on tribal communities and support research to better inform and develop policies to address current and future pandemics. The repository will enable responsible data sharing and access to researchers and their collaborators who generate RADx tribal research data, or who are interested in working with that data. The estimated application due date is **May 25**.

National Aquatic Resource Surveys Data Analysis Innovation Challenge

EPA is inviting students, scientists, and other stakeholders to [participate in a challenge](#) to use data from the [National Aquatic Resource Survey](#) to address key research questions relating to national priorities, including climate change, environmental justice, nutrient management, and other water quality topics. Individuals and teams of researchers that incorporate a variety of disciplines (e.g., environmental science, biology, ecology, geochemistry, statistics, economics, health, and social sciences) are invited to apply. A letter of intent must be submitted by **May 31**. Applications are due **September 30**.

INTERAGENCY NEWS

EPA Integrated Risk Information System Webinar

EPA's Integrated Risk Information System program is holding a [public webinar](#) on **March 16** to discuss mixtures assessment approaches related to its [assessment of polychlorinated biphenyls \(PCBs\)](#). The webinar will focus on evaluating the similarity of chemical mixtures for risk assessment applications, supported by the draft EPA Mixtures Similarity Tool (MiST). The webinar will present on topics such as EPA's guidance for mixtures, modeling approaches considered for the assessment of PCB mixtures, and an overview of MiST.

Feedback Sought on NIH DEIA Framework

NIH is requesting input on the recently released NIH-Wide Diversity, Equity, Inclusion, and Accessibility (DEIA) Strategic Plan. This framework aims to cover accomplishments, needs,

opportunities, and challenges related to DEIA within the NIH workforce, structure, culture, and research. [Comments on the strategic plan](#) are requested by **April 3**.

EPA Water Sensors Toolbox

EPA launched the [Water Sensors Toolbox](#), a collection of resources and information related to EPA research that uses, evaluates, or develops water sensors. The toolbox is a resource for students, researchers, community members, and others interested in collecting data on water quality with the use of water sensors.

DATA SCIENCE AND DATA SHARING

UC Berkeley Drinking Water Tool

In a [recent publication](#), UC Berkeley SRP Center researchers explain how the [Drinking Water Tool](#), a community-driven data visualization tool, can influence policy priorities and promote interagency coordination at multiple levels to address water equity challenges. The tool was developed to provide Californians with information about threats to drinking water quality and access.

Open Science Conference

The [9th Open Science Conference](#) will take place **March 8-10**. The annual international conference is dedicated to the Open Science movement and provides a unique forum for researchers, librarians, practitioners, infrastructure providers, policy makers, and other important stakeholders to discuss the latest and future developments in Open Science. It is sponsored by the German National Library for Economics.

NIH Data Sharing and Reuse Seminar Series

NIH hosts a monthly data sharing and reuse [seminar series](#). The next webinar will be **March 11** and will feature Carole Goble and Frederick Coppens from ELIXIR, the pan-national European Research Infrastructure for Life Science data. ELIXIR supports researchers across their whole research data management lifecycle. They will discuss the [ELIXIR RDMkit](#), a toolkit built by the biosciences community, for the biosciences community to provide the research data management information they need, including links to tool registries, training materials, standards, databases, and to services that offer deeper knowledge for data management planning.

New NIH Initiative to Improve Data Access

The NIH Office of Data Science Strategy announced the [Generalist Repository Ecosystem Initiative](#) (GREI) to help researchers find and share data from NIH-funded studies. The GREI will work with several NIH biomedical repositories to establish consistency across datasets, develop best practices for data sharing, and train researchers on procedures to improve accessibility and ease of reuse for NIH data.

PHOTO OF THE MONTH



University of Kentucky SRP Center trainees participated in a one-day workshop to learn how to implement the Storyform method for research and data visualization. The Storyform method uses materials and tools derived from the elements and principles of storytelling to create effective presentations, slides, posters, and infographics. (Photo courtesy of the University of Kentucky SRP Center)

