EHS Department Newsletter

Fall 2022

COLUMBIA | MAILMAN SCHOOL OF PUBLIC HEALTH

ENVIRONMENTAL HEALTH SCIENCES

Table of Contents

Credits:

Hannah Davin, 2nd Year MPH Student
Andrew (Teng) Zhao, 2nd Year MPH Student
Brandy Coleman, Academic Assistant
Erica Tyler, EHS Communications and Marketing Coordinator
Nina Kulacki, Director, Academic Programs

Letter from the Chair

Dear EHS family:

I am delighted to share a note with our EHS community as we begin our march into winter. The fall semester has been full of opportunities for growth, advancement, and celebration. Our communities are our greatest asset, and the work we do here impacts millions of lives – it is an honor to further this mission with our amazing students, staff, and faculty.

Recently, we launched a new Master of Science track in Environmental Health Data Science—believed to be the first program of its kind offered in the United States. Applications for Fall 2023 are now being accepted. As environmental health practitioners and scientists increasingly use large and complex data sources, it is important to understand how to work with, analyze, and interpret this data in the context of environmental health. This has become a highly valued, yet not commonly taught, skill set. This new MS track addresses this urgent need and will set up our future students for successful careers with this focus. Current students can also continue to benefit from a number of data-intensive classes available in EHS and in other departments at Mailman. I am particularly thankful to Dr. Tiffany Sanchez, Program Director for this new track. She has worked with our education and communications team to move this new program forward.

This fall, some new EHS faculty members have joined us. In the spring newsletter, I announced that Dr. Ami Zota would join the EHS department and has since done so officially. I shared more information about Dr. Zota in my monthly note and in our last newsletter.
Dr. Yoshira Ornelas Van Horne also joined us in August as an Assistant Professor.
Dr. Ornelas Van Horne is an exposure scientist and environmental justice scholar, with an outstanding background in evaluating mining exposures and their impacts on Indigenous communities. Additionally, she is a graduate of the Agents of Change for Environmental Justice program, where she now serves as Assistant Director. Another new addition is Dr. Alan Cohen.
Dr. Cohen joined our department as an Associate Professor this fall. He holds a joint appointment in the Robert N. Butler Columbia Aging Center. In addition to all our new faculty, I'd like to welcome Dr. Lariah Edwards, Assistant Director at Agents of Change and Associate Research Scientist.

On a bittersweet note, I would like to congratulate Dr. Joan Casey on her upcoming move to the Department of Environmental and Occupational Health Sciences at the University of Washington School of Public Health in January 2023. We will be sad to see Joan go - she has been an incredible driver of innovation and scientific excellence at Mailman and an incredible person to work with. We wish her the best and can't wait to see what she does next.

Andrea Baccarelli, MD, PhD
Leon Hess Professor and Chair (He-Him)
Department of Environmental Health Sciences

Updates: Faculty

Dr. Julie Herbstman

Dr. Herbstman met with Nina Norwood, a representative of Congressman Adriano Espaillat, on the Columbia University Irving Medical Center campus to speak about links between air pollution and neurodevelopmental problems. Researchers like Dr. Herbstman are working to lower the risk of developmental problems in children exposed to air pollution and other chemicals. “We need both treatment and prevention,” said Herbstman. Read more here.

Dr. Markus Hilpert

Dr. Hilpert was featured in a TV interview with News 12 *The Bronx: Study: Rise in South Bronx traffic congestion contributing to further health problems* on May 2, 2022.

There was also a press release called *South Bronx Traffic Congestion Worsens, Raising Health and Safety Concerns* on April 8, 2022 and the paper was featured on TV by *Eyewitness News: Earth Day: Rep. Torres unveils new legislation to monitor air quality in the Bronx Study* on April 22, 2022.

Dr. Ricky Perera

Dr. Perera spoke on September 20th at the *Too Small to Fail / Clinton Global Initiative Meeting* session: *The Implications of Climate Change: How We Can Support Young Children’s Healthy Development*. Her talk will highlight the disproportionate effects of climate change on children's physical, cognitive and social-emotional health.

Updates: New Faculty

Dr. Yoshira Ornelas Van Horne

Our new faculty member Dr. Ornelas Van Horne, who joined the EHS family in August as an Assistant Professor, was recently highlighted by the NIEHS as one of their 2022 grantees. Through her past research with two other NIEHS-funded projects, working with different communities such as the Navajo people and Latino families, she has identified the importance of gathering community input in exposure science research.

Dr. Ornelas Van Horne is an exposure scientist and environmental justice scholar, with an outstanding background in evaluating mining exposures and their impacts to Indigenous communities. Prior to joining us at Mailman, she was a Postdoctoral Research Associate in the Division of Environmental Health at the University of Southern California (USC), where she received a Diversity Supplement Award from the NIEHS to understand the impact of pesticide exposures on children's respiratory health. Dr. Ornelas Van Horne also serves as Assistant Director of Agents of Change in Environmental Justice. Her research focuses on addressing unequal exposures to harmful contaminants that affect structurally marginalized communities and she is committed to building health equity through community-driven research. In her downtime she enjoys going on extended walks with her dogs, sightseeing, and salsa dancing. We are very excited to welcome Dr. Ornelas Van Horne to the team!

Updates: Faculty Appointments

Congratulations to our EHS faculty with new roles/titles!

Dr. Julie Herbstman

Dr. Herbstman was promoted to full Professor. She is also the Career Development Program Director of the Columbia Center for Environmental Health and Justice in Northern Manhattan.

Dr. Jeffrey Shaman

Dr. Shaman has taken on the role of Senior Associate Dean of Faculty Affairs in the Columbia Climate School. He is also a member of the Columbia Center for Environmental Health and Justice in Northern Manhattan.

Updates: Students

Congratulations to our newest PhD graduates!

Dr. Sebastian Rowland defended on May 24, 2022. His thesis focused on "*The Twin Crises of Climate Change and Air Pollution: Characterizing the Acute Cardiovascular Effects of Temperature and Uncertainties of Fine Particulate Matter Concentrations.*"

Dr. Ahlam Abuawad defended on July 21, 2022. Her thesis focused on "*Arsenic, Nutrition, and Metabolic Outcomes.*"

Dr. Stephen A. Lewandowski defended on July 26, 2022. His thesis focused on "*Observed Impacts of Environmental Conditions on Heat Illness Morbidity in the Military.*"

Dr. Brennan H. Baker defended on July 27, 2022. His thesis focused on "*Prenatal acetaminophen exposure as a risk factor for ADHD: underlying mechanisms in humans and mice.*"

Dr. Tory Lynch defended on August 9, 2022. Her thesis focused on "*Quantifying the effect of extreme and seasonal floods on waterborne infectious disease in the US*."

Updates: Students

The Agents of Change in Environmental Justice program announced its latest cohort of 14 scholars of early career scientists from historically marginalized and underrepresented groups, including three fellows from Columbia EHS, two of whom are our current PhD students: **Kevin Patterson**, and **Sabah Usmani**.

Kevin Patterson also presented his work titled "*Differential Uranium Exposure and its Association with Hypertension and Elevated Blood Pressure in American Indian Communities in the Strong Heart Family Study*" at the International Society for Environmental Epidemiology ISEE conference in September.

Giuditta Schapira, MPH 2nd Year, was part of a team that published a study in the Frontiers of Psychiatry on the use of transcranial magnetic stimulation and repeated exposures as adjunctive treatment for arachnophobia titled, "*Treatment of Spider Phobia Using Repeated Exposures and Adjunctive Repetitive Transcranial Magnetic Stimulation: A Proof-of-Concept Study*".

Updates: Alumni

Kyle Colonna, MPH '18, was first author on the Environmental Science & Technology Journal article *Mortality Attributable to Long-Term Exposure to Ambient Fine Particulate Matter: Insights from the Epidemiologic Evidence for Understudied Locations*. This critical review discusses the evidence for (i) the associated risk of mortality, (ii) the shape of the concentration response function, (iii) a causal interpretation, and (iv) how the source mix/composition of PM2.5 and population characteristics may alter the effect.

Kyle was also first author of the Royal Society Open Science article *A Retrospective Assessment of COVID-19 Model Performance in the USA*. His study evaluates the performance of COVID-19 forecast central estimates (i.e., predictive performance) and uncertainty estimates (i.e., probabilistic performance) from models during 2021. He also compares the performance of aggregated forecasts (i.e., ensembles) based on equal and performance-based weights to an established ensemble from the CDC.

Richard Evoy, MPH '16, has recently celebrated his two-year anniversary at NIOSH as an occupational health epidemiologist. Richard's last manuscript from his dissertation was recently published in Health Science Reports titled, *The impact of wildfire smoke and temperature on traumatic worker injury claims*, Oregon 2009–2018. The study examined the impact of temperature and wildfire smoke on traumatic injuries in Oregon workers using workers' compensation.

Rachel Locke, MPH '18, edited and contributed to the published book *Talking Health: A New Way to Communicate About Public Health*. Building support for public health and - improving our nation health - must begin with a better understanding of what public health is and why it matters. This book provides new research-based tools to help health professionals communicate more effectively about public health, strengthen community partnerships, and improve health outcomes. Informed by new research by the FrameWorks Institute and message testing by Hattaway Communications, Talking Health presents practical tools and insights from leading voices in health and communication.

Updates: Alumni

Dr. Amy Nematollahi, MPH '16, presented at the 40th Mountain West Society of Toxicology Meeting on analyses of serum concentrations of per- and polyfluoroalkyl substances (PFAS) in a cohort of incumbent and recruit firefighters. Firefighters may be at occupational risk for increased serum per- and polyfluoroalkyl substances (PFAS) concentrations through exposure to PFAS in fire suppression foams, firefighting gear, and combustion products. This work, led by Dr. Jefferey Burgess, showed that legacy serum PFAS concentrations were not significantly higher in incumbent firefighters than recruits and were not associated with cumulative fireground exposure in recruits. In early November, Amy defended her dissertation *Occupational Exposures to Per- and Polyfluoroalkyl Substances (PFAS): Evaluating serum PFAS concentrations in municipal firefighters and the relationship between PFAS and COVID-19 severity in essential workers* and was awarded a PhD in Environmental Health Sciences at the Mel and Enid Zuckerman College of Public Health, University of Arizona.

Lucy Zhao, MPH '21, matriculated into the Doctor of Philosophy program in Pharmacology at the University of Oxford this fall. She has also recently published her first first-author paper in Physiology, titled *Physiology of Glymphatic Solute Transport and Waste Clearance from the Brain*.

Updates: Staff

Welcome to EHS!

Elias Zambrano, Associate Director, Faculty and Human Resources

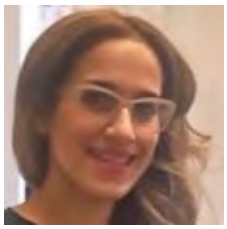
Elias is a Columbia affiliate with over 10 years of experience in the field of Human Resources. Elias will support the department by managing and implementing best practices for human resources and faculty affairs policies and procedures.

Emely Rodriguez, Administrative Aide

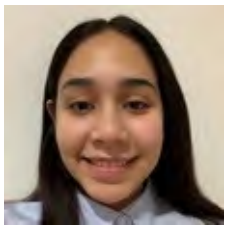
Emely has an extensive experience in administration and accounting. Emely joined us in August and will provide support to the department's research financial activities primarily related to Accounts Payable and Procurement.

Congratulations to all the EHS administrative team members that have recently received promotions!

Raquel Sotelo, *Manager of Grants and Finance and CCCEH Director of Operations*
Raquel manages CCCEH pre/post-award research portfolios and operations.

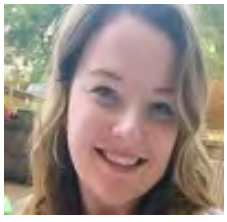


Kiara Garcia, *Grants Financial Coordinator*
Kiara assists with a broad range of pre/post-award tasks for the department.



Nader Elmehdawi, *Project Coordinator II*
Nadar moved from central EHS department duties to fully support the SHARP finance portfolio and coordinate trainings.

Meaghan Doherty, *Project Manager*
Meaghan oversees growing SHARP programs and supervises new team members.



Updates: Staff

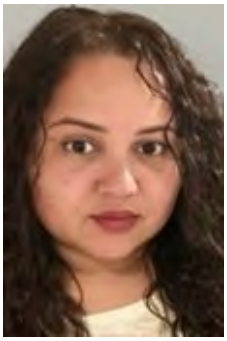
Anabel Cole worked with WE ACT for Children's Environmental Health Month and contributed to the DIY Beauty Night on October 28. Participants had the opportunity to participate in make-up tutorials, create their own beauty products, and learn about the ingredients in the products they use on a daily basis.

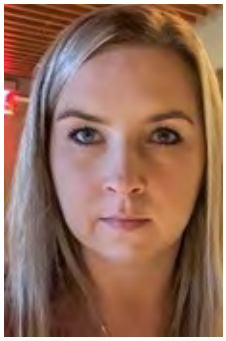
Change in Career Path

Andy Kim, Grants Coordinator II

Andy joined the grants management team in October. He will coordinate the grants submission process for assigned sponsored projects and manage day-to-day post-award activity of various grant projects.

CRA Certifications





Leyri Defrank-Paulino and **Dagmara Safin** recently earned their Certified Research Administrator (CRA) certification. Earning the designation of CRA means that an individual has met the requirements of the Research Administrators Certification Council's (RACC) eligibility requirements and has demonstrated a level of knowledge necessary for a person to be a professional research or sponsored programs administrator. At Columbia, there are only 11 active certificants of this kind. Dagmara, Leyri, and Bernice Ramos-Perez are 3 of these 11 members.

Grants and Awards

Elizabeth Gibson, PhD ‘21

Elizabeth won the I. Bernard Weinstein Award for Academic Excellence in Environmental Health Sciences, which is given to a PhD/DrPH student in the Department for outstanding academic achievement and promise in the field of public health.

Eleanor Medley, MPH ‘22

Eleanor won the Joseph H. Graziano Award for Academic Excellence in Environmental Health Sciences, which is given to an MPH student in the Department for outstanding academic achievement and promise in the field of public health.

Sultana Morioum, MPH ’22

Sultana won the EHS Student Spirit Award, which is given to a student who embodies the spirit of Environmental Health Sciences and represents the values and core principles of our discipline.

Kylie Riley, DrPH Candidate

Kylie won an award that goes to an EHS Doctoral Candidate who has excelled as a Teaching Scholar in an EHS course. All Teaching Scholars are expected to be actively involved in course development, student evaluation, and presentation of materials. This award goes to an individual who goes above and beyond these expectations.

Josh Klett, MPH ‘22

Josh won an award that goes to a Master’s Teaching Assistant who goes above and beyond basic expectations for course assistance both in their interactions with faculty and with the students in the course.

Grants and Awards

Dr. Darby Jack, received the Integration of Science and Practice (ISP) Teaching Award. These small group sessions are an integral component of the MPH curriculum and aim to bridge the gap between traditional classroom education and the real-world experience of working as a public health professional.

Dr. Marianthi-Anna Kioumourtzoglou, received the Dean's Excellence in Mentoring award. "*Marianthi is completely dedicated to developing the careers of faculty members in EHS and Public Health. She has created a paradigm shift on how we mentor scientists in EHS and in the field broadly. She is a role model to all of us*." In addition, we are pleased to announce that Marianthi is a newly tenured associate professor!

Nina Kulacki, MBA received the 2022 Mailman School's Staff Award for Excellence. Throughout the student experience, "*Nina creates a seamless experience in individualized support that's rarely found in academia*."

Yusuf Hamied Faculty Fellowship Recipient

Dr. Kathrin Schilling, received the Yusuf Hamied Faculty Fellowship for her proposal, "*Health Risk from Metal Exposure: Building the Analytical Foundation for Prospective Cohort Studies in India*".

The Yusuf Hamied Fellowship program was launched in 2018 to advance interdisciplinary research on urgent public health issues in India.

Grants and Awards

Centennial Grand Challenges Awards

Towards a New Science of Health: Developing an Operational Definition of Intrinsic Health
Dan Belsky, Epidemiology; **Julie Herbstman**, Environmental Health Sciences; Ying Wei, Biostatistics

Building Infectious Diseases Modeling and Prediction Capacity in Mozambique
Shannon Farley, Population and Family Health; **Jeffrey Shaman**, Environmental Health Sciences; Wafaa El-Sadr, ICAP; Ilesh Jani, ICAP

Finding the Funding: An Investigation Into the Lack of NIH Transdisciplinary Research on Climate, Maternal Health, and Disparities
Terry McGovern, Population and Family Health; **Joan Casey**, Environmental Health Sciences; **Maya Deyssenroth**, Environmental Health Sciences

Addressing the Inadequacy of Food Systems: Climate Change, Carbon "Foodprints" and Public Health
Lewis H. Ziska, Environmental Health Sciences; Sining Zhou, Sr. Product Designer, Good RX

Grants and Awards

Dr. Joan Casey
Grant: National Institute of Child Health and Human Development
5 Years
Project Title: "*Racial Disparities in Preterm Births and Fetal Loss*"

Dr. Allison Kupsco
Grant: National Institute of Environmental Health Sciences
3 Years
Project Title: "*Prenatal exposure to flame-retardants: mitochondrial signatures and childhood obesity*"

Dr. Faruque Parvez
Grant: National Institute of Environmental Health Sciences
5 Years
Project Title: "*Building Capacity to study mixed metal-induced neurotoxicity in Bangladeshi children*"

Dr. Matt Perzanowski
Grant: National Institute of Environmental Health Sciences
5 Years
Project Title: "*Mold Policy Intervention in New York City Public Housing and Asthma Morbidity*"

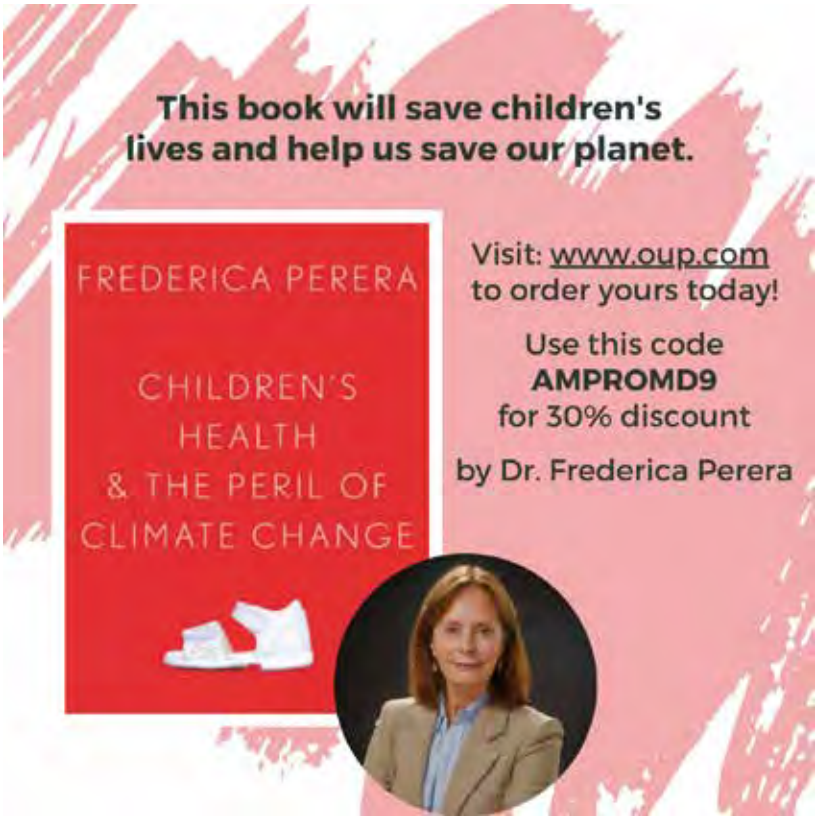
Drs. Diane Re and Gary Miller
Grant: Department of Defense office of the Congressionally Directed Medical Research Programs
3 Years
Project Title: "*Novel Exposomics and Extracellular Vesicle Biomarkers to Unravel Gene - Environment Interactions and Mechanisms of Neurodegeneration in Parkinson's Disease*"

Dr. Jeffrey Shaman
Grant: Center for Disease Control and Prevention
2 Years
Project Title: "*Monitoring Diversity in SARS-CoV-2 Genomes for Tracking Emerging Variants, Measuring Impact of Mitigation Strategies, and Gauging Clinical Outcomes*"

Dr. Ami Zota
Grant: The JPB Foundation
3 Years
Project Title: "*Agents of Change in Environmental Justice*"

Spotlight: Faculty

Drs. Ricky Perera and **Lewis Ziska** both published books this fall built on climate change research they have carried out. They presented their arguments for urgent policy action in a way that is understandable to the lay reader.



Dr. Perera wrote Children's Health and the Peril of Climate Change

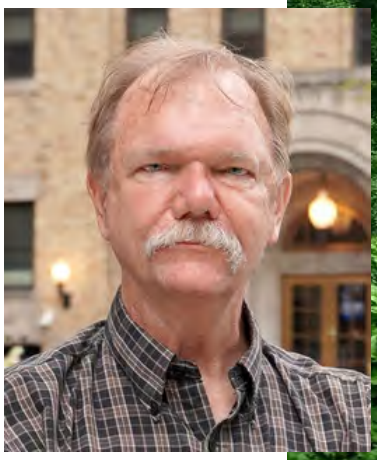
"The consequences of climate change are horrifying, especially for children. Yet we can find hope and inspiration in the growing power of environmental justice, spiritual, Indigenous leaders, and youth in fighting for climate action and climate justice," says Perera. "There are many solutions available right now for governments, businesses, and individuals. But bold action is needed now."

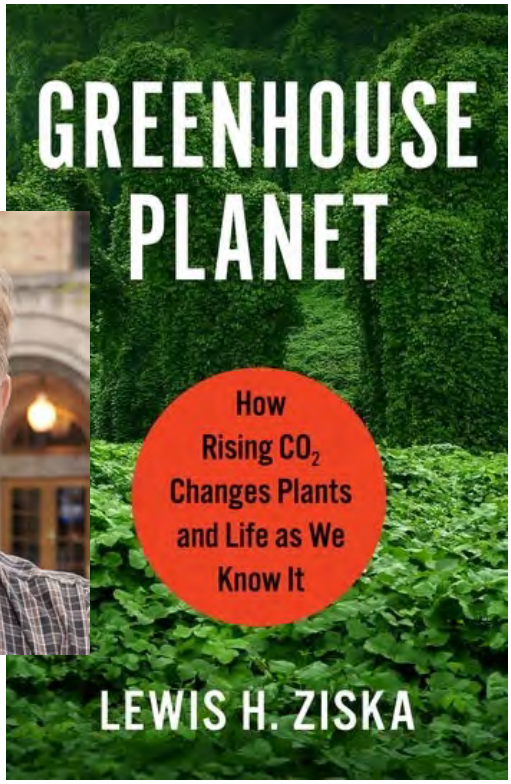
- Dr. Ricky Perera

Dr. Ziska wrote Greenhouse Planet

"CO2 is plant food. But this shouldn't be misunderstood to be good news. The rise of carbon dioxide in the atmosphere means plants may grow faster, but will be less nutritious," says Ziska. "At the same time, rising CO2 makes poison ivy more poisonous, kudzu more prolific, cheatgrass more flammable. And this is only the beginning of the harm climate change is inflicting on the global food system. The solution: good science and leadership who listen."

- Dr. Lewis Ziska





Spotlight: MS Data Science

EHS Launches a New MS Concentration: MS Data Science

Our department has launched a new MS track, Environmental Health Data Science—believed to be the first program of its kind offered in the United States. Applications are now being accepted for Fall 2023.

"In recent years, environmental health scientists have increasingly generated findings using large and complex data sources. Understanding how to work with, analyze, and interpret this data in the context of environmental health has become a highly valued, yet uncommonly taught, skill set," says program director Tiffany Sanchez.

Applications are Being Accepted for Fall 2023

- Designed to be completed in 12 months
- Part-time also available

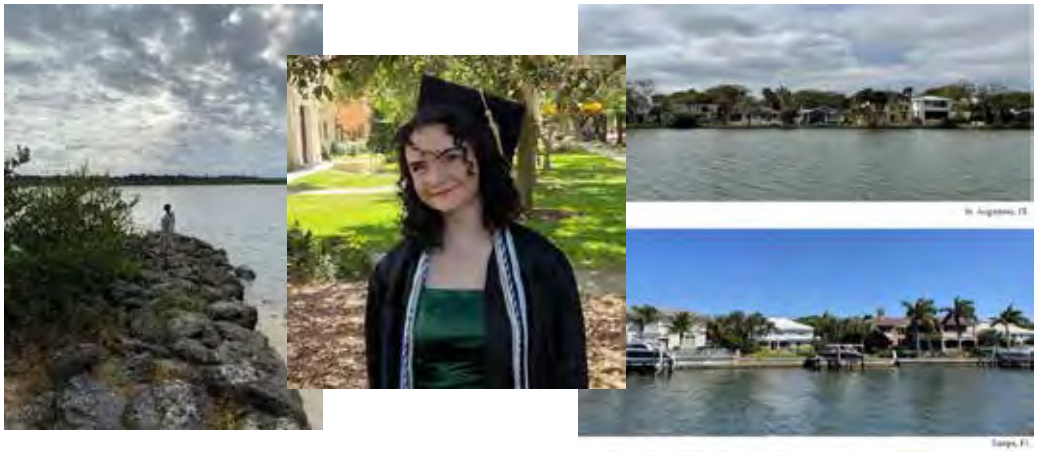
Program Will Prepare Students To:

- Develop relevant programming skills in "R"
- Write computationally efficient code
- Gain a strong knowledge base in Environmental Health Science and Biostatistics
- Work with real-world data sets
- Rigorously critique data science-based research in environmental health
- Develop a data science-based model to and analyze data used in environmental health

The priority deadline for applications is **December 1**.
The final deadline is **June 1** to begin studies the following fall.

Spotlight: Students

Hannah Davin, MPH 2nd Year student, was able to work on a project to support a workshop for the Food and Climate Systems Transformation (FACT) Alliance through MIT and the J-WAFS Abdul Latif Jameel Water and Food Systems Lab. She collaborated closely with members of the FACT Alliance, specifically committee member Dr. Lew Ziska, to follow the news cycle of food security between the years 2021 and 2022 and visually explain the gravity of our current situation. Together with her colleague, Zack Pittel, Hannah was able to help create a Google Earth presentation that showcased relevant news stories pertaining to the state of food insecurity due to climate change. The project was showcased at the September 2022 conference "*Strengthening Science-to-Action Collaboration for Food Systems Transformation in an Uncertain Climate*."



Karen Gutensohn, MPH 1st Year, talks about her on-going research on hurricane risk in Florida:

"Last year, I spearheaded a comparative research project on hurricane risk in coastal Florida communities and worked alongside one of my classmates and the Rollins Environmental Studies Dept. Chair, Dr. Lee Lines. The objective of this study was to explore tensions between risk perception based on recent hurricane history and actual hurricane risk and how this manifests in the built environment through defensive infrastructure in Tampa Bay and Saint Augustine. We presented our findings in the form of a photo essay using original photos taken during our fieldwork. In September, both sites were impacted by Hurricane Ian and our findings showed that there were drastic disparities in defensive measures between the two cities. In November, my team and I plan to revisit our exact study sites to take repeat photos and update the project."

Spotlight: Students

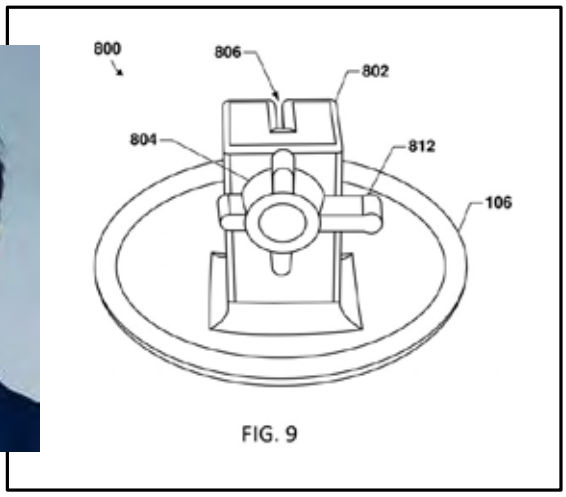
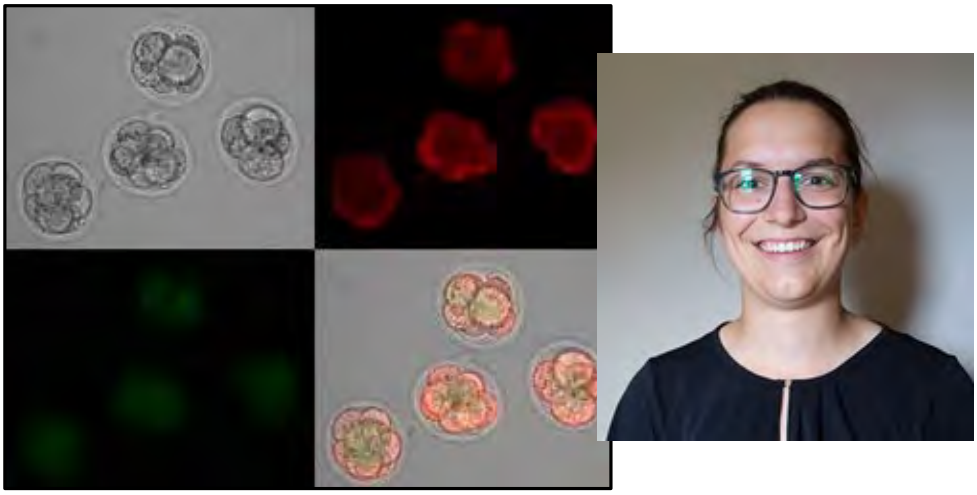


FIG. 9

Auston Locke, MPH 2nd Year student, recently received word that his surgical vessel closure device has been approved for a provisional patent. This should allow the product to go on sale in the coming year. This product is used to aid physicians in closing a suture from cardiac procedures, reducing discomfort for the patient and saving cost to both the hospital and patient.



Sarah McLarnan, PhD Candidate, received two awards to fund her dissertation research on the mitochondrial toxicity of gestational exposure to polycyclic aromatic hydrocarbons. Sarah was awarded a TRANSFORM TL-1 Fellowship through the Columbia University Irving Institute for Clinical and Translational Research, as well as a $25,000 Air Pollution Research and Educational Grant from the Mid-Atlantic States Section of the Air and Waste Management Association (MASS-A&WMA).

Meet Our New Students

PhD

Alana Ferris

Hometown: Andover, MA
Previous School: University of Rochester
Favorite Food: Sushi
Fun Fact: I have 4 siblings and one of them is 10 years old!

Heather McBrien

Hometown: Hamilton, Ontario
Previous School: University of Toronto
Favorite Food: Chicken tinga tacos
Fun Fact: I like to ride my bike! I'm always looking for nice places to go.

Kevin Patterson

Hometown: Farmington, NM
Previous School: Columbia University MSPH
Favorite Food: Tacos!
Fun Fact: I enjoy collecting graphic novels and my recent favorite is 'The Nice House on the Lake'.

Rae (Raenita) Spriggs

Hometown: San Diego, CA
Previous School: UCLA; UC Berkeley
Favorite Food: Doro wot (Ethiopian spicy chicken stew)
Fun Fact: I'm a proud auntie to three nephews under three years old!

Meet Our New Students

MPH

Tanaya Ambadkar

Certificate: Environmental Health Policy
Hometown: Vadodara, India
Previous School: Bharati Vidyapeeth's Institute of Environment Education and Research
Favorite Food: Dal Makhni and Garlic Naan
Fun Fact: I really love dogs! During COVID lockdown, I fed, vaccinated, and arranged for spay/neuter surgeries for over 20 dogs in my neighborhood!

Jackie (Jacqueline) Becker

Certificate: Climate
Hometown: Suffern, NY
Previous School: Franklin and Marshall
Favorite Food: Mac and Cheese
Fun Fact: I have a one-year-old lab husky mix named Bowdin.

Rachel (Min) Chen

Certificate: Environmental Health Policy
Hometown: Zhe Jiang Province, China
Previous School: Yale University
Favorite Food: Ramen
Fun Fact: I love fluffy stuffs.

Meet Our New Students

MPH

Catie (Catherine) Eiref

Certificate: Global Health
Hometown: Cambridge, MA
Previous School: Northeastern
Favorite Food: Spinach
Fun Fact: Oh boy do I like spinach**.**

Karen Gutensohn

Certificate: Climate
Hometown: Washington, D.C.
Previous School: Rollins College
Favorite Food: Pad Thai
Fun Fact: I love botany and plants, ironically, I'm really bad at keeping plants alive so I don't have any in my apartment.

Juan Guzman Ayala

Dual Degree
Hometown: Bogota, Colombia
Previous School: Columbia University
Favorite Food: Sushi
Fun Fact: I co-founded a youth climate activist organization in Colombia!

Meet Our New Students

MPH

Hope Hendry

Certificate: Climate
Hometown: Denver, CO
Previous School: Occidental College
Favorite Food: Chips and salsa
Fun Fact: In high school I was on a competitive rock-climbing team.

Ziting Huang

Certificate: Molecular Epidemiology
Hometown: China
Previous School: Duke Kunshan University
Favorite Food: Meat
Fun Fact: I don't like carbonated drinks.

Sophie Ideker

Certificate: Infectious Disease Epidemiology
Hometown: Shanghai, China
Previous School: Indiana University Bloomington
Favorite Food: Noodles/pasta
Fun Fact: I was adopted with my twin when I was 9 months old!

Meet Our New Students

MPH

Ishika Kaushal

Certificate: Environmental Health Policy
Hometown: Toronto, Canada
Previous School: Western University
Favorite Food: Sushi
Fun Fact: I've traveled to over 60 countries.

Alicia Kelley

Certificate: Child, Youth, and Family Health
Hometown: Moved around a lot but settled in San Diego, CA as an adult
Previous School: University of San Diego
Favorite Food: Fresh fruit
Fun Fact: I am vegan, but I don't like salads.

Madeleine Killough

Certificate: Environmental Health Policy
Hometown: Boston, MA
Previous School: Barnard College
Favorite Food: Pumpkin bread
Fun Fact: I've hiked the entire length of Vermont (the Long Trail)!

Meet Our New Students

MPH

Lauren Lopez

Certificate: Molecular Epidemiology
Hometown: San Diego, CA
Previous School: Hunter College
Favorite Food: Pho
Fun Fact: I'm a great chess player!

Cindy Ma

Certificate: Environmental Health Policy
Hometown: New York, NY
Previous School: Stony Brook University
Favorite Food: Sushi
Fun Fact: A fun fact about me is that I lived in Hawaii.

Layla Manoochehri

Certificate: Molecular Epidemiology
Hometown: Laguna Niguel, CA
Previous School: UCLA
Favorite Food: Any kind of pasta!
Fun Fact: One of my favorite hobbies is painting with watercolors.

Meet Our New Students

MPH

Madeleine McGuinness

Certificate: Climate Health
Hometown: Chester, NJ
Previous School: Emory University
Favorite Food: Tom Yum soup!
Fun Fact: I have an identical twin sister.

Kat Morgan

Certificate: Food Systems and Public Health
Hometown: Franklin, TN
Previous School: Emory University
Favorite Food: Amaretto pound cake
Fun Fact: I worked on a farm in Northern Spain and learned how to milk sheep and make cheese!

Danny (Duong) Nguyen

Certificate: Applied Biostatistics and Public Health Data Science
Hometown: Hanoi, Vietnam
Previous School: Concordia College
Favorite Food: Pho
Fun Fact: I speak 4 languages (not all proficiently but enough to order coffee :)).

Meet Our New Students

MPH

Bianca Notarainni

Certificate: Molecular Epidemiology
Hometown: San Diego, CA
Previous School: New York University
Favorite Food: Sushi
Fun Fact: I am fluent in Spanish!

Sanika Arun Parasnis

Certificate: Molecular Epidemiology
Hometown: Bangalore, India
Previous School: Birla Institute of Technology and Science
Favorite Food: Chicken Biryani
Fun Fact: Queen of making awesome dips and sauces.

Chara Proud

Certificate: Environmental Health Policy
Hometown: East Lyme, CT
Previous School: Drew University
Favorite Food: Chocolate
Fun Fact: I swam for my college's swim team during my time at Drew.

Meet Our New Students

MPH

Mia Stewart

Certificate: Global Health
Hometown: Rensselaer, NY
Previous School: Binghamton University
Favorite Food: Bagels
Fun Fact: I've watched the entire series of The Office probably over 10 times.

Sarah Xinhui Tan

Certificate: Climate
Hometown: Penang, Malaysia
Previous School: UCLA
Favorite Food: Mango
Fun Fact: I ran a marathon this year!

Gabriel Trotz

Certificate: Environmental Health Policy
Hometown: Acton, MA
Previous School: University of Vermont
Favorite Food: Ramen
Fun Fact: At home we dug our own compost pits and used the compost generated to fertilize raised beds that my family grows our own vegetables in.

Meet Our New Students

MPH

Xingyu Zhang

Certificate: Climate
Hometown: Beijing, China
Previous School: Colby College
Favorite Food: Chocolate
Fun Fact: I have a tattoo of my cat on me!

Meet Our New Students

MPH 4+1

Ava Chow

Hometown: Minnetonka, MN
Previous School: Barnard College
Favorite Food: Ice cream!
Fun Fact: I love cats and jazz… who wants to open a jazzy cat café?

Anya (Anna) Kopyra

Hometown: Grafton, MA
Previous School: Columbia University
Favorite Food: Pad Thai
Fun Fact: I made a viral Tiktok video about a Columbia dining hall and subsequently realized I cannot handle the stress of internet fame.

Priyanka Shrijay

Hometown: Chicago, IL
Previous School: Barnard College
Favorite Food: Sushi
Fun Fact: I'm a *huge* consumer of podcasts — the Anthropocene Reviewed, You're Wrong About, and Pod Save America are a few of my favorites!

Meet Our New Students

MS

Sarah Aloe

Hometown: Huntington, NY
Previous School: Hunter College
Favorite Food: Ramen
Fun Fact: I like to knit.

Theo (Theodore) Coutsouros

Hometown: Mt Kisco, NY
Previous School: Tulane University
Favorite Food: Mexican food
Fun Fact: I spent this summer backpacking through Europe and Africa.

Lea Jean-Francois

Hometown: Staten Island, NY
Previous School: Barnard College
Favorite Food: Dumplings
Fun Fact: I used to work at an urban farm in Brooklyn and a small farm along the coast in Maine.

Boris Minasenko

Hometown: Moscow, Russia
Previous School: HSE University
Favorite Food: Bulgogi
Fun Fact: Started to play piano at 22.

Practicum Portraits

MPH Students

Khalid Ziad Kha Al-Bawaliz

Organization: Bahrain Defense Force Military Hospital
Location: Remote
Description: I got to work on the colorectal cancer database that my mentor had set up in the hospital. I spent the majority of my time looking at data trends and preparing two manuscripts for publication. The first study focuses on colorectal cancer epidemiology in Bahrain, and the second study focuses on peri-operative blood transfusions, their immunogenicity, and their association with anastomotic leaks.
Favorite thing you did for fun last summer: Hiked with my best friend through some forests in Canada looking for waterfalls!

Maame Ama Arthur

Organization: Dr. Diane Re (Re lab)
Location: William Black Medical Research Building
Description: For my practicum, I did a lot of immunostaining analysis on the tissue mice susceptible to ALS due to their exposure to Manganese. I worked on Induced Pluripotent Stem Cells (IPSc) Culture work. Also, I did a lot of aerosol collection from E-cigarettes to investigate the neurotoxicity of these E-cigs.
Favorite thing you did for fun last summer: I biked a lot with my friends from 168th down to Central Park and biked the Central Park loop a couple of times. I enjoyed visiting different restaurants for brunch every weekend this summer.

Practicum Portraits

MPH Students

Ellen Bannon

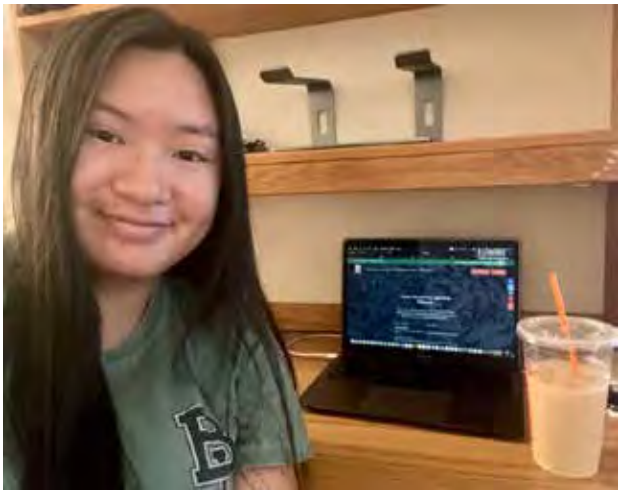
Organization: Environmental Protection Agency
Location: San Francisco, CA
Description: I was a Clean Water Act Inspector with the Environmental Protection Agency. I participated in inspections and activities focused on wastewater treatment with the purpose of protecting surface waters of the United States.
Favorite thing you did for fun last summer: I went to Acadia for my birthday to rock climb, hike, and eat lobster!

Jaemie Bennett

Organization: Arch Street Communications
Location: Remote
Description: ASC is a public engagement and communications firm that focus on public sector projects with an environmental focus. Over the summer, I helped facilitate community engagement events for a flood resiliency project in Battery Park City.
Favorite thing you did for fun last summer: Finally see the Hollywood sign!

Practicum Portraits

MPH Students



Annie (Anne) Bruecker

Organization: Environmental Working Group
Location: Washington, D.C. (remote)
Description: During my internship, I assisted the EWG staff with research and analysis on the agriculture industry. I also listened to hearings pertaining to the Farm Bill and took notes for staff.
Favorite thing you did for fun last summer: Since the internship was remote, I was able to travel during the summer.

Emilia Bulfone

Organization: Environmental Volunteers
Location: Remote
Description: I worked as a Research Associate at Environmental Volunteers. I supported a specific initiative called Sprout Up - an environmental science education program for 1st and 2nd-grade students in low-income communities. There, I investigated areas of potential chapter growth across the nation, provided editing support to chapter materials, such as leadership guides and curriculum, as well as managed all research, community engagement, and communications related to the project.
Favorite thing you did for fun last summer: Went backpacking in Yosemite National Park.

Practicum Portraits

MPH Students

Hailey Christian

Organization: CUNY Urban Food Policy Institute
Location: New York, NY
Description: The project I worked on looked at Harlem's food environmental changes within the past 15 or so years. Through my practicum experience I was able to apply an intersectional perspective that linked nutrition and health to a sustainable community that engaged stakeholders through food policy research and action.
Favorite thing you did for fun last summer: I got to see some of my favorite artists, Dijon, Hiatus Kaiyote, and Harry Styles, live in concert!

Meredith Cohen

Organization: ICAP
Location: Remote
Description: My role was to use ICAP's PHIA survey data to examine the relation between various forms of migration and HIV care. The goal was to identify the unique needs that various migrants may have, with the intention of developing tailored interventions.
Favorite thing you did for fun last summer: Traveled to Canada and visited Lake Ontario!

Practicum Portraits

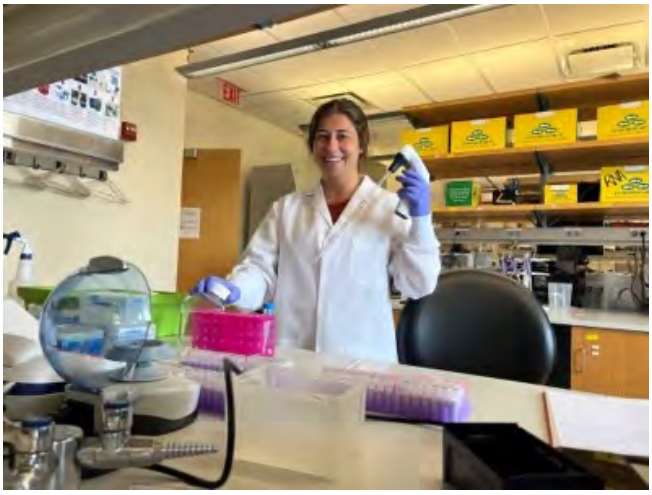
MPH Students

Daniela Cortes-Fernandez

Organization: Clarity, NCDP, and Brightline Defense
Location: Remote/Hybrid in New York City
Description: As a Project Manager Intern, I led the design of Clarity's first learning management system for improved customer boarding. For NCDP, I assisted with marketing, outreach, and research. In addition, I returned to Brightline (where I worked before Mailman) as a Climate Data and Policy Analyst to support the air quality data analysis.
Favorite thing you did for fun last summer: First work trip! Flown out to San Francisco to present data findings.

Lindsey Covell

Organization: Kupsco Lab, Columbia University, Mailman School of Public Health, EHS Department
Location: New York, NY
Description: I worked as a research assistant in the Kupsco Lab performing cf-mtDNA collection, isolation, and quantification. In addition to running bench lab assays, I was also able to perform preliminary analysis on the quantification data.
Favorite thing you did for fun last summer: I went white water rafting on the Class V rapids at New River Gorge National Park.



Practicum Portraits

MPH Students

Hannah Davin

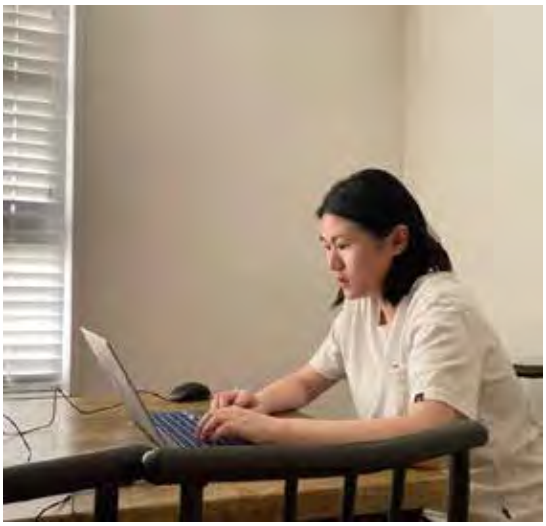
Organization: Harvard T.H. Chan School of Public Health
Location: Cambridge, MA (remote)
Description: I worked for the Harvard T.H. Chan School of Public Health as a Research Assistant in the Nutrition Department this summer. I was responsible for data entry, utilizing R to find errors in a large database, and writing literature reviews as they pertained to the nutrition content of aquatic species and how the nutrition content of aquatic species impacts human health.
Favorite thing you did for fun last summer: Spending time on Cape Cod with family.

Robbie Floyd

Organization: Environmental Working Group (EWG)
Location: Washington DC (Remote)
Description: I am spending my time working with the government affairs team on several projects related to toxic chemicals that impact human lives daily. I have some research on chemicals used in cosmetic products and PFAS contamination across several states. I will also be spending some time looking into chemicals used in the manufacturing of clothing and how they affect communities.
Favorite thing you did for fun last summer: My favorite thing about this summer was having time to travel to see my friends and family that I haven't seen since before the pandemic.

Practicum Portraits

MPH Students

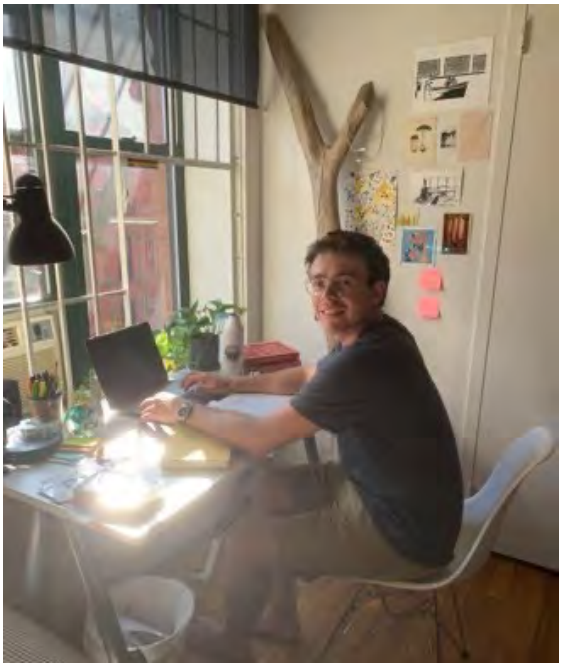


Siyue Gao

Organization: Columbia University Mailman School of Public Health, Department of Environmental Health Sciences
Location: New York City, NY
Description: I was involved in a project focusing on metal exposure and early cardiovascular risk in adult E-cigarette users. I was responsible for data coordination and attended the bi-weekly Zoom meetings where I reported the most up-to-date basic recruitment statistics to the whole group. I also completed my own small project based on the dataset we had, which demonstrated the perceptions of vaping among various participant type groups.
Favorite thing you did for fun last summer: Tried some delicious Chinese restaurants with my cousin and her friends.

Nico (Nicola) Hamacher

Organization: Global Consortium for Climate and Health Education
Location: New York City
Description: I worked to design and implement global climate change educational programming for health professionals. I also participated in data collection, analysis and manuscript writing for a paper focused on how best to educate health professionals to respond to climate change based on a program we ran in the Caribbean.
Favorite thing you did for fun last summer: I got to spend the vast majority of my summer traveling and spent a month of that time working remotely in Mexico and taking daily Spanish lessons.



Practicum Portraits

MPH Students

Holly (Liting) Hao

Organization: Mailman School of Public Health
Location: New York, NY
Description: My job was to test environmental noise levels, such as traffic noise, at reported sites in the South Bronx and Northern Manhattan. In addition, I had to analyze collected data and find the super emitters for each location.
Favorite thing you did for fun last summer: I had the opportunity to go to some places I had never been before in NYC.

Isheeta Jaria

Organization: Columbia University/Kathryn Lovero
Location: New York, NY
Description: I worked with my supervisor, Kathryn Lovero, on a youth global mental health project based in Mozambique. I created survey on Redcap and used RStudio to analyze data.
Favorite thing you did for fun last summer: I explored around Soho with friends, and we came across a bunch of pop-up stores that were giving out free skincare and makeup!

Practicum Portraits

MPH Students

Vasuda Kapoor

Organization: Memorial Sloan Kettering Cancer Center
Location: NYC
Description: I was an intern at the Department of Immigrant Health and Cancer Disparities, where I primarily worked with the Food to Overcome Outcome Disparities (FOOD) Program. I interacted with cancer patients while distributing food pantry items, completed data entry into RedCap, performed need-based assessments and analyzed data to recommend further interventions.
Favorite thing you did for fun last summer: Started going to open mic nights!

Mochi Li

Organization: Organon
Location: Hybrid
Description: I contributed to the design and implementation of Organon's ESG & Sustainability strategy, roadmap, and execution in alignment with the company's vision, mission & values, and ESG issues, specifically in connection to the UN Sustainable Development Goals. I worked with the Executive Leadership Team, Board of Directors, and global staff to understand and navigate reporting and disclosures, and develop processes, controls, and technology to ensure stakeholder engagement and continued success.
Favorite thing you did for fun last summer: Hang out with hcd.

Practicum Portraits

MPH Students

Auston Locke

Organization: Columbia University / NFL Players Association
Location: New York, NY
Description: I was doing a research project for the NFL Players Association regarding their concussion protocol. We were looking to determine how concussions manifest in retired NFL athletes.
Favorite thing you did for fun last summer: Travel to Europe!

Mary Lundin

Organization: National Center for Disaster Preparedness
Location: New York City
Description: I worked with the Curriculum Development team at the National Center for Disaster Preparedness. I mostly helped design and develop FEMA sponsored courses related to Pandemic Planning and Mass Care.
Favorite thing you did for fun last summer: I explored Little Italy in the Bronx and went to the Bronx Zoo.

Practicum Portraits

MPH Students

Rafe (Raphaela) O'Connor

Organization: Lehigh Valley Health Network
Location: Lehigh Valley, PA
Description: My practicum entails investigating environmental health challenges to childhood development in the Lehigh Valley. There is a quantitative component where I investigate lead exposure in vulnerable populations in Lehigh. I will then focus on specific implications for Lehigh Valley communities and conduct qualitative interviews with local leadership, community members, healthcare workers, etc.
Favorite thing you did for fun last summer: Seeing their children's hospital.

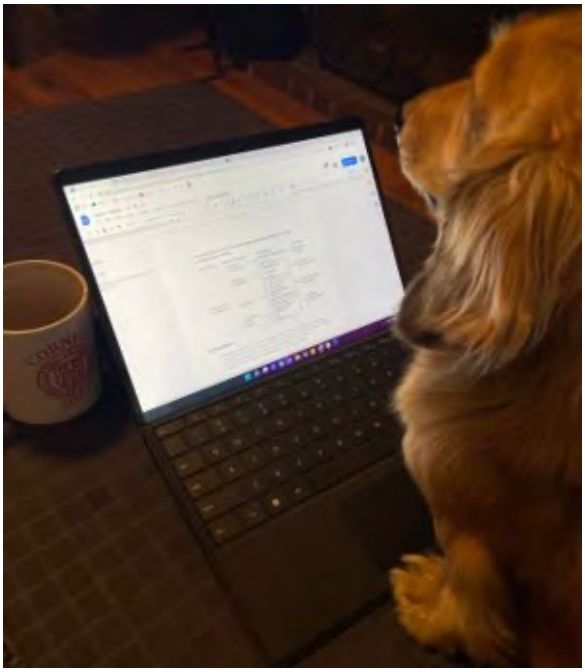
Charity Ogunlusi

Organization: Department of Environmental Health Science/Prof Jeff Shaman
Location: Mailman School of Public Health
Description: I provided support on a project that aims to investigate the relationship between wastewater surveillance and underlying rates of infection, and evaluate the potential of this data to improve Sars Cov 2 transmission dynamics in New York state. As a research assistant, my roles included literature review and synthesis, data exploration and cleaning, data analysis and visualizations using statistical programs.
Favorite thing you did for fun last summer: Workout sessions, fine dining, summer parties and concerts.

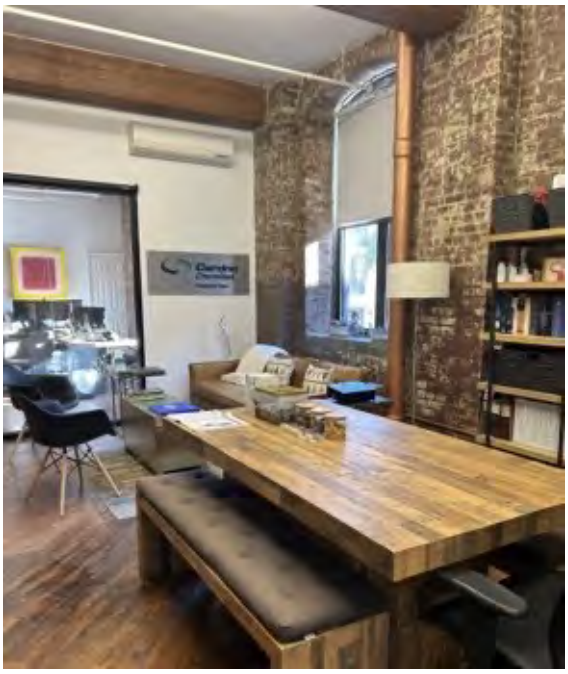
Practicum Portraits

MPH Students

Ellen Park



Organization: Eldera
Location: Remote
Description: I was responsible for researching and reviewing academic literature as well as data analysis. With sufficient data, I was also tasked with writing and publishing literature on social emotional resilience, positive cognitive effects, mitigation of loneliness, and instilling purpose in both children and older adults as a result of Eldera interactions.
Favorite thing you did for fun last summer: Traveled to Southern California for a month!



Skyler Price

Organization: Cardno ChemRisk
Location: Brooklyn
Description: I worked in the Brooklyn ChemRisk office as the Health Scientist Intern. I spent my time working on various client projects, including supporting litigation projects, conducting risk assessments, and performing various research tasks.
Favorite thing you did for fun last summer: My favorite thing that I did for fun this summer was go to Burlington, Vermont and enjoy the cool weather up there!

Practicum Portraits

MPH Students

Filippo Ravalli

Organization: Columbia University Department of Environmental Health Sciences
Location: New York, NY
Description: I worked as a study coordinator for an ongoing study that is investigating the burden of heavy metals in patients undergoing coronary bypass surgery. My role involved writing an IRB protocol, screening & enrolling patients, and collecting specimens in the operating room before bringing them back to the Metals lab. I also mentored two students on their own individual research projects.
Favorite thing you did for fun last summer: Before starting my practicum, I went to Italy for 2 weeks!

Giuditta Schapira

Organization: Doctors Without Borders
Location: Remote
Description: I worked on the development of the Migration History Tool, which we then used to provide data-driven evidence about migrant and asylum-seekers' health conditions, demographic characteristics, and migration patterns. This information then helped us understand the demands for health services provided by the MSF after the COVID-19 pandemic.
Favorite thing you did for fun last summer: Hiking in the Dolomites!

Practicum Portraits

MPH Students

Emily Shambaugh

Organization: Brightline Defense
Location: San Francisco, CA
Description: I created maps of air pollution distribution using raw data with the goal of communicating findings to vulnerable groups in San Francisco.
Favorite thing you did for fun last summer: Euro vacation with my sister!

Monique Slowly

Organization: ICF
Location: Remote (Durham, NC)
Description: I worked at ICF as a graduate environmental health sciences intern. I did screening work for various systematic review projects and helped with note taking.
Favorite thing you did for fun last summer: I was also working with PrIMER this summer, so that was great!

Practicum Portraits

MPH Students

Emelia Suljic

Organization: US Department of Health and Human Services, Office of Climate Change and Health Equity
Location: Washington DC (remote)
Description: I had a great experience at OCCHE and was able to work on several different projects. My primary task, however, was leading our team in developing a national adaptation gap analysis to both hone the office's work and to quantify for Congress why the office is necessary and requires funding.
Favorite thing you did for fun last summer: I went on an extended backpacking trip through Europe, which included a lot of small towns I hadn't been to before and hitchhiking!

Liz (Elizabeth) Sun

Organization: Citizens Climate Lobby
Location: Washington, DC (Remote)
Description: I provided support to the organization's government affairs team through various tasks and assignments relating to climate and energy policy. This included giving written and oral summaries on recent Congressional hearings relating to environmental policy, as well as independent research on the health effects of emerging regulatory interventions in order to provide insight and guide future advocacy/lobbying efforts.
Favorite thing you did for fun last summer: I spent a week in Florida and got to do a lot of kayaking and swimming!

Practicum Portraits

MPH Students

Sissi (Yeque) Sun

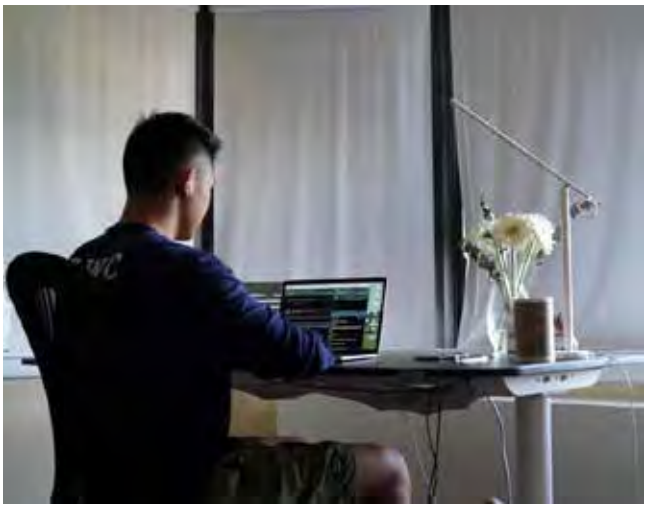
Organization: Julie Herbstman
Location: Mailman School of Public Health
Description: The aim of the research is to establish a model/score system to further evaluate the level of de novo mutation and vulnerability for neurodevelopmental disorders (NDD) associated genes. I did the data analysis using R and MutSigCV to build the uni-variate model, trying to figure out the relationship between gene length and mutation.
Favorite thing you did for fun last summer: I rode my bike and hiked to view the pink sky.

Jackson Zeiler

Organization: The Climate Club
Location: Remote
Description: I did a Content Development Internship with the Climate Club, which seeks to create and distribute accessible climate science information to a broad audience. I was able to distill concepts that I had learned throughout my first two semesters (particularly information learned during Determinants of Health) into easy-to-read short-form articles that can help people who don't have much time to better understand complex climate and environmental issues.
Favorite thing you did for fun last summer: I went whale-watching in Maine!

Practicum Portraits

MPH Students



Andrew (Teng) Zhao

Organization: Columbia University Mailman School
Location: New York City
Description: Integrate Bλ(T) over all directions and wavelengths to get the total flux (flux density) emitted by a blackbody.
Favorite thing you did for fun last summer: Did lot of data analysis.

Practicum Portraits

MS Students

Jessica Tabet

Organization: Columbia University / Brandon Pearson
Location: William Black Medical Research Building
Description: I am studying the potential detriments of killifish exposed to DDC at an embryonic state in particular regard to Alzheimer's disease.
Favorite thing you did for fun last summer: I went to Utah and hiked in Arches National Park.

PrIMER Trainees

Audrey Arthur

Faculty Mentor: Joan Casey
Home Institution: Barnard College
Project: *A Web of Vulnerability: What Climate Catastrophe Means for Black Neurodivergent Populations*

Audrey Arthur is a second-year PrIMER Trainee and a senior at Barnard College, completing her research on the Black neurodivergent experience as it pertains to climate catastrophe. With support from her mentor, Dr. Joan Casey, Audrey developed a framework called “The Web of Vulnerability” to demonstrate Black neurodivergent populations’ susceptibility to harm due to the confounding factors of medical racism, environmental racism, and climate catastrophe. Her research also suggests preliminary solutions to decrease vulnerability in black neurodivergent populations.

PrIMER Trainees

Shanelle Bhajan

Faculty Mentor: Daichi Shimbo
Home Institution: New York University
Project: *Cannabis Use and Blood Pressure: A Systematic Review*

This summer, I continued my systematic review of the association between Cannabis Usage and Blood Pressure endpoints. I worked closely with my mentors to develop an inclusion/exclusion criteria and search strategy to input into PubMed. We decided to include pieces from any year and language and exclude articles that did not identify a relationship between marijuana usage and hypertension or contain blood pressure endpoints. At first, there were 815 articles identified using the search strategy; however, after using Covidence to extract articles, 23 were extracted to be included in the study. After a full-text review, which is more extensive, a final number of 17 papers are included in the systematic review. I collected data and analyzed evidence in these 17 relevant articles. I am wrapping up my project this summer by finalizing the data and writing a manuscript. I have learned so much, and I am excited to continue working on the finished product.

PrIMER Trainees

Leslie Delgado Muniz

Faculty Mentor: Markus Hilpert
Home Institution: Barnard College
Project: *Noise Pollution in the South Bronx*

The third most frequent chronic health condition in the United States is hearing loss. This summer, I investigated noise pollution in the South Bronx to record and identify the subjects responsible for super-emitter noises. The EPA suggests an exposure limit of 70 dB to avert hearing loss. Furthermore, noise levels exceeding 85 dB can increase hearing damage with prolonged exposure. Therefore, analyzing sound levels near expressways in Mott Haven, a minority community, is critical to understanding the environmental injustices the community is facing and their heightened vulnerability to hearing loss health effects.

PrIMER Trainees

Isaac Mullings

Faculty Mentor: Diane Re
Home Institution: Fordham University
Project: *Amyotrophic Lateral Sclerosis Progression and Extracellular Vesicles as Biomarkers of Disease Progression*

Amyotrophic Lateral Sclerosis (ALS) is a neurodegenerative disease without an etiology or definitive biomarkers of progression. With ALS cases comprising 95% of sporadic cases (sALS) and 5% of familial cases (fALS), the key factors of my project under the supervision of Dr. Diane Re are to test whether TDP-43 level in blood GLAST-EVs could serve as a biomarker of ALS progression, assess metal content in blood CNS-EV as a biomarker of patient's exposure and test whether miRNA profiles in blood CNS-EVs could serve as biomarkers of both ALS progression and metal exposure. Historically ALSFRS-R scale has been the basis of analysis for ALS progression, but the study of the factors within the project was conducted using methods of analysis including ELISA assays and direct immunoprecipitation. The patient samples analyzed were from the COMOS, Veterans Affairs Biorepository, and the NEALS longitudinal study. The project's goal is to contribute to the advancement of therapy and prevention of ALS by developing precise biomarkers of progression through the use of EVs. I will be working on this project throughout the year.

PrIMER Trainees

Alex Olivares

Faculty Mentor: Maya Deyssenroth
Home Institution: Hunter College
Project: *Assessing Ethanol-induced Gene Expression Changes in a Placental Cell Line*

This summer, I began a cell culture experiment aimed at finding a biomarker for fetal alcohol spectrum disorders (FASD). The disease is caused by prenatal alcohol exposure from maternal alcohol consumption. Children who suffer from the disease face various neurological effects, including learning disabilities, poor memory, speech problems, and hyperactive behavior. Previous human studies suggest that the upregulation of the TEK gene is linked to prenatal alcohol exposure making the gene a possible biomarker for FASD. Should TEK be a viable biomarker, its expression levels could be used as a part of screenings to identify FASDs early. My experiment attempts to replicate the findings of the human studies in a controlled environment. By dosing JEG-3 placenta cells with ethanol and measuring the TEK expression levels, I hope to help establish the TEK as a viable screening method.

PrIMER Trainees

Marilyn Santo

Faculty Mentor: Ana Navas-Acien
Home Institution: Columbia College
Project: *Blood DNA Methylation-Based Measures and Cultural Connection as a Proxy for Healthy Aging*

The project I worked on this summer aimed to characterize the association of culture and social factors with healthy aging in the Native American population. It is important to determine factors that contribute to healthy aging to decrease the risk of aging-related diseases later in life. We used data from the Strong Heart Study (SHS), a population-based prospective cohort study that evaluates cardiovascular disease and its risk factors in American Indian communities. We compared participants' blood DNA methylation age to their chronological age to determine healthy aging using different epigenetic clocks. Finally, to assess the cultural connection between tribal traditions and mainstream U.S. traditions, we used data from a survey answered by the SHS participants and compared them to the epigenetic-chronological age measurements to determine whether stronger ties to traditional culture were correlated with healthy aging.

PrIMER Trainees

Andres Silva

Faculty Mentor: Norman Kleiman
Home Institution: Fordham University
Project: *Comparison of DNA Damage Induced by 222 nm Vs. 254 nm Light Using Supercoiled Plasmid DNA*

The use of far-UVC light (200-235 nm) may become a promising method of disinfection in hospitals and other health care facilities as it is effective in killing viruses and bacteria. However, the mechanism of how far-UVC light damages DNA is not known. This summer, under the guidance of Dr. Norman Kleiman, my research focused on identifying how 222 nm far-UVC light affected plasmids (such as pUC18) and seeing the type of damage on a molecular level. As I continue to work on this project over the year, far-UVC light damage will continue to be tested on DNA and plasmids, and the focus will then shift to intact viruses, bacteria, fungi, and animal cells.

PrIMER Trainees

Z'Dhanne Williams

Faculty Mentor: Allison Kupsco
Home Institution: Molloy University
Project: *Investigating the Influence of Mitochondrial Biomarkers on Children's Neurodevelopment*

Many environmental toxicants accumulate within the mitochondria and pose damage to the Mitochondrial DNA (mtDNA), posing harm to critical processes within cells. The mtDNA plays a key role in oxidative stress, which activates systemic inflammatory reactions and is recognized as a biomarker for inflammatory illnesses. Our project is focused on using cord blood samples from a cohort population of Dominican and African American children from Northern Manhattan. The samples of blood will be used to uncover the influence cellular mtDNA and Cell-Free Mitochondrial DNA (cf-mtDNA) biomarkers have on children's health. The general purpose of the project is to assess the associations of mitochondria biomarkers with prenatal metal exposures and child neurodevelopment for future studies. Under the directive of Dr. Allison Kupsco, I am working towards optimizing novel biomarkers for future environmental health studies, including Cell-free Mitochondria DNA and Mitochondrial DNA. Our goal is to ultimately gain a better understanding of the molecular basis of children's environmental health to advance the early detection and prevention of environmental disease.

Letter from SEA

Dear EHS Family,

We would first like to thank everyone who has participated in our events so far this year, including our General Body Meeting, our trip to the New York Botanical Gardens, and our Alumni Networking Event! It was wonderful to meet so many people who are as excited about our mission as we are.

We are planning two more events before our term ends: SEA of Thoughts, where we will have experts in the environmental field discuss a pressing health topic, and our Winter Social. The team is excited about both and will have more updates regarding both events very soon.

Last semester, we took this opportunity to introduce ourselves, the 2022 SEA E-Board. Now that our time in SEA is coming to a close, we would like to share what we will each miss most about this wonderful club.

President – Jaemie Bennett
Jaemie is a second-year MPH student in EHS with a Certificate in Climate & Health. She will miss having such an amazing team to work with and the excitement over planning all the SEA events. It has been a great ride, and she couldn't have asked for better people to spend it with.

VP Community Outreach – Jackson Zeiler
Jackson is a second-year MPH student in EHS with a Certificate in Environmental Health Policy. He will miss spending time with the SEA E-board, and helping each other get through tough classes.

VP Finance – Emelia Suljić
Emelia is a second-year MPH student in EHS with a Certificate in Molecular Epidemiology. She will miss the weekly SEA meetings and all the memories the team made together. Thank you, Nina, for always bearing witness to these great moments.

VP Communications – Hannah Davin
Hannah is a second- year MPH student in EHS with a Certificate in Climate & Health. She will miss our weekly meetings and event planning as well as all the uncontrollable laughter and fun brought during those times.

Finally, the E-Board would like to say thank you to everyone who has made our work possible, including those who participated in our composting efforts, our EHS classmates for their constant support, Brandy and the rest of the EHS department. Of course, a special and enormous thank you to Nina, who has been an invaluable mentor and integral part of our SEA family. We are so grateful for your guidance and willingness to go to bat for us when obstacles arise, SEA-related and otherwise.

Love, SEA E-Board (Emelia, Jackson, Jaemie, and Hannah)

Facebook: facebook.com/sea.columbia.publichealth
Instagram: @seacolumbia
Engage: SEA on Engage

Memories

Faculty-sponsored Social

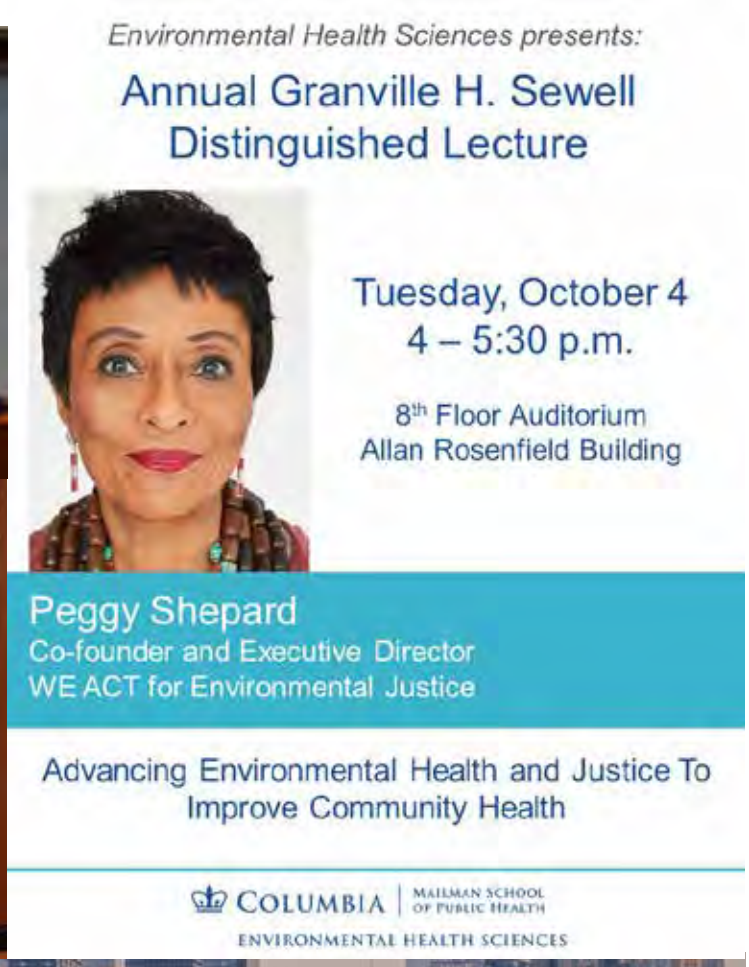
Memories

ISEE Conference 2022

Sewell Lecture – Fall 2022

Peggy Shepard

Peggy Shepard, Co-founder and Executive Director of We ACT for Environmental Justice presented "*Advancing Environmental Health and Justice to Improve Community Health*" for our annual Sewell Lecture. Her presentation inspired us to continue building community-academic partnerships!



SHARP Winter Offerings and Summer Recap

- 2-day NIH Grant Writing Boot Camp: Nov. 7-8, 2022
- 2-day PI Crash Course: Jan. 9-10, 2023
- 3-day Multi-omics Boot Camp: Jan. 18-20, 2023
- 4-day Life Cycle Assessment for the Health Sector: Feb. 13-14 and March 27-28, 2023

Check out our growing list of trainings and join the email list to be the first to know our 2023 summer training dates.

2022 Recap

The 2022 summer season was another successful round of live-streamed, virtual trainings on topics ranging from lab management and NIH grant writing to environmental justice and the exposome. In 2022, SHARP added trainings in SQL and Climate Change and Health. Our roster of 120+ skilled instructors shared their expertise with over 785 attendees from 40+ states and 25+ countries.

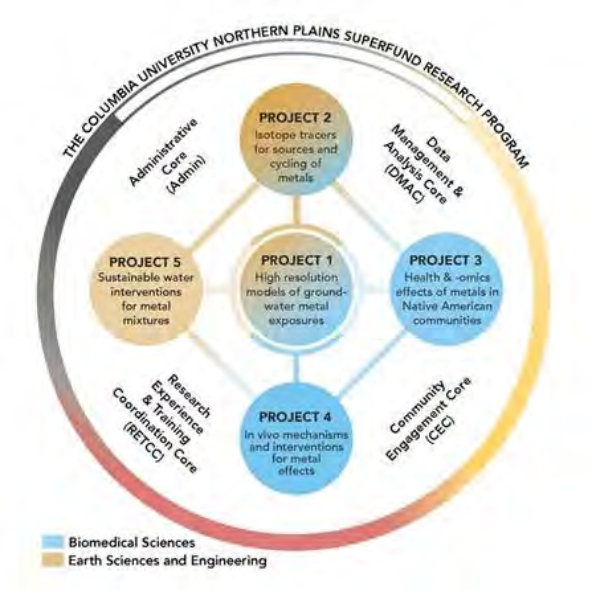
We'd like to give a special shout-out to all the EHS faculty members, researchers, staff, and students involved. Your effort has been instrumental in the continued growth of the SHARP program - thank you all!

- **Faculty Training Directors, Session Leaders and Panelists:** Andrea Baccarelli, Joel Capellan, Joan Casey, Julie Herbstman, Vrinda Kalia, Allison Kupsco, Marianthi-Anna Kioumourtzoglou, Norman Kleiman, Kim Knowlton, Allison Kuspco, Yunjia Lai, Gary Miller, Ana Navas-Acien, Anne Nigra, Matt Perzanowski, Jeremy Porter, Diane Re, Jeff Shaman, Cecilia Sorensen, Lew Ziska, Ami Zota
- **Scholarship Committee:** Brandon Pearson, Yike Shen, Anne Nigra
- **Staff:** Meaghan Doherty, Nader Elmehdawi, Fernando Luque, Erica Tyler, Abby Welbourn
- **Student Assistants:** Justin Gravlee
- **Doctoral Students and Postdoc Workshop Guides:** Tess Bloomquist, Tanya Butt, Ilan Cerna-Turoff, Vivian Do, Nina Flores, Feng Gao, Nico Hamacher, Wil Lieberman-Cribbin, Irene Martinez-Morata, Katlyn McGraw, Sarah McLarnan, Robbie Parks, Jenni Shearston, Marisa Sobel

EHS Doctoral Students and Postdocs – Become a Workshop Guide

Workshop Guide opportunities are available for many trainings. Assist with a training and attend a training of your choice at no cost! More details will be available in early 2023.

Workshops: Columbia Northern Plains Superfund Research Program



The Columbia Northern Plains Superfund Research Program (CNP-SRP) is a new partnership across Mailman School of Public Health, Lamont Doherty Earth Observatory and the Climate School, Missouri Breaks Industries and Research and tribal communities in the Northern Plains to generate new knowledge and advance technology to identify mechanisms and solutions to metal exposures affecting Indigenous communities. The CNP-SRP is funded by the NIEHS SRP. We are planning a kick-off meeting on **December 13, 2022**. All students, faculty and staff are welcome to join!

For more information about our new program,
see the video put together by **Dr. Kathrin Schilling**.

Publications

Please check out some of the amazing work being published by our community!
These publications are listed in chronological order, by initial publication.
Faculty, students, and staff names are **bolded**:

Zhao, D., **Domingo-Relloso, A.**, Tellez-Plaza, M., **Nigra, A. E.**, Valeri, L., Moon, K. A., Goessler, W., Best, L. G., Ali, T., Umans, J. G., Fretts, A., Cole, S. A., & **Navas-Acien, A.** (2022). High Level of Selenium Exposure in the Strong Heart Study: A Cause for Incident Cardiovascular Disease? Antioxidants & Redox Signaling, 37(13-15), 990–997. https://doi.org/10.1089/ars.2022.0029

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We enjoy sharing news about our EHS Family with the community and we want to hear from you!

Please send us information about your accomplishments, awards, presentations, publications, pictures, and any noteworthy EHS updates you'd like to share.

Email Nina at njk2128@columbia.edu with your submissions. We look forward to hearing from you.

Be well and keep in touch!