



Fall Newsletter 2017

 **COLUMBIA** | **MAILMAN SCHOOL**
UNIVERSITY | **of PUBLIC HEALTH**

ENVIRONMENTAL HEALTH SCIENCES

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Letter from the Chair

Fall 2017

Dear EHS Students, Faculty, Staff and Friends of the Department,

As I write this, I find it's natural to think about our academic semesters reflective of actual seasons: fall is a season of change (shifting weather, colorful leaves, and warmer drinks), while springtime brings growth and rebirth (new seedlings, baby animals, and high hopes for a strong baseball team). With change comes growth, and in turn new growth brings new change; a positive feedback cycle I see for our EHS family on all levels. The season of change is upon us as we ramp up efforts academically, refocus our research and administrative efforts, and welcome new team members.

We have two wonderful new additions to the faculty this semester. Micaela Martinez, an infectious disease ecologist, from Princeton University joined the Climate and Health Program in September. Brandon Pearson is a neuroscientist from the German Center for Neurodegenerative Diseases (DZNE) at the Helmholtz Association, who joined EHS at the start of November. I encourage everyone in our department to introduce yourselves and welcome Micaela and Brandon to the EHS family in the coming weeks.

For our academic curriculum changes to spur spring growth, we have several new exciting classes that will be taught in the spring semester. I am thrilled to get back in the classroom by teaching my *Public Health Epigenetics* class, which will introduce you to the fast-growing field of epigenetics and increasing applications to public health. The course will focus on biological mechanisms, laboratory methods, and data analysis of DNA methylation, histone modification, and non-coding RNAs, as well as emerging tools in the field. Dr. Diane Re will instruct *Basics of Toxicology for Health-related Disciplines*, a class geared towards introducing toxicology concepts, including routes of exposure and impact on organ system function, to those with a variety of educational backgrounds. Dr. Madeleine Thomson will teach *Climate Information for Public Health Action* in which students will learn how to use climate data and information to make data-driven decisions related to public health. Dr. Yasmin von Schirnding has extensive experience working for the World Health Organization in both Geneva and NYC, and will teach *Sustainable Development and Global Health* to introduce environmental health issues in the context of sustainability by using conceptual frameworks to understand how intersectoral action impacts environmental policy. Students, feel free to reach out to course instructors to learn more about these upcoming classes. We hope to see lots of familiar faces!

I wish everyone continued success this semester and I encourage each of us to think about change this fall to grow even stronger as an EHS family in research and education in the spring.

Sincerely,

Andrea Baccarelli



Grants

Joe Graziano, PhD received the NIH Superfund Renewal “Health Effects and Geochemistry of Arsenic”, and was also awarded a subcontract from Penn State University NIH grant entitled, “Manganese-Related Neurotoxicity in Asymptomatic Welders”.

Marianthi Kioumourtzoglou, PhD was awarded funding from the Center for Environmental Health in Northern Manhattan: Administrative Supplement to support a new collaboration between the NIEHS-funded Environmental Health Sciences Core Centers of the Icahn School of Medicine at Mount Sinai and the Columbia University Mailman School of Public Health.

Deliang Tang, PhD and **Frederica Perera, PhD** recently received a grant from the Schmidt Family Foundation to fund their study, “Air Pollution and Environmental Health in Taiyuan, China”.

Awards

Congratulations to **Joe Graziano, PhD** who received the Mid-Atlantic Society of Toxicology (MASOT) 2017 Ambassador Award in October. This award is given annually to an exceptional individual for advancing the understanding of the science of toxicology on a national and international level. Dr. Graziano was also appointed to the NYS Drinking Water Quality Council by New York State Governor, Andrew Cuomo. This 12-member council, which includes the commissioners of the NYS DOH, DEP and DEC, will help safeguard New York’s drinking water supply. As part of Governor Cuomo’s \$2.5 Billion legislation to invest in Clean Water Infrastructure and Water Quality Protection, Dr. Graziano will bring his expertise to help ensure that all communities across the state have established Maximum Contaminant Levels for PFOA, PFOS, and 1,4-dioxane, which are pervasive unregulated groundwater contaminants. The state Drinking Water Quality Council held its first public meeting October 2nd at SUNY Stony Brook. One of their main priorities was to examine the carcinogen 1,4-dioxane, and to make recommendations to the health commissioner as to safe levels in drinking water.





Sen Pei, PhD and **Jeff Shaman, PhD** published “Counteracting structural errors in ensemble forecast of influenza outbreaks” in *Nature Communications* online on Oct. 13th. In this study, the authors inspected the nonlinear error growth pattern in a flu transmission model and developed a new forecast approach by combining dynamical error correction with statistical filtering techniques. The overall forecast accuracy for influenza spread was found to substantially improve in retrospective forecasts of historical outbreaks for 95 U.S. cities from 2003 to 2014. The link to the paper can be found at: <http://rdcu.be/wlvh>

Annie Nigra, PhD Candidate, Tiffany Sanchez, PhD & Post-doc, Ana Navas-Acien, PhD, and **Joseph Graziano, PhD** published a paper with co-authors in *The Lancet Public Health* titled “The Effect of the Environmental Protection Agency maximum contaminant level on arsenic exposure in the USA from 2003 to 2014: an analysis of the National Health and Nutrition Examination Survey (NHANES).” Following a reduction in the EPA’s maximum contaminant level for arsenic in public water systems (from 50 to 10 µg/L), urine arsenic concentrations likely due to drinking water decreased from 2003-2014 by 17% among Americans using public water systems (but did not change for private well users, who are not subject to the EPA regulation). Using EPA risk assessment approaches, researchers estimated that these exposure reductions correspond to an avoidance of 200-900 cases of lung and bladder cancer annually. The paper and accompanying editorial can be found at [www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(17\)30195-0/fulltext](http://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(17)30195-0/fulltext)



Mike He, PhD Candidate in the Climate and Health Program, presented a poster at the 29th Annual Scientific Conference of the International Society of Environmental Epidemiology (ISEE) in Sydney, Australia in September. The poster, titled "Short-Term versus Intermediate-Term Exposure to NO₂ and Mortality: A Multi-County Analysis in China", investigates the association between daily and monthly exposure to nitrogen dioxide (NO₂) and mortality in 42 counties in China. The study found that exposure to NO₂ increased both all-cause and cause-specific (cardiovascular and respiratory) mortality, and that the effect estimates were more pronounced in females than in males.

Adriana Garcia, 2nd year MPH, was recently elected as a Student Liaison for the Environment Section by members of the American Public Health Association (APHA). She also received Mailman's REAL Fund, as well as APHA's "Annual Meeting Student Scholarship" and "Climate Changes Health Scholarship" to attend the APHA national conference in November.

Rachel Locke and **Adriana Garcia**, 2nd Year MPH students, attended this year's American Public Health Association Annual Conference in Atlanta, Georgia. This year's theme was Climate Change and Health— many exciting sessions that were offered. Topics included climate justice, sustainable food systems, health disparities, emergency preparedness, vulnerable populations and climate change, and much more. One of the highlights of Rachel and Adriana's APHA experience was meeting former EPA Administrator Gina McCarthy, who was gracious enough to take a picture with them! Former Administrator McCarthy was presented with the Homer N. Calver Award at the Rebecca A. Head Environment Section Luncheon, and was also the featured speaker on a session about the future of environmental health.





Micaela Martinez, PhD is an infectious disease ecologist who joined Mailman's EHS Department this September as an Assistant Professor. She earned her PhD in Ecology & Evolution in 2015 from the University of Michigan, after which she spent several years at Princeton University as a post-doc. Her primary focus is understanding the drivers that shape seasonality in infectious disease systems, with particular interest in the impact of biological rhythms (i.e., circadian and circannual rhythms) on disease. Currently, her projects aim to inform vaccination policy by revealing how demographic, physiological, and environmental factors intersect in epidemic-prone disease systems, including poliomyelitis, measles, and chickenpox.



Dr. Martinez also conducts research on maternal immunity in infants and is building a statistical inference pipeline for studying vaccine modes of action. She utilizes cutting-edge statistical inference techniques and mathematical models to couple disease incidence data with clinical data to gain insight into the transmission dynamics of disease. Most recently, *The Atlantic* published a discussion and debate of her work calling for a National Vector Surveillance System. She also published a paper in *PLoS Biology* proposing that the risk of congenital Zika infection can be reduced by taking advantage of a window of opportunity for conception that will align sensitive periods of gestation with the low-transmission season.

Dr. Martinez says she is delighted to join the faculty at EHS; and outside of science, what she loves most about living in New York City is the hip-hop music scene.



Brandon Pearson, PhD is a new Assistant Professor in the Department with a diverse background. Dr. Pearson's early research experience was in ecotoxicology and regulatory compliance at Los Alamos National Laboratory, but his interests later shifted towards neuroscience and the biology of behavior. He studied stress physiology in monkeys and rodents before undertaking dissertation research on the genetics and physiology of neuropsychiatric and neurodevelopmental diseases.

Dr. Pearson completed a postdoctoral fellowship to obtain molecular and cell biology expertise at UNC-Chapel Hill, where he worked on unraveling basic gene transcriptional disruptions in neurodevelopmental diseases. He implemented an innovative pesticide screening study in brain cells that identified overlapping gene transcriptional signatures concordant with the autism brain and across aging and neurodevelopmental diseases. Brandon completed a second postdoctoral position at the German Center for Neurodegenerative Diseases, where he contributed to an enhanced understanding of the mechanisms of germline epigenetic inheritance as well as brain aging and neurodegeneration. Brandon draws on his background in behavior and neuroscience to design valid and sensitive rodent studies, complemented by cellular models and modern molecular approaches with the goal of understanding the causes and mechanisms of complex disease.

Brandon is building a research program to rapidly advance the field of neurotoxicology in the context of neurological, reproductive and other diseases affected by environmental exposures. He is developing high-throughput strategies to identify the role of environmental exposures on what is otherwise considered to be spontaneous or de-novo gene variants. Finally, Brandon is eager to establish collaborative strategies to bi-directionally translate promising basic science findings to human samples, and to use the innovative epidemiological data in the department to inform novel pre-clinical investigations.





Kathleen Anne Crowley, PA-C, '91MSPH, '13MSPH is Associate Vice President, Environmental Health and Safety for Columbia University. She holds both an MPH and a DrPH from Columbia University Mailman School of Public Health (MSPH) in the Environmental Health Sciences Department. Dr. Crowley was recently awarded Columbia University's highest Alumni Medal Award, where alumni are recognized for building Columbia's community—whether regionally, online, in specific schools, or in cross-campus initiatives. Alumni Medalists are honored each fall at the Columbia Alumni Association (CAA) Leaders Assembly Gala on October 8, 2017. The Alumni Medal, first awarded in 1933, recognizes alumni for distinguished service of 10 years or more to the University—including its schools, alumni associations, regional Columbia Clubs, and University-wide initiatives.



Since 2005, Dr. Crowley has served as an active member of the Mailman School of Public Health Alumni Board of Directors, and is the immediate past president (2013-2016). She is also a member of the MSPH *Governance Committee* which includes selection of the annual *Allan Rosenfield Alumni Award* and the *Outstanding Recent Alumni Award*. Dr. Crowley is the founding editor of the *e-Mailman*, the Newsletter of the MSPH Alumni Association. Other MSPH activities she is actively involved with include: student mentorship, fostering alumni relations, fundraising for the Scholarship Fund for Public Health Students, Admitted Students Day (NYC) presenter, Closing Commencement Speaker, Alumni Summit Moderator and a MSPH CEPH (Council on Education for Public Health) Reaccreditation Steering Committee member. She is proud to be a member of the CAA (Columbia Alumni Association) Women's Leadership Advisory Group, co-chair of the University's inaugural Women's Conference, *She Opened the Door*, to be held February 2018. She is also an active member of the CAA Strategic Planning Task Force 2023. Dr. Crowley values her education at Columbia University's Mailman School of Public Health and enjoys collaborating with students and Schools across the University.



The recipients of the 2017 Alumni Medal, the highest award bestowed by the Columbia Alumni Association in recognition of distinguished service and commitment to the University.



Casual Conversations: Alumni Edition

Cara Smith, MPH

During my first year as an MPH student I started working with Drs. Darby Jack and Steve Chillrud on the Potential Inhaled Dose, Biking, and Cardiovascular indicators study and haven't stopped. Since graduation, I have been working at Columbia as the Project Manager for the study. It is rather nice being able to work on the study and not have to worry about exams or other assignments. I even discovered this thing called 'free time'. Glorious.

However, my newly found free time quickly disappeared when I became an Adjunct Teacher at Yeshiva University this semester. Currently, I am teaching a 2-credit Introduction to Public Health class to undergraduates. I think it is going well based on the metrics of sleeping students ($n = 0$) and jokes laughed at (100%). Creating lectures takes a fair amount of time, but it is fun! It allows me to revisit topics I haven't focused on since I was in the MPH program. It is an amazing opportunity to teach and introduce students to the great (and best, in my biased opinion) field of Public Health, especially at the undergraduate level. We have had some good discussions in class and it is great to hear students viewpoints. Teaching a broad introductory class is a nice contrast to my more pointed and specific research and I enjoy having both opportunities. I hope to continue teaching next semester as well.





Stephen Lewendowski, PhD Candidate, grew up in the Toledo, Ohio area. He attended West Point, where he majored in Environmental Science and became a U.S. Army officer. Steve later received an SM degree in Environmental Health from Harvard. Steve met his wife Jiwon while attending school at Boston, and they have a three-year old son, Henry and a one-month old daughter, Rosie. In the Climate and Health program, he plans to study how climatic parameters and pollution affect indoor environmental exposures. During his free time, Steve enjoys bike rides and going to playgrounds with his family.

Ahlam Abuawad, PhD Candidate, grew up in Brooklyn, New York and received her B.S. in Biology and B.A. in Chemistry in 2015 from the University at Albany, State University of New York. Throughout her undergraduate studies, Ahlam volunteered as an Emergency Medical Technician (EMT-B) and CPR instructor, while also conducting research in her spare time. Her research centered on the biodistribution of nanoparticles in rat models sparked an interest in public health. Continuing her studies, Ahlam earned a Master's in Public Health (MPH) in 2017 with a concentration in Environmental Health from the University at Albany School of Public Health. During her MPH program, she studied the nutrient transition in Peru due to exposure to a Western diet as well as nutrient and contaminant levels of farmed and wild salmon. At Columbia University, she hopes to expand her knowledge of environmental exposures and related health outcomes in historically underrepresented groups. In her spare time, Ahlam enjoys playing basketball, painting, and yoga.



Doctoral Students



Sebastian Rowland, PhD Candidate, is originally from Rockville, Maryland. He received a B.A. in Biology from University of Pennsylvania in 2012 and a M.S. in Environmental Epidemiology from Harvard University in 2017. Before joining Columbia, Sebastian worked as an agriculture researcher, an LSAT teacher, and an asbestos inspector. Previously, his research involved investigating risk factors of underground natural gas storage facilities and the impact of ozone on mortality. At Columbia, he is interested in using novel epidemiologic and exposure methods to study the relationship between energy systems, climate change, and population health. In his free time Sebastian enjoys playing ping pong, swimming, catching improv shows at the UCB, and exploring NYC.



Tory Lynch, PhD Candidate, is from the Bronx and received her BS in Environmental Biology from Georgetown University. After college, she was a Program Manager at the Afya Foundation, which is a small public health NGO in Yonkers, NY that focuses on disaster relief efforts. She received her MPH in Epidemiology of Microbial Disease from the Yale School of Public Health, where she conducted research focused on

the association between seasonal climatic factors and typhoid fever. At Mailman, she hopes to study how extreme climatic events influence the spread of water-borne infectious diseases. Tory loves to sail, run, and read in her spare time and is thrilled to be back in her hometown.

Doctoral Students



Promiti Dutta is a product manager and data scientist with over 10 years of experience in academic and professional settings. Currently she is a lead data scientist at Aetna. She holds a B.S. in chemical engineering, a master's degree in public health in molecular toxicology and epidemiology, and completed M.S. and doctoral work in electrical engineering from Columbia University. Her current research interest under the guidance of her doctoral thesis advisor, Prof. Ana Navas-Acien, is to determine the environmental feasibility and implications of wireless vehicle-to-vehicle charging for electric vehicles, especially as it pertains to an infrastructureless solution.



Practicum Portraits



Between their first and second years, Mailman students are required to complete a practicum. To find out more about these students and their experiences, we asked them:

Practicum Location

Practicum Organization and/or Mentor

Briefly Describe your Practicum Experience

What was your favorite part of summer?

Adriana Garcia

- New York, New York
- National Center for Disaster Preparedness at Columbia University's Earth Institute
- As a Graduate Research Assistant, I primarily focused on supporting the policy and advocacy arm of the Resilient Children/Resilient Communities Initiative. I also co-wrote grants for post-disaster economic recovery trainings.
- Witnessed the TOTAL solar eclipse in South Carolina!



Alex Schulte

- Orange County, California
- Cardno ChemRisk
- I worked as a Health Scientist Intern for a scientific consulting firm. My main project over the summer was to conduct a health risk assessment comparing electronic cigarettes to conventional cigarettes. I analyzed the current literature in order to determine the different levels of aldehydes produced by these two products. In addition to the primary risk assessment, I performed literature reviews, data analyses, and helped to prepare trial documents for our expert scientist.
- My favorite part about this summer was going to a music festival in Los Angeles, where my life officially peaked as I saw Frank Ocean perform.





Amy Galvan

- New York, New York
- Columbia Center for Children's Environmental Health, Columbia University
- I worked on the Fair Start Study Research team. The study is currently recruiting pregnant women and following up on their children to understand and observe the associations between environmental exposures and health outcomes. I mostly focused on recruitment, which gave me the opportunity to speak to expectant mothers about environmental exposures and the dynamics of the research study. I also helped prepare research participant material for data entry, assisted with the development of questionnaires, and attended weekly team meetings.
- I got the chance to go river water tubing in Texas with my family and friends!



Anita Ampadu

- New York, New York
- Mailman School of Public Health Department of Environmental Health Sciences, Dr. Darby Jack
- I worked with Dr. Jack on the Ghana Randomized Air Pollution and Health Study (GRAPHS). I had the opportunity to contribute to a literature review on the health effects of the indoor air pollution focusing on respiratory and cardiovascular effects, among others. I also worked with the GRAPHS data illustrating maternal PM_{2.5} exposure.
- My favorite thing I did this summer was sightseeing in New York with family.



Cassie Shah

- Tuscon/Nogales, Arizona
- SEAHEC
- I conducted an Environmental Health Survey in an immigrant farmworker community in rural Arizona. The purpose of the practicum was to provide the community with information about their environmental health in an effort to educate and empower them.
- I visited to the Grand Canyon!



Cassie Trickett

- New York, New York
- MSPH Environmental Health Sciences Department
- Dr. Darby Jack / European Institute for Energy Research (EIFER)
- I used available data of air pollution sources in NYC and surrounding areas to research air quality. I also reviewed environmental policies and used policy goals to format air modeling scenarios intended to assess the effectiveness of certain policies in improving air quality in downtown NYC.
- I hiked Clouds Rest in Yosemite, and drove through a minor flash flood!



Chen Feng

- New York, New York
- Mailman School of Public Health Environmental Health Sciences Department, Dr Navas-Acien's lab
- I analyzed data from Strong Heart Family Study (SHFS). I also analyzed the relationship between geometric mean ratio of different food categories and the measured urinary arsenic level of subjects. Drafted the introduction and methodology part of a paper on dietary sources of arsenic.
- The sunshine in Bali Island!



Eva Islam

- New York, New York
- New York City Emergency Management (NYCEM) & Department of Health and Mental Hygiene (DOHMH)
- I completed my first practicum at NYCEM (New York City Emergency Management) where I was a Logistics Planning Intern. I supported the director of Ground Support and the director of Humanitarian Logistics. My tasks comprised of updating emergency plans and playbooks, designing reference guides for activations (i.e. snow storms) and assisting with the development of the City's Credential Verification and Access Coordination Program. I am currently an intern at the Department of Health and Mental Hygiene (DOHMH) where I create static and interactive maps for the GIS center using ArcMap and R studio. I also fulfill geocoding requests, and work with imagery products for maps.
- I visited South Korea.



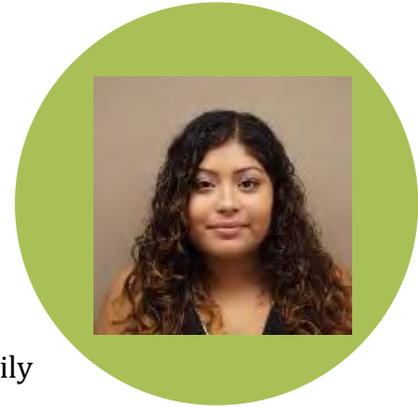
Jamal Lewis

- Baltimore, Maryland
- Green & Healthy Homes Initiative (GHHI)
- I researched the health benefits of energy efficiency. I also worked on a campaign to end childhood lead poisoning. I also had the opportunity to co-present at the Network for Energy, Water and Health in Affordable Buildings annual meeting.
- I spent a week at Disney World, and visited Harry Potter World!



Joseline M. Cruz Vasquez

- New York, New York
- NYU Medical Center (NYC), NYU Environmental Pediatrics Department
- For my practicum I was a research intern at NYU's Children's Health and Environment study (CHES). The purpose of this study is to identify environmental factors which are adversely impacting the health of developing children. To do this the study recruits pregnant women who are asked to provide biospecimens (urine, saliva, blood, etc.), and answer questionnaires. As an intern at NYU's Brooklyn hospital I primarily recruited study participants and administered questionnaires in Spanish. I also collected, processed, and stored biospecimens.
- I visited the Popocatepetl - an active volcano in central Mexico.



Jungen Yi

- New York, New York
- Laboratory of Environmental Precision Biosciences, Columbia University Mailman School of Public Health
- The main objectives of my practicum experience were to develop laboratory skills and techniques in order to run and implement protocols that investigate environmental programming and mechanisms of human disease. Specifically, I worked with a research team to optimize the parameters of an assay that quantified mtDNA lesions via Long-Amplicon Quantitative Polymerase Chain Reaction. During my practicum my responsibilities included working closely with laboratory team members to complete optimization tests and improve the protocol in order to obtain the best results from the assay.
- I met Sutton Foster.



Kayla Farrel

- New York, New York, NYU Langone Medical Center, NYU Department of Environmental Pediatrics
- For my practicum, I interned with NYU's Children's Environmental Health Study (NYU CHES). The purpose of this ongoing research project is to develop a better understanding of the positive and negative effects that environmental exposures during pregnancy may have on children's health and development. I worked in the clinic at Tisch Hospital to assist with recruiting pregnant women into the study, and to collect biospecimen samples from new and returning study participants. My work also involved processing biospecimen samples and helping to create a call center to follow up with study participants regarding incomplete surveys and upcoming clinic visits.
- The best part of my summer was finally seeing Hamilton!



Kyle Colonna

- Philadelphia, Pennsylvania
- University of Pennsylvania Center of Excellence in Environmental Toxicology (CEET)
- I investigated routes of lead exposure and local policy measures to reduce lead exposure within low-income communities of West Philadelphia and Lancaster, PA. I also collected over 500 soil samples at various locations of interest, measured the samples using an x-ray fluorescence (XRF) analyzer, and presented the data to stakeholders using quantum geographic information systems (QGIS). Additionally, I developed and enacted economic feasibility plans in partnership with city health and water departments that assisted those who were not able to afford required and/or suggested remediation efforts to reduce harmful exposure to lead.
- Exploring my home city and the best city in America, Philadelphia.



L. Allyssa Désiré

- New York, New York
- Mailman School of Public Health, Department of Environmental Health Sciences- Columbia Center for Children's Environmental Health, Dr. Julie Herbstman
- Two years ago, the Children's Center conducted a flame retardant intervention study. Over this past summer, I drafted a report, which will be distributed to the participants of the previously mentioned study and will show their individual results. We also collaborated with a health literacy consultant, Dr. Zarcadoolas, to create a report. As I continue my practicum into the school year, I will also evaluate the participants' response to the report through focus groups and surveys.
- I visited Cuba with my two best friends!



Natasha Sood

- New York, New York
- National Center for Disaster Preparedness (NCDP)
- I supported the communications arm of the Resilient Children/Resilient Communities Initiative at NCDP. I developed training materials for the integration of disabilities, access, and functional needs of children into disaster planning. I also worked with my team to initiate the development of a mental health disaster response plan to meet the needs of children in natural disasters.
- I loved exploring Greenwich Village!



Rachel Locke

- Washington, D.C.
- National Association of County and City Health Officials (NACCHO)
- I worked on the Big Cities Health Coalition (BCHC) team at NACCHO on a number of projects. BCHC is a forum for the leaders of America's largest metropolitan health departments to exchange strategies and jointly address issues to promote and protect the health and safety of the 54 million individuals they serve. I managed, updated and contributed to the Big Cities Health Inventory, a database of over 19,000 data points on health indicators for 28 of the largest U.S. cities. Additionally, I produced content and policy pages for issues relevant to Big City Health Coalition health departments (e.g. universal high-quality pre-kindergarten, paid leave, environmental health hazards) and wrote comment documents and sign-on letters for federal policy issues.
- I visited Niagara Falls!



Sam Shangguan

- New York, New York
- National Center for Disaster and Preparedness
- I conducted initial data analysis for the 2010 Deepwater Horizon Oil Spill. I was mainly responsible for determining the data collection from social media regarding the oil spill.
- I went skydiving!



Sonia Dattaray

- New York, New York
- EcoHealth Alliance
- During my practicum, I conducted a literature review on ecosystem health as it relates to human health. I also worked with InVEST Natural Capital software to model future ecosystem degradation as a part of a larger project to predict the prevalence of infectious diseases in South East Asia. The ecosystems and ecosystem services I primarily focused on were tropical forests and the role of carbon sequestration and storage.
- Counting sheep while road tripping through the UK.



Tiffany Zau

- New York, New York
- Urban Green Council
- I worked with the Education Department of the Urban Green Council to develop course content on green building, energy efficiency and sustainability. I also ran data analysis on their events for content tracking purposes.
- I went home to Hong Kong, and also travelled to Hanoi and Osaka, Japan.



Tracey Cao

- New York, New York
- CUMC, Lamont-Doherty Earth Observatory & The Earth Institute - Columbia University
- I worked on a biking project that aims to measure the exposure to air pollutants of people who bike to work, as well as the health impact of these exposures. This is the third year of the 5-year study and as an intern, I collaborated with two other interns to prepare the questionnaires for participants, calibrated and prepared instruments for the participants, and collected data. I am currently finishing an analysis of the temporal variation of pollutants in NYC using the data we have collected so far.
- Had the spiciest food of my life in Guizhou, China!



Travis Wilson

- New York, New York
- Dr. Diane Re
- I spent the summer doing research focused on assessing the influence of environmental toxicants on the induction of ALS. We used animal models and cell cultures to assess potential mechanisms and exposure outcomes.
- I went hiking with my mom when I went back home.



Yang Shen

- Carnegie Mellon University
- Jiangsu Kuaida Nonghua Company Limited, China
- I prepared graphene and its application in dye-sensitized solar cells as a research assistant. By applying graphene film by virtue of good light transmission and excellent electrical properties of the conductor material to solar cells, we can reduce toxic waste caused by producing solar cells.
- My favorite part about my practicum was learning how to operate scanning electron microscope (SEM) and transmission electron microscopy (TEM).



Yiting Luo

- New York, New York
- Mailman School of Public Health, Department of Environmental Health Sciences- Columbia Center for Children's Environmental Health, Dr. Julie Herbstman
- I conducted a literature search and wrote a literature review. I also collaborated with a data analyst to analyze the results.
- I went on a vacation in China.



Meet the 1st Years: MPH



To find out more about our first-year students:

- Hometown
- Certificate
- Favorite Food
- Fun facts!

Alex Moscovitz

- Guilford, CT
- Dual Degree: Urban Planning
- Ramen
- I will try any kind of food you put in front of me.



Alique Berberian

- Los Angeles, CA
- Tacos!
- I enjoy traveling, photography and yoga.



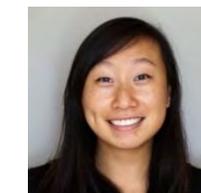
Amelia Grant-Alfieri

- Miami, FL
- Toxicology
- Thai Curry
- Half of my forehead used to a darker shade than the other half.



Angel Weng

- Princeton, NJ
- Climate and Health
- Salmon Sashimi
- I have eaten 75 pieces of salmon sashimi in one sitting.



Charlotte Tsou

- Taipei, Taiwan & Queens, New York
- Infectious Disease Epidemiology
- Green Curry (Thai Food)
- My nickname is Sushi.



Carolyn Booth

- Richmond, Virginia
- Toxicology
- Papaya



Darwin Keung

- An old town called New City
- Undecided
- MACS roll from New City Sushii.
- I'm double jointed in my elbows.

**David Yu**

- New Jersey
- Molecular Epidemiology
- Tonkatsu
- I love to cook!

**Eileen Shea**

- Milwaukee, WI
- Biostatistics
- Pesto
- I have an entire Instagram devoted to books.

**Erica Chung**

- Twin Cities, MN
- Environmental Health Policy
- Oh gosh...how can I even choose? Probably sushi...or a giant pile of roasted vegetables.
- I run a baking and photography blog!

**Erin Kawazu**

- Tokyo, Japan (among other places)
- Climate and Health
- Vietnamese pho noodles
- I'm an avid bookmark collector!

**Eunsuk Chang**

- Seoul, South Korea
- History, Ethics, and Law
- Pizza
- I am a military guy, a flight surgeon of South Korea's Air Force.

**Grant Hartzell**

- Annapolis, Maryland
- Environmental Health Policy
- BBQ
- I once got the Mumps, Malaria, and E. Coli in the same year.



Jarrold Sonett

- Ho-Ho-Kus, NJ
- Biostatistics
- Homemade Chocolate Chip Cookies
- I can hold my breath for 2 minutes.

**Jessica Brown**

- Wayzata, MN
- Global or Climate and Health
- Cheese
- I learned how to downhill ski when I was two years old.

**Justin Collins**

- Sharon, MA
- Undecided
- New Haven Style Pizza
- As a youngin for Halloween, I dressed up as Thomas the Tank Engine for 3 years in row.

**Katherine Baker**

- Milwaukee, WI
- Climate and Health
- Sweet potatoes
- My last name is no joke: I love to bake!

**Lauren Byrne**

- Atlanta, GA
- Molecular Epidemiology
- BBQ Brisket
- I throw pottery on the wheel.

**Lyuou Zhang**

- China
- Environmental Health Policy
- Dry Hot Pot
- I bring a sketch book everywhere to draw.

**Marisa Sobel**

- Gladwyne, PA
- Molecular Epidemiology
- Thanksgiving leftovers sandwich
- I have a degree in Visual Arts, and studied in Florence!



Michelle Gorchynski

- Vancouver, B.C.
- Undecided
- Lasagna
- I once climbed to the top of a mountain, built an igloo, and slept there for 3 nights in the middle of winter.



Peggy Hsieh

- Santa Rosa, CA
- Molecular Epidemiology
- Pad Thai
- I lived in three different countries before my 7th birthday.



Rachel Lamy

- Durham, NH
- Climate and Health
- Froot Loops
- I raised two goats named Trixie and Toffee.



Sarah McLarnan

- Victoria, MN
- Climate and Health
- Potatoes in any form
- I once attempted (failed) to resuscitate a shark.



Siliang Liu

- Beijing
- Environmental HealthPolicy
- Pork ribs
- Soccer fanatic.



Stella Keck

- Cumberland, ME
- Climate and Health
- Everything bagels with jalapeno cream cheese
- I have a twin brother!



Sydney Wolchok

- Armonk, NY
- Climate and Health
- Pizza
- Aaron Sorkin crashed my Thanksgiving one time.



Yaa Klu

- Ghana
- Undecided
- Ampesi (Local Ghanaian dish)
- I think I have a good smile— that could pass for a fun fact, right?



Meet the 1st Years: MS



To find out more about our first-year students:

Hometown
Certificate
Favorite Food
Fun facts!

Arina Wu

- Leaders Ranch, CA
- Sushi
- I'm taking a mixology class so I can be a professional toxic mixer.



Myrna Hanna

- Queens, NY
- Cannolis
- I have an online store for my knitting.



Tess Bloomquist

- Branford, CT
- Dark Chocolate Covered Almonds
- I've performed in the Macy's Thanksgiving Day Parade.



Vincent Tam

- New York City, NY
- I couldn't decide!!!
- I work in a zoo, and one of the best parts is seeing the faces of children light up when they learn something incredible or see an animal that they never imagined possible.





This past summer, the **Program to Inspire Minority Undergraduates in Environmental Health Sciences Research (PrIMER)** hosted its third cohort of students. The NIEHS-funded program provides students who come from backgrounds that are typically underrepresented in STEM fields the opportunity to gain valuable research experience in environmental health sciences. PrIMER students commit to a two-year program beginning the summer before their junior year of college and are paired with a faculty member who serves as an academic and research mentor throughout the program.

This year's PrIMER cohort represented eight juniors and seniors from City College, John Jay College, and Fordham University: Brian Perez, Dezere Gonzalez, Shenika Christopher, Marie Morel, Nelsa Matienzo, Anisia Peters, Lizbeth Gomez, and Michelle Rodriguez. The students worked full-time over the summer on their individual projects with Dr. Julie Herbstman, Dr. Ana Navas-Acien, Dr. Jeffrey Shaman, Dr. Matthew Perzanowski, Dr. Markus Hilpert, Dr. Norman Kleiman, and Dr. Darby Jack. Some of the research topics included: PBDE exposure, pathogens on protective lead garments, and air quality analyses. Students gained valuable skills in study design, laboratory practices, and statistical analysis. The summer research culminated with each student presenting their findings to the EHS community at the PrIMER Research Presentations.

In addition to their projects, PrIMER students participated in weekly professional development seminars in preparation for EHS careers and graduate school applications. As a result, many students have discussed pursuing environmental health graduate programs.

Since the start of the academic year, PrIMER students have continued their research while balancing classes and GRE prep courses provided by the program. With the success of the past three years of the PrIMER program, the Co-Directors of PrIMER, Dr. Joseph Graziano and Dr. Greg Freyer, and PrIMER Program Administrator, Nina Kulacki, hope to continue developing the program to provide high-achieving students with the opportunity to conduct research at Columbia.



Anisia Peters



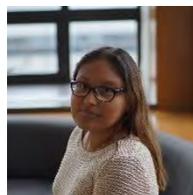
Marie Morel



Brian Perez



Nelsa Matienzo

Michelle
RodriguezDezere
Gonzalez

Lizbeth Gomez

Shenika
Christopher



Dear EHS Family,

The Executive Board of Students for Environmental Action (SEA) thanks you for your participation in our events so far this semester!

We've had a busy fall, and we'd like to thank everyone who has taken part in our events. 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 through outdoor meetups.

We started off the school year with a picnic and a walk around Bronx Botanical Gardens. We look forward to continuing this school year kick-off tradition through the new SEA-Board. Our October Central Park picnic gave us a chance to get outside before it got too chilly, and explore the north end of Central Park. We also took a trip up to Inwood Hill Park to hike through some fall foliage and visit the Inwood Greenmarket to support local farmers.

In October, we gardened at Harlem Grown, one of our favorite community service events. This organization is always open to volunteers, and we hope our recent trip inspires some regulars to help out at 134th Street on the weekends! We'll be making another trip out to this urban gardening center in the spring. This year's Crafternoon was a success. We were all impressed at students' creativity in making Halloween decorations from an assortment of bottle caps, popsicle sticks, pipe cleaners, toilet paper rolls, wine corks, etc.

SEA, along with P&S's Global Health Organization (GHO), recently hosted a screening of Former Vice President Al Gore's *Inconvenient Sequel*. The film continues Al Gore's journey of bringing attention to climate change and inspiring change at the local and international level. Thanks to the EHS Department and the Columbia Business School, Columbia joined over 120 college campuses in the US in showing the full film, followed by a live stream Q&A with Al Gore.

Finally, please stay tuned for our upcoming SEA of Thoughts seminar this December. The theme will be climate change. More details will be posted in the coming weeks. We are also open to forming subcommittees on other sustainability-related initiatives that interest our members, so please feel free to reach out to us via OrgSync or Facebook with any ideas!

It's been a pleasure serving as SEA's Executive Board, and we thank you all for your continued support. Over the next month or so, we will also be welcoming the 2017-2018 SEA-Board:

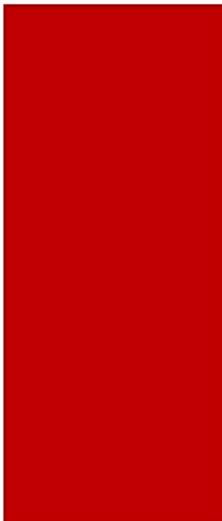
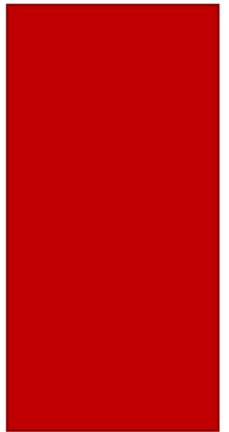
President: Peggy Hsieh
 VP of Events/Outreach: Case Chun
 VP of Communications: Stella Keck
 VP of Finance: Erin Kawazu

Congratulations to the Class of 2019's Executive SEA Board, and we look forward to seeing you all at SEA events in the spring!

Natasha Sood, Adriana Garcia, Kyle Colonna, Cassandra Trickett
The Executive Board of Students for Environmental Action
 Facebook: facebook.com/sea.columbia.publichealth
 OrgSync: orgsync.com/70650/chapter



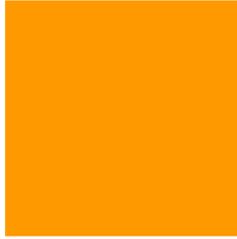
SEA Events



Memories: Chili Cook - Off



Fall Faculty Sponsored Social



10th Annual Chili Cook - Off

