



Fall 2019

NEWSLETTER

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LETTER FROM THE CHAIR

Dear EHS family:

Summer might be long gone, but good seasons never end at EHS and Mailman. At the end of August, we welcomed a new class of students who have brought renewed energy and enthusiasm to the department. Thanks to all of you for your work in the classroom and your activities throughout the department. It is truly a privilege having you as the newest members of our family.

I recently had the privilege of serving as the Chair of the Search Committee to recruit the new Chair of the Department of Biostatistics. Working with Dean Fried to identify a new Chair was an amazing experience that brought together a committee of 20+ highly qualified and enthusiastic faculty members from several centers and departments across the school, the Columbia University Irving Medical Center, and the University at large. Everyone's contributions and insights were truly enlightening. We found a spectacular Biostatistics Chair in Dr. Kiros Berhane, who will join Mailman on January 1st from the University of Southern California. Biostatistics is key to much of our science and we are incredibly lucky that Dr. Berhane is a worldwide expert in developing and applying biostatistical methods to environmental health data. What a gift to EHS! As I told many of you, I really believe that the universe loves Mailman, and especially EHS.

Another very exciting – even momentous – EHS development: Led by Dr. Tiffany Sanchez, and with help from many EHS faculty members, Dr. Jeff Goldsmith and I submitted a successful application to the Collaboratory at Columbia that will fund the enrichment of our EHS curriculum with data science. Because of this effort, in Spring 2020, we will offer a new Environmental Data Science class. Over the next two years, we will enrich our existing classes with data methods and applications. I cannot express my excitement for this new stage in developing cutting-edge education in environmental health sciences. I would like to thank everyone who has participated in this work and especially Nina Kulacki and Greg Freyer who are always at the heart of all that we do.

Finally, I now have a twitter account! Follow me @BaccarelliAA and get updates on department achievements, environmental health topics, and anything great, funny, and beautiful in life and science.

Sincerely,

Andrea A. Baccarelli, MD, PhD, MPH
Leon Hess Professor and Chair
Department of Environmental Health Sciences



FACULTY

Ricky Perera, PhD

Frederica (Ricky) Perera, DrPH, PhD was honored by WE ACT for Environmental Justice, a leading environmental justice group on October 16th. She was given an award for her leadership in preventing exposure of vulnerable children to toxic chemicals, air pollution and impacts of climate change at their annual Gala, Building Power: In the Streets, In the Community, In the Capitol. Peggy Shepard, WE ACT for Environmental Justice Executive Director described the fruitful relationship between Dr. Perera's and the Center's research- "Our partnership helped each other's credibility," stated Ms. Shepard. For over twenty years, the collaboration ensured that the Center's research was turned into action. Ms. Shepard said, "we needed the facts on environmental exposures and the scientific partnership with Ricky and the Center provided us with this ammunition".

Dr. Perera graciously accepted her WE ACT award on behalf of her colleagues at the Center.

Darby Jack, PhD

Darby Jack, PhD, was interviewed by the New York Times in August. The article, titled "[How to Reduce Exposures to Air Pollution](#)", discusses behavior changes that can mitigate air pollution exposure such as modifying where and when you exercise outdoors.

Andrea Baccarelli, MD, PhD

Andrea Baccarelli, MD, PhD, was featured in a paper for *Environmental Health Perspectives* titled "[Environmental factors in Successful Aging: The Potential Impact of Air Pollution](#)". Along with Dr. Linda Fried, Dean of the Mailman School of Public Health, he discussed the potential impact of air pollutants on increasing rates of dementia in lower income countries.

Markus Hilpert, PhD

Markus Hilpert, PhD, offered his insights in an October article for *USA Today* on the current outbreak of vaping-related injuries in an article titled "['Something has changed': People have been vaping for years but now they're dying. Could it be the devices?](#)".

STUDENTS

Katy Coomes, 2nd Year MPH

Katy is creating a Research Database for the Earth Institute, which will be launched by the end of the year. She is working on compiling all the Institute's research projects into one place and working with their respective PI's to ensure their details are as comprehensive and correct as possible. This database includes all current and previous research within the Earth Institute and will be a useful tool to showcase the breadth of work completed there. It will connect PI's to foster more interdisciplinary work it will also educate the community about research being done in the fields of earth science and sustainability.

Jaron Burke, 1st Year MPH

Jaron was elected as the Graduate Student Association (GSA) Departmental Student Representative for EHS. As a part of this position, Jaron will bring ideas and concerns from the department to the attention of GSA and the Office of Student Life. His goal is to collect feedback from students over the year through surveys, meetings and focus groups. He also hopes to coordinate a few small events for EHS this academic year. Jaron welcomes any ideas that students have in order to make these events fun and a valuable use of their time.

Saoimanu Sope, 1st Year MPH

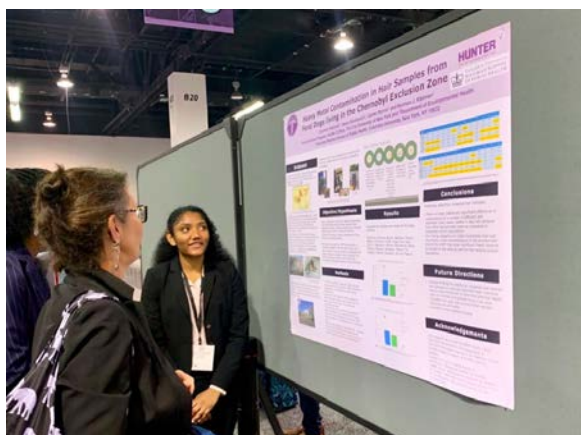
Saoimanu was recently hired to assist in the planning process for the SHARP (Skills for Health and Research Professionals) Training Program throughout the school year. The program is implemented and hosted by the Department of Environmental Health Sciences and partners with the Precision Prevention Initiative to offer a variety of short, intensive boot camps and workshops during the summer.

ALUMNI

Rachel Locke, MPH '18

As part of her work with the de Beaumont Foundation, Rachel Locke recently partnered with colleague Samantha Cinnick to write a blog post with some helpful tips for conversations about public health. The blog offers advice for students and professionals to answer questions like “What is public health?”. You can find the post [here](#).

PrIMER TRAINEES



Congratulations to **Charlene Redhead** for winning the “Best Poster in Public Health” award at Annual Biomedical Research Conference for Minority Students for her research on Heavy Metal Contamination in Hair from Feral Dogs in Chernobyl.

Congratulations to **Farida Ahmed** who won the Sigma Xi research award for her review of the inclusion of air pollution as a CVD risk factor in clinical guidelines.

COLUMBIA UNIVERSITY MAILMAN SCHOOL OF PUBLIC HEALTH

AIR POLLUTION AND CARDIOVASCULAR DISEASES

Clinical Guidelines Assessment

25% of heart diseases are attributable to air pollution About 7 million people die annually due to air pollution

Reviewed Guidelines

American Heart Association (AHA)
American College of Cardiology (ACC)
European Society of Cardiology (ESC)

Results

2 out of 591	1 out of 40	1 out of 37
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The most recent cardiovascular disease guideline that covered air pollution was in 2014

PrIMER
Program on Integrative Medicine and Environmental Research

By: Farida Ahmed
Mentor: Dr. Ana Navas-Acien

GRANTS & AWARDS

- **Sarah Kramer, Doctoral Candidate** received the award titled "Forecasting International Transmission of Influenza: Development and Validation of a Global Model" from the National Institutes of Health as part of the Fellowship Programs (F31)
- **Ana Navas-Acien, PhD** received the award titled "Health Effects and Geochemistry of Arsenic- Administrative Supplements to Support Collaborative Activities to Enhance Interoperability and Reuse of Superfund Research Program (SRP) Center Data" from the National Institutes of Health as part of the Superfund Data Supplement (P42)
- **Tiffany Sanchez, PhD** received the award titled "Novel biomarkers and biochemical networks of environmental metal exposure: Integrating the metallome and metabolome in the Strong Heart Family Study" from the National Institutes of Health as part of the NIEHS Center for Environmental Health in Northern Manhattan Supplement (P30)
- **Tiffany Sanchez, PhD** received the award titled "MESA-As and Chronic Lung Disease" from the National Institutes of Health as part of the MESA Supplement: Low-level Arsenic Exposure and Cardiovascular Disease in Multi-Ethnic Adults (MESA As) (R01)
- **Regina Santella, PhD** received the award titled "Environmental Exposures, Epigenetics and Breast Cancer Risk" from the Breast Cancer Research Foundation
- **Regina Santella, PhD** received the award titled "PAHs and Puberty in Girls at Increased Breast Cancer Risk" from the State of California (Columbia to receive subcontract from Stanford University).
- **Jeffrey Shaman, PhD** received the award titled "Informing Pandemic Influenza Intervention Practice: Coordinated Modeling" from the Centers for Disease Control.

PUBLICATIONS

[Peripheral and central compensatory mechanisms for impaired vagus nerve function during peripheral immune activation.](#) Kobrzycka A, Napora P, **Pearson BL**, Pierzchała-Koziec K, Szewczyk R, Wieczorek M. *J Neuroinflammation*. 2019 Jul 19;16(1):150. doi: 10.1186/s12974-019-1544-y. PMID 31324250

[Estimating the Health-Related Costs of 10 Climate-Sensitive U.S. Events During 2012.](#) Limaye V, Max W, Constible J, **Knowlton K** *GeoHealth*. 2019 Sept 17; doi: 10.1029/2019GH000202.

[The association between perfluoroalkyl substances and lipids in cord blood.](#) **Spratlen M, Perera F**, Lederman S.A, Robinson M, Kurunthachalam K, **Herbstman J**, Trasande L. *The Journal of Clinical Endocrinology & Metabolism*. doi: 10.1210/clinem/dgz024

[Lung Function and Respiratory Symptoms after Tuberculosis in an American Indian Population: The Strong Heart Study.](#) Powers M, **Sanchez TR**, Welty TK, Cole SA, Oelsner EC, Yeh F, Turner J, O'Leary M, Brown RH, O'Donnell M, Lederer D, **Navas-Acien A**. *Ann Am Thorac Soc*. 2019 Sep 25. doi: 10.1513/AnnalsATS.201904-281OC. [Epub ahead of print] PMID: 31553638

[Nonsteroidal Anti-Inflammatory Drugs Modify the Effect of Short-Term Air Pollution on Lung Function.](#) Gao X, Coull B, Lin X, Vokonas P, Schwartz J, **Baccarelli AA**. *Am J Respir Crit Care Med*. 2019 Sep 25. doi: 10.1164/rccm.201905-1003LE. [Epub ahead of print] No abstract available. PMID: 31553629

[Ensemble Forecast and Parameter Inference of Childhood Diarrhea in Chobe District, Botswana.](#) Heaney AK, Alexander KA, **Shaman J**. *Epidemics*. 2019 Sep 16:100372. doi: 10.1016/j.epidem.2019.100372. [Epub ahead of print] PMID: 31551173

[An Overview of Methods to Address Distinct Research Questions on Environmental Mixtures: An Application to Persistent Organic Pollutants and Leukocyte Telomere Length.](#) A Gibson E, Nunez Y, Abuawad A, R Zota A, Renzetti S, L Devick K, Gennings C, Goldsmith J, A Coull B, **Kioumourtzoglou MA**. *Environ Health*. 2019 Aug 28;18(1):76. doi: 10.1186/s12940-019-0515-1. PMID: 31462251

[The Human Exposome: A New "Omic" Ready for Prime Time.](#) **Baccarelli AA**. *J Am Coll Cardiol*. 2019 Sep 10;74(10):1329-1331. doi: 10.1016/j.jacc.2019.07.029. No abstract available. PMID: 31488270

[Fried and Baccarelli Comment.](#) Fried LP, **Baccarelli AA**. *Am J Public Health*. 2019 Sep;109(9):1188. doi: 10.2105/AJPH.2019.305257. No abstract available. PMID:31390254

[Early Life and Adolescent Arsenic Exposure from Drinking Water and Blood Pressure in Adolescence.](#)

Chen Y, Wu F, Liu X, Parvez F, Lolacono NJ, Gibson EA, **Kioumourtzoglou MA**, Levy D, Shahriar H, Uddin MN, Islam T, Lomax A, Saxena R, **Sanchez T**, Santiago D, Ellis T, Ahsan H, Wasserman GA, **Graziano JH**. Environ Res. 2019 Aug 20;178:108681. doi: 10.1016/j.envres.2019.108681. [Epub ahead of print] PMID: 31520830 [PubMed - as supplied by publisher]

[Rice Consumption and Subclinical Lung Disease in US Adults: Observational Evidence From the Multi-Ethnic Study of Atherosclerosis.](#)

Sanchez TR, Oelsner EC, Lederer DJ, Lo Cascio CM, Jones MR, Grau-Perez M, Francesconi KA, Goessler W, **Perzanowski MS**, Barr RG, **Navas-Acien A**. Am J Epidemiol. 2019 Sep 1;188(9):1655-1665. doi: 10.1093/aje/kwz137. PMID: 31145426

[Examining the Relationship Between Household Air Pollution and Infant Microbial Nasal Carriage in a Ghanaian Cohort.](#)

Carrión D, Kaali S, Kinney PL, Owusu-Agyei S, Chillrud S, Yawson AK, Quinn A, Wylie B, Ae-Ngibise K, Lee AG, Tokarz R, Iddrisu L, **Jack DW**, Asante KP. Environ Int. 2019 Sep 10;133(Pt A):105150. doi: 10.1016/j.envint.2019.105150. [Epub ahead of print] PMID: 31518936 [PubMed - as supplied by publisher]

[Thyroid Hormones and Neurobehavioral Functions Among Adolescents Chronically Exposed to Groundwater with Geogenic Arsenic in Bangladesh.](#)

Khan KM, **Parvez F**, Zoeller RT, Hocevar BA, Kamendulis LM, Rohlman D, Eunus M, **Graziano J**. Sci Total Environ. 2019 Aug 15;678:278-287. doi: 10.1016/j.scitotenv.2019.04.426. Epub 2019 Apr 29. PMID: 31075594

[Reappraising the Utility of Google Flu Trends.](#)

Kandula S, **Shaman J**. PLoS Comput Biol. 2019 Aug 2;15(8):e1007258. doi: 10.1371/journal.pcbi.1007258. [Epub ahead of print] PMID: 31374088

[Dietary Determinants of Inorganic Arsenic Exposure in the Strong Heart Family](#)

Study. Nigra AE, Olmedo P, Grau-Perez M, O'Leary R, O'Leary M, Fretts AM, Umans JG, Best LG, Francesconi KA, Goessler W, Cole SA, **Navas-Acien A**. Environ Res. 2019 Aug 1;177:108616. doi: 10.1016/j.envres.2019.108616. [Epub ahead of print] PMID: 31442790

[A Framework for Evaluating the Effects of Observational Type and Quality on Vector-Borne Disease Forecast.](#)

Yamana TK, **Shaman J**. Epidemics. 2019 Aug 5:100359. doi: 10.1016/j.epidem.2019.100359. [Epub ahead of print] PMID: 31439454

[Blood Leukocyte DNA Methylation Predicts Risk of Future Myocardial Infarction and Coronary Heart Disease](#). Agha G, Mendelson MM, Ward-Caviness CK, Joehanes R, Huan T, Gondalia R, Salfati E, Brody JA, Fiorito G, Bressler J, Chen BH, Ligthart S, Guarrera S, Colicino E, Just AC, Wahl S, Gieger C, Vandiver AR, Tanaka T, Hernandez DG, Pilling LC, Singleton AB, Sacerdote C, Krogh V, Panico S, Tumino R, Li Y, Zhang G, Stewart JD, Floyd JS, Wiggins KL, Rotter JI, Multhaup M, Bakulski K, Horvath S, Tsao PS, Absher DM, Vokonas P, Hirschhorn J, Fallin MD, Liu C, Bandinelli S, Boerwinkle E, Dehghan A, Schwartz JD, Psaty BM, Feinberg AP, Hou L, Ferrucci L, Sotoodehnia N, Matullo G, Peters A, Fornage M, Assimes TL, Whitsel EA, Levy D, **Baccarelli AA**. *Circulation*. 2019 Aug 20;140(8):645-657. doi: 10.1161/CIRCULATION.AHA.118.039357. Epub 2019 Aug 19. PMID: 31424985

[The Synaptic Vesicle Glycoprotein 2: Structure, Function, and Disease Relevance](#). Stout KA, Dunn AR, Hoffman C, **Miller GW**. *ACS Chem Neurosci*. 2019 Aug 23. doi: 10.1021/acchemneuro.9b00351. [Epub ahead of print] PMID: 31394034

SUMMER WORKSHOPS

Summer SHARP Program

Skills for Health and Research Professionals

Last summer, the EHS-hosted SHARP Program welcomed more than 475 attendees from 38 states and 15 countries to learn new research skills in NYC. Thirteen different trainings were successfully held at Mailman, ranging from machine learning and causal mediation analysis, to the exposome and PI leadership and management.

Columbia Mailman is known for outstanding teaching and research, and the SHARP Program is a collaborative effort to combine both of these aspects into 2-3 day boot camps geared towards investigators at all career stages. Each boot camp is led by field experts inside and outside of Columbia University, and designed to combine theory and hands-on training for a particular research method. Mailman faculty and postdocs identify knowledge gaps for new training topics, Doctoral students and postdocs participate in the Workshop Guide/Voucher program by assisting with the work in exchange for taking a different training of their choice, and Masters students and EHS staff put all the puzzle pieces together to make a robust training happen. In fact, first year MPH student Saoimanu Sope in EHS has already begun next summer's preparations.

New 2020 topics will be announced soon. You can find more information about the offerings, instructors, and sign up for announcements at mailman.columbia.edu/SHARP-training. We also have some opportunities for students and postdocs to get involved if interested. Feel free to email [Abby Welbourn](mailto:Abby.Welbourn) with any questions.

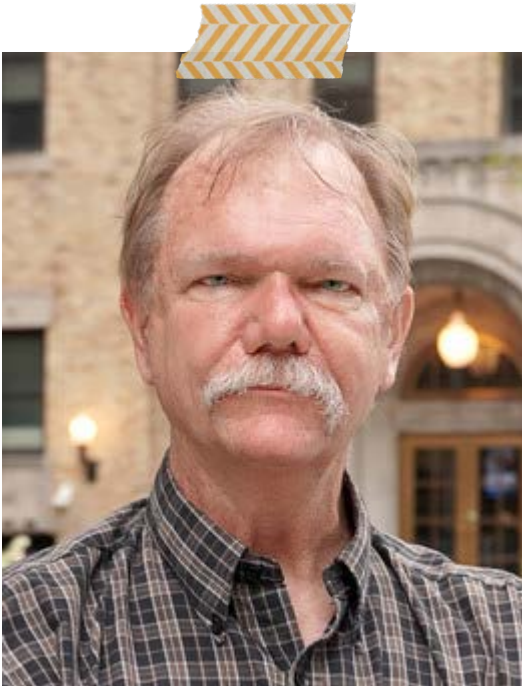
FACULTY

**Dr. Joan Casey, PhD**

Joan Casey is an environmental epidemiologist whose research focuses on using electronic medical records to study the effects of emerging environmental exposures on population health. Her dissertation work suggested that living near industrial agriculture may put residents at risk for antibiotic-resistant infections. This research was published in *JAMA Internal Medicine* and *Environmental Health Perspectives*. Joan's area of interest also extends to investigating the impact of unconventional natural gas development on community and individual health. Recent work found elevated risks of anxiety and depression during pregnancy among those women highly exposed to an unconventional natural gas development in Pennsylvania.

Another portion of Joan's work focuses on environmental justice and social determinants of health. She has uncovered inequities in both noise pollution and greenspace nationwide along racial, ethnic and socioeconomic lines. Future work will continue to focus on energy extraction, health at both ends of the life course, and the interplay of social and environmental exposures in generating health inequities.

Dr. Casey received a B.S. in Biological and Environmental Engineering from Cornell University an M.A. in Applied Physiology from Teachers College at Columbia University, and a Ph.D. in Environmental Health Sciences from Johns Hopkins University. In her spare time, Joan enjoys running, biking, listening to audiobooks, and traveling, which she hopes to one day reconcile with her concerns about global sustainability.



Dr. Lewis Ziska, PhD

Lewis Ziska is a plant physiologist who worked at the U.S. Department of Agriculture (USDA) on climate change and carbon dioxide impacts on food security. He left earlier this year, when the work he was doing was no longer supported by the current administration. He is pleased beyond measure to have found an opportunity to be in the Environmental Health Sciences department at the Mailman School of Public Health.

In this new position, Dr. Ziska will continue his work looking at the nexus between climate, carbon dioxide, plant biology and public health, as well as CO₂ effects on contact dermatitis and plant-based nutritional quality. This work encompasses a wide range of plant impacts from the role of CO₂ and climate in aero-biology and pollinosis, climate induced shifts in pesticide usage, the role of climate, and CO₂ on ethno-pharmacology.

Being at Columbia and having the opportunity to work with so many experts on climate and biology is a scientific smorgasbord. Dr. Ziska is delighted at the prospects and the potential to begin addressing the major environmental challenges of our times.



Dr. Tiffany Sanchez, PhD

Dr. Tiffany Sanchez is a new Assistant Professor in the Department. She earned her PhD from Columbia University in the department of Environmental Health Sciences in 2016. The primary focus of her research is understanding how environmental exposures affect the respiratory system. Dr. Sanchez's long-term goal is to extend the knowledge of and identify prevention interventions for environmentally related respiratory disease.

Dr. Sanchez has carried out several studies related to the health effects of environmental exposures, ranging in geographic scale and methods. During her dissertation research, she conducted fieldwork in Bangladesh, evaluating exposure mitigation interventions and incorporating a life course epidemiologic approach to investigate the long-term consequences of arsenic exposure. As a postdoc, she conducted research to identify other major sources of metal exposure in Bangladesh. More recently, her work has focused on populations in the United States, where she evaluated potential health consequences from dietary arsenic exposure, particularly through rice consumption.

Dr. Sanchez uses a multidisciplinary approach in her research by integrating diverse methodologies, including wet lab methods, integrative omics, and statistical methods for evaluating metal mixtures. She is currently pursuing two main research themes: (1) low-level exposure to metals and lung disease development in general populations and (2) molecular signatures of environmentally related lung disease. Dr. Sanchez is also interested in how other environmental factors affect respiratory health. She is currently working on two projects in the NHLBI Pooled Cohorts Study, which has harmonized data from nine NHLBI-funded cohorts in the US. She is investigating whether the development of chronic lung disease is related to secondhand smoke exposure in non-smoking adults and to non-cigarette tobacco use, including cigar and pipe use. This research aims to advance the understanding of the contemporary health risks associated with smoking beyond cigarettes.

Outside of EHS, you can find Tiffany taking very long walks through different neighborhoods in NYC and discovering new cuisines from around the world.

STUDENTS

Lizbeth Gomez, 2nd Year MPH

This past summer Lizbeth was selected as a Lerner Center Service-Learning Fellow. The fellowship involved working on analyses for both qualitative and quantitative data on the prevalence of childhood asthma in the G8 communities in San Juan, Puerto Rico. She looked at data collected post-Hurricanes Irma and Maria by Puerto Rico Pilot Fellows during the March 2019 site visit. Lizbeth worked directly with the team's Puerto Rico partner, ENLACE, to develop a report and presentation appropriate for both Columbia University and community audiences. Lizbeth served as one of the leaders in disaster preparedness efforts and traveled to Puerto Rico to disseminate a comprehensive report and offer resources related to emergency preparedness to community partner ENLACE.



Betty Fletcher, 2nd Year MPH

In September, Betty began working for the Fire Department of the City of New York as part of the John D. Solomon Fellowship for Public Service. This fellowship offers 10 graduate students the opportunity to gain experience in emergency management with an agency of New York City government or a non-profit organization. Her role within the Office of Public Information includes curating content for various publications within the department, including content for terrorism awareness. Additionally, she is creating materials for the new Fire Museum. The fellowship has also offered her the opportunity to tour prominent New York institutions like The Metropolitan Museum of Art to review their emergency preparedness strategies. Betty is excited to learn more about the field of emergency management throughout the rest of the year.

ALUMNI

Sunny Uppal*, MPH '10

Sunny joined the Government of Canada in 2011 and currently serves as Director of Innovation and Youth Engagement for Environment and Climate Change Canada. In this position, he is responsible for promoting and supporting innovative ideas and increasing opportunities for youth to address key environmental challenges.

Prior to joining the public service, Sunny was a special advisor with the United Nations Office in Geneva, where he worked on international environmental policy and negotiations for the UN Economic Commission for Europe's regional environmental agreements.



After joining the Government of Canada in 2011, Sunny's role focused on the international management of persistent organic pollutants, harmful substances which are known for their negative effects on the environment and human health.

From 2012-2015, Sunny worked for the Climate Change International Directorate at the International Affairs Branch of Environment Canada. There, his group was responsible for representing Canada at international climate change negotiations under numerous bodies including the United Nations Framework Convention on Climate Change (UNFCCC) and UNEP's Climate and Clean Air Coalition (CCAC). His role focused on building international partnerships and serving on the Canadian delegation to UNEP's Climate and Clean Air Coalition, a global initiative to address short-lived climate pollutants such as black carbon and methane, around the world. Under the CCAC, Sunny also served as the international chair for the Coalition's initiatives in agriculture and communications, where he works with representatives from several countries in addition to international organizations and NGOs to develop concrete actions to reduce short-lived climate pollutants, namely in developing countries.

Sunny believes his time at Mailman was a valuable part of his professional development, specifically because of the interdisciplinary nature of the program and the emphasis on the human impact of environmental factors. Given that environmental health has been embedded in all his work, Sunny regularly draws on the skills and knowledge he gained from his classes. Some of Sunny's greatest memories from his time in EHS were connecting with world-class professors, and enjoying social events, including the Chili Cook-off, which allowed him to make lifelong friendships with his classmates.

* Sunny Uppal was interviewed by Jaron Burke (1st Year MPH) for this spotlight.

Sasha Berns, DrPH Student



Sasha grew up in suburban Connecticut about an hour north of New York City. She received a BS in Ecology & Evolutionary Biology and Evolutionary Anthropology from the University of Michigan in 2014. While at Michigan, she conducted research on the interactions between monarch butterflies and milkweed plants. Following her graduation, she moved to Cape Cod, Massachusetts for a year where she participated in an environmental AmeriCorps program. She then came to Mailman and received her MPH in the EHS department. Following Mailman, she worked as an environmental health and safety specialist for the NYC Department of Environmental Protection. She then moved into a position as a Safety Specialist at New York-Presbyterian Hospital where she now works. Sasha has returned to conduct her DrPH while continuing to work at the hospital. She hopes to combine her work at the hospital with an occupational research study in the EHS department. In her free time, Sasha enjoys hiking and eating other people's baked goods.

Kylie Riley, DrPH Student

Kylie is originally from Newark, Delaware. She received a BS in Environmental Science and Technology from the University of Maryland, College Park, and an MPH from the Environmental Health Sciences Department at Columbia University's Mailman School of Public Health with a certificate in Toxicology. Since graduating from the MPH program, Kylie has worked as a Program Coordinator at the Columbia Center for Children's Environmental Health under Drs. Perera and Herbstman. She is interested in research on prenatal and early life exposures on child health outcomes. Her favorite activities are traveling, reading, and baking.





Misbath Daouda, PhD Student

Misbath grew up in Cotonou, Benin and Dakar, Senegal. She received a B.S. in Chemistry and a B.A. in Hispanic Studies from Washington College, where she competed on the equestrian team. She then earned an MPH in Environmental Health Sciences at the T.H. Chan School of Public Health at Harvard University. There, she collaborated with UNICEF Mongolia on a study of the impacts of air pollution on children's health. At Columbia, she is interested in studying the effects of air pollution and sustainable energy policy on the health of vulnerable populations in the context of climate change. She enjoys salsa dancing, horseback riding, hiking, and creative writing.

Maggie Li, PhD Student

Maggie grew up in Southern California and completed her BA in Geography and BS in Conservation and Resource Studies at UC Berkeley. She has also previously conducted research at Penn State University to spatially analyze the relationships between seasonal dust loading and respiratory health across Senegal. At Mailman, she hopes to study the differential health impacts of anthropogenic climate change on socially disadvantaged communities, and community-based intervention strategies to bridge these health outcome disparities. In her free time, she enjoys dancing, practicing yoga, and dabbling in aerial arts.





Sarah McLarnan, PhD Student

Sarah McLarnan is from Victoria, Minnesota. She completed her undergraduate studies majoring in Environmental Studies and Biology at the College of Saint Benedict in Minnesota where she conducted research with the Environmental Protection Agency on water quality standards. Sarah then moved to New York City and completed a Master of Public Health from Columbia University Mailman School of Public Health. She enjoyed her time so much she decided to stay on for her PhD studies. Her research interest includes developmental neurotoxicology. During her free time Sarah likes to be outdoors with her dog, Wesley. Together they love to hike, camp, canoe and otherwise enjoy the wilderness.

Maya Spaur, PhD Student

Maya Spaur is from Mount Airy, Maryland. She completed her Master of Science in Environmental Health & Engineering at Johns Hopkins Bloomberg School of Public Health. She completed a B.S. in Environmental Science & Technology with a concentration in Environmental Health and a B.A. in Government & Politics at the University of Maryland, College Park. Maya previously worked for the National Cancer Institute Occupational & Environmental Epidemiology Branch, Earthjustice, the Maryland Department of Agriculture, the National Oceanic & Atmospheric Administration, and in the labs of Dr. Meghan F. Davis (Johns Hopkins) and Dr. Paul Leishnam (University of Maryland). She is interested in studying drinking water contaminant exposures and their impacts on health, and climate change implications to vector-borne infectious diseases. She enjoys hiking, music, and environmental justice activism.



MPH STUDENTS

Between their 1st and 2nd years, Mailman students complete a required practicum. To find out more about the EHS 2nd year students and their experiences, we asked them:

- **Practicum Organization/ Mentor Practicum Location**
 - **Description of Practicum Experience**
 - **What was your favorite part of the summer?**

Krish Bhatt

Location: New York City, NY

Organization: Harlem Grown

Description: For my practicum, I was a Farm and Farm-based education intern at Harlem Grown, a nonprofit focused on youth education, urban agriculture, and sustainability work. As an intern, I led educational tours and workshops, supervised summer campers, assisted with maintenance of the hydroponic greenhouses and soil-based crops, cared for chickens, and implemented hot composting. I also managed a weekly community farm stand, developed youth curriculum, and oversaw weekend volunteers.

Favorite experience this summer: I raised almost 10 swallowtail butterflies.



Haleigh Cavalier

Location: New York City, NY

Organization: New York City Department of Health and Mental Hygiene

Description: I Interned this summer at the NYCDOHMH in the Bureau of Epidemiology Services within the Division of Epidemiology. My main responsibilities included spatial data analysis and visualization for the agency using software such as R and GIS (Geographic Information System). I also created tutorials and assisted with training other staff members in spatial data analysis tools and techniques.

Favorite experience this summer: I went camping upstate!

Maxine Coady

Location: New York City, NY

Organization: Department of Environmental Health Sciences, E-cigarette and Tobacco Products Laboratory

Description: I assisted with laboratory experiments calibrating a chamber system for aerosol exposure experiments and collected condensed aerosol mechanically pumped from various brands of E-cigarettes. I also analyzed data from mouse exposure experiments looking at metal concentrations in various tissues in the brain and rest of the body.

Favorite experience this summer: Whitewater canoeing while spending some time back home in Wisconsin!



Katy Coomes

Location: New York City, NY

Organization: Earth Institute Director's Office

Description: My main project has been to compile information on all the research projects within the Earth Institute to upload them into a new Research Database being launched by EI. I edited and filled out a large excel sheet that contained these projects and communicated with the PIs and main EI Units of each project to ensure that our information was as thorough and complete as possible. I am also working on a case study about Interdisciplinary Projects to help foster more of this kind of work within the EI.

Favorite experience this summer: I took a weekend trip to Ithaca and explored Watkins Glen and the other beautiful Gorges in the area.

Anita Dev

Location: San Diego, California

Organization: UC San Diego Academic Connections

Description: I taught a college-level course on environmental health and epidemiology to 25 high school students. For many of the students, it was their first exposure to public health, but they were all very passionate about learning and conducting their own research. The students visited the beach and the aquarium to learn about the impact of climate change on public health and designed and presented their own epidemiologic studies.

Favorite experience this summer: My college roommates and I did a food tour of LA!





Yun-Wen Betty Fletcher

Location: New York City, NY

Organization: Columbia Center for Children's Environmental Health

Description: I worked on both online and print environmental health communications projects. These included a flyer for local pregnant mothers about personal care products and a booklet about breast cancer and the environment.

Favorite experience this summer: Travel! I went on road trips to Washington D.C. and Montauk and went to a family reunion in California.

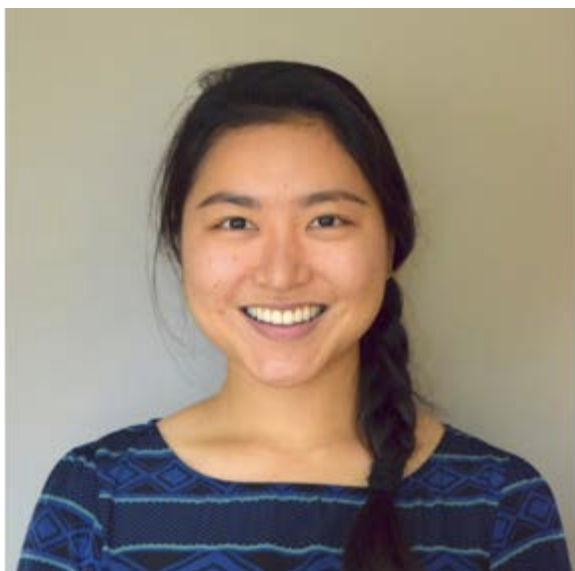
Meethila Gade

Location: New York City, NY

Organization: Regeneron Pharmaceuticals

Description: I applied my knowledge of molecular toxicology in designing experiments and enhanced my wet lab and analytical skills.

Favorite experience this summer: Rode 15 roller coasters in a day at the Cedar Point amusement park.



Katie Gao

Location: New York City, NY

Organization: Mt. Sinai Hospital

Description: I worked in the Office of Environmental Health & Safety and improved worker health and safety conditions through analyzing chemical exposure levels in labs. I also compiled data from Industrial Hygiene Reports across multiple Mount Sinai locations into Excel spreadsheets.

Favorite experience this summer: Walking around the city taking in the sights.

Qianrui Gao

Location: New York City, NY

Organization: Department of EHS, Mailman School of Public Health

Description: I worked as a research assistant for Dr. Deliang Tang of the Environmental Health Science department. I engaged in a research project on the association between air pollution (PAH) exposure and children's neurodevelopment in Tongliang, China. I was mainly responsible for doing the literature review, communicating with participants, and drafting the paper.

Favorite experience this summer: Travelled to Miami & Key West!



Nastasia Gernat

Location: New York City, NY

Organization: Mt. Sinai Hospital

Description: I conducted risk assessments in a hospital setting. I also completed measurements for air quality and other occupational exposures.

Favorite experience this summer: Exploring the city.

Lizbeth Gomez

Location: New York and Puerto Rico

Organization: Columbia University - Puerto Rico IPE SL

Description: I was selected as a Lerner Center Service-Learning Fellow to conduct the analysis of both qualitative and quantitative data on prevalence of childhood asthma in the G8 communities in San Juan, Puerto Rico. I looked at post-Hurricanes Irma and Maria data collected by Puerto Rico Pilot Fellows during the March 2019 site visit.

Favorite experience this summer: Visiting my sister in the Dominican Republic and finding out I'm going to be an aunt!





Dennis Khodasevich

Location: New York City, NY

Organization: Columbia University Mailman School of Public Health

Description: I worked with Dr. Martinez on a study titled "The Influence of Light Pollution and Light-at-Night on the Circadian Clock." My main duties involved working in R to test a series of hypotheses.

Favorite experience this summer: Frequenting an all-you-can-eat sushi restaurant in Fort Lee, NJ.

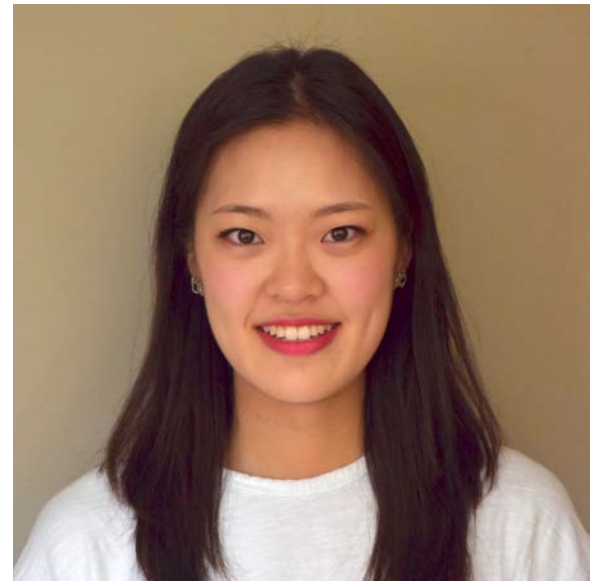
Sun Young (Sally) Park

Location: New York City, NY

Organization: Columbia University Mailman School of Public Health - Environmental Health Sciences Department

Description: For my summer practicum, I assisted with research looking at the effects of pesticides (particularly pyraclostrobin) on the onset/progression of Huntington's Disease through expansion of CAG repeats. We were primarily concerned with looking at in vitro effects using fibroblasts and cortical neuronal cells. It was a great opportunity to learn about neurotoxicity because most of my experience was focused on developmental toxicity.

Favorite experience this summer: Travelled to Spain and had lots of cheap AND good wine!



Victoria Sanders

Location: Long Island City, Queens, NY

Organization: NYC Department of Health and Mental Hygiene

Description: This summer I worked with the NYC DOHMH's Zoonotic, Influenza and Vector-Borne Disease Unit. I spent my summer carrying out data analysis of 2018 tick-borne disease data. I also had the opportunity to jump into countless other projects, meetings, workshops, and more.

Favorite experience this summer: I explored new parts of the city all summer long!



Grant Tore

Location: Mexico City, Mexico

Organization: Mount Sinai School of Medicine, National Institute of Public Health (Mexico)

Description: I am working with a research project, a mother and child cohort, focused on air pollution, stress and lung development in the children. I have also taken a class on Risk Assessment and Management and am working with one of the professors on assessing the risk of arsenic and fluoride concentrations in groundwater.

Favorite experience this summer: Traveled to the Yucatan Peninsula to go to Tulum and Chichen Itza.



Kai Wilmsen

Location: New York City, NY

Organization: Consulting and Testing Services Inc (CTSI)

Description: I assisted with a variety of projects related to Industrial Hygiene and Environmental Health and Safety including indoor air quality monitoring, water intrusion response, and respirator fit testing. I also helped with New York City Community Right to Know filings.

Favorite experience this summer: Explored the city and soaked up the warm summer weather.

MS TOXICOLOGY STUDENTS

Maria Talayero

Location: Mexico City

Organization: Mundo Quimico Mexico

Description: I helped organize a national conference regarding chemical exposures in Mexico. We aimed for a high-level technical meeting to learn about the situation of chemical exposures, its effects, how public and private institutions are managing the risks, which is the perspective of the social sector, and what practices are being exercised internationally for their proper management. The aim was to examine the alternatives to develop the National Strategy for the Protection of the Population of Environment Chemicals, in order to guarantee the right to health and a clean environment for all Mexicans.

Favorite experience this summer: I spent some time in Houston, Texas and visited the Johnson Space Center.



MPH STUDENTS

To find out more about of 1st year students, we asked them:

- **Certificate**
- **Hometown**
- **Previous School**
- **Fun Fact!**



Victoria Bortfeld

Program: MPH

Certificate: Environmental Health Policy

Hometown: Byram, NJ

Previous School: University of Michigan

Fun Fact: Went biking on the World's Most Dangerous Road (El Camino de La Muerte) with zero extreme biking experience

Jaron Burke

Program: MPH

Certificate: Environmental Health Policy

Hometown: Seattle, WA

Previous School: University of Washington

Fun Fact: I'm a certified group fitness instructor and personal trainer!





Haley Campbell

Program: MPH

Certificate: Climate and Health

Hometown: Calgary, AB

Previous School: University of Oregon

Fun Fact: I have 30 types of Pacific North West trees memorized

Karina Carrillo

Program: MPH

Certificate: Health and Human Rights

Hometown: Santa Barbara, CA

Previous School: University of Southern California

Fun Fact: My birthday is on the 4th of July



Grace Chao

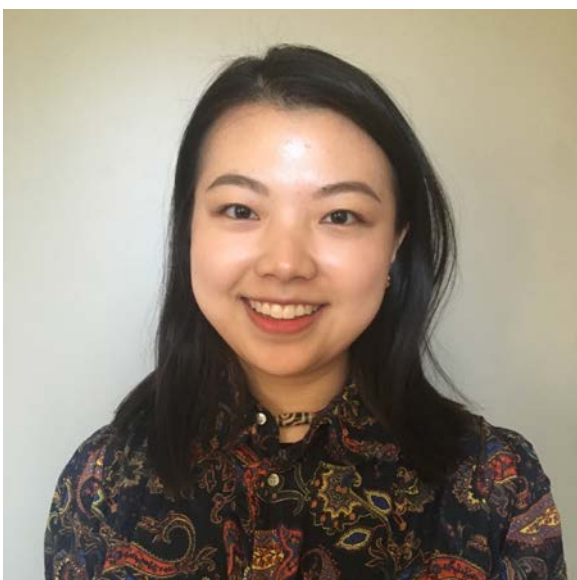
Program: MPH

Certificate: Climate and Health

Hometown: Nanjing, China

Previous School: University of Washington

Fun Fact: I have a phobia of birds (including poultry).



Eric Chen

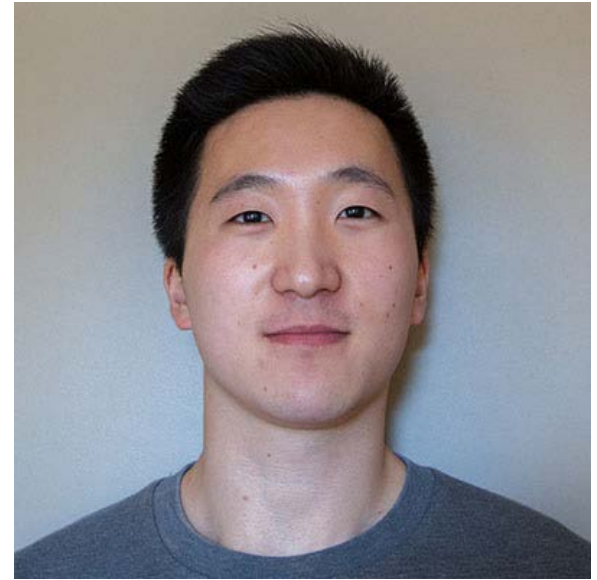
Program: MPH

Certificate: Toxicology

Hometown: Bellevue, WA

Previous School: Vassar College

Fun Fact: I want to open an orphanage that doubles as a boarding school after I become a physician because I want to help people in need. Also, I'd like to take a trip to South Korea and go on a food tour.



Kathy Chen

Program: MPH

Certificate: Molecular Epidemiology

Hometown: Whippany, NJ

Previous School: University of Michigan

Fun Fact: I attended Carnival in Rio de Janeiro early this year!

Kunsorya Chhea

Program: MPH

Certificate: Climate and Health

Hometown: San Diego, CA

Previous School: UC Los Angeles

Fun Fact: My favorite cookies are snickerdoodles.





Aradhika Dhawan

Program: MPH

Certificate: Epi of Chronic Disease

Hometown: India

Previous School: Dr.HSJIDS, Punjab University

Fun Fact: I'm a level swimmer, a calligraphy artist and a Punjabi folk dancer.

Mara Greenburg

Program: Dual Degree

Other Degree: Law

Hometown: Pittsburgh, PA

Previous School: University of Pennsylvania

Fun Fact: I don't have tears.



Caroline Hoffman

Program: MPH

Certificate: Toxicology

Hometown: Bay Village, Ohio

Previous School: Messiah College

Fun Fact: I'm an avid hiker and novice mountaineer.



Pratik Lakhani

Program: MPH

Certificate: Toxicology

Hometown: Flushing, NY

Previous School: University of Michigan

Fun Fact: I have a cooking blog!



Jennifer Lu

Program: MPH

Certificate: Undecided

Hometown: Cupertino, CA

Previous School: UC Berkeley

Fun Fact: I do hot yoga in my free time.

Irene Martinez Morata

Program: MPH

Certificate: Molecular Epidemiology

Hometown: Spain

Previous School: University of Murcia

Fun Fact: It is my first time in the United States.





Seonyoung Park

Program: MPH

Certificate: Applied Biostatistics

Hometown: Republic of Korea

Previous School: Ulsan National Institute of Science and Technology, Korea

Fun Fact: I've wished to be an idol

Kevin Patterson

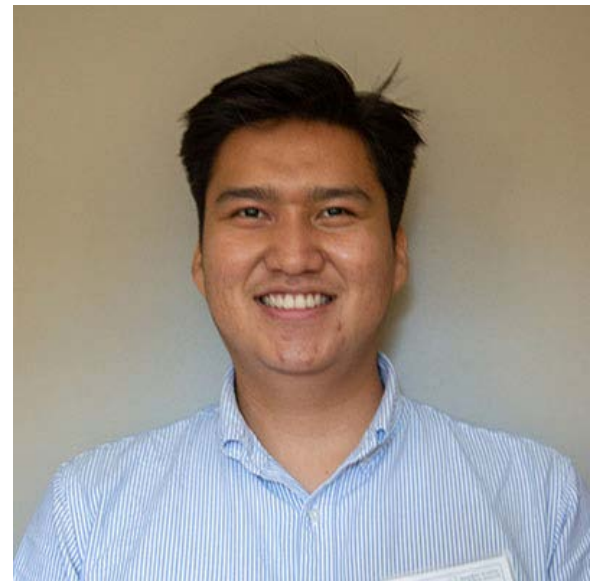
Program: MPH

Certificate: Molecular Epidemiology

Hometown: Farmington, NM

Previous School: Dartmouth College

Fun Fact: Growing up, my family used to be very serious about rodeo, so we would train our horses on the outskirts of my hometown, traveling up and down the mesas and sand dunes.



Jamie Ponmattam

Program: MPH

Certificate: Climate and Health

Hometown: Miramar, FL

Previous School: University of Miami

Fun Fact: I love kickboxing.



Stephanie Puwalski

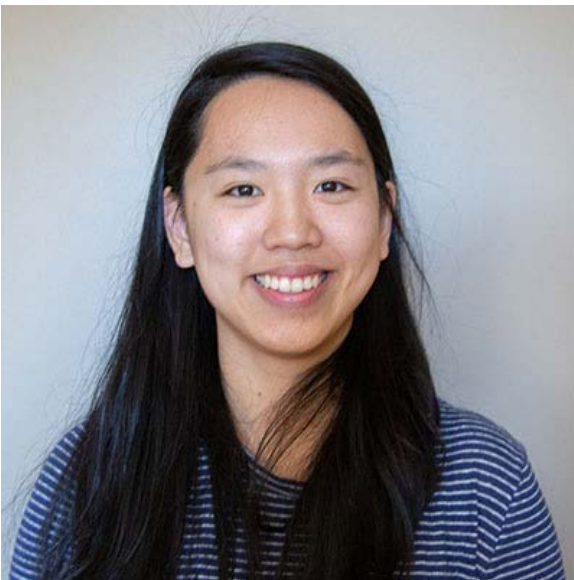
Program: MPH

Certificate: Environmental Health Policy

Hometown: Manorville, New York

Previous School: Monmouth University

Fun Fact: I can play the saxophone.



Nalyn Siripanichgon

Program: MPH

Certificate: Climate and Health

Hometown: Bangkok, Thailand

Previous School: Davidson College

Fun Fact: I've stood at the equator in Kenya!

Saoimanu Sope

Program: MPH

Certificate: Toxicology

Hometown: Long Beach, CA

Previous School: UC Santa Cruz

Fun Fact: I am the youngest of 11 siblings!





Benjamin Steiger

Program: MPH

Certificate: Climate and Health

Hometown: Hastings-on-Hudson, NY

Previous School: University of Wisconsin-Madison

Fun Fact: I have traveled to every continent (except Antarctica)

Mingyong Tong

Program: MPH

Certificate: Climate and Health

Hometown: Liaoning, China

Previous School: Brandeis University

Fun Fact: I went to Paris to learn French bakery and pastry in 2016



Yucong Wang

Program: MPH

Certificate: Toxicology

Hometown: Baiyin, China

Previous School: China Agricultural University

Fun Fact: I love singing!



Jade Watkins

Program: Dual Degree

Other Degree: Urban Planning

Hometown: Dallas, TX

Previous School: University of Texas at Austin

Fun Fact: I've jumped off the tallest building in the Southern Hemisphere.



Lucy Zhao

Program: MPH

Certificate: Molecular Epidemiology

Hometown: Salt Lake City, Utah

Previous School: University of British Columbia

Fun Fact: I know way too many digits of pi.

MS TOXICOLOGY STUDENTS

Hadler da Silva

Program: MS Toxicology

Hometown: Tuckahoe, NY

Previous School: John Jay College of Criminal Justice

Fun Fact: I'm on the All of Us ads seen on bus stops and a couple trains.



Leore Lavin

Program: MS Toxicology

Hometown: Teaneck, NJ

Previous School: Harvard University

Fun Fact: I'm an avid ultimate frisbee player & have 4 awesome nibblings (nieces & nephews)!

Last summer, the Department of Environmental Health Sciences at the Mailman School of Public Health hosted the fifth cohort of trainees in the **Program to Inspire Minority undergraduates in Environmental health sciences Research (PrIMER)**. This NIEHS-funded program provides students, who are typically underrepresented in STEM fields, the opportunity to gain valuable research experience in environmental health sciences. This year's PrIMER cohort represents students from Fordham University and Hunter College.

The trainees worked full-time over the summer with EHS faculty members: Dr. Navas-Acien, Dr. Darby Jack, Dr. Norman Kleiman, and Dr. Julie Herbstman. Some of the research topics included metal contamination in Chernobyl dog hair, Prenatal Phtalates exposure and DNA methylation, as well as Lead Chelation as an opportunity for Cardiovascular Disease Treatment. Trainees gained valuable skills and experience in study design, laboratory practices, statistical analysis, and valuable mentorship provided by their faculty member. The summer culminated with PrIMER Research Presentations, where trainees provided an overview of their experience and research in the program so far.

In addition to their projects, PrIMER trainees participated in weekly professional development seminars, aimed to prepare them for EHS graduate school applications and careers. Seminars also featured guest speakers including Dr. Navas-Acien and Dr. Brandon Pearson, who shared stories about their backgrounds and journeys to public health research. Inspired by the weekly speakers, many trainees are planning to use the skills gained during the professional development series to apply to graduate programs in EHS and present their research in upcoming conferences such as ABRCMS.

Trainees Bethlehem Hailu, Kaila Boyer, Michael Migliaro and Charlene Redhead Rodriguez will have the opportunity to continue conducting research during the 2019-20 academic year. PrIMER trainees engage in research, while balancing classes and GRE preparatory courses provided by the program. These five years of the program have been very successful and Dr. Navas-Acien, Dr. Freyer and Nina Kulacki, MBA, who direct the program, look forward to continuing these efforts. PrIMER thanks the Environmental Health Sciences department and faculty for their continued support to inspire minority undergraduates to pursue careers in environmental health.

PrIMER STUDENTS



Bethlehem Hailu, Kaila Boyer, Charlene Redhead, and Michael Migliaro



Lizbeth Gomez, Bethlehem Hailu, Kaila Boyer, Charlene Redhead, Michael Migliaro, and Nina Kulacki

Dear EHS Family,

We've had a busy fall, and we'd like to thank everyone who has taken part in our events so far. We hope you enjoyed them and met some new friends in the process! This semester, we aimed to continue SEA's goal of promoting sustainability both on and off the CUMC campus, while also including more social and networking opportunities.

We started off the school year with our annual orientation trip to the New York Botanical Garden to see the Brazilian Modern: The Living Art of Roberto Burle Marx exhibit. This semester, SEA has successfully continued a composting pilot program on the EHS floor in ARB with the generous help of SEA members. Four composting receptacles are placed at multiple locations on the 11th floor. We are also collecting data with the goal of compelling the administration to instate campus-wide composting collection, given the large amount of organic waste produced in this setting. So far this semester we have saved over 86 pounds of organic waste from going into landfills. We thank the department for its support! In late-October, we hosted a wellness week event that allowed members the opportunity to repurpose used containers and plant a succulent clipping that will hopefully have the chance to grow and provide a little greenery during the chilly and dark winter season! Finally, we held our semesterly SEA of Thoughts event on Environmental Work in the Current Political Climate. This was an opportunity for members to hear from and talk to Dr. Lewis Ziska and Michael Musso, both experts in their respective fields who have worked with the current administration.

It's been a pleasure serving as SEA's Executive Board and we thank you all for your continued support. For spring, we welcome the new SEA Board (2019):

President: Victoria Bortfeld

VP of Events/Outreach: Valeria Mazzanti

VP of Communications: Saoimanu Sope

VP of Finance: Haley Campbell

Congratulations to the Class of 2021's SEA Executive Board, and we look forward to seeing you all at future SEA events!

Victoria Sanders, Katy Coomes, Maxine Coady, Dennis Khodas

The Executive Board of Students for Environmental Action

Facebook: facebook.com/sea.columbia.publichealth

Engage: <https://mailman-columbia.campuslabs.com/engage/organization/students-for-environmental-action>



MEMORIES

FALL FACULTY-SPONSORED SOCIAL



12TH ANNUAL CHILI COOK-OFF

Congratulations to our winners!

Meat Chili: Mike He (PhD)

Veggie Chili: Norman Kleiman (Faculty)

Cornbread: Katie Gao and Krish Bhatt (2nd year Master's)

Dessert: Ahlam Abuawad and Maya Spaur (PhD) and
Jamie Ponmattam, Kunsorya Chhea, and Grace Chao (1st year Masters)





EHS students and staff prepare to participate in the 2019 Climate Strike

EHS Doctoral Students Yanelli Nunez, Lizzy Gibson, Mike He, and Sebastian Rowland at the wedding of fellow student Sarah Kramer in Hilton Head Island, SC.

