M. OMAR NAWAZ, PhD

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RESEARCH

Lecturer in Climate Change Science (Assistant Professor)
March 2025 – Current
Cardiff University, School of Earth and Environmental Sciences, Cardiff, UK

- Co-I for Wellcome Trust Award ($665,000) leveraging remote sensing of methane to estimate the health benefits of reducing oil and gas emissions
- Convener and presenter at the European Geophysical Union 2025 Meeting
- EQUATOR mentor working towards equity in postgraduate geosciences research
- PI for UKRI to investigate secondary air pollution on Isambard3 (75k Node-hrs)

Postdoctoral Research Associate with Dr. Susan C. Anenberg
National Resources Defense Council Health Science Policy Fellow
February 2023 – February 2025
George Washington University, Milken Institute School of Public Health, Department of Environmental and Occupational Health, Washington, DC, USA

- Organized consulting projects ($17,000 total) with the International Council on Clean Transportation to investigate how transportation policy could affect air quality and health
- Led team of researchers to integrate health and equity in climate policy modelling for the National Resources Defense Council as a Health Science Policy Fellow
- Developed multiple satellite-derived (TEMPO and TROPOMI) datasets of surface-level NO_2 including estimates featured in the Global Burden of Disease 2023 study
- Invited speaker at UNEP / EDF workshop in Bogotá, Colombia on clean air strategies to improve public health and advance climate goals

Doctoral Research Assistant with Dr. Daven K. Henze
August 2018 – January 2023
University of Colorado Boulder, Department of Mechanical Engineering, Boulder, CO, USA

- Developed novel method to integrate satellite remote sensing with adjoint modelling to identify air pollution sources, biomass burning impacts, and climate policy co-benefits
- Used adjoint modelling approach to develop reduced form tools: NASA AQACF (NPO-52578-1), the ICCT FATE tool, and the SEI LEAP-IBC tool and for studies by other researchers: Choi et al 2024; Gu et al. 2023a,b

Masters Research Assistant with Dr. J. Jason West
November 2016 – July 2018
University of North Carolina at Chapel Hill, Gillings School of Global Public Health, Department of Environmental Engineering, Chapel Hill, NC, USA

- Developed GIS approach to integrate US CDC county-level disease rates, with remote sensing derived pollution, and population data to estimate air pollution health impacts in the United States (won 1st place student poster award at Climate Change symposium)

GRANTS AND CONTRACTS

Current

2025-2026 **Co-I** ($665,000) Maximizing health benefits from reducing oil and gas emissions: novel approaches to health impact assessment. *Wellcome Trust Award*

2025-2026 **PI** (100k CPU-hrs) Estimating UK surface-level pollution from satellite data using machine-learning and deterministic modeling. *Supercomputing Wales Support*

2026 **PI** (75k Node-hrs) Forward and adjoint modeling of transboundary secondary $PM_{2.5}$ in response to climate mitigation: from health and equity impacts to uncertainties. *UKRI Access to High Performance Computing*.

2024-2027 **Collaborator** ($150,000) Application of satellite observations in estimating NO_2 concentrations, mortality burdens, and inequities. *NASA ROSES FINESST F5*

Pending

2025-2028 **Other Personnel** ($550,000) Societal benefits of TEMPO NO2: Applications for air quality management and environmental justice. *NASA ROSES TEMPO A21*

2026-2028 **Consultant** ($500,000) Estimating 8-hour Maximum Ozone and Related Precursors for Health and Regulatory Applications. *Health Effects Institute 25-1*

Past

2024 **Consultant** ($5,000) Study of Global Maritime Shipping-Attributable Health Impacts by the International Council on Clean Transportation (ICCT)

2023-2025 **Consultant** ($12,000) Study of Global Transportation-Attributable Health Impacts by the International Council on Clean Transportation (ICCT)

Competitive Grants Not Selected for Funding

2024 **PI** ($1,016,525) HEAD-IN: Assessing disaster risk and resilience action benefits associated with compound heat and air quality hazards, exposures, and vulnerabilities. *NASA ROSES A42*

2020 **Future Investigator** ($150,000) Development of a source attribution and data assimilation framework for MAIA primary and secondary target areas in North America and South America. *NASA ROSES FINESST F5*

EDUCATION

PhD in Mechanical Engineering, Air Quality Focus

2018-2023 Department of Mechanical Engineering, University of Colorado Boulder
An adjoint sensitivity framework for public health: the sources of air pollution and their current and future impacts at both the urban and national scale
Committee: Dr. Daven K. Henze (Advisor), Dr. Susan C. Anenberg, Dr. Michael P. Hannigan, Dr. Colleen E. Reid, Dr. Christine Wiedinmyer

MS in Environmental Engineering

2017-2018 Gillings School of Global Public Health, University of North Carolina Chapel Hill
Benefits of reduced premature mortality from decreases in $PM_{2.5}$ and ozone in the United States from 1999 to 2015
Committee: Dr. J. Jason West (Advisor), Dr. Marc Serre, Dr. William Vizuete

BS in Physics, BS in Applied Mathematics, Minor in Astronomy
2013-2017 Department of Physics and Astronomy, University of North Carolina Chapel Hill
2013-2017 Department of Mathematics, University of North Carolina Chapel Hill

TEACHING

2025 Fall — **Module Lead** for **The Ocean-Atmosphere System***
Cardiff University, School of Earth and Environmental Sciences
Course for Year 2 Undergraduate Students

Module Contributor for **GIS, Maps, and Analytical Skills***
Cardiff University, School of Earth and Environmental Sciences
Course for Year 1 Undergraduate Students

2025 Summer — **Assessment Lead** for **Digital Fieldwork Workshop**
Cardiff University, School of Earth and Environmental Sciences
Course for Year 1 Undergraduate Students

2024 Fall — **Professorial Lecturer** for **Global Climate Change & Air Pollution**
George Washington University, Environmental and Occupational Health Department, Milken Institute School of Public Health
Course for Postgraduate Students

2019 Spring — **Lead Teaching Assistant** for **Computational Methods**
University of Colorado Boulder, Department of Mechanical Engineering
Course for Undergraduate Students

2018 Fall — **Teaching Assistant** for **Computational Methods**
University of Colorado Boulder, Department of Mechanical Engineering
Course for Undergraduate Students

**Indicates upcoming teaching for which planning has started*

MENTORSHIP & ADVISING

Doctoral
2024-2024 Soo-Yeon Kim
Advised PhD researcher on NASA FINESST proposal that was funded

Masters
2025 Shivani Gundla
EQUATOR mentee
2023-2024 Erin Campbell; Katie O'Donnell
Led team of researchers to develop a report to advise the NRDC on approaches to integrate health and equity in climate policy modelling

Undergraduate

2025-	Niamh Delamar*; Alice Gittoes-Davies*; Carwyn Jones*; Olivia Pease*
2024	Olivia Paquette
2020-2021	Mohammed Alwakeel

**Indicates dissertation mentee*

HONORS AND FELLOWSHIPS

2024-2025	GeoCAFE Scholar
2023-2024	National Resources Defense Council Health Science Policy Fellowship
2018	Outstanding Mechanical Engineering Research Potential Fellowship
2018	1st place student poster Award, UNC 5th Climate Change Symposium

PROFESSIONAL ASSOCIATIONS

Current

2025-	TOAR-II Health Team
2025-	EQUATOR Mentor
2024-	GeoCAFE Scholar
2024-	American Chemistry Society (ACS)
2024-	Global Burden of Disease Study Collaborator
2023-	European Geophysical Union
2018-	American Geophysical Union

Past

2023-2024	American Meteorological Society

MEDIA COVERAGE

2023	The Global Health Benefits of Going Net Zero
2020	Queimadas na Amazônia aumentam internações

ACADEMIC SERVICE

Ad-Hoc Peer-Review for Journals (31)

Atmospheric Chemistry and Physics: 2024 (1)
Discover Atmospheres: 2025 (1)
Discover Cities: 2024 (1)
Elementa: Science of the Anthropocene: 2021 (1)
Environmental Monitoring & Assessment: 2025 (1)
Environmental Research Letters: 2024 (1), 2025 (1)
Environmental Science Policy Research: 2025 (1)
Environmental Science & Technology: 2023 (1), 2022 (1), 2019 (1)
Environmental Science & Technology Air: 2024 (1)

GeoHealth: 2024 (2), 2023 (1)
Health Data Science: 2024 (1)
Humanities & Social Science Communication: 2025 (1)
International Geoscience and Remote Sensing Symposium: 2024 (6)
Journal of the Air and Waste Management Association: 2019 (1)
Nature Communications: 2025 (1)
Nature Food: 2024 (1)
Nature Health: 2025 (2)
NPJ Clean Air: 2025 (1)
NPJ Climate & Atmospheric Science: 2025 (1)
Lancet Planetary Health: 2021 (1)
PLOS: 2025 (1)
Scientific Reports: 2024 (1)

Ad-Hoc Peer-Review for Proposals (2)
Wellcome Trust Expert Reviewer: 2025 (2)

Department Service

- Member of the Equality Diversity and Inclusivity committee at Cardiff University developing a poster campaign on microaggressions
- Contributed to Open Days in the School of Earth and Environmental Sciences at Cardiff University speaking to prospective students
- Seminar series coordinator for the "Collaborative for Air Quality Research" (CAQR) at the University of Colorado Boulder for the Department of Mechanical Engineering
- Student lead and mentor for Thermodynamics and Fluid Mechanics preliminary exams
- Volunteer presenter for "Mechanical Engineering as a Profession" (MCEN 2000) research round tables
- Student presenter and volunteer for the "Graduate Engineering Annual Research & Recruiting Symposium" (GEARRS), University of Colorado Boulder

Professional Service

- Convened session at the European Geophysical Union 2025 meeting on air quality, climate, health, and equity
- Student coordinator for the Community Modeling and Analysis System (CMAS) conference, Chapel Hill, NC

PUBLICATIONS (29)

Refereed Journal Articles (19)

2025 Wiecko, P.; Henze, D.K.; **Nawaz, M.O.** Sector-, Season-, and Country-Specific NO2-Associated Health Benefits from NOx Emission Reductions. *ACS EST Air* **2025**, *2*, 700–709, doi:10.1021/acsestair.5c00012.

2025 **Nawaz, M.O.**; Goldberg, D.L.; Kerr, G.H.; Anenberg, S.C. TROPOMI Satellite Data Reshape NO2 Air Pollution Land-Use Regression Modeling Capabilities in the United States. *ACS EST Air* **2025**, *2*, 187–200, doi:10.1021/acsestair.4c00153.

2025 Jin, L.; Benoit, J.; **Nawaz, M.O.**; Rodrigues, P.F.; Wiecko, P.; Miller, J.; Alvarez, G.; Henze, D.K.; Osipova, L.; Anenberg, S.C. Global Health Benefits of Policies to Reduce On-Road Vehicle Pollution through 2040. *Environ. Res. Lett.* **2025**, doi:10.1088/1748-9326/adcd87.

2024 **Nawaz, M.O.**; Johnson, J.; Yarwood, G.; de Foy, B.; Judd, L.; Goldberg, D.L. An Intercomparison of Satellite, Airborne, and Ground-Level Observations with WRF–CAMx Simulations of NO_2 Columns over Houston, Texas, during the September 2021 TRACER-AQ Campaign. *Atmospheric Chemistry and Physics* **2024**, *24*, 6719–6741, doi:10.5194/acp-24-6719-2024.

2024 Goldberg, D.L.; de Foy, B.; **Nawaz, M.O.**; Johnson, J.; Yarwood, G.; Judd, L. Quantifying NOx Emission Sources in Houston, Texas Using Remote Sensing Aircraft Measurements and Source Apportionment Regression Models. *ACS EST Air* **2024**, *1*, 1391–1401, doi:10.1021/acsestair.4c00097.

2024 Dyer, G.M.C.; Khomenko, S.; Adlakha, D.; Anenberg, S.; Behnisch, M.; Boeing, G.; Esperon-Rodriguez, M.; Gasparrini, A.; Khreis, H.; Kondo, M.C.; … **Nawaz, M.O.** …; et al. Exploring the Nexus of Urban Form, Transport, Environment and Health in Large-Scale Urban Studies: A State-of-the-Art Scoping Review. *Environmental Research* **2024**, *257*, 119324, doi:10.1016/j.envres.2024.119324.

2024 Dyer, G.M.C.; Khomenko, S.; Adlakha, D.; Anenberg, S.; Angelova, J.; Behnisch, M.; Boeing, G.; Chen, X.; Cirach, M.; de Hoogh, K.; … **Nawaz, M.O.** …; et al. Commentary: A Road Map for Future Data-Driven Urban Planning and Environmental Health Research. *Cities* **2024**, *155*, 105340, doi:10.1016/j.cities.2024.105340.

2024 Choi, J.; Henze, D.K.; **Nawaz, M.O.**; Malley, C.S. Source Attribution of Health Burdens From Ambient PM2.5, O3, and NO2 Exposure for Assessment of South Korean National Emission Control Scenarios by 2050. *GeoHealth* **2024**, *8*, e2024GH001042, doi:10.1029/2024GH001042.

2023 **Nawaz, M.O.**; Henze, D.K.; Huneeus, N.J.; Osses, M.; Álamos, N.; Opazo, M.A.; Gallardo, L. Sources of Air Pollution Health Impacts and Co-Benefits of Carbon Neutrality in Santiago, Chile. *Journal of Geophysical Research: Atmospheres* **2023**, *128*, e2023JD038808, doi:10.1029/2023JD038808.

2023 **Nawaz, M.O.**; Henze, D.K.; Anenberg, S.C.; Ahn, D.Y.; Goldberg, D.L.; Tessum, C.W.; Chafe, Z.A. Sources of Air Pollution-Related Health Impacts and Benefits of Radially Applied Transportation Policies in 14 US Cities. *Front. Sustain. Cities* **2023**, *5*, doi:10.3389/frsc.2023.1102493.

2023 **Nawaz, M.O.**; Henze, D.K.; Anenberg, S.C.; Braun, C.; Miller, J.; Pronk, E. A Source Apportionment and Emission Scenario Assessment of PM2.5- and O3-Related Health Impacts in G20 Countries. *Geohealth* **2023**, *7*, e2022GH000713, doi:10.1029/2022GH000713.

2023 Jo, D.S.; Nault, B.A.; Tilmes, S.; Gettelman, A.; McCluskey, C.S.; Hodzic, A.; Henze, D.K.; **Nawaz, M.O.**; Fung, K.M.; Jimenez, J.L. Global Health and Climate Effects of Organic Aerosols from Different Sources. *Environ. Sci. Technol.* **2023**, *57*, 13793–13807, doi:10.1021/acs.est.3c02823

2023 Gu, Y.; Henze, D.K.; **Nawaz, M.O.**; Cao, H.; Wagner, U.J. Sources of PM2.5-Associated Health Risks in Europe and Corresponding Emission-Induced Changes During 2005–2015. *GeoHealth* 2023, *7*, e2022GH000767, doi:10.1029/2022GH000767.

2023 Gu, Y.; Henze, D.K.; **Nawaz, M.O.**; Wagner, U.J. Response of the Ozone-Related Health Burden in Europe to Changes in Local Anthropogenic Emissions of Ozone Precursors. *Environ. Res. Lett.* **2023**, *18*, 114034, doi:10.1088/1748-9326/ad0167.

2022 Cao, H.; Henze, D.K.; Cady-Pereira, K.; McDonald, B.C.; Harkins, C.; Sun, K.; Bowman, K.W.; Fu, T.-M.; **Nawaz, M.O.** COVID-19 Lockdowns Afford the First Satellite-Based Confirmation That Vehicles Are an Under-Recognized Source of Urban NH3 Pollution in Los Angeles. *Environ. Sci. Technol. Lett.* **2022**, *9*, 3–9, doi:10.1021/acs.estlett.1c00730.

2021 **Nawaz, M.O.**; Henze, D.K.; Harkins, C.; Cao, H.; Nault, B.; Jo, D.; Jimenez, J.; Anenberg, S.C.; Goldberg, D.L.; Qu, Z. Impacts of Sectoral, Regional, Species, and Day-Specific Emissions on Air Pollution and Public Health in Washington, DC. *Elementa: Science of the Anthropocene* **2021**, *9*, 00043, doi:10.1525/elementa.2021.00043.

2021 Nault, B.A.; Jo, D.S.; McDonald, B.C.; Campuzano-Jost, P.; Day, D.A.; Hu, W.; Schroder, J.C.; Allan, J.; Blake, D.R.; Canagaratna, M.R.; … **Nawaz, M.O.** …; et al. Secondary Organic Aerosols from Anthropogenic Volatile Organic Compounds Contribute Substantially to Air Pollution Mortality. *Atmospheric Chemistry and Physics* **2021**, *21*, 11201–11224, doi:10.5194/acp-21-11201-2021.

2021 Malley, C.S.; Hicks, W.K.; Kulyenstierna, J.C.I.; Michalopoulou, E.; Molotoks, A.; Slater, J.; Heaps, C.G.; Ulloa, S.; Veysey, J.; Shindell, D.T.; … **Nawaz, M.O.** …; et al. Integrated Assessment of Global Climate, Air Pollution, and Dietary, Malnutrition and Obesity Health Impacts of Food Production and Consumption between 2014 and 2018. *Environ. Res. Commun.* **2021**, *3*, 075001, doi:10.1088/2515-7620/ac0af9.

2020 **Nawaz, M.O.**; Henze, D.K. Premature Deaths in Brazil Associated With Long-Term Exposure to PM2.5 From Amazon Fires Between 2016 and 2019. *GeoHealth* **2020**, *4*, e2020GH000268, doi:10.1029/2020GH000268.

Manuscripts Under Review (8)

Submitted **Nawaz, M.O.** & Henze, D.K., Climate action can ameliorate, perpetuate, or exacerbate geopolitical air pollution inequities. *In Revision.*

Submitted **Nawaz, M.O.**, Huber, D.E., Kerr, G.H., Judd, L.M., Acker, S.J., Goldberg, D.L., A comparative analysis of TEMPO NO_2 remote sensing with surface-level

monitoring through diurnal and seasonal trends, meteorology, and monitor characteristics. *In Revision*.

Submitted Goldberg, D.L., **Nawaz, M.O.**, Lyu, C., He, J., McDonald, B., Kondragunta, S., Carlton, A.G., Anenberg, S.C. NO_2 concentrations are different under clear versus cloudy skies and its implications for satellite measurements. *In Revision*.

Submitted GBD 2023 Disease Injury and Risk Factor Collaborators. Burden of 375 diseases and injuries, risk-attributable burden of 88 risk factors, and healthy life expectancy in 204 countries and territories, including 660 subnational locations, 1990–2023: a systematic analysis for the Global Burden of Disease Study 2023. *In Revision*.

Submitted Morris, S. T., O'Neill, B. C., Msangi, S., **Nawaz, M.O.**, Parker, N., Rao, N., Van Vuuren, D. Modeling the human well-being dimensions of global change: priorities and challenges for research to inform decision-making. *In Revision*.

Submitted Siu, T.K., Goldberg, D.L., Kerr, G.H., Chen, L., **Nawaz, M.O.**, Chang, R.Y.W., Fong, K.C.Tropospheric NO_2 Patterns in Eastern Canada Using the First-year TEMPO Observations. *Under Review*.

Submitted Huber, D.E., Kerr, G.H., **Nawaz, M.O.**, Runkel, S., Anenberg, S.C., Goldberg, D.L. TROPOMI NO_2 trends for urban and polluted areas globally from 2019 to 2024. *Under Review*.

Submitted Kerr, G.H., **Nawaz, M.O.**, Anenberg, S.C., Anthoff, D., Burton, C., Carter, T.S., Henze, D.K., Kelley, D.I., Kingdon, C., O'Dell, K., Prest, B.C., Cromar, K.R. Climate-driven surges in public health damages from wildland fire-sourced pollution through 2100. *Under Review*

Manuscripts In Preparation (2)

In Prep. TOAR-II Health Collaborators: TOAR-II Health Assessment. *In preparation*.

In Prep. Kim, S.Y., Kerr, G.H., **Nawaz, M.O.**, Anenberg, S.C. Fine-scale spatiotemporal patterns of NO2 pollution and associated mortality burdens across the continental United States. *In preparation*.

PRESENTATIONS (28)

Invited (2)

2025 Applying machine learning and statistical modeling approaches to remote sensing observations for inferring surface-level NO_2. December 15th-19th. American Geophysical Union. New Orleans, LA, USA.*

2023 Using satellite data to characterize air pollution and health in cities and countries. April 27th. Environmental Defense Fund / Climate and Clean Air Coalition / United Nations

Environmental Programme Workshop for Clean Air Solutions in Latin America and the Caribbean. Bogotá, Columbia.

Oral Presentation (12)

2025 **Nawaz, M.O.**, Henze, D.K., Exploring the role of climate action in transboundary air pollution inequality using GEOS-Chem adjoint sensitivities. April 29th. European Geophysical Union. Vienna, Austria

2024 **Nawaz, M.O.**, Anenberg, S.C., Goldberg, D.L., Kerr, G.H., Kondragunta, S. Development of a Land-Use Regression of Hourly Surface NO2 in preparation for GeoXO Atmospheric Composition Data. April 17th. European Geophysical Union. Vienna, Austria.

2024 **Nawaz, M.O.**, O'Dell, K., Anenberg, S.C., Goldberg, D.L., Kerr, G.H., He, J., McDonald, B., Kondragunta, S. Value of GeoXO Atmospheric Composition Data for Estimating Air Pollution-Related Health Impacts. January 30th. American Meteorological Society. Baltimore, MD, USA.

2023 **Nawaz, M.O.,** Henze, D.K., Anenberg, S.C., Goldberg, D.L., Investigating climate co-benefits using GEOS-Chem adjoint sensitivities. August 15th. Second GEOS-Chem Europe Meeting. London, UK.

2023 **Nawaz, M.O.,** Henze, D.K., Anenberg, S.C., Tessum, C. Regional vs local sources of municipal air pollution-related health impacts. January 10th. American Meteorological Society. (Presented by Henze). Denver, CO, USA.

2022 **Nawaz, M.O.**, Henze, D.K., Anenberg, S.C., Huang, T. Developing an interactive tool for characterizing the air pollution-related health impacts in Los Angeles, CA associated with different proposed emission scenarios. July 19th. Earth Science Information Partners Meeting. Pittsburgh, PA, USA (Virtual).

2022 **Nawaz, M.O.**, Henze, D.K., Anenberg, S.C., Harkins, C., Gallardo, L., Barazza Basoa, K. Leveraging satellite-derived data in GEOS-Chem adjoint simulations to characterize the sources of PM2.5-, O3-, and NO2-related health impacts at multiple spatial scales. June 9th. 10th International GEOS-Chem Meeting. St. Louis, MO, USA. (Virtual).

2022 **Nawaz, M.O.**, Henze, D.K., Braun, C., Miller, J., Pronk, E., Anenberg, S.C. Characterizing the sources of air pollution at the urban- and country-scale: case studies in Santiago, Chile and G20 countries. February 17th. Graduate Engineering Annual Research and Recruitment Symposium. Boulder, CO, USA.

2021 **Nawaz, M.O.**, D. Henze, S.C. Anenberg, C. Braun, J. Miller. Comparing domestic and extra-regional contributions to pollutant exposures and health impacts in G20 countries through a novel adjoint modeling approach. December 15th. American Geophysical Union Fall Meeting. New Orleans, LA, USA (Virtual).

2020 **Nawaz, M.O**., D. Henze, D. Goldberg, S. Anenberg, D. Jo, B. Nault, J.L. Jimenez, H. Cao, C. Harkins, Z. Qu. Characterizing the regional, sectoral and species-specific sources of pollution exposure and its associated health impacts in urban environments:

case studies in Washington, D.C. and Santiago, Chile. December 14th. American Geophysical Union. (Virtual)

2020 **Nawaz, M.O.**, Henze, D.K., Anenberg, S.C., Goldberg, D. Premature deaths in Brazil associated with long-term exposure to PM2.5 from Amazon fires and development of a nested South American domain for the GEOS-Chem Adjoint. June 23rd. 19th GEIA Conference. (Virtual)

2019 **Nawaz, M.O.**, Henze, D.K. Source attribution of PM2.5 from sensitivity analyses in the GEOS-Chem adjoint model. October 25th. Young Scientists Symposium on Atmospheric Research. Fort Collins, CO, USA.

Poster (14)

2025 **Nawaz, M.O.**, Goldberg, D.G., Anenberg, S.C., Kerr, G.H. What does low-earth orbiting, geostationary, and airborne remote-sensing reveal about surface NO_2? September 9th. UK Atmospheric Chemistry Conference. York, UK.*

2025 **Nawaz, M.O.**, Southerland, V.A., Goldberg, D.G. Characterizing the air quality and health impacts from oil and gas emissions in Mexico using GCHP. August 19th. GEOS-Chem Europe Meeting 3. London, UK.*

2024 **Nawaz, M.O.,** Goldberg, D.L., Kerr, G.H., Anenberg, S.C., What can TROPOMI and TEMPO remote sensing reveal about seasonal and diurnal trends in surface-level NO_2? December 13th. American Geophysical Union. Washington, DC, USA.

2022 **Nawaz, M.O.**, Henze, D.K., Anenberg, S.C., Harkins, C., Gallardo, L., Barazza Basoa, K. Leveraging satellite-derived data and air quality modeling to characterize source profiles of climate co-benefits at the urban- and country- scale. December 12th. American Geophysical Union. Chicago, IL, USA.

2020 **Nawaz, M.O.**, Y. Zhang, D. Q. Tong, A. Van Donkelaar, R. Martin, M. L. Serre, J. J. West. Health benefits of decreases in PM2.5 and ozone in the United States, 1990-2016. July 21st. NASA Health and Air Quality Applied Sciences Team Final Showcase. (Virtual).

2019 **Nawaz, M.O.**, D.K. Henze, S.C. Anenberg, D. Goldberg, Z. Qu (2019). Source attribution of PM2.5 and O3 concentrations and health outcomes from 2010 and 2011 in Washington D.C. using sensitivity analyses in the GEOS-Chem adjoint model. December 19th. American Geophysical Union, San Francisco, CA, USA

2019 **Nawaz, M.O.**, D.K. Henze, C.S. Malley, J.C.I. Kuylenstierna, H.W. Vallack, Y. Davila, S.C. Anenberg, S. Terry, A. Curry-Brown, N. Fann, E. Lefevre, C. Heaps, S. Penn, H. Roman, J. Neumann. Source attribution of climate and health impacts from aerosols. May 6th. 9th International GEOS-Chem Meeting, Cambridge, MA, USA.

2019 **Nawaz, M.O.**, Henze, D.K., The use of adjoint modeling to assess the sources of air pollution and its associated health impacts. February 21st. Graduate Engineering Annual Research and Recruitment Symposium. Boulder, CO, USA.

2018 **Nawaz**, **M.O.**, D. K. Henze, C. Malley, GH41C-1446: Source Attribution of Climate and Health Impacts from Aerosols. February 14th. AGU Fall Meeting. Washington, DC, USA.

2018 **Nawaz, M.O.**, Y. Zhang, D. Q. Tong, A. van Donkelaar, R. V. Martin, J. J. West. Health benefits of decreases in PM2.5 and ozone in the United States, 1990-2015. July 16th. NASA Health and Air Quality Applied Sciences Team Meeting. Madison, WI, USA.

2018 **Nawaz, M.O.,** Y. Zhang, D. Q. Tong, A. van Donkelaar, R. V. Martin, J. J. West (2018). Health benefits of decreases in PM2.5 and ozone in the United States, 1990-2015. April 20th. Climate Change and Resilience Symposium. Chapel Hill, NC, USA.

2017 **Nawaz, M.O.,** Y. Zhang, D. Q. Tong, J. J. West. Health benefits of decreases in PM2.5 and ozone in the United States from 1990 to 2015. December 11th. American Geophysical Union. New Orleans, LA, USA.

2017 **Nawaz, M.O.**, Y. Zhang, D. Q. Tong, J. J. West. Health benefits of decreases in PM2.5 and ozone in the United States from 1990 to 2015. October 23rd. Community Modeling and Analysis System Conference. Chapel Hill, NC, USA.

2017 **Nawaz M.O.**, Y. Zhang, West, J.J. Impact of regional ozone precursor emissions on global ozone burden. April 12th. Celebration of Undergraduate Research. Chapel Hill, NC, USA.

* *Indicates upcoming presentations that have been accepted*