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Sustainability Seminar Series

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Mar 27th, 3:45 PM - 5:00 PM

## From Space to the Streets: Leveraging Satellite Data for Air Pollution, Health, and Justice

Gaige Kerr

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**MONTCLAIR STATE  
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The Doctoral Program in Environmental Science & Management  
and MSU Sustainability Seminar Series Present:

## **From Space to the Streets: Leveraging Satellite Data for Air Pollution, Health, and Justice**

WHEN: March 27, 3:45 pm : WHERE: CELS 120

**Dr. Gaige Kerr**

**Department of Environmental and Occupational Health,  
George Washington University**



Dr. Gaige Kerr is a research scientist in the Department of Environmental and Occupational Health in the Milken Institute School of Public Health at George Washington University. He received his BSc with honors in Atmospheric Science from Cornell University and his MA and PhD in Earth and Planetary Sciences from Johns Hopkins University. Dr. Kerr researches ambient air pollution, and projects he has led span topics ranging from understanding the emission sources of pollution to assessing the health impacts experienced by the populations pollution impacts, with a special emphasis on understanding associated ethnoracial and socioeconomic disparities. He currently serves on several boards and committees for the American Meteorological Society and previously was an Air Quality Fellow for the U.S Department of State's Greening Diplomacy Initiative.

Ambient air disproportionately affects marginalized and minoritized communities in the United States. Satellite remote sensing provides crucial data needed to assess air pollution at a high spatial resolution and further understand the drivers, extent, and impacts of this form of environmental injustice. I provide a few vignettes to highlight how recent advances in remote sensing can inform and improve our understanding of environment health. First, satellite measurements and datasets that incorporate satellite data demonstrate the inequitable distribution of traffic-related pollutants such as nitrogen dioxide and fine particulate matter and how disparities have changed during recent years, including during the COVID-19 pandemic. Second, I use satellite measurements to understand the disparate siting of sources of these pollutants such as highways and warehousing facilities. Finally, I combine satellite-derived pollution levels with epidemiological data to document the burden of disease associated with these traffic-related pollutants and disparities in their impacts.

For more information please contact Mark Chopping at [choppingm@montclair.edu](mailto:choppingm@montclair.edu)