

Superfund Research Program *e-Posted Notes*

August 7, 2020 (Issue 199)

HEADLINES

NIEHS Releases Notice of Intent to Publish for SRP Multiproject Center Grants

On July 14, NIEHS released a Notice of Intent to Publish (NOT-ES-20-021) with details about the anticipated release of the next SRP Multiproject Center Grants (P42) Funding Opportunity Announcement (FOA). The estimated FOA publication date is late August 2020, with an estimated application due date of February 15, 2021. [See the notice](#) for more information about the anticipated announcement and timeline.

SRP Virtual Coffee Hour for Trainees and Training Core Leaders

SRP staff invite trainees and Training Core Leaders to join a virtual coffee hour **August 26 from 1:00 – 2:00 p.m. EST**. The purpose of the event is to catch up and connect with trainees and Training Core Leaders across the SRP, and to allow trainees and Training Core Leaders to ask SRP staff questions or make comments about the current uncertainty related to COVID-19. SRP staff understand that many trainees are balancing course work, laboratory work, families, and stress related to COVID-19. The virtual coffee hour will provide a space for SRP staff to listen to and address trainee concerns.

The virtual coffee hour will be held via a ZoomGov meeting. SRP staff request that trainees and Training Core Leaders send their questions and comments ahead of the virtual coffee hour to ensure as many as possible can be addressed during the hour. Please send your questions/comments to Brittany Trottier (brittany.trottier@nih.gov) by **August 16**. The Zoom “Chat Box” will also be available at that time. For the invite, check out your August 7 email from Danielle. If you didn’t receive an invite or have any questions about the coffee hour, please contact Danielle Carlin (danielle.carlin@nih.gov).

For those of you on the [Student/Postdoc/Alumni Network \(SPAN\) Leadership Committee](#), WebEx discussions will begin this fall. If you are interested in joining the SPAN Leadership Committee, please follow up with your Research Experience and Training Coordination Core leader to see how you can join.

EMPLOYMENT OPPORTUNITIES

Call for Associate Editors – Environmental Health Perspectives

The journal Environmental Health Perspectives (EHP) seeks nominations for new Associate Editors with expertise across the environmental health sciences to join its [Board of Associate Editors](#). Associate Editors evaluate papers that are being considered for full peer review, solicit peer reviewers, and summarize reviews in recommendations to the [Editor-in-Chief](#). The Associate Editor position is a volunteer role.

The ideal candidate has a strong sense of the relevant research field, an aptitude to recognize things that are novel and important, the ability to handle manuscripts across a wide range of topics and disciplines, and a good network of experts they can call upon to conduct reviews.

Associate Editors should expect to receive approximately three new submissions for evaluation each month and must be able to handle papers in a timely manner and participate in discussions regarding manuscripts they manage.

To nominate yourself or a colleague, send an email to ehpsubmission@niehs.nih.gov that includes the nominee’s name and a brief explanation of their background and subject matter that they are

Low Cost Technology Cleans Up Contaminated Sites

An innovative technology, developed by SRP-funded researchers, successfully delivers amendments that immobilize and degrade polychlorinated biphenyls (PCBs) in aquatic environments. The technology has proven effective in the field and resulted in millions of dollars in estimated cost savings at cleanup sites.

Developed by Upal Ghosh of the University of Maryland, Baltimore County, and collaborators, the technology uses activated carbon in the form of specialized pellets to bind to PCBs and reduce their bioavailability, or uptake by fish and other aquatic organisms. The technology can also be combined with microbes that break PCBs down, reducing their toxicity. Read our latest [Public Health Impacts story](#) to learn more.

NIH Opportunities to Support COVID-19 Research

[Notice of Special Interest \(NOSI\): NIEHS Support for Understanding the Impact of Environmental Exposures on COVID-19](#) for mission-relevant research to understand the impact of environmental exposures on COVID-19 and its causative agent, SARS-Cov-2. **The next due date is September 1, with subsequent due dates at the beginning of each month until May 3, 2021.**

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

The NIH launched the [Rapid Acceleration of Diagnostics \(RADx\)](#) initiative to speed innovation in the development, commercialization, and implementation of technologies for COVID-19 testing.

NIH released several Radx Radical (RADx-rad) opportunities on August 6. Radx-rad will support new, non-traditional approaches, including rapid detection devices and home-based testing technologies, that address current gaps in COVID-19 testing. The program will also support new or non-traditional applications of existing approaches to make them more usable, accessible, or accurate. NIH published the following Radx-rad funding opportunities:

1. [Notice of Special Interest: Wastewater Surveillance Research for Public Health Response to COVID-19](#), due August 21
2. [Notice of Special Interest: Chemosensory Testing as a COVID-19 Screening Tool](#), due September 15
3. [Automatic Detection and Tracing of SARS-CoV-2](#), due September 15
4. [RADx-rad Wastewater Detection of SARS-COV-2](#), due September 15

most qualified to handle. Self-nominating candidates should also include a brief explanation of why they are interested in being an *EHP* associate editor. For more information, see the [announcement](#).

EHP seeks a diverse pool of editors and especially welcomes the nomination of individuals from groups historically underrepresented in editorial positions.

CURRENT RESEARCH BRIEF

[SRP Research Brief 308](#): Using Fungi to Clean up Contaminated Soil (Claudia Gunsch, Duke University)

Past [Research Briefs](#) are available on the SRP website. To receive the monthly Research Briefs or to submit ideas, email Michelle Heacock (heacockm@niehs.nih.gov).

SRP EVENTS

Data Management and Data Interoperability Workshop

August 11, 2020
11:00 a.m. – 5:00 p.m. EST
Hosted by the University of Louisville
SRP Center
Contact Millicent Gornek (millicent.gornek@louisville.edu) to attend

[2020 SRP Annual Meeting](#)

December 14-16, 2020
College Station, Texas

[FLUOROS 2021 Symposium](#)

September 26-29, 2021
Providence, Rhode Island

[SETAC 8th World Congress](#)

Postponed (New date TBD)
Singapore

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

Postponed (New Date TBD)
Montreal, Canada

5. [Chemosensory Testing as a COVID-19 Screening Tool](#), due September 15
6. [Screening for COVID-19 by Electronic-Nose Technology \(SCENT\)](#), due September 18
7. [Exosome-based Non-traditional Technologies Towards Multi-Parametric and Integrated Approaches for SARS-CoV-2](#), due September 18
8. [Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 from Skin and the Oral Cavity](#), due September 18
9. [Novel Biosensing for Screening, Diagnosis and Monitoring of COVID-19 From Skin and The Oral Cavity \(Fast-Track STTR\)](#), due September 18
10. [RADx-RAD Multimodal COVID-19 Surveillance Methods for High Risk Clustered Populations](#), due September 30
11. [RADx-rad Data Coordination Center](#), due September 30
12. [RADx-rad Predicting Viral-Associated Inflammatory Disease Severity in Children with Laboratory Diagnostics and Artificial Intelligence \(PreVAIL klds\)](#), due September 30

Visit the [RADx funding page](#) for a complete list of funding opportunities. If interested in applying, please be sure to watch the [archive of the June 26 and July 1 informational webinars](#). If you have any questions about the RADx opportunities, please reach out to your Program Officer or the NIEHS contact listed in the funding opportunity for more information. Visit the [NIH Coronavirus resource page](#) for the latest research information from NIH, including grants and funding information.

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 Externships awarded to outstanding Superfund trainees](#): Eleven outstanding SRP trainees have won K.C. Donnelly Externship Award Supplements. The annual awards allow trainees to work side-by-side with experts at an outside institution to learn new methods and techniques to enrich their research.
- [Ongoing Duwamish River recovery inspires video series. book](#): Outreach by the University of Washington SRP Center includes a new history of the river and educational videos on safe fishing.
- [Water contamination on tribal lands focus of webinar series](#): Water contamination on tribal lands was the focus of a recent webinar series funded in part by the SRP. The University of Arizona SRP Center Community Engagement Core (CEC) organized the webinars.

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

- [Symposium Brings Together Metals and Epigenetics Experts](#):

GET UPDATES FROM OTHER SRP GRANTEES

To see the latest SRP grantee publications, visit the [SRP publications page](#).

Visit the [SRP Materials for Grantees page](#) for helpful information, such as SRP administrative supplements information, SRP best practices, guidelines for NIEHS logo use, and the Data Collection Form.

See the [SRP Science Digest](#) to read more about recent SRP research highlights and activities.

The [SRP Events page](#) contains information about upcoming meetings, seminars, and webinars.

The SRP website also has [Search Tools](#) to help you learn more about projects funded by the Program.

JOIN THE @SRP_NIEHS KNOWLEDGE NETWORK ON TWITTER

NIEHS uses Twitter, a popular social media tool, for information sharing through tweets. Many SRP Centers also have accounts, and it would be great if all participated! Follow us [@SRP_NIEHS](#) to instantly hear news about the Program, noteworthy publications, events, and job opportunities for trainees.

CONTACT INFORMATION

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

In a virtual symposium, SRP grantees and colleagues shared research findings and discussed leveraging data to learn how metal exposures can lead to epigenetic changes. The symposium was co-hosted by the University of California, Berkeley and the Columbia University SRP Centers.

Dartmouth Researchers Discuss Mercury in Food Webs

Dartmouth SRP Center researchers Celia Chen and Kate Buckman were featured in a [Science Daily press release](#) for their contribution to a decade long citizen science program using dragonflies to measure mercury pollution. The researchers found that dragonflies can be used to estimate the amount of mercury present in fish, amphibians, and birds. The [findings](#) were published in the journal Environmental Science & Technology.

Chen was also [quoted in Science Magazine](#) about new research showing that mercury is transported up the food chain by ghost fleas. Chen directs the Dartmouth SRP Center and is an internationally recognized researcher on the accumulation of metals like mercury in aquatic food webs.

Newman Publishes Book on Community Engagement and Climate Resilience

Texas A&M University SRP Center CEC leader Galen Newman and collaborators published a book titled [Engaged Research for Community Resilience to Climate Change](#). The book is a guide for how to integrate science into urban, regional, and coastal planning activities to build sustainable communities that can withstand climate change.

SRP Researchers Write Op-Ed About PFAS and COVID-19

Researchers from four SRP Centers co-authored an [op-ed in Environmental Health News](#) about the intersection between PFAS exposure and COVID-19. They write that exposure to PFAS suppresses the ability of the immune system to make antibodies, which are critically important in fighting COVID-19 and other infectious agents. Authors include: Jamie Dewitt from North Carolina State University SRP Center, Phil Brown from the Northeastern SRP Center, Laurel Schaidler from University of Rhode Island SRP Center, and Shaina Kasper from the Boston University SRP Center, along with other NIEHS grantees and partners.

Escobar's COVID-19 Mask Research Featured in Local Newspaper

University of Kentucky (UK) SRP Center researcher Isabel Escobar was [featured in the Lexington Herald Leader newspaper](#) for her work to develop a filter that can inactivate the virus that causes COVID-19. She coats the filters with silver nanoparticles which prevent the virus from being able to attach to any structures, eventually killing it. The filters can be inserted into 3D-

printed masks. For her SRP research, Escobar is working with Dibakar Bhattacharyya to create specialized membranes to degrade harmful chemicals in water.

Northeastern SRP Center a Resource for Puerto Rico Communities

The Northeastern University SRP Center continues to serve as a key resource for Puerto Rico communities during disasters. Following the 2020 earthquakes across the island, the CEC [coordinated disaster relief responses](#) in several communities, providing people with water filters for clean drinking water and other materials such as cots, tents, insect repellent, and mosquito nets. [In response to the COVID-19 pandemic](#), the CEC developed a series of educational materials and created a Facebook page to share reliable public health information with the community. The team is also finding creative solutions to maintain research during COVID-19 by using online data collection, electronic consent processes, and COVID-19 protocols to continue sample collection.

TRAINEE SPOTLIGHT

Jennings Studies Strategies to Restore Mine Sites

Lydia Jennings, a trainee at the University of Arizona (UA) SRP Center, studies soil properties that promote plant growth on active copper mine sites. Working with UA SRP Center Director Raina Maier, Jennings measures soil microbial abundance, nutrients, pH, and electrical conductivity at mining sites across Arizona.



Jennings's long-term research goal is to make the process of restoring active mine sites to a self-sustaining state, called mine reclamation, more effective and cost-efficient. As part of her SRP project, she works with three Arizona mining companies to identify reclamation strategies that are economical and practical while minimizing impacts on the environment and local communities.

In addition to her SRP research, Jennings is minoring in American Indian Policy. She is a member of the Pascua Yaqui and Huichol tribes and is interested in the laws that have resulted in mines being located on or near tribal nations and public lands. According to Jennings, understanding these legal practices will allow her to better use science in service of Indigenous communities.

Jennings also mentors the next generation of women scientists. In 2016-2017, she partnered with the UA Women in Science and Engineering program to share her SRP research experiences with young women interested in environmental research. She has also

mentored students through UA's Native Student Outreach, Access, and Resiliency program.

In 2015, Jennings was a recipient of the [National Science Foundation Graduate Research Fellowship Program](#), a five-year fellowship that supports outstanding graduate studies. She was also named a 2019 American Geophysical Union [Voices for Science](#) Fellow. This program trains scientists to communicate the value and significance of their research.

In her free time, Lydia enjoys getting outdoors. She is an avid trail runner and likes to camp and rock climb. She is also involved in cultural activities of her tribe, enjoys cooking, and playing with her puppy, Salchicha.

HOT PUBLICATION

Environmental Risk Maps Improve Estimates of Mine Contamination on Navajo Nation

University of New Mexico SRP Center researchers [created the first environmental risk maps](#) for the Navajo Nation that consider multiple factors related to metal exposure from abandoned uranium mines, such as air and water transport of contaminants from mine sites. The maps can help researchers and decision makers identify areas most vulnerable to contamination from mine waste and may prove useful in informing actions to reduce exposures and improve health.

The research team used the GIS-based multi-criteria decision analysis (GIS-MCDA) model to create the maps. This is the first time the model, which accounts for multiple exposure routes, has been used to estimate mine-related metal contamination on the Navajo Nation. Previous models only considered proximity to mine sites and a single exposure route, such as breathing windblown dust or drinking contaminated water, to estimate exposure risk.

The researchers created the model to account for factors that play a role in the movement of contaminants in the environment such as proximity to abandoned uranium mines, topography, meteorology, vegetation, and proximity to roads and surface drainages. By comparing the model results and uranium concentrations from soil and sediment samples collected across the Navajo Nation, the team confirmed the validity and accuracy of the approach.

Using the model, they estimated that 20% of the Navajo Nation is at high risk for metal contamination from abandoned mines, 66% at medium risk, and 14% at low risk. Proximity to mine sites was the most influential factor for elevated contamination risk, but proximity to roads, drainages, and certain landforms, like valleys and lower slopes, also increased contamination risk.

According to the authors, this research may be useful to tribal, state, and federal agencies working to clean up abandoned

uranium mines and reduce human exposure to harmful contaminants found in mine wastes.

AWARD WINNERS

Cardenas Receives NIEHS ONES Award

Andres Cardenas is the recipient of a competitive NIEHS Outstanding New Environmental Health Scientist (ONES) award. Cardenas, a former Oregon State University SRP Center trainee, is now an assistant professor at University of California (UC), Berkeley and part of the UC Berkeley SRP Center. Grants provided through the ONES program help early career scientists launch innovative research to understand how environmental exposures affect people's health. [With his grant](#), Cardenas will use data science to model the health effects of a range of exposures during pregnancy and in early life with the goal of improving children's health.

Zhang Wins NIEHS RIVER Award

University of Arizona SRP Center project leader Donna Zhang received a [NIEHS Revolutionizing Innovative. Visionary Environmental Health Research \(RIVER\)](#) award. The grant offers sustained funding for up to eight years, providing researchers with stability and scientific flexibility to pursue novel research directions and achieve greater impacts. Zhang will investigate the role of the NRF2 signaling pathway in diseases related to arsenic exposure, like cancer and diabetes. She will also explore ways to harness the NRF2 response to reduce arsenic-related disease.

Cordero and Velez Vega Appointed to EPA's Children's Health Protection Advisory Committee

The U.S. Environmental Protection Agency (EPA) [selected Northeastern SRP Center researchers](#) Jose Cordero and Carmen Velez Vega to serve on the Children's Health Protection Advisory Committee. The Committee is a body of external representatives that advises the EPA on regulations, research, and communication related to children's environmental health.

Banfield Wins Award from the European Association of Geochemistry

UC Berkeley SRP Center researcher Jill Banfield [received the 2020 Harold Urey Award](#) from the European Association of Geochemistry. The award recognizes scientists for outstanding career contributions to the advancement of geochemistry. Banfield was recognized for her pioneering research in the field of geobiology, using scientific approaches from earth sciences and microbiology.

Duckworth Receives Jackson Soil Chemistry and Mineralogy Award

University of North Carolina at Chapel Hill SRP Center project

lead Owen Duckworth received the [Jackson Soil Chemistry and Mineralogy Award](#) from the Soil Science Society of America. The award recognizes a mid-career soil scientist who has made outstanding contributions in the areas of soil chemistry and mineralogy.

Huerta-Montanez Elected to Council on Environmental Health Executive Committee

Gredia Huerta-Montanez, a pediatrician and Northeastern SRP Center researcher, [was appointed](#) to the American Academy of Pediatrics (AAP) National Executive Committee of the Council on Environmental Health. Council members advise the AAP board of directors, support legislative initiatives designed to protect children's and environmental health, develop educational initiatives, and publish the Pediatric Environmental Health manual.

Overdahl Awarded First Place for Presentation at Carolinas SETAC Conference

Duke University SRP Center trainee Kirsten Overdahl won first place for her presentation at the Carolinas Society of Environmental Toxicology and Chemistry (SETAC) conference in April. Her presentation was titled Investigating Sensitization Activity of Azobenzene Disperse Dyes via the Direct Peptide Reactivity Assay. Overdahl is mentored by Heather Stapleton and Lee Ferguson.

Elkin Wins Trainee Award at SOT

Elana Elkin, a postdoc trainee at the Northeastern SRP Center, [received the Edward W. Carney Trainee Award](#) at the 2020 Annual Society of Toxicology (SOT) Meeting. The purpose of the award is to encourage education and training in reproductive and developmental toxicology. Recipients are selected for the quality of their research abstracts and their overall impact to the fields of reproductive and developmental toxicology or teratology.

FUNDING OPPORTUNITIES

Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER) (R01 Clinical Trial Optional)

The purpose of the updated ViCTER program is to foster and promote early-stage transdisciplinary collaborations and translational research efforts among fundamental, clinical, and population-based researchers in the environmental health field. The newly established collaborative teams will come together to investigate potential links between human health and one or more environmental stressors. The ViCTER program is intended to support innovative high-risk, high-reward cross-disciplinary and/or translational research projects that are more difficult to achieve in a typical R01 application. Collaboration among investigators at different institutions through a virtual consortium arrangement are

encouraged. See the [Funding Opportunity Announcement \(RFA-ES-18-007\)](#) for more information. Applications are due **December 1**; a letter of intent is due 30 days prior to the application due date.

Environmental Influences on Aging: Effects of Extreme Weather and Disaster Events

Two complementary funding opportunities aim to clarify the behavioral, biological, epigenetic, genetic, neurological, and socioecological processes that affect the aging process:

- [Effects of Extreme Weather and Disaster Events on Aging Processes \(R01 Clinical Trial Not Allowed\)](#) supports research exploring the impacts of extreme weather and disaster events on the basic biology of aging. Applications are due **November 9**; a letter of intent is due 30 days prior to the application due date.
- [Effects of Extreme Weather and Disaster Events on Aging Populations \(R01 Clinical Trial Optional\)](#) supports research to advance our understanding of the impact of extreme weather and disaster events in aging human populations. Applications are due **November 9**; a letter of intent is due 30 days prior to the application due date.

The goal of these companion funding opportunities is to improve the health and well-being of older adults via increased knowledge about extreme weather and disaster preparedness, response, and recovery.

Research to Action: Assessing and Addressing Community Exposures to Environmental Contaminants (R01 Clinical Trial Optional)

This [funding opportunity](#) encourages multidisciplinary projects to investigate the potential health risks of environmental exposures of concern to a community and to implement an environmental public health action plan based on research findings. Projects supported under this program are expected to employ community-engaged research methods to not only conduct research but also to seamlessly translate research findings into public health action. The Research to Action program is part of the NIEHS Partnerships for Environmental Public Health network. Visit the [Research to Action Currently Funded Grantees webpage](#) for a sense of the types of projects supported through the program. Applications are due **December 4, 2020**.

Biomedical Knowledgebase (U24 – Clinical Trials Not Allowed)

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

This funding opportunity supports biomedical knowledgebases with the primary function to extract, accumulate, organize,

annotate, and link growing bodies of information related to core datasets. Support for data curation should include efficient and effective methods that scale to the needs of the community and include semi-automated methods. Support for software and tool development must be limited to that which provides essential functions or significantly increases the efficiency of operation of the knowledgebase. Applications that have a significant focus on software or tool development are not appropriate for this activity.

Biomedical Data Repository (U24 – Clinical Trials Not Allowed)

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

This funding opportunity is designed to support biomedical data repositories with the primary function to ingest, archive, preserve, manage, distribute, and make accessible the data related to a particular system or systems. Support for data curation must be limited to that which improves the efficiency and accessibility of data ingestion, management, and use and reuse by the user communities. Support for software and tool development must be limited to that which provides essential functions or significantly increases the efficiency of operation of the repository. Applications that have a significant focus on software and tool development are not appropriate for this activity.

DATA SCIENCE AND DATA SHARING

Data Management and Data Interoperability Workshop

The University of Louisville SRP Center is hosting a virtual Data Management and Data Interoperability Workshop with Microsoft Life Science Research on **August 11** from 11:00 a.m. – 5:00 p.m. EST. The goals of the workshop are to:

- Brainstorm and identify priority areas of common challenges, interests around environmental science, toxicology, medical research, and innovation platform.
- Explore available technologies, capabilities, and trends to modernize the environmental science and biomedical research and innovation platforms that enable simplified and efficient big data assets management, and data sharing amongst SRP Centers.
- Identify opportunities where Microsoft and SRP Centers can collaborate.

The workshop will be held using Microsoft Teams. Please contact Millicent Gornek (millicent.gornek@louisville.edu) to attend the workshop.

HHEAR is Accepting Applications

Applications are being accepted for the [Human Health Exposure Analysis Resource \(HHEAR\)](#) program, which provides health

researchers access to laboratory and data analysis services to expand assessment of environmental exposures in their existing NIH-funded epidemiological and clinical health studies.

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

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

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

PHOTO OF THE MONTH



SRP Centers across the country are developing informational materials for communities about COVID-19. University of New Mexico SRP Center staff members [created artwork to communicate](#) concepts such as social distancing with tribes around the country (top left). University of Arizona SRP Center members partnered with Navajo Department of Health to create a Frequently Asked Questions resource specific to the Navajo Nation (bottom middle). Northeastern SRP Center members developed [COVID-19 educational materials](#) with specific recommendations for pregnant women and parents of young children (right). The Northeastern team also partnered with the Puerto Rico Public Health Trust to develop an activity book for children on COVID-19 (bottom left). The activity book is available in [English](#) and [Spanish](#).

