

Superfund Research Program e-Posted Notes

February 9, 2018 (Issue 169)

HEADLINES

SRP at the 2018 SOT Meeting

If you are headed to the Society of Toxicology (SOT) Annual Meeting March 11 - 15, 2018, in San Antonio, Texas, we encourage you to participate in SRP-related activities:

- **Symposium** - SRP Health Scientist Administrator Danielle Carlin is co-chairing a symposium session, "Atherosclerosis as a Model to Understand the Combined Effects of Environmental Chemical and Non-Chemical Stressors," on Wednesday, March 14, from 1:30 to 4:15 p.m. The session includes presentations by SRP grantees Bernhard Hennig and Sanjay Srivastava.
- **Research funding insights** - SRP staff will be available in the Research Funding Insights Room. Grantees are encouraged to talk to your program officer if you are interested in making an appointment in advance or check the posted schedule to meet with a staff member who can discuss aspects of scientific review or specific grant opportunities.
- **Trainee event** - There will also be an SRP graduate student and postdoc informal networking event, which is being organized by Craig Marcus at the Oregon State SRP Center. Be on the lookout for an email from Danielle with more information.

Several NIEHS SRP staff members are attending the SOT Annual Meeting and would love to visit your poster or listen to your talk, if you have one. Please email srpinfo@niehs.nih.gov to let SRP staff know about your SOT activities!

All of Us Wants Your Ideas!

Are you interested in helping researchers understand more about why people get sick or stay healthy? If so, NIH is looking for your ideas to help make its [All of Us Research Program](#) the best resource it can be.

All of Us aims to build one of the largest, most diverse datasets of its kind to help speed up research on many different health conditions. NIH hopes that 1 million or more people across the country will join. Participants will share information about their health, habits, and what it's like where they live. By looking for

EMPLOYMENT OPPORTUNITIES

Postdoctoral Scholar – Oregon State University

A full-time postdoctoral scholar position is available in the laboratory of David E. Williams, Helen P. Rumbel Professor for Cancer Prevention at Oregon State University within the Linus Pauling Institute in Corvallis, Oregon. The Williams lab is an excellent training ground for individuals desiring advanced training in metabolism of xenobiotics with an emphasis on environmental carcinogens as well as the influence of diet on cancer.

The postdoctoral scholar will contribute to an NIEHS-funded study in humans, which employs micro-dosing of humans with [¹⁴C]-benzo[a]pyrene to examine, for the first time, the dose-response and pharmacokinetics of a polycyclic aromatic hydrocarbon (PAH) as well as characterization of metabolites formed *in vivo*, impact of a binary mixture, diet and genotype of various PAH-metabolizing enzymes.

The position is available as soon as possible. Applications will be reviewed as they are received. For more information, see the [position announcement](#).

Environmental Risk Assessor / Epidemiologist – Virginia Tech

Virginia Tech's Department of Population Health Sciences seeks to

patterns in the data, researchers may learn more about the factors that affect our health. The program will last for many years and will allow researchers to study health over time.

NIH is asking for ideas for questions to add to the [All of Us research protocol](#). The information you provide will be used at the All of Us Research Priorities Workshop on March 21–23, 2018, to identify key research priorities and requirements, such as data types and methods for future versions of the All of Us protocol. The deadline for submitting your ideas is **February 23, 2018**.

Presenter Ideas Requested: Risk e-Learning Webinar Series

The SRP will be hosting a seminar series highlighting new testing approaches and methodologies that may be of relevance to implementing the [Lautenberg Chemical Safety Act](#), which amends the Toxic Substances Control Act (TSCA). This includes methods to demonstrate whether new and existing chemicals are safe. It also includes approaches for obtaining relevant human toxicology data while reducing vertebrate testing. If you have suggestions for SRP-funded approaches that may be ready for TSCA testing, please contact Heather Henry (henryh@niehs.nih.gov).

IN THE NEWS

NIEHS SRP News Stories

Take a moment to read about some of our colleagues' latest activities on the SRP news page:

- [SRP Research Finds Ancestry-Based Differences in Telomere Length Genes](#): People with different ancestries may inherit telomere length differently, according to a new study from the Columbia University SRP Center.
- [SRP Grantee Featured in Science Friday Video](#): Karletta Chief of the University of Arizona SRP Center was recently interviewed on Science Friday. Her interview coincided with the release of the sixth and final installment of a short video anthology, "Breakthrough: Portraits of Women in Science," which follows women working at the forefront of their fields.
- [Fish Adaptation to TCDD Seen at the Genome Level](#): Long-term exposure to environmental toxicants can affect the genome of Hudson River tomcod much more than previously expected, according to researchers led by Isaac Wirgin at the New York University School of Medicine.
- [SRP Grantee Takes Cleanup Technology to the Field](#): SRP grantee Dibakar Bhattacharyya of the University of Kentucky was recently awarded funding to help the Chevron Corporation remove metals and other potentially harmful contaminants from wastewater created during oil production.

SRP Grantees Named to 2017 List of Most Highly Cited Researchers

Mark Wiesner of the Duke SRP Center, James Cole of the

attract a tenured or tenure-track faculty member in environmental health. Priority will be given to applications at the Assistant Professor rank.

The position is part of a robust and diverse cluster of faculty contributing to transdisciplinary research, teaching, and/or outreach initiatives that align with Virginia Tech's "Global Systems Science Destination Area." This initiative is focused on transdisciplinary solutions to critical social problems stemming from human activity and environmental change. Visit the [Global Systems Science page](#) for more information.

This position will be based on the main campus of Virginia Tech, a land-grant university in Blacksburg, Virginia, situated in the scenic New River Valley. For more information and to apply, visit the [job posting](#).

Tenure Track Faculty Position – University of Rochester

The Department of Environmental Medicine at the University of Rochester School of Medicine and Dentistry invites applications for an Assistant or Associate Professor in the tenure track. The Department is especially interested in candidates with a passion for biomedical research focusing on how the environment shapes health and influences disease. Applicants interested in studying the fundamental mechanisms of toxicity, developmental origins of health and disease, and/or environmental effects on stem/progenitor cells are particularly encouraged to apply. The Department is home to an outstanding interdepartmental NIEHS P30 Core Center and the Rochester Toxicology Training Program, as well as two clinical programs in occupational medicine. Applicants must have a Ph.D. or M.D. degree, a track record of

Michigan State SRP Center, and Michael Karin and Julian Schroeder of the UC San Diego SRP Center were named to Clarivate Analytics' 2017 list of the world's most highly cited researchers. To be included on the list, researchers must have published a high number of peer-reviewed papers that rank in the top one percent most cited in their discipline over the last 11 years.

Wiesner is cited for his work on membrane processes, nanostructured materials, and the transport and fate of nanomaterials in the environment. Schroeder is recognized for his groundbreaking work on plant ion channels, which play a role in the plant's ability to tolerate stresses, such as drought, salinity, and heavy metals. Karin is cited for his immunology work on how cells and biological systems function at the molecular level, with a particular focus on the link between inflammation and cancer. Cole directs the Ribosomal Database Project at MSU, which helps to provide ribosome-related data services to the scientific community.

UK SRP Trainee Gutierrez Featured on UK Sports Radio Network

University of Kentucky (UK) SRP Center trainee and 2017 Wetterhahn Award Winner Angela Gutierrez was featured during a [UK at the Half segment](#) on the UK Sports Radio Network in January. The interview was aired statewide and beyond during the live radio broadcast of the Florida vs. UK men's basketball game. Angela discussed her SRP-funded research on magnetic nanoparticles coated with plant-derived polymers to capture and detect PCBs.

OSU SRP Research Featured in ScienceDaily

Oregon State University (OSU) SRP Center trainee Courtney Roper was featured in a recent [Science Daily story](#) on her research revealing a potential connection between autism and valproic acid (VPA), a compound used to treat migraines and seizures. The story focused on Robert Tanguay's recent publication with Roper and collaborators in China, [Developmental and behavioral alterations in zebrafish embryonically exposed to valproic acid \(VPA\): an aquatic model for autism](#). The researchers found that exposure to VPA is linked to characteristics associated with autism in zebrafish. In the story, Roper described the usefulness of the zebrafish model, which provides a way to quickly look at genetic and environmental factors associated with autism that are very difficult to understand in humans.

Dartmouth College Newspaper Features SRP Well-Testing Project

A recent [article](#) in the Dartmouth college newspaper describes how researchers at the Dartmouth SRP Center have been raising awareness about the effects of arsenic in private wells in New Hampshire through websites and community well-testing events.

research accomplishments, and demonstrated interest in tackling significant topics relevant to environmental health and toxicology using state-of-the-art approaches. Visit the [University of Rochester job opportunities website](#) for more information and to apply.

Research Scientist Position in Environmental Health – Northeastern University

A position is open for a Senior Research Scientist in environmental health to conduct and support research for centers that study exposure to environmental contamination in Puerto Rico and its contribution to adverse birth outcomes and early child development. The Senior Research Scientist will work closely with scientists from different disciplines across multiple institutions to collect and analyze large and complex environmental/biological datasets. He/she will perform basic or applied research on critical or difficult problems involving the development of new theories or methodologies. For more information and to apply, see the [job announcement](#).

Postdoctoral Research Associate – Northeastern University

The SRP Center at Northeastern University has an open Postdoctoral Research Associate position, which will require an experienced research scientist or engineer with a focus on environmental health and engineering, specifically on one or more of the following: health informatics, geospatial informatics, environmental epidemiology, and environmental modeling. This individual will work closely with scientists from different disciplines across multiple institutions to analyze large and complex environmental/biological datasets. Primary responsibility is ensuring that the research is complete. The

The story includes information about their engagement efforts, including their collaboration with the New Hampshire Department of Environmental Services to help residents better understand their water test results. It also mentioned a website they developed, [Arsenic and You](#), designed to educate people about arsenic.

UC Berkeley SRP Center Celebrates 30 Years of Science for a Safer World

The UC Berkeley SRP Center held a meeting on January 30 to discuss the history of their program, their research and successes, and perspectives for the direction of future research. UC Berkeley was first awarded an SRP grant in 1987 and has successfully competed 6 times for renewal. In the ensuing years, the program has morphed and adapted to address ever-changing environmental and health concerns. Their focus has always been on developing research tools and methodologies and directing their research aims toward improving human and environmental health.

TRAINEE SPOTLIGHT

Stephanie Eick Studies Links Between Maternal Stress and Preterm Birth

Stephanie Eick is a Ph.D. student at the University of Georgia (UGA) under the guidance of Jose Cordero. As an Northeastern SRP Center trainee, she focuses on understanding how psychosocial stress influences the biologic processes that may lead to preterm birth.



Eick is interested in how one's neighborhood interacts with other types of psychosocial stress to contribute to adverse pregnancy outcomes. She is examining associations between preterm birth in Puerto Rico and the many different types of stress that Puerto Rican women may face.

Last summer, she received a UGA grant to travel to NIEHS and complete a summer internship under the guidance of Kelly Ferguson, an NIEHS Epidemiology Branch Investigator and former Northeastern SRP Center trainee. She focused on associations between stressful life events, psychosocial wellbeing, and oxidative stress among pregnant women.

Eick is also the student leader of the UGA College of Public Health [Zika Work Group](#), where she mentors undergraduate and master's-level students who are interested in epidemiology-related research.

When she is not working on her research, Eick loves to run. She

appointment generally does not extend beyond two years.

The candidate must have a Ph.D. or equivalent in environmental health, computer science, epidemiology, statistics, geology, biomedical or other related quantitative fields. He/she should have advanced knowledge of modeling, analysis tools, and statistical packages. Previous experience in proposal development is strongly preferred. The ability to communicate and collaborate with a geographically dispersed group is essential. For more information, see the [job announcement](#).

CURRENT RESEARCH BRIEF

[Research Brief 278](#): **Chronic Inflammation Suppresses Immune Cells that Fight Liver Cancer**
(Michael Karin, University of California, San Diego)

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

Society of Toxicology 57th Annual Meeting and ToxExpo
March 11 - 15, 2018
San Antonio, Texas
[Website](#)

Understanding the Combined Effects of Environmental Chemical and Non-Chemical Stressors: Atherosclerosis as a Model
April 3 - 4, 2018
Research Triangle Park, North Carolina
[Website](#)

2018 Toxicology and Risk Assessment Conference
April 23 - 26, 2018

enjoys taking advantage of Atlanta's warm weather to enjoy its outdoor areas and stay active.

HOT PUBLICATION

TCE and its Metabolites May Lead to Endocrine Disruption

A recent [study](#) from the UC Berkeley SRP Center provides evidence for the endocrine-disrupting potential of trichloroethylene (TCE) and its metabolites at levels detected in biological, ecological, and occupational samples. Endocrine disruptors are chemicals that interfere with the body's endocrine system and may produce adverse developmental, reproductive, neurological, and immune effects in both humans and wildlife.

The study aimed to assess the endocrine-disrupting property of TCE and its major metabolites, trichloroethanol (TCOH), trichloroacetic acid (TCA), and oxalic acid (OA). Using in vitro and in silico approaches, they found that TCE, TCA, and TCOH elicited endocrine disruption by increasing the production of 17 β -estradiol, an estrogen steroid hormone, through a steroid formation pathway. They also found that TCOH possesses endocrine-disrupting abilities by disrupting the hormone receptor-mediated pathway of the estrogen receptor.

The study examined the endocrine-disrupting potential of TCE and its metabolites at biologically relevant concentrations. According to the authors, their findings suggest that TCE contamination poses an endocrine-disrupting threat, which has implications for both ecological and human health.

AWARD WINNERS

UK SRP Center Trainee Joshua Preston Wins First Place in UK Competition

University of Kentucky (UK) SRP Center trainee Joshua Preston received a first-place award in the Biological Sciences category of the 2017 UK Oswald Research and Creativity Competition. Preston's entry, "Maternal Nicotine Exposure Prior to and During Pregnancy and Nursing Increases Offspring Obesity Risk," was chosen from a group of talented student work because of its originality, clarity of expression, scholarly contribution, and the validity, scope, and depth of the project. Since 2015, Preston has been a trainee in Kevin Pearson's lab, where he works on a UK SRP Center project focused on postnatal complications of perinatal PCB exposure.

CALL FOR ABSTRACTS

2018 Toxicology and Risk Assessment Conference

The [2018 Toxicology and Risk Assessment Conference \(TRAC\)](#), which will be held April 23 - 26 in Cincinnati, Ohio, will focus on

Cincinnati, Ohio

[Website](#)

International Conference on One Medicine One Science

April 29 - May 2, 2018

Minneapolis, Minnesota

[Website](#)

Central and Eastern European Conference on Health and the Environment (CEECH)

June 10 - 14, 2018

Krakow, Poland

[Website](#)

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.

topics in risk assessment principles and practice. The conference provides attendees with an overview of current research, methodological, and practice issues that are the focus of risk assessment efforts in various federal agencies, academic institutions, industry, and other organizations. The theme for TRAC 2018 is “Models, Methods, and Emerging Concerns.”

TRAC will feature a poster session with a trainee poster competition. The poster abstract deadline is **March 12, 2018**.

FUNDING OPPORTUNITIES

EPA Office of Environmental Justice Collaborative Problem-Solving Grant Opportunity

The [Environmental Justice Collaborative Problem-Solving \(EJCPS\) Cooperative Agreement Program](#) provides funding to support community-based organizations in their efforts to collaborate and partner with local stakeholder groups (e.g., local businesses and industry, local government, medical providers, and academia) as they develop and implement solutions that address environmental and/or public health issues for underserved communities.

Eligible projects must demonstrate use of the Environmental Justice Collaborative Problem-Solving Model to support their efforts during the project period. Applications are due **February 16, 2018**.

DOD Environmental Security Technology Certification Program Opportunity

The Department of Defense's (DOD) Environmental Security Technology Certification Program (ESTCP) released a solicitation requesting proposals for demonstrations of environmental and installation energy technologies. Researchers from federal organizations, universities, and private industry can apply for ESTCP funding.

ESTCP projects are formal demonstrations in which innovative technologies are rigorously evaluated. ESTCP demonstrations are conducted at DOD facilities and sites to document improved efficiency, reduced liability, improved environmental outcomes, and cost savings.

The due date for all pre-proposals is **March 8, 2018 by 2:00 p.m. EST**. For details for both federal and non-federal submissions, see the [ESTCP Funding Opportunities website](#).

EPA Environmental Education (EE) Grant Opportunity

EPA is pleased to announce that funding up to \$3 million for locally focused environmental education grants is available under the 2018 [EE Local Grant Program](#). EPA will award three to four grants in each of EPA's ten regions for a total of 30-35 grants nationwide.

CONTACT INFORMATION

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

Through this grant program, EPA intends to provide financial support for projects that design, demonstrate, and/or disseminate environmental education practices, methods, or techniques that will serve to increase environmental and conservation literacy and that encourage behavior benefiting the environment in the communities in which they are located.

Proposals are due **March 15, 2018**. Visit the [EPA EE Grant Solicitation Notice](#) to view the Request for Proposals issued for each of EPA's ten regions.

DATA SCIENCE AND DATA SHARING

Evaluating the Prediction Accuracy of Metal-Toxicity Models

In a new [study](#) from the Colorado School of Mines, researchers demonstrate that the factor-of-2 rule used in aquatic toxicity is a good guide to predict the accuracy of acute toxicity tests.

In aquatic toxicology, a toxicity-prediction model is generally deemed acceptable if its predicted median lethal concentrations (LC50 values) or median effect concentrations (EC50 values) are within a factor of 2 of their paired, observed LC50 or EC50 values. However, that rule of thumb is based on results from only two studies: multiple LC50 values for the fathead minnow exposed to copper in one type of exposure water and multiple EC50 values for *Daphnia magna*, which is a small planktonic crustacean, exposed to zinc in another type of exposure water.

Researchers led by SRP grantee James Ranville tested whether the factor-of-2 rule is also supported in a different dataset in which *D. magna* were exposed separately to cadmium, copper, nickel, or zinc. To do this, they analyzed previously available toxicity data from two sources: the Colorado School of Mines and the U.S. EPA Office of Research and Development laboratory in Duluth, Minnesota. Overall, the factor-of-2 rule of thumb appeared to be a good guide to evaluating the acceptability of a toxicity model's underprediction or overprediction of observed LC50 or EC50 values in these acute toxicity tests.

INTERAGENCY NEWS

Superfund Redevelopment Focus List Announced

As of January 17, 2018, EPA announced the [Superfund Redevelopment Focus List](#), which comprises National Priorities List sites with the greatest expected redevelopment and commercial potential.

EPA will focus redevelopment training, tools, and resources toward the sites on this list. EPA will work with developers interested in reusing these and other Superfund sites, will identify potentially interested businesses and industries to keep them apprised of redevelopment opportunities, and will continue to engage with local groups in cleanup and redevelopment activities

to promote the successful redevelopment and revitalization of their communities.

EPA developed this list in response to the [Superfund Task Force Recommendations](#), issued July 25, 2017, which outlined Administrator Pruitt's expectations for a renewed focus on accelerating work and progress at all Superfund sites while working to successfully return those sites to productive use in communities across the country.

2018 EPA Annual Report on Risk Evaluations Released

As required under the [Lautenberg Chemical Safety Act](#), EPA has released its annual plan for chemical risk evaluations. The annual plan identifies the next steps for the first 10 chemical reviews currently underway and describes EPA's work in 2018 to prepare for future risk evaluations. By the end of the 2018 calendar year, EPA will initiate prioritization for 40 chemicals - at least 20 low-priority and 20 high-priority candidates. By December 22, 2019, EPA will have designated 20 substances as low-priority and initiated risk evaluations on 20 high-priority substances. For more information, visit the [EPA website](#).

