National Institute of Environmental Health Sciences

Superfund Research Program

e-Posted Notes

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HEADLINES

2019 SRP Annual Meeting

Registration is open for the 2019 SRP Annual Meeting, which will be held **November 18-20 in Seattle, Washington**. The theme for the 2019 meeting is "Data to Knowledge to Action." Early bird registration ends **September 23**. The meeting will take place at the Hyatt Regency in Seattle. Reduced hotel rates expire **October 25**.

Webinar Series: Bioremediation – Expanding the Toolbox

The SRP is hosting a Risk e-Learning webinar series emphasizing new approaches to elucidate mechanisms responsible for bioremediation. The series will feature innovative molecular, biochemical, cellular, and engineering tools to advance our understanding of the structural and functional properties of microorganisms or plants involved in the bioremediation of hazardous substances. The first session on September 30, Bioremediation – Expanding the Toolbox: The Microbiome, will serve as an introduction to the series and will touch on opportunities to build linkages with other microbiome fields of study, such as the human microbiome.

Registration is open for all three sessions: Session I – The Microbiome, September 30, 1:00 – 3:00 p.m. ET; Session II – Novel Omics Approaches, October 3, 1:00 – 3:00 p.m. ET; and Session III – Emerging Opportunities, October 11, 1:00 – 3:00 p.m. ET.

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:

- Suk Promotes Children's Environmental Health in Asia-Pacific: SRP Director Bill Suk brought his passion for improving children's environmental health to Thailand, where he spent six months through a U.S. Fulbright Scholar Program award.

EMPLOYMENT OPPORTUNITIES

Postdoctoral Positions at USC

The Department of Preventive Medicine at the University of Southern California (USC) invites applications for postdoctoral positions to participate in research at the junction of obesity, metabolic disease, environmental health, and chronic disease epidemiology. Please send a letter describing research interests, curriculum vitae, copies of one or two recent publications, if applicable, and contact information for three individuals who are familiar with academic accomplishments to Rob McConnell at E-GT32@usc.edu. Please include "Metabolic disease postdoc" in the subject line.

Two new postdoctoral positions are available in environmental neuroscience and neuroepidemiology at USC. One position will work on a study of air pollution and brain development in the Adolescent Brain and Cognitive Development (ABCD) study. The second position will work on the newly funded Air Pollution and Autism Study, a pregnancy cohort of 400,000 mother-child pairs in Southern California with high quality electronic medical record and follow-up data. To apply, please send a letter describing research interests, curriculum vitae, copies of one or two recent publications, if applicable, and contact information for three

- Blocking Mosquitoes with A Graphene Shield: An innovative graphene-based film helps shield people from disease-carrying mosquitoes, according to a new study funded by NIEHS. The research, conducted by the Brown University SRP Center, was published Aug. 26 in the Proceedings of the National Academy of Sciences.
- Paper of the Month: Collaborative Cross Mice Reveal Different Susceptibilities: SRP grantees at Texas A&M University found that the Collaborative Cross mouse model — which uses genetically diverse mice to capture over 90% of the known mouse genetic variations — can account for individual differences in susceptibility to environmental chemicals.

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

- Modifying Microbes to Reduce Soil Contamination: Microbes in soil can break down just about anything from fallen leaves to harmful contaminants, with the right combination of species. Duke University SRP Center researchers recently characterized microbes that can break down creosote in soil.
- Childhood Exposure to PFAS May Change Metabolism: A study led by Joseph Braun at the Brown University SRP Center, explains how per- and polyfluoroalkyl substances (PFAS) alter biological pathways involved in metabolism.
- North Carolina Coastal Community Enjoys Fish Smart Celebration: At the Fish Smart Celebration, the Duke SRP Center team worked to protect the health of subsistence fishers who cast their lines in the Cape Fear River in Wilmington, North Carolina.

Lohmann Quoted in Hartford Courant

University of Rhode Island SRP Center Director Rainer Lohmann was featured in a Hartford Courant newspaper article focused on potential PFAS contamination in three rivers in eastern Connecticut. State environmental officials in Connecticut asked Lohmann and his team to head a project to test surface water along the three rivers in part because of their SRP-funded work to assess PFAS contamination in Rhode Island.

Brewer Highlighted in PEPH Webinar

University of Kentucky (UK) SRP Center Community Engagement Core Leader Dawn Brewer was a featured speaker on the Partnerships for Environmental Public Health (PEPH) webinar, Nutrition to Counteract the Harmful Effects of Environmental Exposures, on July 26. She discussed her work with the UK SRP Center translating and communicating the Center's research on how good nutrition and physical activity may mitigate the negative health effects of environmental pollution.

Dartmouth Featured in NH News Story on New Arsenic Rule

An article in the New Hampshire Union Leader describes how communities are working to make sure they can comply with new

individuals who are familiar with academic accomplishments to Megan Herting, E-GT32@usc.edu. Please include “Neurological disease” in the subject line.

The USC Keck School of Medicine is seeking postdoctoral fellows in their training program in “Environmental Genomics,” supported by the National Institute of Environmental Health Sciences. The aim of this program is to provide multidisciplinary training in epidemiology, genomics and other -omics, biostatistics, bioinformatics, and computational biology to future researchers aiming to study environmental and genetic risk factors of disease and other complex human traits. Interested candidates should submit a letter outlining their research and training objectives (one page), CV with prior academic record, reprints of any relevant publications, and names of three references. Address applications to Jim Gauderman and Rob McConnell at E-GT32@usc.edu.

Faculty Position in Environmental Engineering and Environmental Data Analytics, Duke University

Duke University’s Department of Civil and Environmental Engineering invites applications for a tenure-track faculty position in Environmental Engineering at the level of full or associate professor. Exceptional applicants to be recruited at the assistant professor level will also be considered. Candidates from all sub-disciplines of environmental engineering are encouraged, including those who combine experimental research activities with information and/or computational sciences. Applicants in all areas of environmental science and engineering will be considered, inclusive of those in environmental exposure science, global health, environmental resource/materials development and recovery, and data

arsenic standards now that New Hampshire has become the second state in the nation to drop allowable levels in public drinking water. The article features Brian Jackson and includes research from the Dartmouth SRP Center, which informed the bill.

Gold King Mine Dine Exposure Study Video Posted

The University of Arizona (UA) SRP Center has posted a 3-year reflection video on the Gold King Mine Dine Exposure Project. In this short 3 minute video, Navajo community members recall when the Gold King Mine spill occurred, how it impacted them, and how they became involved in the UA project.

Brown SRP Featured in the Daily Herald

The Brown Daily Herald highlights a Brown SRP Center project that designed a geospatial tool and database that can map and identify likely regions of toxic waste contamination in Rhode Island. The tool can be applied to transportation, ecology, policy-making, and quality of life, among others. The research team at the Brown SRP Center, including Scott Frickel, Tom Marlow, and Jennifer Guelfo, studied how certain groups of people can be disproportionately affected by their proximity to waste hazards, as well as how this effect may change over time.

TRAINEE SPOTLIGHT

Beykal Optimizes Computer Models to Address Environmental Health Problems

Burcu Beykal, a 5th year Ph.D. candidate and trainee at the Texas A&M University (TAMU) SRP Center, develops computer algorithms to make data science models perform better so they can be applied to complex engineering and biomedical problems. Under the guidance of Stratos Pistikopoulos, she analyzes data for several TAMU SRP projects through the Data Science Core.

She has worked on environmental system models that predict how contaminants move in the environment. For example, after Hurricane Harvey, she used data analysis and visualization to understand how contaminants were distributed in the soil. She also develops models that group contaminants based on their characteristics to help predict whether complex environmental mixtures may disrupt the endocrine system in humans.

Beykal co-authored a publication focused on development of the TAMU SRP computational platform for data integration, visualization, and analysis. She also applies her work to several other fields and is first author on publications focused on designing energy systems using computational modeling and optimizing oil-field operations.

analytic applications for the environmental microbiological-, chemical-, and geo-sciences. More information can be found on the Duke University Pratt Engineering website.

Postdoctoral Research Fellow or Research Associate in Environmental Epidemiology

A postdoctoral research fellow or research associate position is available in the laboratory of Philippe Grandjean at the Harvard T.H. Chan School of Public Health. The qualified applicant will have the opportunity to participate in the design and analysis of studies on environmental risk factors for adverse child development. Opportunities include work with an international, multidisciplinary team of researchers and access to rich longitudinal datasets from birth cohort studies.

Applicants should hold a doctoral degree in epidemiology, environmental health, or a related field or a medical degree with experience conducting and analyzing epidemiologic studies. Applications will be considered from doctoral students who are close to completing their degree requirements. To apply, please send a cover letter, current curriculum vitae, and a brief summary of research interests and experience to Philippe Grandjean (pgrand@hsph.harvard.edu).

CalEPA Senior Toxicologist Position

The California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA) is recruiting for a senior toxicologist to lead its Cancer Toxicology and Epidemiology Section. For more information and application instructions, visit the job posting. The position will be open until filled.

Beykal was recently awarded first place at the TAMU INFORMS Python Competition for her proficiency in the Python Programming Language and second place in the oral presentation category at the TAMU Chemical Engineering Graduate Student Association Symposium.

Beykal is involved in several student organizations, including the TAMU Energy Research Society and the INFORMS TAMU student chapter, for students interested in the field of operations research and management sciences. She is also a journal reviewer for Computers & Chemical Engineering, Journal of Global Optimization, Computational Geosciences, and International Journal of Electrical Power & Energy Systems. Beyond her academic work, she enjoys live music, playing the guitar, and watching sports.

HOT PUBLICATION

Enterosorbents Added to Food and Water to Reduce Toxicant Exposure During Disasters

Humans and animals can be exposed to mixtures of chemicals from food and water, especially during disasters such as extended droughts, hurricanes, and floods. Researchers at the Texas A&M SRP Center have developed a technology that can bind to mixtures of these hazardous chemicals in the body after exposure, reducing the amount that can be absorbed by the body. This technology, known as broad acting enterosorbent materials, can be added to food or water following natural disasters and other emergencies.

Food is susceptible to contaminants during droughts and extended periods of heat, when fungi can reach their optimal growth conditions for the production of toxins, such as aflatoxin B1 and zearalenone (ZEN). During disasters such as hurricanes and floods, water and food can be contaminated with potentially harmful chemicals because heavy rain and wind can mobilize toxic soil and sediments containing chemicals including pesticides, such as glyphosate.

The enterosorbent materials are made of nutrient-enriched calcium and sodium clays and were shown to effectively bind to aflatoxins, ZEN, and glyphosate, reducing their availability in the body. According to the authors, the enterosorbents may be able to decrease exposures to other chemical contaminants as well, including additional pesticides, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, dioxins, and metals.

AWARD WINNERS

Nghiem Awarded Fellowship Grant

Columbia University SRP Center trainee Athena Nghiem was awarded an NSF Graduate Research Opportunities Worldwide (GROW) grant to work in Australia for 3-4 months on groundwater

CURRENT RESEARCH BRIEF

SRP Research Brief 297: Identifying Key Characteristics of Chemicals that Harm Male and Female Reproduction (Martyn Smith, UC Berkeley).

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

The 18th International Conference of the Pacific Basin Consortium for Environment and Health: Assessing and Mitigating Environmental Exposures in Early Life
September 16-19, 2019
Kyoto, Japan

16th International Phytotechnologies Conference
September 23-27, 2019
Changsha City, China

Triangle Global Health Annual Conference
October 16, 2019
Durham, North Carolina

SETAC North America 40th Annual Meeting
November 3-7, 2019
Toronto, Canada

2019 SRP Annual Meeting
November 18-20, 2019
Seattle, Washington

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,

modeling at The University of Western Australia. The fellowship, focused on reactive transport modeling and optimization of in-situ biogenic magnetite formation, will enrich her Columbia SRP research focused on groundwater arsenic remediation to improve water quality.

DATA SCIENCE AND DATA SHARING

NIH Data Science Resources

The landscape of biomedical data within and across NIH's 27 institutes and centers (ICs) is vast, and 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 Data Science website is focused on providing data science information and tools, upcoming events, and recent news related to NIH data science initiatives.

In addition to the NIH ODSS efforts, the NIH National Network of Libraries of Medicine has a Scientific Research Data Repositories page, which provides a list of research data repositories, repository software, and publications on data repositories. The SRP Data Sharing webpage also serves as a resource to SRP grantees and includes a listing of publicly accessible datasets related to SRP-funded publications as well as relevant data sharing resources.

Data Integration Session at AGU

The American Geophysical Union (AGU) Meeting on December 9-13 in San Francisco, California, will feature a session on data integration convened by SRP Health Scientist Administrator Michelle Heacock and representatives from the AGU, U.S. Geological Survey, and National Climatic Data Center. Titled "Data Integration: Enabling the Acceleration of Science Through Connectivity, Collaboration, and Convergent Science," the session will explore the challenges and successes data repository managers and communities have in providing support and services to researchers interested in accessing and using data from multiple sources.

PHOTO OF THE MONTH

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.

On July 10-11, the University of Kentucky (UK) SRP Center hosted trainees from the University of Louisville SRP Center for a two-day event that included information exchange, group presentations and discussion, tours of UK labs, and a trip to Whitesburg, Kentucky. The UK SRP Center Community Engagement Core works with various community partners in Whitesburg to provide nutrition and environmental pollution education. The immersive experience gave trainees from both SRP Centers the opportunity to engage with community stakeholders and consider how their own scientific research can be translated into meaningful outcomes for communities. (Photos courtesy of the UK SRP Center)