

# Superfund Research Program e-Posted Notes

September 7, 2018 (Issue 176)

## HEADLINES

### Registration is Open for the 2018 SRP Annual Meeting

Registration is now open for the [2018 SRP Annual Meeting](#), which will be held **November 28 - 30 in Sacramento, California**. The University of California (UC) Davis SRP Center, in collaboration with the SRP Centers at UC Berkeley and UC San Diego, will be hosting the meeting at the Hyatt Regency in Sacramento.

Discounted early-bird ticket pricing is available through **October 6**. All ticket types will increase by \$100 on **October 7** and conference registration will end on **October 27**. The preferred hotel rate ends **November 6**. Rooms are filling quickly, so please [book](#) as soon as possible.

The deadline for [submitting abstracts](#) for consideration is today, **September 7**, for oral presentations and **October 6** for the poster session.

### Register Now: SRP Progress in Research Webinars

Join us for the remaining SRP Progress in Research webinars, which will feature work initiated by SRP Centers that received grants in 2017. Each Center will provide a 20-minute overview of its projects and will take questions from audience members. More information about each session and links to register are available on the [SRP Progress in Research website](#).

- **September 10, 2018, 1:00 -3:00 p.m. EDT:** Columbia University, Massachusetts Institute of Technology, University of Rhode Island
- **October 1, 2018, 1:00 -3:00 p.m. EDT:** Boston University, Texas A&M University, University of California, Davis

The purpose of these webinars is to facilitate a dialogue between researchers, field practitioners, and stakeholders early on so that new projects are put on a path toward successful technology transfer and application by end users. The webinars are also a great way to learn more about SRP grantees before the upcoming annual meeting.

If you missed the first two sessions, check out the following webinar pages. An archive is currently available for session I and

## EMPLOYMENT OPPORTUNITIES

### Director of Environmental Science Cyberinfrastructure – NIEHS

NIEHS is currently recruiting for the Director of Environmental Science Cyberinfrastructure (DESC). This is a senior leadership position with primary responsibility for aligning the current and future cyberinfrastructure needs of NIEHS with overall scientific priorities in the field of environmental health sciences. The DESC will develop, implement, and coordinate a multitude of resource environments in information technology and scientific computing to support and propel a wide array of current and future scientific research opportunities at NIEHS.

If you have experience working at the interface between scientific computing and data science and IT services, this position at NIEHS may be of interest to you. Please contact Dr. Gwen Collman ([collman@niehs.nih.gov](mailto:collman@niehs.nih.gov)), the chair of the search committee, if you are interested in, and would like to discuss, this important position.

### EPA ORISE Research Training

The EPA National Center for Environmental Assessment (NCEA) recently posted an announcement seeking Oak Ridge Institute for Science and Education (ORISE) research participants to support EPA's Integrated Risk Information

an archive for session II will be available shortly:

- [Session I - Duke University and University of Arizona](#)
- [Session II - University of Louisville, University of New Mexico, and University of Washington](#)

## Multiproject Center Grants (P42) RFA

The most recent RFA for [Multiproject Center Grants](#) was released on July 3, 2018. SRP Center grants support problem-based, solution-oriented research Centers consisting of multiple, integrated projects. The Centers also include cores tasked with administrative (which includes research translation), data management and analysis, community engagement, research experience and training coordination, and research support functions (optional).

SRP hosted a Funding Opportunities Webinar on July 23 to provide more information; you can view an [archive](#) of that webinar online. Additional Resources and Tips for Applicants are available on the [SRP website](#). Answers to [frequently asked questions](#) are on the website as well. The application deadline is **December 19, 2018**.

## 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:

- [PCE exposure linked to stillbirth risk, NIEHS grantee says](#): Pregnant women who drank water contaminated with the solvent tetrachloroethylene (PCE) were up to twice as likely to have a stillbirth because of placental dysfunction, according to a NIEHS-funded study published July 3 in the journal *Environmental Health*. PCE is a solvent frequently used in dry cleaning solutions, adhesives, and other commercial products.
- [Extramural Paper of the Month: Connection between genes, response to environmental chemicals](#): NIEHS grantees developed a new method to identify individual-level genetic variation in response to chemical exposures. The approach, which linked zebrafish studies and bioinformatic approaches, might help identify new genetic factors that explain differences in chemical sensitivity.

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

- [SRP Trainee Explores Intersection of Art and Science](#): Duke University Superfund Research Program (SRP) Center trainee Casey Lindberg helped organized an exhibit highlighting the intersection of science and art called "The Art of a Scientist."
- [Early SRP Collaboration Guides Potential Treatment Options for Disorders of the Eye](#): Building on a collaboration dating back nearly 20 years between SRP-funded researchers,

System (IRIS) Program.

This research participation opportunity offers recent graduates an opportunity to analyze, evaluate and integrate scientific evidence for the development of scientific assessments that support EPA policy and regulatory decisions. For more information on the position, visit the [ORISE position description](#).

### NRC Research Associateship Programs

The National Research Council (NRC) Research Associateship Programs promote excellence in scientific and technological research conducted by the U.S. government through the administration of programs offering graduate, postdoctoral, and senior level research opportunities at sponsoring federal laboratories and affiliated institutions.

Prospective applicants should carefully read the details and eligibility of the program to which they are applying. Some laboratories have citizenship restrictions (open only to U.S. citizens and permanent residents), and some laboratories have Research Opportunities that are not open to senior applicants (more than 5 years beyond the Ph.D.). When searching for Research Opportunities, applicants may limit their search to only those laboratories which match their eligibility criteria. In addition, applicants should note application deadlines, as not all laboratories participate in all reviews.

See the [program webpage](#) for more information. Applications are due **November 1, 2018**.

### Jobs at Gradient

Gradient is [currently recruiting](#) talented and qualified individuals to join their team, including environmental engineers, epidemiologists, biostatisticians,

scientists have made strides in determining how to prevent blindness from occurring in mice with macular degeneration and diabetic retinopathy.

- [Global Pollution Observatory Provides Path to Addressing Global Pollution](#): Following a workshop and commentary, environmental health experts are one step closer to the formation of a Global Pollution Observatory, a major recommendation of the Lancet Commission report on pollution and health to create a multinational consortium to assist countries in prioritizing pollution initiatives.
- [CycloPure Chemist Wins Guggenheim Fellowship](#): William Dichtel, Ph.D., co-founder of the NIEHS-funded small business CycloPure, was recently awarded a prestigious 2018 Guggenheim Fellowship for his ongoing work in polymer chemistry.
- [SRP Startup Nets Innovative Technology Prize](#): At the 2018 China BlueTech Awards, the Most Innovative Technology Award went to SRP-funded small business PowerTech Water for its next-generation water purification technology, called INCION.

### Founding Center Director at MSU Remembered

Lawrence Fischer, the founding center director at the Michigan State University (MSU) SRP Center, [passed away on August 7](#). Fischer is remembered by his colleagues for his incredible leadership, contributions to research, and commitment to training. Funded since the inception of the SRP, the MSU SRP Center focuses on understanding and reducing the impacts on human health from exposure to chemicals commonly found at Superfund sites.

### Navas-Acien Interviewed by PBS News Hour

Columbia University SRP Center Director Ana Navas-Acien was interviewed by [PBS News Hour](#) about the legacy of potentially harmful contaminants in the vicinity of Love Canal, a small community near Niagara Falls, New York, forty years after it was declared a national health emergency. The Columbia University SRP Center's research is focused on understanding the health effects and geochemistry of arsenic.

### Punshon Featured in Local News

In a report outlining New Hampshire efforts to promote well testing, the [Valley News](#) featured an interview with Dartmouth SRP Center researcher Tracy Punshon. She discussed the health affects of arsenic and how people are exposed to it. Punshon co-leads the trace element analysis core.

### Stapleton's Research Highlighted in NC Policy Watch Article

Duke University SRP Center researcher Heather Stapleton's work to sample air, soil, house dust and drinking water in a community near Lake Norman was [highlighted in an article](#) by North Carolina

toxicologists, geologists, and database specialists. Critical thinking, supported by a foundation of rock-solid scientific, research, writing, and client development skills are hallmarks of successful Gradient staff.

For more information about Gradient, see its [Careers Overview](#) document.

### Assistant Professor in Environmental Health Sciences – UMass Amherst

The University of Massachusetts Amherst is seeking an Assistant Professor in Environmental Health Sciences for a fully state-funded tenure line position. Responsibilities include an active program of research, teaching, professional, and community service, as well as mentoring graduate and undergraduate students. Candidates must possess strong research skills with a proven track record of extramurally funded program research, commensurate with experience, in Environmental Health Sciences.

Applicants with research interests in any area of environmental health will be considered; however, preference will be given to candidates with expertise in exposure science, environmental epidemiology, bioinformatics/computational biology, mechanistic toxicology, or global environmental health to complement existing expertise within the Department of Environmental Health Sciences.

Interested candidates should submit their cover letter, curriculum vitae, a description of their research and teaching statements, and contact information for 3 professional references. The application review process will begin October 15, 2018 and will continue until the position is filled. For more information and to

Policy Watch. The Lake Norman area has an unusually high number of thyroid cancer cases, and Stapleton's research aims to better understand the exposures that may be contributing to this.

### Video Features Stanton's Research on Cystic Fibrosis

Dartmouth SRP Center researcher Bruce Stanton was recently featured in a [video](#) about a student with cystic fibrosis working with Stanton's lab to isolate the genes responsible for causing the disease. The work is aimed at identifying potential therapeutic targets. Stanton's SRP research is focused on understanding how arsenic alters the immune system's response to respiratory infections.

### Furlong Quoted in National Geographic

University of Washington SRP Center researcher Clement Furlong was quoted in a [National Geographic](#) story about the vulnerability of marine mammals to pesticides that run off into the ocean. Furlong explained how these animals lack a particular gene, called PON1, which normally helps the body defend itself against pesticide exposure.

## TRAINEE SPOTLIGHT

### Preston Explores Impacts of Prenatal Exposure to PCBs

University of Kentucky (UK) SRP Center undergraduate trainee Joshua Preston is a senior working under the guidance of Kevin Pearson, Ph.D. With the SRP team, Preston is working to understand how exposure to polychlorinated biphenyls (PCBs) during and around pregnancy impacts offspring later in development, such as through disrupting normal metabolic function and altering body composition. In particular, Preston explores how PCB exposure influences how genes are expressed in mice. This information will be useful to understand the underlying mechanisms of how PCBs impact the body during development, which may open the door for targeted interventions to improve health.



"My Superfund-related work is important and exciting to me because I feel like I get to contribute to the health and safety of the people in my home state and region," said Preston.

Preston recently received several prestigious awards, including the [Astronaut Scholarship](#), the UK Donovan Scholarship in Gerontology, the UK [Oswald Research and Creativity Competition](#), and the UK Bucks for Brains summer research program grant. These awards recognize Preston's research accomplishments, academic performance, and desire to pursue a

apply, visit the [job listing](#).

### Faculty Position in Toxicology and Environmental Health – University of Iowa

The University of Iowa's College of Public Health invites applications for a tenure-track faculty position in Occupational and Environmental Health. Applications will be considered at the level of Assistant Professor, Associate Professor, and Professor.

Responsibilities of the position include 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.

To apply for this position, please visit the [University of Iowa's jobs site](#), where you will be asked to submit a curriculum vitae, a statement of research interests, and the names of three professional references. Please address inquiries and nominations to the search committee administrator, Ms. Lisa Irving at [lisa-irving@uiowa.edu](mailto:lisa-irving@uiowa.edu).

## CURRENT RESEARCH BRIEF

[Research Brief 285: Why Shallow Lake Food Webs May Have More Arsenic](#) (Rebecca Neumann, University of Washington)

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](mailto:heacockm@niehs.nih.gov)).

## SRP EVENTS

[Society for Environmental Toxicology and Chemistry \(SETAC\) Asia-Pacific Meeting: Data, Science, and Management Promoting](#)

scientific career. In particular, his Oswald Research and Creativity award, based on his project entitled Maternal Nicotine Exposure Prior to and During Pregnancy and Nursing Increases Offspring Obesity Risk, was chosen for its originality, clarity of expression, scholarly contribution, and the validity, scope, and depth of the project.

Preston was also awarded and completed a summer internship in biomedical research at the National Institute on Aging, where he learned advanced molecular and cellular techniques under the mentorship of Rafael de Cabo, Ph.D.

Preston has been a trainee at the UK SRP Center for the last three years and is currently applying for a dual M.D. and Ph.D. program. Outside of the lab, Preston enjoys rock climbing with his wife and playing bluegrass music. He is also very involved with his church and local community, including volunteering at several retirement homes.

“My experience with the UK SRP helped establish my future career as a physician-scientist because it fostered my genuine passion for toxicology and biomedical research,” noted Preston.

## HOT PUBLICATION

### PFAS Framework Points to Priorities for Management and Research

A streamlined research framework may help overcome management challenges and prioritize per- and polyfluoroalkyl substances (PFAS) for further study, according to a new [commentary](#) out of the Brown University SRP Center. PFAS are contaminants of emerging concern due to the large number currently or historically used in industrial and consumer products and their persistence in the environment. Some chemicals within this class of substances have been shown to have impacts on the liver, metabolism, immune system, and fetal development.

The team used several stakeholder engagement events to identify challenges in managing PFAS in drinking water and to identify needs moving forward. Stakeholders were connected with PFAS experts who then helped document and review the challenges and knowledge gaps in PFAS evaluation and management. Some of the key challenges identified included the large number of PFAS, and the limited studies on some PFAS, particularly on potential human health impacts.

The authors described how considering occurrence, persistence, and treatability when evaluating exposure can inform a streamlined framework to prioritize future research and inform best management activities for PFAS with the highest risk for exposure in drinking water.

Using a case study of potential PFAS sources and drinking water aquifers in Rhode Island, the team illustrated how risk-based, geospatial methods can be used to address knowledge gaps and

#### [Environmental Welfare](#)

September 16 – 19, 2018

Daegu, South Korea

#### [15th International Phytotechnology Conference](#)

October 1 - 5, 2018

Novi Sad, Serbia

#### [North Carolina Society of Toxicology Annual Meeting](#)

October 15, 2018

Research Triangle Park, North Carolina

#### [International Experimental Biology and Medicine Conference \(IEBMC\)](#)

October 19 – 21, 2018

Chengdu China

#### [Annual Meeting of the Superfund Research Program \(SRP\)](#)

Hosted by the UC Davis SRP Center in collaboration with the UC Berkeley and UC San Diego SRP Centers

November 28 – 30, 2018

Sacramento, California

## 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

evaluate the potential risk of exposure to more effectively evaluate and reduce risk.

According to the authors, stakeholder engagement can provide important information to help develop management strategies for PFAS, while streamlined frameworks leveraging the current state of the science can be used to address less-studied PFAS and reduce exposure.

## AWARD WINNERS

### Stromberg Elected Chair of National Association

Arnold Stromberg of the University of Kentucky SRP Center was recently elected Chair of the Caucus of Academic Representatives of the American Statistical Association. Stromberg works with the Center's Research Support Core.

### Vesper Elected as GSA Fellow

Northeastern University researcher Dorothy Vesper was elected as a [Geological Society of America Fellow](#). Vesper was nominated for her outstanding contributions to applied research in karst hydrogeology and geochemistry, training and professional development of students, and professional leadership within the karst and hydrogeology community.

## WEBINARS AND TRAININGS

### SOT Risk Assessment Specialty Section Webinar

Martyn Smith of the University of California – Berkeley SRP Center will be presenting a [webinar](#) as part of the Society of Toxicology (SOT) Risk Assessment Specialty Section on September 12. His talk, titled "Key Characteristics Approach to Evaluating Mechanistic Data in Hazard Identification and Risk Assessment," will be [available for download](#) on Tuesday, September 11.

As advances in biotechnology are providing new data types to be considered and our understanding of important biological processes progresses, the challenge of how to integrate and quantify mechanistic events into a model of pathogenesis for risk assessment remains. This topic is timely and should engender a good discussion.

### NIH ENRICH Forum

On Tuesday, September 25, an Ethical and Regulatory Issues in Cancer Research (ENRICH) Forum [webinar](#) will be held entitled "Conducting Research with Archived Tissue: Lessons Learned and Strategies for Success."

The speakers will discuss the ethical challenges surrounding the use of stored tissue in research studies, including how to educate donors about the potential scope of future research involving their

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.

biospecimens and data.

The ENRICH webinar is sponsored by the National Cancer Institute's Division of Cancer Control and Population Sciences (DCCPS) Epidemiology and Genomics Research Program and the Division of Cancer Treatment and Diagnosis (DCTD) Cancer Diagnosis Program.

## CALL FOR ABSTRACTS

### 2018 SRP Annual Meeting

The Scientific Planning Committee is now [accepting abstracts](#) for the 2018 SRP Annual Meeting, scheduled for November 28 - 30 in Sacramento, California. Committee members will select abstracts to fill a limited number of oral presentation slots. They also plan to accept as many of the poster abstracts for presentation as space allows – with priority given to master's and doctoral-level trainees who are not accepted for oral presentations (they will automatically be considered for the trainee poster competition).

The deadline for [submitting abstracts](#) for consideration is today, **September 7**, for oral presentations and **October 6** for the poster session.

### 2019 CitiSci Annual Conference

The National Citizen Science Association is accepting proposals for their 2019 National CitiSci Conference, which will take place March 13 – 17 in Raleigh, North Carolina.

The deadline for proposing talks and posters is **September 21**. Submission requirements and other information can be found on the [meeting website](#). Travel scholarships are available for participants.

## FUNDING OPPORTUNITIES

### EPA Methods to Analyze and Treat PFAS Projects

The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications proposing research related to [Practical Methods to Analyze and Treat Emerging Contaminants \(PFAS\) in Solid Waste, Landfills, Wastewater/Leachates, Soils, and Ground Water to Protect Human Health and the Environment](#).

Proposed research should aim to lead to:

- Better understanding and characterization of the types and quantities of current and historical per- and poly-fluoroalkyl substances (PFAS) and PFAS-containing waste associated with waste disposal (e.g., landfills), as well as media containing PFAS released from these activities (e.g., PFAS in leachate collected by landfills or PFAS leaching to subsurface

soils and groundwater).

- Increased knowledge of the fate, transport, potential for degradation or other changes to PFAS, and their mobility during materials management (e.g., under different landfill conditions such as pH, temperature, moisture content) that facilitate or retard such transformation or movement.
- New or improved methods that are more effective, efficient (in cost, energy, etc.), and practical in controlling, treating, destroying, or removing PFAS in waste and wastewater, landfill leachates, biosolids, or environmental media.

The main goal is to promote innovation in evaluating and managing PFAS in solid waste, landfills, and environmental media that will lead to improved decision making, management practices, and technical methods to minimize the risks to both humans and ecosystems.

The solicitation closing date is **October 2, 2018**.

### **NAS Thriving Communities Grant for Gulf of Mexico**

The National Academies of Sciences, Engineering, and Medicine Gulf Research Program announced it will fund up to \$10 million in grants to support efforts to enhance coastal community resilience and well-being in the Gulf of Mexico region. This funding opportunity is aimed at bridging the gap between the knowledge and practice of community resilience. It intends to support collaborative projects between researchers and practitioners that will result in actionable strategies Gulf region coastal communities can use to enhance their resilience against stressors associated with climate change, severe weather, or environmental degradation.

Letters of intent are due **by September 19**. Proposals are due **November 28**. More information is available on the [Gulf Research Program website](#).

### **EPA Wetland Program Development Grants**

Wetland Program Development Grants ([WPDGs](#)) provide eligible applicants an opportunity to conduct projects that promote the protection, management, and restoration of wetlands. States, tribes, local governments, interstate associations, and intertribal consortia are eligible to apply for the Regional WPDG Request for Proposals. Application deadlines **vary by region**.

### **Department of Commerce FY17 Economic Development Assistance Programs**

The Economic Development Administration (EDA) [solicits applications](#) from applicants in rural and urban areas to provide investments that support construction, non-construction, technical assistance, and revolving loan fund projects under EDA's Public Works and Economic Adjustment Assistance programs. Grants and cooperative agreements made under these programs are designed to leverage existing regional assets and support the implementation of economic development strategies in distressed

communities. This opportunity does not have a submission deadline.

## NSF Supplemental Funding

The Nation's global competitiveness depends critically on the readiness of the Nation's Science, Technology, Engineering, and Mathematics (STEM) workforce, and NSF seeks to continue to invest in programs that directly advance this workforce. As part of this effort, a supplemental funding opportunity is available in fiscal years FY 2019 and FY 2020 to provide support for non-academic research internships for graduate students to support career opportunities in any sector of the U.S. economy.

The PI of an active NSF award may request supplemental funding for one or more graduate students to gain knowledge, skills, and experiences that will augment their preparation for a successful long-term career through an internship in a non-academic setting. To be eligible, graduate students must have completed at least one academic year in their graduate programs and be making satisfactory progress towards the completion of their degrees.

[Supplemental funding requests](#) may be submitted at any time, but no later than **May 1, 2019** for available FY 2019 funds, and **May 1, 2020** for available FY 2020 funds.

## DATA SCIENCE AND DATA SHARING

### Workshop on Developing a Data Science Competent EHS Workforce

NIEHS recently hosted a workshop on [Developing a Data Science Competent EHS Workforce](#) in Research Triangle Park, North Carolina. The workshop brought together experts from a variety of disciplines to examine existing data science environmental health science (EHS) resources, to consider how they can be used to address data science training goals, and to make recommendations for building a data science competent EHS workforce.

Participants discussed the current state of data science in EHS related to training and identified current limitations in data science training. They also examined existing training resources relevant to EHS and data science and discussed how to build EHS training in data science.

Some of the key themes discussed included:

- Breaking down barriers to interdisciplinary teams of data scientists and biomedical scientists.
- Promoting dual mentorships for training programs to integrate EHS and data science.
- The importance of interdisciplinary and cross-disciplinary research and training.

### NIH Releases Strategic Plan for Data Science

The National Institutes of Health (NIH) released its first ever [Strategic Plan for Data Science](#) to capitalize on the opportunities presented by advances in data science. The Strategic Plan provides a roadmap for modernizing the storing, managing, standardizing, and publishing the vast amounts of data produced by NIH-funded biomedical research. The plan describes NIH's overarching goals, strategic objectives, and implementation approach for modernizing the NIH-funded biomedical data science ecosystem. Over the next year, NIH will begin implementing its strategy and will continue to seek community input during the implementation phase.

## PHOTO OF THE MONTH



Boston University SRP Center Researchers participated in a community outreach at a local elementary school. Researchers gave a tour of the zebrafish room at Woods Hole Oceanographic Institute and taught the students about zebrafish development. (Photo courtesy of the BU SRP Center).

## INTERAGENCY NEWS

### EPA E-STEM Resources Available

The EPA has developed several electronic resources for science, technology, engineering, and math ([E-STEM](#)) that can be used in a variety of formal and informal educational settings. The E-STEM resources include:

- [EnviroAtlas](#), an ecosystem services mapping tool developed by the EPA and its partners to empower users to be highly informed local decision-makers.
- [Generate: The Game of Energy Choices](#), a fun way for students and others to explore energy choices and the environment.
- [Build Your Own Particle Sensor](#), a hands-on learning activity that teaches the basics of particulate matter (PM) air pollution, air quality, and electronics while building problem solving and other STEM skills.
- [Village Green](#), an innovative solar and wind powered air

monitoring system developed by EPA researchers that allows users to use real-time data to learn about local air quality.

