

# Maria D. Castillo

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## EDUCATION

- MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MA** 2021- 2023  
Masters in City Planning, Department of Urban Studies and Planning
- UNIVERSITY OF WISCONSIN - MADISON, MADISON, WI** 2017  
B.S., Environmental Sciences; B.S. (Honors), Environmental Studies
- UNIVERSITY OF VIRGINIA, SEMESTER AT SEA, INSTITUTE FOR SHIPBOARD EDUCATION** Jan – Apr 2015  
Education Abroad: A Voyage Around the World - twelve academic credits in twelve countries in Asia, Africa and Europe

## PROFESSIONAL AND RESEARCH EXPERIENCE

**ENVIRONMENTAL SOLUTIONS INITIATIVE, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, BOSTON, MA** Feb 2021 – Jun 2021

**Research Assistant, Nature Based Solutions Program**

- Transcribe and analyze qualitative data from interviews to community leaders in the Colombian Amazon and Pacific regions
- Support the lead investigator and staff in research translation through the preparation of project deliverables and communication materials such as presentations and reports

**MILKEN INSTITUTE SCHOOL OF PUBLIC HEALTH, GEORGE WASHINGTON UNIVERSITY, WASHINGTON, D.C.** Jul 2019–Jun 2021

**Research Associate, Department of Environmental and Occupational Health, Anenberg Research Group**

- Assess the health impacts of PM<sub>2.5</sub> air pollution at the neighborhood scale in Washington DC using satellite-derived pollution estimates through data mining, analysis and visualization; communicated results via posters and a manuscript
- Collaborate with group members and international partners on a literature review on the health co-benefits of climate change mitigation actions, as well as with DC partners to assess health co-benefits of urban sustainability initiatives

**BOSTON UNIVERSITY SCHOOL OF PUBLIC HEALTH, BOSTON, MA**

*Oct 2017 – Aug 2019*

**Research Assistant, Department of Environmental Health, Kinney Research Group**

- Support a NASA Health and Air Quality Applied Sciences Team (HAQAST) study. Manage communications between project investigators, stakeholders, and the public at large; record keeping, scheduling, and shipping of materials.
- Deploy and retrieve a novel low-cost passive sampler that measures long-term average concentrations of PM; manage, process and analyze data from the analytical lab, and compare with EPA Federal Reference and Equivalent Methods.

**NELSON INSTITUTE FOR ENVIRONMENTAL STUDIES, UNIVERSITY OF WISCONSIN-MADISON, MADISON, WI** Jan – Aug 2017

**Undergraduate Research Assistant, Holloway Research Group**

- Independent work on satellite data analysis using NCAR Command Language (NCL) and NASA open source tools.
- Characterize spatial patterns and temporal variability in monitored air pollutants across Colombia through data analysis, literature review, consultation with experts, as well as peer collaboration with undergraduates and senior researchers.

**OFFICE OF SUSTAINABILITY, UNIVERSITY OF WISCONSIN - MADISON, MADISON, WI**

*May 2016 – Jan 2017*

**Student Intern**

- Co-led Moving Days 2016 strengthening on- and off-campus partnerships and strategic communications to rehome unwanted items, leading to a week-long event that served 2,260 people and diverted 9,500 pounds from the landfill.
- Maintained thorough documentation on metrics and partnerships, and contributed to the preparation and delivery of educational materials and presentations to offices on campus on Waste and Recycling and Green Office programs.

## PEER-REVIEWED PUBLICATIONS

**Castillo, M.D., Anenberg, S.C., Chafe, Z.A., Huxley, R., Johnson, L.S., Kheirbek, I., Malik, M., Marshal, J.D., Naidoo, S., Nelson, M.L., Pendleton, N.V., Sun, Y., van den Broek d'Obrenan, H., Kinney, P.L.**

*Quantifying the health benefits of urban climate mitigation actions: Current state of the epidemiological evidence and application in health impact assessments (Submitted to Frontiers in Sustainable Cities Health and Cities)*

**Castillo, M.D., Kinney, P. L., Southerland, V., Arno, C.A., Crawford, K., van Donkelaar, A., Hammer, M.S., Martin R. A., Anenberg, S. C., 2021.**

*Estimating intra-urban inequities in PM<sub>2.5</sub>-attributable health impacts: A case study for Washington, DC. (Submitted to GeoHealth)* <https://doi.org/10.1002/essoar.10506837.1>

**Castillo, M.D., Wagner, J., Casuccio, G.S., West, R.R., Freedman, F.R., Eisl, H.M., Wang, Z.-M., Yip, J.P., Kinney, P.L., 2019.**

*Field testing a low-cost passive aerosol sampler for long-term measurement of ambient PM<sub>2.5</sub> concentrations and particle composition. Atmos. Environ. 216, 116905.* <https://doi.org/10.1016/j.atmosenv.2019.116905>

## OTHER PUBLICATIONS

**Caroline White-Nockleby, Benjamin Villa, Maria Daniela Castillo, Luis Gilberto Murillo-Urrutia, Marcela Angel, Juan Camilo Osorio.** *Advancing the Land Rights of Afro-Colombian Communities: A Qualitative Evaluation of Efforts to Implement Colombia's Law 70 of 1993. White Paper Series.* <https://environmentalsolutions.mit.edu/publications/>

## POSTER AND ORAL PRESENTATIONS

**American Geophysical Union - Fall Meeting, San Francisco, USA (Dec 2020)**

*Estimating neighborhood-scale health impacts and inequalities attributable to fine particulate matter air pollution in Washington, DC.*

Maria Castillo, Veronica Southerland, Randall Martin, Aaron van Donkelaar, Susan Anenberg

**International Society of Environmental Epidemiology, Washington DC, USA (Aug 2020)**

*Using satellite remote sensing to estimate intra-urban disparities in air pollution health impacts: Case study for the nation's capital city*

Maria D. Castillo, Susan C. Anenberg

**Colombian Air Quality and Public Health Conference (CASAP), Barranquilla, Colombia (Aug 2019)**

*Potential use of a low-cost passive aerosol sampler for long-term measurements of PM<sub>2.5</sub> in Colombia, Oral*

Maria D. Castillo, Patrick L. Kinney

**Air Sensors International Conference, Oakland, USA (Sep 2018)**

*Field testing a low-cost passive aerosol sampler for long-term measurements of PM<sub>2.5</sub> (preliminary results),*

Maria D. Castillo, Jeff Wagner, Gary S. Cassuccio, Roger R. West, Frank R. Freedman, Holger M. Eisl, Patrick L. Kinney

**NASA Health and Air Quality Applied Sciences Team (HAQAST) Meeting, Madison, USA (Jul 2018)**

*HAQAST High Resolution Tiger Team: UNC Passive Aerosol Samplers,*

Maria D. Castillo, Patrick L. Kinney

**International Conference on Transport and Health, Mackinac Island, USA (Jun 2018)**

*Field testing a low-cost passive aerosol sampler for long-term measurements of PM<sub>2.5</sub>, Oral*

Maria D. Castillo, Patrick L. Kinney

**Colombian Air Quality and Public Health Conference (CASAP), Cali, Colombia (Sep 2017)**

*Identifying spatial patterns and temporal variability of NO<sub>2</sub> over Colombia from satellite observations,*

Maria D. Castillo, Tracey A. Holloway

**CO-AUTHORED POSTER AND ORAL PRESENTATIONS**

**International Society of Environmental Epidemiology, Washington DC, USA (Aug 2020)**

*Nature and Well-Being: Estimating the Effects of Exposure to Green Space on Health Disparities across Washington, DC*

Margaret Nelson, Veronica Southerland, Maria Castillo, Susan Anenberg

**American Geophysical Union - Fall Meeting, San Francisco, USA (Dec 2019)**

*2017 Northern California Wildfires – A NASA Health and Air Quality Applied Sciences Team (HAQAST) Tiger Team,*

Susan O’Neill, Minghui Diao, Sean M Raffuse, Saffet Tanrikulu, Steve Reid, Yiqin Jia, Daniel Tong, Frank Freedman, Mohammad Z. Al-Hamdan, J. Jason West, Patrick Kinney, Muhammad Barik, Akula Venkatram, Daegan Miller, Joseph L. Wilkins, Mehmet Talat Odman, Yufei Zou, Marlin Enid Martinez, Elena Becerril, Maria Castillo, Naraismhan K Larkin, Gina Wing, Ernesto Alvarado, Tracey Holloway, Stephanie Cleland, Peter W Lahm, Mark Fitch

**American Geophysical Union - Fall Meeting, Washington DC, USA (Dec 2018)**

*Developing High Resolution Particulate Matter Surfaces for use in Community Health Assessments*

Patrick L Kinney, Frank Freedman, Maria D. Castillo, Mohammad Z. Al-Hamdan, Susan Anenberg, Yang Liu

**Integrating urban and transport planning, environment and health for healthier urban living, Sitges, Spain (Nov 2018)**

*High Resolution Data on Community Health Risks from PM<sub>2.5</sub>,*

Patrick L Kinney, Kevin Lane, Maria D. Castillo, Raquel B. Jimenez, Yang Liu

**IPCC Cities & Climate Change Science Conference, Edmonton, Canada (Mar 2018)**

*Citizen Science to understanding Climate Change; scientific-based evidence for decision making in Latin America,*

Palmira Cuellar, Maria D. Castillo

**INVITED PRESENTATIONS**

**Retos de calidad del aire en la reconstrucción urbana en América Latina post-pandemia, Panelist, UniAndes (Aug 2021)**

**Panel de divulgación sobre legislación ambiental y gobernanza del aire, Panelist, MeCAB (Jul 2021)**

**Cambio Climático: Causas y Actores, Guest Speaker, Asociación Despierta Honduras & USAID (Jan 2021)**

**Calidad de Aire y Crisis Climática: Puntos de Encuentro, Panelist, Curso Nuevos Aires - Red Nacional Aire (Nov 2020)**

**Climate Change Mitigation, Panelist, The Resolution Project’s Resolve Gala: A Virtual Journey to Impact (Oct 2020)**

**Public Transit and Air Quality: Stories from Colombia, Interviewer, Atmospheric Tales Podcast (July 2020)**

**The Climate Project: Your Role, Your Impact, Documentary Interviewee, NBC10 Boston & Telemundo (Apr 2019)**

**FELLOWSHIPS AND GRANTS**

**The UnSchool Fellowship, UnSchool, Kuching, Malaysia (2019)**

**Wisconsin Idea Undergraduate Fellowship, Morgridge Center for Public Service, UW-Madison, \$5,000 (2016, 2017)**

**Global Stewards Sustainability Prize, First Place, Wisconsin Energy Sustainability Challenge, UW-Madison, \$5,000 (2016)**

**Dvorak Energy Prize, Second Place, Wisconsin Energy Sustainability Challenge, UW-Madison, \$1,500 (2016)**

**Wisconsin Open Education Community Fellowship, Morgridge Center for Public Service, UW-Madison, \$3,000 (2016)**

**Resolution Project Fellowship, The Resolution Project, Semester at Sea, \$3,000 (2015)**

## HONORS AND AWARDS

**World Bank Group Youth Summit: Smarter Cities for a Resilient Future**, Delegate, *Washington DC, USA* (2019)  
**FutureTalks Arctic Expedition**, Founding Community Youth Delegate, *Oslo and Svalbard, Norway* (2018)  
**Environmental Changemaker Community**, Ecopreneur, Young Champions of the Earth Initiative, *UN Environment* (2018)  
**United Nations Environment Assembly**, Attendee, Latin American and the Caribbean Engagement Mechanism, *Kenya* (2017)  
**One Young World Summit**, Delegate and Audi AG Scholarship Recipient, *Bogotá, Colombia* (2017)  
**Peter Bosscher Award for Achievement in Globally Engaged Service**, *Wisconsin Without Borders, UW-Madison* (2017)  
**Conservation and Sustainability Award**, *Center for Leadership and Involvement, UW-Madison* (2017)  
**United Nations Youth Assembly**, Invited Resolution Project Fellow, *New York City, USA* (2016, 2017)  
**Community Environmental Scholars Program**, Scholar, *Nelson Institute for Environmental Studies, UW-Madison* (2016, 2017)

## COMMUNITY INVOLVEMENT

**The Resolution Project - Fellow Council Member**, The Resolution Project, *USA* Jan 2021 - present

- Working alongside Resolution Staff on identifying strategic goals, measurable objectives and action items to better engage a network of +500 Fellows from +80 countries through community-wide events
- Assist Staff and Board members with communication pieces, Social Venture Challenges and an organization-wide rebranding as part of the Resolution's Rebrand Advisory Team

**Monona Sustainability Committee - UniverCity Alliance Fellow**, City of Monona, WI, *USA* May 2016 – May 2017

- Designed, distributed and reported on an Active Transportation Survey to gather community input on the current environment for active transportation and aid the City in designing projects to influence a healthier living community.

**UpTica - Co-Founder, Outreach and Research Coordinator**, UpTica, *Costa Rica* Mar 2016 – present

- Actively seeking interdisciplinary and multigenerational collaborations. Coordinated the involvement of five student interns and relationships with mentors and funding organizations. Secured \$20,000 of external funding.

## MEMBERSHIPS

**Mesa Ciudadana por la Calidad del Aire de Bogotá**, Member, *Colombia* Jan 2021 – present

**Red Nacional Ciudadana por la Calidad de Aire**, Member, *Colombia* Aug 2019 – present

**Hearts in the Ice**, Social Media Support, *Svalbard* Jan 2019 – present

**Ciclaramanga**, Volunteer and Contributor Author, *Colombia* Dec 2018 – present

**Wisconsin Bike Equity Group**, Member, *USA* May 2016 – May 2017

## SKILLS

**Data processing and analysis:** Basic: ArcGIS, dedoose; Intermediate: Q-GIS, R, Microsoft Office, Health Impact Assessment  
**Communications:** Stakeholder engagement, website and social media maintenance, field work and webinar coordination  
**Languages:** Spanish: Native; English: Professional working proficiency; Portuguese: Limited working proficiency

## ATHLETIC ACHIEVEMENTS - TABLE TENNIS

**Colombian National Champion and National Team Player:** Women's Singles and Teams *U13, U15, U18, U21* (2006 – 2013)  
**International Experience:** Competitions in 15 countries; World Table Tennis Championships (*Rotterdam 2011 & Paris 2013*)  
**Highest International Achievement:** Latin American Championship (U-15) Women's Singles Runner-up (*Buenos Aires 2010*)