

Superfund Research Program *e-Posted Notes*

July 10, 2020 (Issue 198)

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 will present their work at the [SRP Annual Meeting](#) in College Station, Texas (Note: given the current COVID-19 situation, flexibility for the Wetterhahn presentation will be given as needed). The SRP established this annual 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 **August 4 at 5:00 pm ET**. Contact Danielle Carlin or the assigned Program Administrator to your SRP grant if you have questions.

2020 K.C. Donnelly Award Winners Announced

Congratulations to 11 exceptional SRP trainees who received a 2020 K.C. Donnelly Externship Award Supplement to enrich their research in environmental health science! This year's awardees are: Ahlam Abuawad, Juliana Agudelo, Jogen Atone, Jessica Ewald, Jamie Kelly, Katlyn McGraw, Yvonne Rericha, Anna Robuck, Maya Spaur, Paige Varner, and Hao Wang. Learn more about the trainees and their awards on the [2020 Winners webpage](#).

The award provides the SRP trainees with [funding for an externship](#) at other SRP centers, government laboratories, and state, local, or tribal agencies to support transdisciplinary research and collaboration. Applications are accepted between January 1 and January 31 of each year. We encourage trainees to start contacting potential externship mentors before beginning their applications.

NIH Opportunities to Support COVID-19 Research

[Notice of Special Interest \(NOSI\): NIEHS Support for](#)

EMPLOYMENT OPPORTUNITIES

Volunteer Associate Editor – Environmental Health Perspectives

The journal Environmental Health Perspectives (EHP) would like to add a new associate editor with expertise in the social sciences and/or community-engaged research to its Board of Associate Editors. EHP is interested in researchers with relevant expertise in one of the social sciences and familiarity with both quantitative and qualitative research methods.

Associate editors evaluate papers that are being considered for full peer review, solicit peer reviewers, and summarize reviews in a recommendation to the editor-in-chief. The ideal candidate has a strong sense of the relevant research field, an aptitude to recognize things that are novel and important, the ability to handle manuscripts across a wide range of topics and disciplines, and a good network of experts they can call upon to conduct reviews.

To nominate yourself or a colleague, send an email to ehpsubmission@niehs.nih.gov that includes the nominee's name and a brief explanation of their background and subject matter that they are most qualified to handle. Self-nominating candidates should also include a brief explanation of why they are interested in being an EHP

[Understanding the Impact of Environmental Exposures on COVID-19](#) for mission-relevant research to understand the impact of environmental exposures on COVID-19 and its causative agent, SARS-Cov-2. **The next due date is August 3, with subsequent due dates at the beginning of each month until May 3, 2021.**

[Community Interventions to Address the Consequences of the COVID-19 Pandemic among Health Disparity and Vulnerable Populations \(R01- Clinical Trial Optional\)](#) encourages research with NIH-designated health disparity populations and other vulnerable groups on community interventions to address the adverse effects of SARS-CoV-2 and COVID-19. **Application due dates: August 28, 2020; December 1, 2020.**

The NIH launched the Rapid Acceleration of Diagnostics (RADx) initiative to speed innovation in the development, commercialization, and implementation of technologies for COVID-19 testing. Four RADx-UP funding opportunities have been published:

- [Notice of Special Interest \(NOSI\): Emergency Competitive Revisions for Social, Ethical, and Behavioral Implications \(SEBI\) Research on COVID-19 Testing among Underserved and/or Vulnerable Populations](#), **Application Due Dates: August 7, 2020; September 8, 2020.**
- [Notice of Special Interest \(NOSI\): Emergency Competitive Revisions for Community-Engaged Research on COVID-19 Testing among Underserved and/or Vulnerable Populations](#), **Application Due Dates: August 7, 2020; September 8, 2020.**
- [Notice of Special Interest \(NOSI\): Limited Competition for Emergency Competitive Revisions for Community-Engaged Research on COVID-19 Testing among Underserved and/or Vulnerable Populations](#), **Application Due Date: August 7, 2020**, Note: SRP P42 Centers are eligible to apply to this limited competition funding opportunity.
- [Emergency Awards: RADx-UP Coordination and Data Collection Center \(CDCC\) \(U24 Clinical Trial Optional\)](#), **Application Due Date: August 7, 2020.**

If interested in applying, please be sure to watch the [archive of the June 26 informational webinar](#). If you have any questions about the above opportunities, please feel free to reach out to your Program Officer or the NIEHS contact listed in the NOSI for more information. Visit the [NIH Coronavirus resource page](#) for the latest research information from NIH, including grants and funding information.

SRP Risk e-Learning Series: Exposures and Latent Disease Risk Archives Now Available

In June, SRP hosted the final sessions of the Risk e-Learning webinar series focused on understanding the health effects of exposures when there is a lag between exposure and the onset of

associate editor. For more information, see the [announcement](#).

Postdoctoral Research Scholar – North Carolina State University

North Carolina State University seeks a postdoctoral research scholar in the department of forestry and environmental resources. The selected post-doc will manage a field study measuring air quality in an environmental justice community impacted by a hazardous waste thermal treatment facility. Specific responsibilities will include participating in community meetings to finalize the study plan, setting up a network of continuous and real-time samplers, analyzing data, preparing manuscripts for publication, and presenting findings at scientific meetings. For more information and to apply, please refer to the [job posting](#).

CURRENT RESEARCH BRIEF

[SRP Research Brief 307](#): Clay Layers May Worsen Arsenic Contamination (Alexander van Geen, Columbia 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).

SRP EVENTS

[2020 SRP Annual Meeting](#)
December 14-16, 2020
College Station, Texas

[FLUOROS 2021 Symposium](#)
September 26-29, 2021
Providence, Rhode Island

[SETAC 8th World Congress](#)
Postponed (New date TBD)
Singapore

the disease. The series attracted more than 1,700 live participants over four sessions. If you missed any of the sessions, the archives are now available on the [Exposures and Latent Disease Risk webinar series webpage](#).

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:

- [Linking Exposures to Later-Life Disease — Webinars Draw Hundreds](#): The challenge of studying the effects of exposures when those effects do not appear for years or even decades was the topic of a SRP webinar series that concluded June 16.
- [National Academies Asks Experts to Explore Aging, Environment Interplay](#): The interrelationships between exposures and aging were the top concerns of experts at a June 9-10 virtual workshop sponsored by the National Academies of Science, Engineering, and Mathematics. SRP Health Administrator Michelle Heacock provided opening remarks during the workshop.

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

- [Videos Offer Advice for Safe Fishing Along Polluted River](#): A new nine-part, multilingual video series delivers critical fish consumption information to Seattle communities who fish the contaminated Duwamish River for food, recreation, and cultural reasons. The video series was created by the University of Washington SRP Center in collaboration with community partners.
- [Moving Monitoring Tools from the Lab to the Marketplace](#): SRP small business grantee Microbial Insights is taking the next steps to commercialize its tools that monitor the breakdown of environmental contaminants. The company was one of 23 small businesses selected to participate in the 2020 Innovation Corps (I-Corps) at NIH, an eight-week intensive program that teaches researchers how to accelerate commercialization of their products.

UNM SRP COVID-19 Efforts Featured in Local News

University of New Mexico (UNM) SRP Center's work to understand how COVID-19 is affecting the Navajo Nation was featured in two local newspaper articles. In the [Albuquerque Journal](#), Center Director Johnnye Lewis and project leader Debra MacKenzie discuss a possible link between exposure to metals on Navajo Nation and weakened immune responses to infectious disease. A [Navajo Times article](#) highlights data from a report generated by the Center's statistics team on COVID-19 cases and deaths in Navajo Nation.

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

Postponed (New Date TBD)
Montreal, Canada

GET UPDATES FROM OTHER SRP GRANTEES

To see the latest SRP grantee publications, visit the [SRP 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.

van Geen's Arsenic Research Featured in Science X

In a [Science X article](#), Columbia SRP Co-Director Alexander van Geen and former SRP trainees Rajib Mozumber and Peter Knappett discuss findings from two decades of SRP-funded arsenic research in Bangladesh. They examine the origins of arsenic in groundwater in Bangladesh, factors controlling the flow of arsenic into drinking water wells, and strategies to reduce arsenic in wells.

Horney Interviewed by American Planning Association about COVID-19

Texas A&M University (TAMU) SRP Center Community Engagement Core (CEC) co-leader Jennifer Horney gives urban planners tips on responding to COVID-19 in a [YouTube interview](#) with the American Planning Association. In the 17-minute video, she brings her expertise to address job-related issues during the pandemic and how planners can learn from challenges presented by COVID-19 to address other disasters like hurricanes.

TRAINEE SPOTLIGHT

Jazmyne Barney: Dedicated Toxicologist and Mentor

Jazmyne Barney, a former University of Kentucky (UK) SRP Center trainee, recently landed her dream job as a regulatory toxicologist at Procter & Gamble. In this role, she conducts human health risk assessments for consumer products to evaluate their safety and ensure compliance with state and federal regulations.



Barney completed her doctoral research under the guidance of UK SRP Center Director, Bernhard Hennig. Through her research, she found that nonalcoholic fatty liver disease worsened polychlorinated biphenyl (PCB) toxicity and altered nutrient metabolism, suggesting that individuals with liver disease are more susceptible to PCB toxicity.

In addition to her research, Barney also volunteered with the UK SRP Community Engagement Core. She worked with rural communities in eastern Kentucky, participating in food demonstrations and Town Hall meetings, sharing her research, and teaching community members how a healthy diet may protect against the adverse health effects of pollutant exposure.

Barney is passionate about mentoring students from underrepresented racial and ethnic groups in the sciences. She noted the difficulties of being a woman of color in STEM, and her

commitment to guide and inspire the next generation the same way her mentors did for her. For three years she worked with undergraduate students through the Society of Toxicology's mentor programs. At Procter & Gamble, she serves on the steering team for the African Ancestry Summer Intern Program.

Outside of the lab, Barney loves spending time with her husband, Brian, and their 9-month-old daughter, Saniyah. Barney and her husband also help lead their church's Young Professionals Ministry.

HOT PUBLICATION

Enzyme Protects Against PAH Exposure in Roundworms

Researchers from the Duke University SRP Center [found that CYP1A](#), a member of the cytochrome P450 enzyme family, protected against the harmful effects of exposure to polycyclic aromatic hydrocarbons (PAHs). P450 enzymes can either safely metabolize and excrete PAHs or transform them into more toxic products that damage DNA and proteins. Study results suggest CYP1A safely excretes PAH, protecting against PAH toxicity.

The researchers inserted copies of the CYP1A gene from zebrafish into the roundworm, *Caenorhabditis elegans* (*C. elegans*), which does not naturally have the P450 enzymes that metabolize PAHs. By using a species naturally lacking these enzymes, they were able to link protective or damaging effects of PAH metabolism directly to CYP1A.

They exposed *C. elegans* to either the PAH benzo[a]pyrene (BaP) alone, or a real-world mixture of PAHs collected from the Elizabeth River Superfund site.

In worms without CYP1A, exposure to either BaP or the PAH mixture resulted in delayed growth, a lower number of offspring, and indicators of mitochondrial dysfunction. BaP exposed worms with CYP1A were protected against these adverse effects. In worm exposed to the PAH mixture, CYP1A only protected against indicators of mitochondrial dysfunction.

To test if CYP1A transformed PAHs into products that damage DNA, the researchers produced a strain of *C. elegans* lacking critical DNA repair pathways. They found that even without DNA repair pathways, CYP1A still had protective effects in BaP exposed worms. This suggests that CYP1A does not metabolize BaP into DNA damaging products.

The authors concluded that CYP1A aids in the safe metabolism and excretion of PAHs and did not transform PAHs into products that can damage DNA. They also highlighted the value of using genetically altered *C. elegans* in toxicology studies to better understand metabolic pathways in fish and mammals.

AWARD WINNERS

Karin Wins 2020 Cancer Research Award

University of San Diego SRP Center project leader Michael Karin [was awarded](#) the American Association for Cancer Research G.H.A. Clowes Award for Outstanding Basic Cancer Research. Karin is being recognized for his work to unravel the role of metabolic stress, inflammation, and immunosuppression in cancer. His work has laid the basis for using anti-inflammatory drugs in cancer prevention and treatment. Karin's SRP research examines how toxic contaminants at Superfund sites affect cells that lead to liver cancer.

Newman Wins Two Environmental Design Awards

TAMU SRP Center CEC leader Galen Newman and team won two 2020 [Certificate of Research Excellence Merit Awards](#) from the Environmental Design Research Association. These awards recognize rigorous research that sparks innovation and promotes best practices in environmental design. The [first award](#) is for a project examining the costs and benefits of retrofitting green infrastructure into vacant lands in underserved, flood prone communities in Houston. The [second award](#) is for a project integrating the concepts of flood resilience and landscape performance into community design.

Cerrato Receives Fulbright Scholarship to Study Water Contaminants

UNM SRP Center researcher Jose Cerrato was [selected for a Fulbright Scholarship](#) to research better ways to detect contaminants in water near mining sites. The award will allow him to travel to Spain, where he will work with researchers at the University of Alicante and UNM to develop electrochemical sensors to detect metal contamination in water near mining legacy sites.

Pearson Receives Inclusive Excellence Recognition Award

University of Kentucky (UK) SRP Center project leader Kevin Pearson received the UK Office of Institutional Diversity's [2020 Inclusive Excellence Recognition Award](#). Only three awards are given each year. Winners exemplify characteristics of building awareness and understanding of diversity and inclusion; creating leadership opportunities, sponsoring, or promoting diversity and inclusion initiatives, and collaborating with others to develop and implement diversity and inclusion efforts.

Samson Awarded Gulf Research Program Fellowship from National Academies

TAMU SRP Center trainee Garrett Sansom was awarded a 2020 [Early-Career Research Fellowship](#) from the National Academies of Sciences, Engineering, and Medicine's Gulf Research Program. The fellowship supports emerging scientific leaders who are working to improve offshore energy system safety and the

well-being of coastal communities and ecosystems.

WEBINARS AND TRAININGS

SRP Metals and Epigenetics Mini-Symposium: Video Now Available

If you missed the Metals and Epigenetics Mini-Symposium, jointly hosted by the Columbia and UC Berkeley SRP Centers, an [archive of the event is now available](#). Held June 24, the three-hour event covers topics such as new discoveries and challenges in the field and ways to better pool and evaluate metal epigenetics data.

Skills for Health & Research Professionals

Registration is open for the Columbia Mailman School of Public Health's Skills for Health and Research Professionals (SHARP) training program, which is offering 13 live-stream, virtual summer boot camps led by field experts. The trainings will teach in-demand skills across a variety of topics.

Because the courses were transitioned to remote learning, registration fees are reduced, and scholarship and early-bird deadlines are extended. Courses include trainings on epigenetics, the exposome, functional genetics, and environmental mixtures. Course dates and registration deadlines vary. See the full schedule of trainings and deadlines [on their website](#).

MDI Applied Bioinformatics Course

Mount Desert Island (MDI) Biological Laboratory's Applied Bioinformatics Course, in collaboration with the Dartmouth Lung Biology Center and the Maine IDeA Network of Biomedical Research Excellence, will be held **July 13-17, 2020**. Due to the COVID-19 situation, this course is being transitioned to an online event. Zoom sessions will run 2-4 hours each day with homework in between. There will be ample online resources and discussion opportunities. Tuition has been reduced to \$400.00. For more information, please see the [course website](#).

FUNDING OPPORTUNITIES

SRP Occupational Health and Safety Education Programs on Emerging Technologies (R25)

The intent of the [SRP Occupational Health and Safety Education Programs on Emerging Technologies](#) funding opportunity is to provide Higher Education Institutions the opportunity to develop and offer continuing education courses, research experiences, and academic curricula on occupational health and safety management and laboratory practices in the areas of emerging technologies, emerging contaminants, and/or disaster response. Target participants include industrial hygienists, graduate students, postdoctoral research fellows, and professionals involved in the research, evaluation, management, and handling

of hazardous substances. The application deadline is **August 3, 2020**.

Request for Proposals: Telomere Network Analysis Awards

The [Telomere Measurement Network](#), funded by NIEHS and the National Institute of Aging, has issued a request for proposals for projects that address scientific gaps in the area of telomere length in epidemiological research. The projects can include secondary analyses of large samples that examine novel questions about the relation between telomere length and health and/or telomere length and exposure. The awards are targeted to postdocs or Early Stage Investigators.

The Network will fund up to five pilot projects in 2020, 2021, and 2022. In 2020, projects will focus on a broad conceptualization of the exposome, with an interest in relations between exposures and telomere length across the life span.

The deadline for proposals has been **extended to July 20**. See the [request for proposals](#) for more information. If you have questions, please contact Elissa Epel, Ph.D., (elissa.epel@ucsf.edu) or Stacy Drury, M.D., Ph.D., (sdrury@tulane.edu).

Biomedical Knowledgebase (U24 – Clinical Trials Not Allowed)

The funding opportunity announcement for [Biomedical Knowledgebase \(U24 – Clinical Trials Not Allowed\)](#) has been published. The first application due date is **September 25, 2020**.

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. The first application due date is **September 25, 2020**.

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.

DATA SCIENCE AND DATA SHARING

Opportunity to Provide Input on Data Formats

The National Library of Medicine and the NIH Office of Data Science Strategy have released a [Request for Information](#) to solicit community feedback on the new proposed Sequence Read Archive (SRA) data formats. These formats were proposed in collaboration with the SRA Data Working Group of the Council of Councils to better facilitate usage, exchange, and scientific impact of the data while maintaining a sustainable, cost-effective footprint. [Submit a response](#) by **July 17**.

The SRA is hosted by the National Library of Medicine and is a broad collection of experimental DNA and RNA sequences that represent genome diversity across the tree of life. These sequences are mined for new discoveries about genome architecture, natural variation, gene expression, methylation states, and the identification of unknown species, viruses, and genes in microbiome and metagenome samples.

HHEAR is Accepting Applications

Applications are being accepted for the [Human Health Exposure Analysis Resource \(HHEAR\)](#) program, which provides health researchers access to laboratory and data analysis services to expand assessment of environmental exposures in their existing NIH-funded epidemiological and clinical health studies.

To [check your eligibility](#), visit the program website. SRP grantees are eligible for targeted and untargeted analysis of environmental samples, and untargeted analysis of biological samples.

To apply to HHEAR, visit the [How to Apply](#) page. The [next submission deadline is August 28](#). For questions related to the application process, contact HHEARHelp@Westat.com.

You can learn more about HHEAR's goals, application processes, and laboratory and data analytic capabilities through the [NIEHS Exposure Science and the Exposome Webinar Series on HHEAR](#). You can access the webinar archive on the [Seminar Series YouTube Channel](#). If you have any questions regarding the information shared in the webinar series, please contact Michelle Heacock (heacockm@niehs.nih.gov).

PHOTO OF THE MONTH



UK SRP Center scientist Dibakar Bhattacharyya (standing) works with colleagues to create [an antiviral membrane mask](#) to capture and deactivate the virus that causes COVID-19. The project utilizes knowledge from Bhattacharyya's SRP work to develop functionalized membranes for remediation. (Photo courtesy of UK)

