



Superfund Research Program *e-Posted Notes*

July 9, 2021 (Issue 210)

HEADLINES

Call for Applications: Karen Wetterhahn Award

The SRP is currently accepting applications for the annual SRP Karen Wetterhahn Memorial Award. The winner will be announced and present their work at the SRP Annual Meeting in December. The SRP established this award to recognize an outstanding graduate student or postdoctoral trainee that best demonstrates the qualities of scientific excellence exhibited by Karen Wetterhahn, who passed away in 1997. The award is open to all SRP trainees who are funded directly by an SRP grant (P42 or R01) or are conducting research or activities funded by an SRP grant.

Visit the [Wetterhahn webpage](#) for guidelines and information about how to apply. The application deadline is **Aug. 3**. Please contact Danielle Carlin (danielle.carlin@nih.gov) or the Program Administrator assigned to your SRP grant if you have questions.

SRP Risk Communication Workshop

The SRP hosted a [Risk Communication Strategies to Reduce Exposures and Improve Health](#) workshop June 21-22, which brought together SRP grantees, partners, and colleagues. Workshop participants discussed strategies for effective risk communication to reduce exposures and improve health. SRP grantees delved into risk communication concepts and built on lessons learned, needs, and next steps. Experts in health communication and related social science fields discussed research on understanding risk perception, designing communication messages, evaluating impact, and adapting risk communication strategies for different populations. If you could not tune in to the workshop but are interested in listening to some of the sessions, please contact sara.amolegbe@nih.gov. You can also read more about it in the [July Environmental Factor newsletter](#).

SRP Risk e-Learning Webinar Series – Final Session Rescheduled

The SRP is hosting a Risk e-Learning webinar series focused on SRP-funded data science projects that are enhancing the integration, interoperability, and reuse of data. With these supplements, SRP encourages data sharing among its grantees to accelerate scientific discoveries, stimulate new collaborations, and increase scientific transparency and rigor. The series will also

EMPLOYMENT OPPORTUNITIES

University of Kentucky Seeks Postdoctoral Scholar

The University of Kentucky is seeking a postdoctoral scholar in environmental epidemiology. The scholar will contribute to research on early life and adolescent environmental exposures and neurodevelopmental health as part of ongoing projects in the Haynes Research Laboratory in the Department of Epidemiology. The scholar will lead analyses and manuscripts evaluating neurodevelopmental health outcomes and exposure to metals and PFAS. For more information, please see the [job description](#).

Community-Engaged Research Job Opportunity at Mayo Clinic

Mayo Clinic is recruiting faculty positions to serve as associate directors of the [Center for Health Equity and Community Engagement Research \(CHCR\)](#) at the Arizona and Minnesota campuses. The CHCR serves as the research hub for health equity and community engagement at the Mayo Clinic. Successful candidates are expected to be at the associate or full professor level, have a track record in peer-reviewed extramural funding, to lead their own cutting-edge research program, and to provide leadership and direction for CHCR in collaboration with other leaders at each campus. For more information, see the [job description](#).

Postdoctoral Fellowship -

feature outside speakers who have expertise in data sharing tools and initiatives.

The third and final session, [Integrating Omics Data Across Model Organisms and Populations](#), will be held **Aug. 3, 2:00 - 4:00 p.m. EDT**. It will feature SRP-funded researchers who are collaborating to combine omics (e.g., genomics, proteomics) data across model organisms as well as studies in human populations. We will also hear from [The Global Alliance for Genomics and Health](#) about their work to standardize pipelines across model organisms and incorporate high-level data models to align with human health research.

- **Monica Munoz-Torres, Ph.D., Anne Thessen, Ph.D., and Melissa Haendel, Ph.D.**, University of Colorado, Anschutz Medical Campus
- **Mark Hahn, Ph.D., and Adam Labadorf, Ph.D.**, Boston University
- **Christian Powell**, University of Kentucky
- **Andres Cardenas, Ph.D., and Anne Bozack, Ph.D.**, University of California (UC), Berkeley
- **Moderator: Stephanie Holmgren**, NIEHS Office of Data Science

See the [Risk e-Learning webinar series webpage](#) for more information and links to the recorded archives.

NIEHS Environmental Health Language Collaborative

NIEHS initiated the [Environmental Health Language Collaborative](#) to advance development of harmonized language for describing environmental health science research. To kick-start the initiative, NIEHS is hosting a series of events:

- The [first event](#), held June 24, highlighted the benefits of the environmental health sciences community coming together to develop and adopt a harmonized language. In addition, a proposed community model was presented and followed by a discussion with attendees to gather input on the community proposal.
- The [second event](#) will be held **July 20** as a primer on terminologies, vocabularies, and ontologies, and how to use them.
- Further discussion on the development and adoption of environmental health language standards through the formation of a sustained community effort will be the focus of a two-day workshop, **Sept. 9-10**, titled [Catalyzing Knowledge-Driven Discovery in Environmental Health Sciences Through a Harmonized Language](#).

If you would like to join the community of researchers, ontologists, informaticists, and systems developers working together on environmental health common language standards, please sign up for the [EHLC email distribution list](#). If you have questions about the initiative or the workshop, please contact Stephanie Holmgren (holmgre1@niehs.nih.gov).

ISES Annual Meeting

University of Rochester

The University of Rochester Medical Center is accepting applications for a postdoctoral fellow in environmental and perinatal epidemiology. The fellow will analyze and publish data from a prospective pregnancy cohort study to examine adverse pregnancy outcomes from maternal air pollution exposure. Applicants should have knowledge of epidemiology and biostatistics and must have a Ph.D. or Sc.D. in a related field. To apply, please submit a cover letter, curriculum vitae, two names for letters of reference, and 1-2 representative publications to David Rich (David_Rich@urmc.rochester.edu).

Columbia University Seeks Assistant and Associate Professors

The Department of Environmental Health Sciences at Columbia University's Mailman School of Public Health seeks applicants for a cluster hire of 4-5 tenure track faculty positions at the level of Assistant and Associate Professor or higher. They are seeking scholars with a doctorate degree in environmental health or related field who are particularly interested in environmental justice, environmental health inequalities, children and maternal environmental health, and related areas. For more information, see the [assistant professor](#) and [associate professor](#) job descriptions.

Postdoctoral Opportunities at the University of Southern California

The Division of Environmental Health at the University of Southern California (USC) seeks two postdoctoral fellows in environmental epidemiology and environmental justice. For more information, see the [USC careers page](#).

Postdoctoral Opportunities at the University of Southern California

Two postdoctoral training positions

The International Society of Exposure Science (ISES) annual meeting, [Multisector Engagement for Addressing Emerging Environmental Exposures](#), will be held virtually **Aug. 30 - Sept. 2**. University of Kentucky (UK) SRP-funded researcher, Erin Haynes, and NIEHS Health Specialist, Liam O'Fallon, are part of the planning committee.

To kick-start the event, ISES is hosting a series of [pre-conference workshops](#), including:

- Demystifying the NIEHS Grant Process to Attract and Retain Diverse Talent for the Environmental Health Sciences, **July 30**. This workshop will feature NIEHS Health Scientist Administrator Melissa Smarr, and several SRP-funded researchers.
- An Introduction to Implementation Science for Environmental Health, **Aug. 30**, which will feature NIEHS Health Scientist Administrator Lindsey Martin.

In a special 90-minute session **Aug. 30**, ISES will join the International Society of Environmental Epidemiology for a panel discussion titled [Systemic Racism Environmental Health Disparities Research](#). The joint session will feature federal government leaders, including NIEHS Director Rick Woychik, and environmental health researchers, such as University of Arizona SRP researcher Karletta Chief.

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: Promising new target for oral cancer treatment](#): NIEHS-funded researchers identified how the aryl hydrocarbon receptor, an environmental chemical receptor, suppresses the body's immune response to oral cancer.
- [Extramural paper of the month: Widely used herbicide linked to preterm birth](#): Exposure to glyphosate — the most heavily used herbicide in the world — was associated with preterm birth, according to a new NIEHS-funded study. It is the first study to assess the link between exposure to a glyphosate breakdown product and birth outcomes.

Visit the SRP page for more stories about the program:

- [Advancing Environmental Justice](#): From being selected for prestigious committees to supporting webinar series, SRP grantees and their partners are addressing the challenges and complexities of environmental justice.

Brewer Featured in NIEHS Podcast

UK SRP Center researcher and Community Engagement Core (CEC) leader Dawn Brewer was recently featured in an NIEHS podcast, [Eating a Healthy Diet to Protect Against Pollution](#).

in environmental epidemiology are available at the Emory University School of Public Health. For more information, see the [job posting](#) or contact Adrienne Schwartz (adrienne.schwartz@emory.edu).

CURRENT RESEARCH BRIEF

[SRP Research Brief 319](#): Analyzing Chemicals and Genes Yields Novel Insight into PAH Behavior (Simonich, Oregon State 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).

Video summaries of the SRP Research Briefs are available on the [NIEHS Social Media Shorts YouTube page](#).

EVENTS

[Big Data in Environmental Science and Toxicology Series 2021](#)

Sponsored by the Texas A&M SRP Center July through December 2021: 6 Months—6 Sessions
Virtual

[SPARC FAIR Codeathon](#)

July 12-26, 2021
Virtual

[NIEHS Environmental Health Language Collaborative Pre-workshop](#)

July 20, 2021
Virtual

[The Exposome Boot Camp: Measuring Exposures on an Omic Scale](#)

July 22-23, 2021
Virtual

[International Conference on Intelligent Systems for Molecular Biology](#)

July 25-30, 2021
Virtual

[ISES/ISEE Joint Session Pre-](#)

Brewer discussed how a healthy diet can protect against the harmful effects of pollution. She also described an intervention called BerryCare, which the UK SRP CEC launched with community partners to encourage Kentucky residents to eat more fruits and vegetables.

Hornbuckle Quoted in PCB News Story

University of Iowa SRP Center Director Keri Hornbuckle was quoted in a [Burlington, Vermont news story](#) regarding the closure of a high school after high levels of polychlorinated biphenyls (PCBs) were found in some classrooms. The local school board voted to terminate a \$70 million high school renovation project and instead build a new school. Hornbuckle has studied PCBs for decades and noted PCBs were commonly used in many schools built between the 1950s and late 1970s.

TAMU SRP Center Promotes Local Vaccination Events

Texas A&M SRP Center CEC leader Garret Sansom was featured in a [local news story](#) for partnering with local neighborhoods to bring COVID-19 vaccinations directly to communities. Sansom said their two goals with these events are to distribute accurate information to the community and to provide equitable access to the vaccine. He commented on how quickly misinformation can travel, and how small group events are crucial to convincing people to get vaccinated.

Sunderland Quoted about PFAS

University of Rhode Island SRP Center project leader Elsie Sunderland was quoted in a [Boston Globe article](#) about elevated levels of per- and polyfluoroalkyl substances (PFAS) found in the drinking water of several communities in Massachusetts. Sunderland was also quoted in a WebMD article regarding the presence of PFAS in different types of cosmetics in the U.S. and Canadian markets.

Rohlman Interviewed About PAHs

Oregon State University (OSU) SRP Center investigator, Diana Rohlman, was recently interviewed for an [EatingWell article](#) regarding dietary sources of polycyclic aromatic hydrocarbons (PAHs) and ways to reduce exposure. Rohlman co-leads the OSU SRP Research Translation Core.

TRAINEE SPOTLIGHT

Exploring the Interplay Between Nutrition and Environmental Toxins

Former UK SRP Center postdoctoral trainee, Pan Deng, recently landed a job as an assistant professor at UK.

Deng completed her postdoctoral research under the guidance of former UK SRP Center Director Bernhard Hennig, where she

[Conference Workshop-](#) Melissa Smar: Demystifying the NIEHS Grant Process to Attract and Retain Diverse Talent for the Environmental Health Sciences
July 30, 2021
Virtual

Risk E-Learning Webinar Series
[Session III: Integrating Omics Data Across Model Organisms and Populations](#)
August 3, 2021
Virtual

[ISES/ISEE Joint Session Pre-Conference Workshop-](#) Lindsey Martin: An Introduction to Implementation Science for Environmental Health
August 30, 2021
Virtual

[ISES & ISEE Joint Session-](#) Systemic Racism Environmental Health Disparities Research
August 30, 2021
Virtual

[ISES Sensor & Technology Fairs](#)
August 31, 2021
September 1, 2021
Virtual

[NIEHS Environmental Health Language Collaborative Workshop](#)
Sept. 9-10, 2021
Virtual

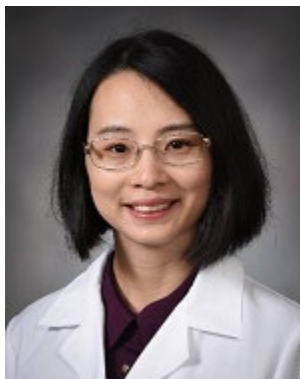
[International Data for Policy Conference](#)
September 14-16, 2021
Raleigh, North Carolina

[International Conference on Biomedical Ontologies](#)
September 15-18, 2021
Bozen-Bolzano, Italy and Virtual

[FLUOROS 2021 Symposium](#)
October 3-6, 2021
Providence, Rhode Island

[SRP 35th Anniversary Annual Meeting](#)
December 15-17, 2021
Raleigh, North Carolina

[International Data Week](#)
June 20-23, 2022



studied the effects of persistent organic pollutants, such as PCBs and PFAS, on metabolic diseases. She also focused on nutritional intervention strategies to protect against these effects.

According to Deng, her postdoctoral training provided her with a unique skillset to study metabolic disorders in cells and rodents, a key factor in her career development.

In a [recent study](#), Deng and team used advanced metabolomics approaches to track how the gut microbiome metabolizes fiber from the diet. This work revealed the ability of microbes to generate many important metabolites that could potentially modulate human health and disease. According to Deng, this study reveals the intricate connections between diet, the gut microbiome, and human health, and could pave the road to nutritional and therapeutic interventions for people exposed to contaminants.

Today, Deng works alongside Hennig to co-lead the SRP-funded project that helped jumpstart her career, where she studies the development of metabolic disorders and explores intervention strategies using biochemical fingerprinting. Through this research, she hopes to make valuable contributions to precision medicine that would benefit patients suffering from chronic and life-threatening diseases worldwide.

Deng recently received a [Pilot Program Early Career Investigator Award](#) from UK to study the effects of PFAS on the metabolism of a type of blood cell, which could provide new knowledge on the immunotoxicity of PFAS. Outside of the lab, Deng spends as much time as possible with her husband and two daughters. She is also an avid reader and loves to travel and learn about new cultures.

Check out Deng's [UK SRP Center video](#) where she describes the mechanisms by which a high-fiber diet could counteract the toxic effects of PCBs. If you are trainee who has developed a video describing your research, please submit it via the [Data Collection Tool](#) so you can be featured in an upcoming e-Posted newsletter!

HOT PUBLICATION

First-of-its-Kind Model Simulates VOCs in Sewer Gas

Researchers from the UK SRP Center [developed an innovative model](#) to simulate the concentration of volatile organic compounds (VOCs) in sewer gas. The model can be used as a tool to support sewer assessment guidelines, risk assessment studies, and strategies that protect health.

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

Near hazardous waste sites, VOCs can be transported through sewer pipes and migrate into indoor spaces through a process called vapor intrusion where humans may then inhale the harmful chemicals. However, numerical models that provide guidance to characterize and predict VOC concentrations in sewer gas at vapor intrusion sites have not been available until now.

The team, led by Center Director Kelly Pennell, included various factors in the model, such as temperature, groundwater depth, and sewer construction characteristics to incorporate a range of conditions. They also accounted for processes, like mass transfer and vapor diffusion, that affect how VOCs move and change in the sewer system. The researchers verified the model's predictions using field data from a sewer system constructed near a Superfund site. They analyzed how well the model worked under different conditions, and found it was flexible enough to account for variations in factors that influence VOC concentrations, such as temperature.

While additional refinements are needed to reflect complex sewer systems, the team's unique combination of field studies and modeling approaches revealed new insights into potential exposure risks from sewer gas inhalation resulting from vapor intrusion.

AWARD WINNERS

University of Iowa SRP Researchers Recognized

University of Iowa SRP Center project co-investigator Jonathan Doorn was recently promoted to Chair of the University of Iowa College of Pharmacy Department of Pharmaceutical Sciences and Experimental Therapeutics. Doorn studies how the metabolism of the neurotransmitter dopamine plays a role in neurotoxicity and disease.

Analytical Core researcher Rachel Marek was awarded the University of Iowa College Engineering Staff Excellence Award for Research for her work on PCBs in human blood serum, contaminated sediments, and air.

NCSU Trainees Shine

- North Carolina State University (NCSU) SRP Center trainee Nmandi Osakwe won the Best Poster award at the [2021 NCSU Genomic Science Symposium](#) for his presentation entitled "Building Comprehensive Models of Environmental Integrity." Another trainee, Preethi Thunga, won the Best Presentation award for her oral presentation titled "High-Throughput Chemical Hazard Identification Using Behavioral Assessments in Zebrafish."
- Thunga also won the [PackHacks](#) competition, a 24-hour hackathon at NCSU, for building an interactive dashboard for estimating and comparing student debt.
- Trainee Kaylie Kirkwood won the first place for the best platform presentation at the [2021 Carolinas and Southeast SETAC Joint Annual Meeting](#). Kirkwood's presentation was titled "Utilizing Pine Needles and Untargeted Multidimensional

Need to get in touch with an NIEHS SRP staff member? Check out our [Contact Staff](#) page.

Measurements to Monitor Legacy and Emerging Per- and Polyfluoroalkyl Substances (PFAS) in North Carolina.”

- Adrian Green was elected as the 2021-22 postdoctoral representative to the Computational Toxicology Study Section of the Society of Toxicology. Green is mentored by Data Management and Analysis Core leader David Reif.
- Dylan Wallis, another trainee at the Reif lab, was selected to serve on the NCSU Committee on Diversity, Equity, and Inclusion. This committee advises the dean on efforts to foster an inclusive, accessible, equitable, and diverse climate within the college community.

URI SRP Trainees Triumph

University of Rhode Island (URI) SRP Center trainee Alicia Crisalli was awarded the [URI College of Pharmacy William Potter Prize](#) for 2020-2021. Crisalli, who is co-mentored by URI SRP project leaders Angela Slitt and Elsie Sunderland, was selected for her academic achievement in chemistry. Heidi Pickard, a URI trainee also mentored by Sunderland, received a [scholarship by the Natural Sciences and Engineering Research Council of Canada](#). The scholarship provides financial support to researchers pursuing a doctoral degree in the natural sciences or engineering.

Rebuli Receives Young Investigator Award

Meghan Rebuli won the Young Investigator Award for the Society of Toxicology's Inhalation and Respiratory Specialty Section. Rebuli co-leads the Research Experience and Training Coordination Core at the University of North Carolina at Chapel Hill SRP Center.

Iowa Trainee Elected Graduate Student Body President

Iowa SRP Center trainee Moala Bannavti was elected President of the University of Iowa Graduate and Professional Student Government, which represents Iowa's 10,000 graduate and professional students. Mentored by Iowa SRP Center Director Keri Hornbuckle, Bannavti's research focuses on measuring airborne PCBs in schoolrooms.

May Receives Outstanding Engagement Award

NCSU SRP CEC leader Katlyn May won the [NCSU 2020 Outstanding Engagement Award](#), which recognized her work with communities impacted by PFAS contamination. May was recognized at NCSU's [Outreach and Engagement Awards Ceremony](#) on April 16, 2021.

FUNDING OPPORTUNITIES

Virtual Consortium for Translational/Transdisciplinary Environmental Research

NIEHS issued a [Notice of Intent](#) to reissue 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/or translational research efforts among fundamental, clinical, and population-based researchers in the environmental health field. A FOA will be posted in the fall, with an estimated application due date for **Feb. 2022**. For more information, please contact Heather Henry (henryh@niehs.nih.gov).

Data Generation Projects for the NIH Bridge to Artificial Intelligence Program

The [Bridge to Artificial Intelligence \(Bridge2AI\)](#) Program plans to support several interdisciplinary Data Generation Projects ([OTA-21-008](#)) and one complementary cross-cutting Integration, Dissemination and Evaluation (BRIDGE) Center ([NOT-RM-21-021](#)) to produce datasets for use in biomedical and behavioral science discoveries driven by applications of artificial intelligence and machine learning. A letter of intent for these funding opportunities must be submitted by **July 20** and applications are due **Aug. 20**.

Bridge2AI is designed to help propel biomedical research forward by setting the stage for widespread adoption of artificial intelligence and machine learning that tackles complex biomedical challenges beyond human intuition. Read more about the vision for this new program in a recent [National Library of Medicine Director's blog](#).

DoD Minerva Research Initiative

The Department of Defense (DoD) seeks proposals for the Minerva Research Initiative, which aims to increase DoD's intellectual capital in the social sciences and improve its ability to address future challenges and build bridges between the Department and the social science community. The initiative is for research related to nine interest areas, including Social Implication of Environmental Change. Applications are due **Sept. 29**. For more information, see the [Grant Opportunity Notice](#).

Understanding and Addressing the Impact of Structural Racism and Discrimination on Minority Health and Health Disparities

The National Institute on Minority Health and Health Disparities, with other NIH Institutes, Centers, and Offices is soliciting applications for (1) observational research to understand the role of structural racism and discrimination in causing and sustaining health disparities, and (2) intervention research that addresses structural racism and discrimination to improve health in minority populations or reduce health disparities. An FOA will be published soon with an estimated application deadline of **Aug. 20**. For more information, see the [Notice of Intent to Publish](#) for this funding opportunity. Please contact Lindsey Martin (lindsey.martin@nih.gov) if you have questions about NIEHS areas of interest.

NIH Support for Research Excellence

NIH has released two funding opportunities for a new program titled Support for Research Excellence (SuRE). SuRE is a

research capacity building initiative designed to develop and sustain research excellence in higher education institutions that receive limited NIH research support and serve students who are underrepresented in biomedical research.

- [PAR-21-173](#): First Independent Research (SuRE-First) Award (R16 - Clinical Trial Not Allowed). Applications are due **Sept. 28**.
- [PAR-21-227](#): Resource Center for the Support for Research Excellence (SuRE) Program (U24 - Clinical Trial Not Allowed). Applications are due **Sept. 24**.

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

NIH announced a collaboration with the 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](#).

DATA SCIENCE AND DATA SHARING

UNC SRP Uses Computational Modeling to Predict Biology

In a [recent study](#), UNC SRP Center researchers integrated machine learning with toxicokinetic modeling to develop an approach to more successfully leverage data from cell studies to inform and predict responses to chemicals in animals or humans. Toxicokinetics is the study of the absorption, distribution, biotransformation, and excretion of toxicants in an organism. According to the authors, these approaches could allow for a more rapid identification of chemical treatment strategies.

Artificial Intelligence in Multiomic Studies

In a [recent publication](#), NCSU and TAMU researchers discussed the capabilities of artificial intelligence techniques in studies that involve multiple omics (e.g., genomics, proteomics, metabolomics). Data available from multi-omic assessments requires both the evaluation and interpretation of extremely large data sets, limiting analysis throughput and ease of adoption. According to the authors, technology developers and analytical chemists must work together to solve current limitations of multi-omic studies to gain a more holistic understanding of each system being studied to improve disease diagnosis and treatment.

How to Make Nano Safety Data FAIR

The GO FAIR AdvancedNano Implementation Network (IN) published a video to explain how you can make nano safety data FAIR and, if interested, how to join their IN. If you struggle with

the re-usability of your data, watch this [short video](#) to learn how the FAIR guiding principles could lead your way. GO FAIR is a bottom-up, stakeholder-driven, and self-governed initiative that works to implement the FAIR data principles.

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. Through the course of six sessions, held once a month from July through December, attendees will engage with SRP researchers and other data science experts to learn about manipulating data and placing research into context. The first session, titled [How to Place Your Research Questions or Results Into the Context of the "Legacy" Toxicology Data?](#), will be held **July 14**. For more information about specific sessions, please see the [course website](#).

Workshop on Synergizing Biomedical Ontologies

NIH, the Collaborative Drug Discovery, and the University of Ohio are organizing a workshop to stimulate conversation around the best practices for synergizing ontologies, with an emphasis on collaborative development and dynamic workflows. The two-day event will be held **July 14-15**. For more information, see the [event page](#).

The Promise of NHLBI Data Science

The National Heart, Lung, and Blood Institute (NHLBI) is hosting a virtual workshop, ["The Promise of NHLBI Data Science."](#) on **July 20-21**. The workshop will bring together experts in big data, health, and computer science to explore data generated from NHLBI observational cohort studies, registries, repositories, and science studies. Speakers will also discuss the value of collaborations between domain experts, including computer scientists, engineers, and statisticians, and much more. For questions regarding the workshop, please contact Erin Iturriaga at erin.iturriaga@nih.gov.

Exposome Boot Camp

Organized by the Columbia University SRP Center, the [Exposome Boot Camp: Measuring Exposures on an Omic Scale](#) will be held **July 22-23**. The exposome is the measure of the lifetime exposures of an individual and how these exposures relate to health. Led by a team of expert scientists studying the exposome, the boot camp will integrate seminar lectures with hands-on computer lab sessions to put concepts into practice. Emphasis will be given to leveraging existing resources from ongoing studies and initiating new investigations.

ISMB/ECCB 2021

The annual international conference on Intelligent Systems for Molecular Biology (ISMB), which has grown to become the world's largest bioinformatics and computational biology conference, is the flagship meeting of the International Society for Computational Biology. Joining forces with the European

Conference on Computational Biology (ECCB), [ISMB/ECCB 2021](#) will provide an intense multidisciplinary forum for disseminating the latest developments in bioinformatics and computational biology. Each day of the conference, which will be held **July 25-30**, will include keynote lectures, technical talks, a variety of workshops, special sessions, equal opportunities activities, and a student organized symposium.

Open Science FAIR Conference

The third Open Science Fair Conference, an international event for all topics related to open science, will be held **Sept. 20-23**.

The event will include keynotes by distinguished speakers, roundtable discussions, workshops, and training sessions. The conference organizers are looking for proposals for workshops, lightning talks, and demos. Proposals are due **July 27**. This is an opportunity for individuals, teams, and projects to showcase the latest knowledge and potential solutions to support open science and FAIR data practices. For more information, see the [event website](#).

Bioinformatics and Computational Biology Symposium

The NIH Library Bioinformatics Support Program will host a free virtual [Bioinformatics and Computational Biology Symposium](#) **Sept. 9**. The event will feature keynote lectures, presentations on bioinformatics techniques, and research talks from authors of bioinformatics proceedings. The morning sessions will focus on epigenomics, protein structures, and proteomics. Afternoon sessions will feature genomics and single cell sequencing.

Workshop on Conceptual Modeling, Ontologies and (Meta)data Management for FAIR Data

The goal of this workshop is to discuss challenges, solutions, and impact of the use of conceptual modeling and metadata and data management to support: 1) the improvement of FAIRness in digital objects and 2) the adoption of the FAIR principles to guide improvements in conceptual modeling. The event will be held **Oct. 18-21** in St. John's, Canada. For more information, and to register, please visit the [event 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](#).

PHOTO OF THE MONTH



Erin Hull, a research technologist at the lab of University of Washington SRP researcher James Gawel, collects water samples and measurements in lakes in Washington State to measure arsenic contamination. This is part of a SRP-funded project led by Gawel and Rebecca Neumann to assess arsenic mobility, bioaccumulation, and ecological toxicity in shallow urban lakes.

