



Frontiers in Environmental Science and Health

June 4-9, 2023

Morehouse School of Medicine

June 5th Course Introduction

- 4:45-5:15 pm **Welcome Remarks and Course Overview (at Renaissance Midtown Hotel)**
Winston Thompson, Ph.D. Morehouse School of Medicine, Charles Easley, Ph.D. The University of Georgia
- 5:15-6:00 pm Dinner (provided)
- 6:00-6:45 pm **Lecture/Group Participation: Health Disparities, Diversity and Inclusiveness Training**
Grace Bagwell Adams, Ph.D. The University of Georgia
- 6:45-7:30 pm **Lecture: Responsible Conduct in Research and Scientific Ethics**
Charles Easley, Ph.D. The University of Georgia
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June 6th Impacts of the Global Pandemic on Human Exposures to Environmental Toxicants

- 9:00-9:30 **Lecture: Development and Deployment of COVID-19 Vaccines to the Most Vulnerable Populations**, Mark Tompkins, Ph.D. The University of Georgia
- 9:30-10:00 **Lecture: Racial Disparities in Air Pollution Burden and COVID-19 Deaths in Louisiana**, Kimberly Terrell, Ph.D. Tulane University
- 10:00-10:15 Coffee break
- 10:15-10:45 **Lecture: Concerns regarding exacerbated COVID-19 health effects due to exposure to Common drinking water pollutants**, Natalia Quinete, Ph.D. Florida International University
- 10:45 -11:15 **Lecture: Impact of alcohol abuse on lung function and susceptibility to SARS-CoV-2 infection**, Michael Koval, Ph.D. Emory University
- 11:15 -11:45 **Lecture: Utilizing the Exposome to Address Gene - Environment Interactions in Human Disease**, Gary Miller, Ph.D. Columbia University
- 11:45 -12:30 Lunch (provided)
- 12:30-1:00 **Lab Pre-Lecture:** Michael Koval and Kristen Easley
- 1:00-6:00 **Lab Session:** Measuring the synergistic effects of alcohol and other agents on lung epithelial barrier function
- 6:00 Dinner on own

June 7th Air Pollution Impacts on Human Health

- 9:00-9:30 **Lecture:** *Household Air Pollution Intervention Network (HAPIN): How Household Air Pollution Impacts Human Health*, Luke Naeher, Ph.D. University of Georgia
- 9:30-10:00 **Lecture:** *Public Health and Climate Impacts of Smoke*, Rawad Saleh, Ph.D. The University of Georgia
- 10:00-10:30 Coffee break
- 10:30-11:00 **Lecture:** *A Community-integrated Geographic Information System Study of Air Pollution Exposure Impacts in Colfax, LA*, Jennifer Richmond-Bryant, Ph.D. North Carolina State University
- 11:00-11:30 **Lecture:** *Air Pollution and Cancer in Louisiana*, Gianna St. Julien, Tulane University
- 11:30-12:00 **Lecture:** *Childhood Exposure and Development Risks in the PROTECT Cohort in Puerto Rico*, José Cordero, MD University of Georgia
- 12:00 -12:30 Lunch (provided)
- 12:30-1:00 **Lab Pre-Lecture:** Rawad and Omer, controlled burns, collection on filters, and run through of lab
- 1:00-6:00 **Lab Session 1:** isolate chemicals from filters, dissolve in DMSO/water
Lab Session 2: assessing products from controlled combustion experiments on air-liquid interface cultures of human lung epithelial cells (treating cells overnight)
Lab Session 3: Go to Emory for Mass Spectrometry Tour with Dean Jones and Zack Jerrell
- 6:00 Dinner on own

June 8th Ubiquitous and Persistent Pollutants and Their Impacts on Human Health

- 9:00-9:30 **Lecture:** *Water quality and human health*, Ethell Vereen, Ph.D. Morehouse
- 9:30-10:00 **Lecture:** *Screening for emerging per-and polyfluoroalkyl substances (PFAS) in tap and surface waters from South Florida: Should we be concerned?* Natalia Quinete, Ph.D. Florida International University
- 10:00-10:30 Coffee break
- 10:30-11:00 **Lecture:** *Use of High-resolution Metabolomics for the Identification of Metabolic Signals Associated with Ubiquitous Pollutants*, Dean Jones, Ph.D. Emory University
- 11:00-11:30 **Lecture:** *Modeling PFAS-Mediated Changes to the Sperm Epigenome using an in vitro Model of Human Spermatogenesis*, Katherine Greeson, Ph.D. University of Georgia

- 11:30-12:30 Lunch (provided)
- 12:30-1:00 **Lab 1 Pre-Lecture:** Measuring DNA Methylation Changes in Male Germline Cells Exposed to PFAS Chemicals- Katherine Greeson
- 1:00-1:30 **Lab 2 Pre-Lecture:** Toxicity Testing of Lung Cells Exposed to Combustion Extract -Charles Easley and Elizabeth Waters
- 1:30-6:00 **Lab Session 1:** impacts of complex mixtures of PFAS or flame retardants and their impacts on DNA methylation
Lab Session 2: toxicity testing for June 7th samples and collect culture medium for metabolomics
- 6:00 Dinner on own

June 9th Water Pollution Impacts on Human Health:

- 9:00-9:30 **Lecture:** *Pesticide Exposures and their Impacts on Reproductive System Development*, Tyrone Hayes, Ph.D. University of California Berkeley
- 9:30-10:00 **Virtual Lecture:** *Understanding Lead in Water and Avoidance Strategies: A United States Perspective for Informed Decision-Making*, Adrienne Katner, DEnv LSU
- 10:00-10:30 **Lecture:** Phthalate regulation of steroidogenic function in the male gonad, Benson Akingbemi, DVM, PhD, Auburn University
- 10:30-10:45 Coffee break
- 10:45-11:15 **Lecture:** *Could've, should've, would've: Reframing the causes and consequences of the water crisis in Flint*, Jerel Ezell, Ph.D. Cornell University
- 11:15-11:45 **Lecture:** *Wastewater surveillance for SARS-CoV-2*, Leah Lariscy, The University of Georgia
- 11:45 -12:30 Lunch (provided)
- 12:30-1:00 **Lab 1 Pre-Lecture:** Leah Lariscy, qPCR for SARS-CoV-2 capsid proteins in wastewater
- 1:00-3:00 **Lab Session 1:** qPCR for SARS-CoV-2 capsid proteins in wastewater samples

Evening Session at Renaissance Midtown Hotel

- 5:00-6:30 **Panel Discussion:** *Career planning and strategies for careers in Environmental Health Science, Mentorship Guidance in Career Development.* Winston Thompson, Morehouse School of Medicine, Yvonne Maddox, President and CEO TA Thornton Foundation, Gerald Schatten, University of Pittsburgh, and Charles Easley, University of Georgia
- 6:30 pm **Keynote Address:** *Racial/Ethnic Disparities in Environmental Chemical Exposures and Women's Reproductive Health*, Tamarra James-Todd, Ph.D. Harvard University

7:00-9:00 pm *Closing Ceremony* Dinner (provided)

Certificate of Participation: Winston Thompson, PhD - Morehouse School of Medicine,
Gerald Schatten, PhD - University of Pittsburgh, and Charles Easley, PhD - University of
Georgia

June 10th ***Depart***



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