

DAVID STREETS

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Computation Institute, University of Chicago,
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and

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Degrees and Employment

Senior Fellow, Computation Institute, University of Chicago, 2011–present

Senior Energy and Environmental Policy Scientist, Argonne National Laboratory, 1996–present

Visiting Research Professor, University of Illinois at Urbana-Champaign, 2006–2008

Group Leader, Argonne National Laboratory, 1986–1996

Environmental Scientist and Section Leader, Argonne National Laboratory, 1975–1986

Postdoctoral Fellow, Physics Division, Argonne National Laboratory, 1974–1975

Imperial Chemical Industries Postdoctoral Fellow, University of London, 1972–1974

National Science Foundation Postdoctoral Fellow, University of Rochester, NY, 1971–1972

University of London, Physics, Ph.D., 1971

University of London, Physics/Chemistry, B.Sc., 1968

Scientific Background

David Streets specializes in studies of the impact of human activities on the atmospheric environment. His research activities have included acid deposition, energy policy, urban air quality, and global climate change. He was a leading participant in the U.S. National Acid Precipitation Assessment Program (NAPAP) in the 1980s and the Intergovernmental Panel on Climate Change (IPCC) in the 1990s. In recent years, his research has focused on energy and environmental problems in China and the rest of Asia. He participated in the NASA TRACE-P, NOAA/NSF ACE-Asia, NASA INTEX, NASA ARCTAS, and NASA SEAC4RS field campaigns. He is a member of the NASA Air Quality Applied Sciences Team (AQAAT). His research has included mercury releases, satellite retrievals, historical and future trends of radiatively active species, and the interpretation of source strengths and fluxes in various parts of the world, particularly developing countries. He has authored more than 250 peer-reviewed journal articles and numerous technical reports and conference papers.

Professional Activities, Awards, and Memberships

- Lead author of UNEP black carbon and tropospheric ozone assessment report, 2011; lead author of UNECE hemispheric transport of air pollution reports, 2010, 2008; lead author of US CCSP aerosol assessment report, 2009; lead author of UNEP global mercury assessment report, 2008; lead author of UNDP world energy assessment report, 2000; lead author of IPCC second assessment report, 1995–1997
- Acknowledged contributor to the Nobel Peace Prize awarded to the Intergovernmental Panel on Climate Change, 2007
- Member of NASA Air Quality Applied Sciences Team (AQAAT), 2011–present
- Coordinator, Argonne/University of Chicago Summer Internship Program in Environmental Studies, 1996–2004

Recent publications related to the proposed project

- Duncan, B.N., Y. Yoshida, B. de Foy, L.N. Lamsal, D.G. Streets, Z. Lu, K.E. Pickering, and N.A. Krotkov, The Observed Response of Ozone Monitoring Instrument (OMI) NO₂ Columns to NO_x Emission Controls on Power Plants in the United States: 2005–2011, *Atmos. Environ.*, 81, 102–111 (2013).
- Streets, D.G., D.T. Shindell, Z. Lu, and G. Faluvegi, Radiative Forcing due to Major Aerosol Emitting Sectors in China and India, *Geophys. Res. Lett.*, 40, 4409–4414, doi:10.1002/grl.50805 (2013).
- Streets, D.G., T. Canty, G.R. Carmichael, B. de Foy, R.R. Dickerson, B.N. Duncan, D.P. Edwards, J.A. Haynes, D.K. Henze, M.R. Houyoux, D.J. Jacob, N.A. Krotkov, L.N. Lamsal, Y. Liu, Z. Lu, R.V. Martin, G.G. Pfister, R.W. Pinder, R.J. Salawitch, and K.J. Wecht, Emissions Estimation from Satellite Retrievals: A Review of Current Capability, *Atmos. Environ.*, 77, 1011–1042 (2013).
- Zhang, Y., P. Karamchandani, T. Glotfelty, D.G. Streets, G. Grell, A. Nenes, F. Yu, and R. Bennartz, Development and Initial Application of the Global-Through-Urban Weather Research and Forecasting Model with Chemistry (GU-WRF/Chem), *J. Geophys. Res.*, 117, D20206, doi:10.1029/2012JD017966 (2012).
- Worden, H.M., Y. Cheng, G. Pfister, G.R. Carmichael, Q. Zhang, D.G. Streets, M. Deeter, D.P. Edwards, J.C. Gille, and J.R. Worden, Satellite-Based Estimates of Reduced CO and CO₂ Emissions due to Traffic Restrictions during the 2008 Beijing Olympics, *Geophys. Res. Lett.*, 39, L14802, doi:10.1029/2012GL052395 (2012).
- Leibensperger, E.M., L.J. Mickley, D.J. Jacob, W.-T. Chen, J.H. Seinfeld, A. Nenes, P.J. Adams, D.G. Streets, N. Kumar, and D. Rind, Climatic Effects of 1950-2050 Changes in US Anthropogenic Aerosols – Part 1: Aerosol Trends and Radiative Forcing, *Atmos. Chem. Phys.*, 12, 3333–3348 (2012).
- Leibensperger, E.M., L.J. Mickley, D.J. Jacob, W.-T. Chen, J.H. Seinfeld, A. Nenes, P.J. Adams, D.G. Streets, N. Kumar, and D. Rind, Climatic Effects of 1950-2050 Changes in US Anthropogenic Aerosols – Part 2: Climate Response, *Atmos. Chem. Phys.*, 12, 3349–3362 (2012).
- Huang, M., G.R. Carmichael, S. Kulkarni, D.G. Streets, Z. Lu, Q. Zhang, R.B. Pierce, Y. Kondo, J.L. Jimenez, M.J. Cubison, B. Anderson, and A. Wisthaler, Sectoral and Geographical Contributions to Summertime Continental United States (CONUS) Black Carbon Spatial Distributions, *Atmos. Environ.*, 51, 165–174 (2012).
- Huo, H., Q. Zhang, K. He, Z. Yao, X. Wang, B. Zheng, D.G. Streets, Q. Wang, and Y. Ding, Modeling Vehicle Emissions in Different Types of Chinese Cities: Importance of Vehicle Fleet and Local Features, *Environ. Pollut.*, 159, 2954–2960 (2011).
- Yan, F., E. Winijkul, S. Jung, T.C. Bond, and D.G. Streets, Global Emission Projections of Particulate Matter (PM): I. Exhaust Emissions from On-road Vehicles, *Atmos. Environ.*, 45, 4830–4844 (2011).
- Jacobson, M.Z., and D.G. Streets, Influence of Future Anthropogenic Emissions on Climate, Natural Emissions, and Air Quality, *J. Geophys. Res.*, 114, D08118, doi:10.1029/2008JD011476 (2009).
- Wu, S., L.J. Mickley, D.J. Jacob, D. Rind, and D.G. Streets, Effects of 2000-2050 Changes in Climate and Emissions on Global Tropospheric Ozone and the Policy-Relevant Background Surface Ozone in the United States, *J. Geophys. Res.*, 113, D18312, doi:10.1029/2007JD009639 (2008).