

Superfund Research Program e-Posted Notes

February 7, 2020 (Issue 193)

HEADLINES

NIEHS Releases Notice of Intent to Publish for the SRP R01 Program

On December 13, NIH published [NOT-ES-20-007](#): "Notice of Intent to Publish a Funding Opportunity Announcement for Enhancing Bioremediation through Innovative Materials Science Approaches." Please follow the link for more information about the anticipated announcement and timeline. If you have any questions, please contact Heather Henry (henryh@niehs.nih.gov).

TAMU SRP Center Moves Water Treatment Research to Biomedical Applications

Researchers at the Texas A&M University (TAMU) SRP Center developed a therapeutic sorbent technology that can bind to hazardous chemicals in the body after exposure, reducing their uptake and bioavailability. Built on decades of research, these broad-acting enterosorbent materials can be added to food or water and ingested by humans and animals to reduce harmful contaminant exposures following natural disasters, chemical spills, and other emergencies. In our latest "Public Health Impacts" story, learn more about how the team moved [from water treatment research to edible clays that reduce harmful exposures in people and animals](#).

NIEHS Exposure Science and the Exposome Webinar Series: HHEAR

This year, SRP contributed to the [Human Health Exposure Analysis Resource \(HHEAR\)](#) initiative, which provides NIH-funded researchers access to centralized, high-quality exposure assessment services. SRP funded two Network of Exposure Analysis Laboratories focused on untargeted analysis, which SRP grantees are eligible to use.

If you missed the [NIEHS Exposure Science and the Exposome Webinar on HHEAR](#), held January 14, stay tuned for the archive on the [webinar series' YouTube playlist](#). Presentations introduced the user community to HHEAR's goals, eligibility and application processes, and laboratory and data analytic capabilities. If you have any questions, please contact Michelle Heacock

EMPLOYMENT OPPORTUNITIES

Data and Technology Advancement (DATA) National Service Scholar Program

The Office of Data Science Strategy (ODSS) at the National Institutes of Health (NIH) is pleased to announce a new opportunity for experienced data and computer scientists and engineers to tackle challenging biomedical data problems with the potential for substantial public health impact. This one to two year position will be based in one of the NIH institutes or centers or in the Office of the Director, located in Bethesda and Rockville, Maryland, or Research Triangle Park, North Carolina. During this period, DATA Scholars will lead exciting, high-profile, transformative NIH projects that leverage large data sets to advance knowledge in areas of high biomedical research impact. They will engage with policymakers, top researchers at NIH and other institutions, and industry partners at the cutting edge of data science.

Applications are being accepted until April 30 for start dates in summer 2020. The program contacts are Jessica Mazerik (jessica.mazerik@nih.gov) and Wynn Meyer (wynn.meyer@nih.gov). See the [DATA National Service Scholar Program](#) page for more details.

Assistant Professor of Water Quality Toxicology – Oregon State

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 Research Bolstered by New NIEHS Resource](#): The Human Health Exposure Analysis Resource (HHEAR) promises to strengthen research on how chemical, biological, and social stressors influence health. The program will assist eligible grantees who seek to include such analysis in their studies. Affiliated grant recipients, including those from the NIEHS Superfund Research Program, can apply.
- [Paper of the Month: New Quick Screen for Different Types of DNA Damage](#): SRP grantees and colleagues developed a new screening method that can detect a broad range of DNA damage in cells. According to the authors, this new method fills a gap in DNA damage testing and could make chemical safety testing faster, easier, and more accurate.

Visit the SRP news page for more stories about the program:

- [Early-Life PFAS Exposure May Affect Childhood Metabolism](#): Researchers at the University of Rhode Island SRP Center found that exposure to perfluoroalkyl substances (PFAS) in the womb and early childhood could alter metabolic hormones in children. These hormone changes could help explain associations between PFAS and higher childhood body mass index.

Suk Featured in Healthy Living Healthy Planet Radio

SRP Director Bill Suk [was featured on an episode of Healthy Living Healthy Planet Radio](#). He discussed the chemicals humans are exposed to throughout their lifetimes. He focused on exposure to arsenic in drinking water, food, and consumer products and the many ways it can harm human health

Ramírez Publishes Voices Unheard Project on the Web

Denise Moreno Ramírez, a coordinator for the University of Arizona SRP Center, published her [Voices Unheard](#) project on the Web. Through firsthand accounts, the project captures insights about advocacy and research efforts at Superfund sites, as well as accounts of illness. The website features [stories](#), additional [resources](#), and information on how community members can become involved with the project. The project is currently focused on [partnering with communities](#) surrounding two Superfund sites: the Iron King Mine - Humboldt Smelter and the Tucson International Airport Area.

Schaider Interviewed by Food Sleuth

University

The Department of Environmental and Molecular Toxicology is seeking an assistant professor to develop an innovative and forward-looking research program in water quality toxicology. This research, teaching, and outreach position will work closely with leaders in government and industry, colleagues in neighboring states, and public agencies, including educational institutions in Oregon and the Pacific Northwest, on complementary efforts to address water quality concerns.

The candidate should have a Ph.D. in toxicology or related field and postdoctoral experience conducting basic research, with a demonstrated track record of productivity through publication in peer-reviewed literature and experience or interest in risk analysis. To apply, see the [job posting](#) on the OSU website. For more information about the Department of Environmental and Molecular Toxicology, visit its [website](#).

Assistant Professor in Disaster Preparedness and Toxicology (Two Positions) – University of Washington

The University of Washington School of Public Health, Department of Environmental and Occupational Health Sciences, invites applications for two full-time, tenure-track faculty positions at the rank of assistant professor, beginning in fall 2020. Candidates with expertise in any discipline that informs environmental and occupational health, including but not limited to (1) disaster preparedness, resilience, and policy and (2) toxicology are welcome to apply. Candidates must have a Ph.D. or equivalent in a relevant field.

Please contact Madison Rayfield (ehahr@uw.edu) with any questions.

Laurel Schaidler, co-leader of the University of Rhode Island SRP Center's Community Engagement Core, [was featured on Food Sleuth Radio](#). She discussed PFAS contamination in water and its presence in consumer products, including nonstick cookware, food packaging, and dental floss.

Horney Cited in WalletHub

TAMU SRP Center researcher Jennifer Horney [was cited in a WalletHub article](#) on what cities can do to improve safety in the aftermath of natural disasters. Horney discussed how engaging with community members can improve disaster planning and make communities more resilient.

University of Louisville SRP Researchers Featured on PBS NewsHour

A University of Louisville SRP [study](#), funded in part by NIEHS, was [featured on PBS NewsHour](#). The Green Heart Project looked at the effect of trees on cardiometabolic health. Researchers found that areas with higher levels of residential greenness are associated with lower levels of harmful air pollutants.

Zeff featured in AGU Blog

TAMU SRP Center trainee Harrison Zeff was [featured](#) in an American Geophysical Union blog post about property values after hurricanes. Zeff found that homes inside flood zones managed to recover most of their value, but homes outside flood zones did not.

TRAINEE SPOTLIGHT

Gonsalves Works with Tribal Community to Create a Healthier Future

[Brown University SRP Center](#) trainee Summer Gonsalves works with the Center's Community Engagement Core (CEC) to promote environmental stewardship and food independence within her Narragansett Indian Tribal community.



During her studies, Gonsalves worked with CEC co-leader Marcella Thompson, Ph.D., on the [Namaus \(All Things Fish\) Project](#), which assesses contamination of tribal waterways, fish, and shellfish. Gonsalves administered household fish consumption surveys and assisted with data analysis and public outreach within the Narragansett community.

The next year, Gonsalves directed a project called [Of the Earth Harvest Boxes](#) for members of the Narragansett Tribe. The boxes contain seasonally, locally sourced produce and meats intended to reduce food insecurity and improve health within the tribe. She later partnered with the CEC to expand the program, doubling the number of harvest boxes delivered to tribal elders and families with children.

For further details and to apply, see the [job posting](#).

Faculty Positions in Environmental Health – Duke University

The Nicholas School of the Environment (NSOE) at Duke University invites applications for a faculty position in environmental health and toxicology. This is one of four areas of interest for two tenure-track assistant professorships that NSOE plans to fill in the natural sciences. They seek an outstanding and visionary candidate whose research focuses on environmental health, broadly defined to include one or more of the following areas: (1) environmental toxicology and investigations of toxic modes of action, (2) environmental exposures and health outcomes (particularly with an emphasis on health disparities and environmental justice issues), and (3) connections between ecological systems and human health.

For further details, see the NSOE's [jobs page](#).

NIEHS Training Program in Environmental Pathology Postdoctoral Fellow – Brown University

Brown University is seeking applicants for a postdoctoral fellow position through the NIEHS Training Program in Environmental Pathology. The fellow will develop an independent research project using the tools of cell biology, biochemistry, and molecular biology to study basic mechanisms of disease related to environmental exposures. He/she will also have opportunities for clinical and translational research collaborations at Rhode Island Hospital and Women & Infants Hospital, as well as field work and community outreach in Rhode Island and collaboration with the Brown SRP.

As a member of the tribe herself, Gonsalves aims to be a community caretaker and steward of the environment. She also hopes to instill these values in the next generation as a mentor of the Narragansett Indian Youth Ambassadors. The program includes cultural classes, field trips, nature outings, and guidance for tribal youth looking to apply to college.

Outside of her work with the CEC, Gonsalves enjoys traveling, reading, and gardening. She recently began volunteering for an organization that oversees 52 community gardens in Rhode Island.

HOT PUBLICATION

New Strategies to Enhance Contaminant Removal

Researchers from the University of California, Berkeley SRP Center [recently described](#) the underlying mechanisms involved in cleaning up contaminants using in situ chemical oxidation (ICSO) and identified new strategies to adjust treatment conditions to enhance contaminant removal.

When hydrogen peroxide is used for ICSO, petroleum products and other organic contaminants, such as phenols, are oxidized and broken down as the hydrogen peroxide decomposes into hydroxyl radicals. However, depending on the environmental conditions, this process may not work efficiently.

Using nuclear magnetic resonance, the team identified a new oxidative chemical formed in carbonate-rich environments as part of a chemical reaction with hydrogen peroxide. The chemical, called peroxymonocarbonate, can enhance the breakdown of certain contaminants when too few hydroxyl radicals are being formed for oxidation.

According to the authors, these fundamental results have broad implications or other sites undergoing cleanup.

AWARD WINNERS

Liu Wins Best Presentation Award at MRS Meeting

Brown SRP Center trainee Muchun Liu was awarded best presentation at the [2019 Materials Research Society Meeting](#). Lui presented a talk titled, "Mechanically Stable Graphene Oxide Membranes with Reduced Permeate Path Lengths by Vertical Nanochannel Alignment," during the 2D Nanomaterials-Based Nanofluidics Symposium.

Filmmaker Receives Grant for Project on Lead Exposure

Josalyn Smith, a Columbia University graduate, received a [2019 Sloan Science in Cinema Filmmaker Fellowship](#) to create a film called Something in the Water. The fellowship supports development of narrative feature screenplays that explore scientific or technological themes. Lex van Geen, Columbia SRP

The candidate is expected to have a Ph.D. in toxicology, molecular or cell biology, or biochemistry. Candidates must be eligible for training grant support provided by the NIEHS Training Program in Environmental Pathology. To apply, visit the [job posting](#) and upload a letter of application, curriculum vitae, and three letters of recommendation.

CURRENT RESEARCH BRIEF

[SRP Research Brief 302](#): PAH and Hypoxia Exposure Result in Mitochondrial Dysfunction in Fish (Richard Di Giulio, Duke University)

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).

In December 2019, NIEHS began posting video summaries of SRP Research Briefs. The videos are available on the NIEHS [Social Media Shorts](#) YouTube page.

SRP EVENTS

[PEPH 2020: Past, Present, and Future](#)

February 12-13, 2020
Durham, North Carolina

[2020 Northeast SRP Meeting](#)

March 26-27, 2020
Providence, Rhode Island

[2020 Toxicology and Risk Assessment Conference](#)

April 20-23, 2020
Cincinnati, Ohio

[SETAC 8th World Congress](#)

September 6-10, 2020
Singapore

GET UPDATES FROM OTHER SRP GRANTEEES

Check out the [Grantee Publications](#)

co-director, is the scientific advisor for the project.

Landes Receives Outstanding Presentation Award at Fall AGU Meeting

Columbia University SRP trainee Franziska Landes received the Outstanding Student Presentation Award at the [American Geophysical Union's Fall Meeting](#) in December 2019. Landes' presentation was titled "Identifying Lead Contamination at the Source of Exposure: Collaborating with Community Members to Protect Public Health."

FUNDING OPPORTUNITIES

Biomedical Knowledgebase (U24 – Clinical Trials Not Allowed)

The funding opportunity announcement for [Biomedical Knowledgebase \(U24 – Clinical Trials Not Allowed\)](#) has been published, with an open date of August 25, 2020. Please see the announcement for due dates.

This funding opportunity supports biomedical knowledgebases with the primary function to extract, accumulate, organize, annotate, and link growing bodies of information related to core datasets. Support for data curation should include efficient and effective methods that scale to the needs of the community and include semi-automated methods. Support for software and tool development must be limited to that which provides essential functions or significantly increases the efficiency of operation of the knowledgebase. Applications that have a significant focus on software or tool development are not appropriate for this activity.

Biomedical Data Repository (U24 – Clinical Trials Not Allowed)

The funding opportunity announcement for [Biomedical Data Repository \(U24 – Clinical Trials Not Allowed\)](#) has been published, with an open date of August 25, 2020. Please see the announcement for due dates.

This funding opportunity is designed to support biomedical data repositories with the primary function to ingest, archive, preserve, manage, distribute, and make accessible the data related to a particular system or systems. Support for data curation must be limited to that which improves the efficiency and accessibility of data ingestion, management, and use and reuse by the user communities. Support for software and tool development must be limited to that which provides essential functions or significantly increases the efficiency of operation of the repository. Applications that have a significant focus on software and tool development are not appropriate for this activity.

CALL FOR ABSTRACTS

Toxicology and Risk Assessment Conference

page for the latest publications.

Visit the [Materials for Grantees](#) page for helpful resources, such as information on SRP administrative supplements, 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 Us](#) page.

The [2020 Toxicology and Risk Assessment Conference \(TRAC\)](#) will be held April 20-23, 2020 in Cincinnati, Ohio. The conference provides attendees with an overview of current research, as well as methodological and practical issues that are the focus of toxicology and risk assessment efforts in various federal agencies, academic institutions, industry, and other organizations. This year, TRAC will include a full day dedicated to PFAS issues that are being addressed within the government, including a session on remediation and a session focused on human health effects.

The deadline to [submit poster abstracts](#) for TRAC is **February 14, 2020 at 10:00 a.m. EST**.

DATA SCIENCE AND DATA SHARING

Request for Comment on Desirable Characteristics of Repositories for Managing and Sharing Data from Federally Funded Research

The White House Office of Science and Technology Policy is [seeking public comments](#) on a draft set of desirable characteristics of repositories used to locate, manage, share, and use data resulting from federally funded research. The request for comments was issued on behalf of the multi-agency Subcommittee on Open Science of the National Science and Technology Council's Committee on Science. It will help inform implementation of the NIH's data management and sharing policy regarding the long-term preservation of data resulting from federally funded researchers. Public comments are due by 11:59 p.m. EST on **Friday, March 6, 2020**.

Data Supplement Webinar Held in January

On January 16, NIEHS hosted a data supplement webinar on ontologies. Jeanette Stingone of Columbia University's Mailman School of Public Health presented on ontologies and how her group has applied them to the Children's Health Exposure Analysis Resource – now the Human Health Exposure Analysis Resource (HHEAR). Ramona Walls of [CyVerse](#) and the University of Arizona presented on extending the use of ontologies to environmental science and engineering. Attendees were able to ask the presenters questions about using ontologies in use cases.

Attendees of the webinar were encouraged to read Stingone's article, [Big and disparate data: considerations for pediatric consortia](#), as well as an article on [bio-ontology](#).

NIH Data Science Resources

With vast biomedical data within and across NIH's 27 institutes and centers (ICs), the Office of Data Science Strategy (ODSS) is working with technical leaders of the ICs to support efficient and effective research data infrastructure, promote a data-resource

ecosystem, and adopt emerging technologies for data analytics.

As part of this effort, the [NIH ODSS website](#) is providing data science information and tools, upcoming events, and recent news related to NIH data science initiatives. In addition, the NIH National Network of Libraries of Medicine provides a [repositories webpage](#) that lists research data repositories, repository software, and publications on data repositories. SRP's [Data Sharing](#) webpage also includes a listing of publicly accessible datasets related to SRP-funded publications, as well as relevant data sharing resources.

PHOTO OF THE MONTH



Joseph Graziano, Ph.D., and Mary Gamble, Ph.D., researchers with the Columbia SRP Center, interact with study participants and staff in Araihasar, Bangladesh. The Center works to reduce arsenic exposure and toxicity in human populations in Bangladesh and the U.S. (Photo courtesy of the Columbia University SRP Center)