

Superfund Research Program e-Posted Notes

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HEADLINES

2019 KC Donnelly Award Winners Announced

Congratulations to the two exceptional SRP trainees who received a [2019 K.C. Donnelly Externship Award Supplement](#) to enrich their research in environmental health science! This year's awardees are Jill Riddell from West Virginia University and the Northeastern SRP Center, and Nabil Shaikh from the University of New Mexico SRP Center. 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 consider externships early in the process!

SRP Progress in Research Webinars Archived

Archives are now available for all three sessions of our recent progress in research webinar series, which featured work from the [SRP Individual Research Projects](#) addressing biogeochemical interactions. The individual research project grants support problem-solving research on the mechanisms of biogeochemical interactions that may impact remediation of contaminated soil, sediment, surface water, or groundwater. More information is also available on the [SRP Progress in Research](#) website.

- Session I: [Innovative Approaches for Chlorinated Compound Bioremediation in Groundwater](#)
- Session II: [Bioavailability of Mixtures of PAHs, Chlorinated Compounds, and Metals](#)
- Session III: [Mercury Bioremediation and Biotransformation Under Varying Biogeochemical Conditions](#)

2019 SRP Annual Meeting

Registration is coming soon for the [2019 Annual Meeting](#), which will be held **November 18-20 in Seattle, Washington**. The University of Washington and the University of Louisville will be planning the meeting. Abstracts for oral and poster presentations will be due **August 23**. We will be accepting abstracts for "SRP 3D" where grantees can opt for a table-top display for device-

EMPLOYMENT OPPORTUNITIES

Faculty Position in Toxicology and Environmental Health at the University of Iowa

The Department of Occupational and Environmental Health is seeking applicants for a faculty position including research and teaching in toxicology and environmental health. It is anticipated that the successful applicant will transition over time to a leadership role in the Interdisciplinary Graduate Program in Human Toxicology. For more information and application details, please see the [position listing](#).

CalEPA Senior Toxicologist Position

The California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHA) is recruiting for a Senior Toxicologist to lead their Cancer Toxicology and Epidemiology Section. For more information and application instructions visit the [job posting](#). The position will be open until filled.

CURRENT RESEARCH BRIEF

[SRP Research Brief 294](#): New Method Quickly Screens Chemicals for Cancer Risk (Stefano Monti, Boston University).

Past [Research Briefs](#) are available on the SRP website. To receive the

oriented/technology-enabled projects and tools (also due **August 23**). Early bird registration ends on **September 23**.

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:

- [K.C. Donnelly Awards go to NIEHS Superfund trainees](#): Since its beginning in 2011, 47 NIEHS SRP trainees have received K.C. Donnelly Externship Award Supplements to enrich their research with work at another institution. Jill Riddell and Nabil Shaikh, both doctoral candidates, shared the 2019 award.

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

- [Technology to Reduce Harmful Exposures after Disasters Goes Commercial](#): Researchers at the Texas A&M University SRP Center have developed a new technology that can bind to hazardous chemicals in the body after exposure, reducing their uptake in the body.
- [SRP Represents at International Battelle Symposium](#): SRP researchers were on hand at the Battelle Fifth International Symposium on Bioremediation and Sustainable Environmental Technologies to discuss advances in green and sustainable approaches to clean up hazardous waste sites.
- [EPA Adds Seven Hazardous Waste Sites to the National Priorities List](#): The U.S. Environmental Protection Agency (EPA) recently announced that it added seven hazardous waste sites to the National Priorities List of Superfund sites.
- [Inverting Soil Decreases Arsenic and Improves Rice Yields](#): By exchanging high-arsenic soil at the surface with deeper low-arsenic soil, researchers from the Columbia SRP Center have demonstrated increased rice crop yields in Bangladesh.
- [NC Fish Forum Brings Partners Together to Improve Fish Consumption Advisories](#): On March 21, the Duke University SRP Center convened stakeholders from across North Carolina to discuss fish consumption advisories and how to improve the process to best protect public health.

CDC Requests Comments on Guidelines for Cancer Cluster Investigations

The Centers for Disease Control and Prevention (CDC) is seeking public comment on updating federal guidelines used by public health agencies to assess and respond to potential cancer clusters in communities. The [request for comment](#) recently posted in the Federal Register and will be available for public comment through **July 15, 2019**. Interested people and organizations are invited to participate by submitting written views, information, recommendations, and data.

EPA Requests Nominations for SAB Committees

monthly Research Briefs or to submit ideas, email Michelle Heacock (heacockm@niehs.nih.gov).

SRP EVENTS

[Per- and Polyfluoroalkyl Substances: Second National Conference](#)

June 10 – 12, 2019

Boston, Massachusetts

[The 16th International Congress on Combustion By-Products and Their Health Effects](#)

July 10 – 12, 2019

Ann Arbor, Michigan

[Pacific Basin Consortium Meeting](#)

September 14 – 19, 2019

Kyoto, Japan

[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 Phytotechnology Conference](#)

September 23 – 27, 2019

Changsha City, Hunan Province, China

[SETAC North America 40th Annual Meeting](#)

November 3 – 7, 2019

Toronto, Ontario, 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, guidelines for NIEHS logo use, and

The U.S. Environmental Protection Agency (EPA) is [inviting nominations for scientific experts](#) from a diverse range of disciplines to be considered for appointment to the EPA Science Advisory Board (SAB) and four committees. Nominations should be submitted using the online nomination form under the Nomination of Experts category at the bottom of the [SAB home page](#).

Human Nature Documentary Features Banfield

Jill Banfield of the University of California (UC) Berkeley SRP Center is featured in a documentary called [Human Nature](#). The film presents an in-depth description of the gene editing process known as CRISPR and its possible implications. It follows scientists who invented the process, genetic engineers who are applying CRISPR, and families it is affecting. Banfield is a co-investigator on an SRP project that studies how communities of microbes break down chemical mixtures. She previously reported the discovery of two novel CRISPR-associated proteins that she identified through analysis of the DNA of microbes from groundwater samples.

Horney Interviewed on Air Quality

Texas A&M University (TAMU) SRP Center Community Engagement Core (CEC) leader Jennifer Horney was interviewed by the [Los Angeles Times](#) about air quality assessments conducted by NASA in the aftermath of Hurricane Harvey. The CEC's work collecting air and water samples in response to the Intercontinental Terminals Company fire was also featured in several news outlets, including [Daily Mail](#), [Bloomberg News](#), and [Houston Public Media](#). The TAMU Center is focused on understanding and preventing exposure to hazardous contaminants during disasters.

OSU Researchers Awarded Additional Funding by EPA

Robert Tanguay of the Oregon State University (OSU) SRP Center was [recently quoted in local news outlets](#) about OSU's \$2 million in [funding from the EPA](#) to study the toxicity of per- and polyfluoroalkyl substances (PFAS) using zebrafish and rodents. They will be evaluating whether exposure to these chemicals potentially leads to autism, cancer, or neurodegenerative diseases. The Tanguay lab uses zebrafish to understand how exposure to complex mixtures of polycyclic aromatic hydrocarbons impact health.

Stapleton Commentary in Science

Duke University SRP Center researcher Heather Stapleton authored a commentary in Science titled, [Toward Fire Safety Without Chemical Risk](#). [Recent research](#) by Christopher Kassotis, a postdoctoral researcher in Stapleton's lab, was also featured in a story about the many potentially harmful contaminants, including flame retardant chemicals, [found in house dust](#). The

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.

Stapleton lab is focused on understanding how early life exposure to certain chemicals alters bone and fat cell development.

Lohmann Quoted in Detroit News

University of Rhode Island (URI) SRP Center Director Rainer Lohmann was quoted in a [Detroit News](#) article about PFAS. The URI Sources, Transport, Exposure, and Effects of PFAS Center aims to better understand the pathways of PFAS contamination from entry into the environment through groundwater contamination, movement through the food web, and human exposure, particularly during early development.

Voice of Maine Interviews Stanton

Dartmouth SRP Center researcher Bruce Stanton was interviewed on [The Voice of Maine](#) radio station about a Science Education Partnership (SEPA) Data to Action citizen science project to address arsenic contamination of well water. The project is funded by a SEPA award to Dartmouth SRP and the Mount Desert Island Biological Laboratory in Maine from the National Institute of General Medical Sciences.

Escobar Featured in Science Article

Isabel Escobar, a member of the University of Kentucky (UK) SRP Center, was featured in an [article in Science](#) about the challenges and discrimination working mothers face, particularly in scientific fields and positions of authority. With the UK SRP Center, Escobar is working with Dibakar Bhattacharyya to create specialized membranes to degrade polychlorinated biphenyls and trichloroethylene in water.

Ferguson Quoted on PFAS

Duke University SRP Center Researcher Lee Ferguson was quoted in an article about the North Carolina PFAS Testing Network collaborative project in [NC Policy Watch](#). Ferguson's research in the Analytical Chemistry Core uses untargeted techniques to characterize unknown contaminants and complex chemical mixtures in the environment.

TRAINEE SPOTLIGHT

Blevins Studies Chemicals that Disrupt Immune Response

Lance Blevins, Ph.D., is a postdoctoral researcher at Michigan State University (MSU), Institute for Integrative Toxicology. As a trainee at the [MSU Superfund Research Program \(SRP\) Center](#) working with Norbert Kaminski, Ph.D., he studies B cells, a type of cell that secretes antibodies to help the immune system fight infection. His



research contributes to the Center's overall goal of understanding how exposure to a group of chemical pollutants found at Superfund sites impact human health.

His work is focused on understanding how the aryl-hydrocarbon receptor (AHR), a protein that can be activated by chemical pollutants, disrupts B cells, and in turn, normal immune function. Most recently, his research has focused on a specific type of B cell that aids in rapid response at the first signs of an attack on the immune system. This research may help identify individuals who are more sensitive to immune effects from toxic chemicals, such as dioxin, especially in occupational settings.

Based on this work, he was awarded the [Best Postdoctoral Presentation](#) in the Immunotoxicity Specialty Selection at the 2019 Society of Toxicology (SOT) Annual Meeting in Baltimore, Maryland.

When he's not in the lab, you can find him enjoying the outdoors and walking around in the woods, which remind him of his childhood in the mountains of North Carolina.

HOT PUBLICATION

Comparing Fish and Worm Models to Screen Contaminants for Neurotoxicity

According to a new [study](#) from the OSU SRP Center, combining data from zebrafish and flat worms may be useful in understanding how hazardous substances impact development and behavior.

Researchers exposed zebrafish and flat worms to 87 chemicals from five different chemical classes, including pharmaceutical drugs, flame retardants, polycyclic aromatic hydrocarbons, and pesticides. Negative effects caused by the chemicals included developmental delays, physical abnormalities, death, and altered behavior. Effects were observed in zebrafish for 86 of 87 chemicals, while worms exhibited impacts for 50 out of the 87.

Though zebrafish experienced effects from more chemicals compared to flat worms, both provided valuable information about chemical impacts during development. Studies in zebrafish revealed more information about physical abnormalities caused

by chemicals, whereas flatworms demonstrated more behavioral impacts. The researchers also compared their results to 28 of the chemicals that had previously been tested with rodents. They found most chemicals that were toxic to rodents were also toxic to zebrafish and flat worms.

According to the authors, although zebrafish and flat worm models are unlikely to capture all chemicals that are hazardous to human health, they may be beneficial as a primary screening tool to prioritize chemicals for further study. Combining data from alternative model organisms, such as fish and worms, may be more cost-effective and time-efficient than carrying out chemical toxicity studies on rodents.

AWARD WINNERS

Hennig and Brewer Earn Impact Awards

UK SRP Center Director Bernhard Hennig and CEC leader Dawn Brewer were co-recipients of the UK College of Agriculture, Food, and Environment Research/Extension Impact Award. They were given this award because of their Center's BerryCare program. Hennig was recognized for his research on the protection provided by some of the phytonutrients found in blackberries. Brewer was recognized for the community engagement part of the program.

Neumann Recognized with Falkenberg Award at AGU

Rebecca Neumann of the University of Washington (UW) traveled to Washington D.C. to accept the American Geophysical Union's Charles S. Falkenberg Award in recognition of her work to combat food and water security challenges around the world. With the UW SRP Center, Neumann studies the movement and accumulation of arsenic in shallow lakes.

Lohmann Honored with Research and Scholarship Excellence Award

Rainer Lohmann of the URI SRP Center received the URI Advanced Career Faculty Research and Scholarship Excellence Award in the Life Sciences, Physical Sciences, and Engineering on May 1, 2019. These awards recognize achievement in research and leadership in advancing and sustaining research, scholarly, and creative activities.

Pearson Recognized as Excellent Undergraduate Research Mentor

Kevin Pearson of the UK SRP Center received 2019 Excellent Undergraduate Research Mentor Awards. This student-nominated award recognizes UK faculty members who have demonstrated an outstanding commitment to mentoring undergraduate researchers, provided exceptional undergraduate research experiences, as well as supporting and promoting the undergraduate research initiatives on campus.

Columbia SRP Trainee Receives NIEHS Fellowship Award

Roheeni Saxena, a trainee with the Columbia University SRP Center, received an NIEHS Ruth L. Kirschstein National Service Award Individual Predoctoral Fellowship to study micronutrient deficiency, arsenic exposure, and cognitive function outcomes in adolescents.

Geltman Receives CUNY Dean's Award

Elizabeth Geltman received the Dean's Award for Research at the City University of New York (CUNY) School of Public Health. Geltman leads an occupational and safety training education program on emerging technologies at CUNY.

Rusyn Awarded Inaugural University Professorship

Ivan Rusyn of the TAMU SRP Center is one of the first five faculty members named University Professor. The honor recognizes significant and sustained accomplishments. As part of the award, Rusyn had the opportunity to name the professorship. He selected to name this professorship after the late [KC Donnelly](#), former SRP grantee and department head of environmental and occupational health at the School of Public Health at TAMU, who passed away in 2009.

Bhattacharyya Recognized as NAMS Fellow

Dibakar Bhattacharyya of the UK SRP Center was recently named a fellow of the North American Membrane Society (NAMS) at the 2019 Annual Meeting held May 11-15 in Pittsburgh, Pennsylvania. Fellows are recognized for their service to NAMS as well as for their highly significant professional accomplishments in the membrane field.

Newman Wins Merit Award at Texas-American Society for Landscape Architects

TAMU SRP Center researcher Galen Newman received a Merit Award at the 2019 Texas-American Society of Landscape Architects. He was recognized for developing a model to forecast vacant and declining landscapes. Newman, who recently reported on the [economic value of green infrastructure for vacant lands](#), works with the Community Engagement Core.

Chang receives 2019 Sackler Chemistry Award

Chris Chang of the UC Berkeley SRP Center was announced as an awardee of the Raymond and Beverly Sackler International Prize in Chemistry for 2019, by Tel Aviv University. He is recognized as a pioneer in bioinorganic chemistry and the development of chemical probes for imaging metals and redox events in biological systems.

Hilt Named University Research Professor

UK SRP Center researcher J. Zach Hilt has been named a University Research Professor for the 2019-2020 academic year. The Professorship program aims to recognize and publicize research accomplishments and support further research, scholarship, and creative endeavors.

WEBINARS AND TRAININGS

Summer Boot Camps for Health/Research Professionals

Registration is open for 13 hands-on summer boot camps designed for health and research professionals at all career stages. Learn immediate take-away skills directly from the experts over 2-3 days at Columbia University's Mailman School of Public Health! Scholarships and early-bird rates are available, and capacity is limited. Visit the [Columbia SHARP Training website](#) for more information.

FUNDING OPPORTUNITIES

EPA Drinking Water Grants

Visit the [U.S. Environmental Protection Agency \(EPA\) Drinking Water Grants page](#) for a list of current EPA funding opportunities related to groundwater and drinking water.

DATA SCIENCE AND DATA SHARING

Bioinformatics Resource Manager

SRP researchers from the OSU SRP center recently [published a paper](#) about a web-based tool they developed to help scientists integrate data from humans, mice, rats, and zebrafish, and other animal models. The tool, called the [Bioinformatics Resource Manager](#), allows researchers with minimal computer programming skills to integrate genomic and other data and gain important insights into, for example, underlying mechanism by which hazardous substances cause disease.

Data Sharing Benefits Scientific Careers

According to a recent [article in Nature](#), sharing data promotes collaboration and leads to more confidence in research findings. The author explains that as data sets become easier to cite, researchers are able to get more credit for them and use them to enhance their careers.

Harnessing the Power of Data for Cancer Research

The National Cancer Institute's (NCI) Center for Biomedical Informatics and Information Technology (CBIIIT) announced the launch of [datascience.cancer.gov](#), a new website for data science and informatics resources. The site has a wide variety of resources including data sets, data sharing policies and guidance, and more.



Massachusetts Institute of Technology (MIT) SRP Research Translation Core leader Jenny Kay, Ph.D., and Center Community Engagement Core leader Kathy Vandiver, Ph.D., met with community partners at the Wilmington Environmental Restoration Committee to discuss MIT SRP Center Research and ongoing issues at the Olin Chemical Superfund site. Kay, left, reviews maps of contamination in the area with WERC members, from left to right, Suzanne Sullivan, Martha Stevenson, Gary Mercer, and Liz Harriman. (Photo Courtesy of Kathy Vandiver)

