

TAMI C. BOND

Scott Presidential Chair in Energy, Environment and Health
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CURRICULUM VITAE

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SCIENTIFIC BACKGROUND

Tami Bond's research focuses on prediction and measurement of emissions to the atmosphere, including long-term prospects for technology transitions to address climate and health. Dr. Bond's research group has designed sampling strategies to characterize health- and climate-relevant emissions in both laboratory and remote field settings, and developed multi-scale modeling frameworks for microscopic to regional-scale simulation. Her current work integrates social and economic characterization with physical measurement, especially in households, to evaluate the human-technical interface and its implications for atmospheric health.

PROFESSIONAL PREPARATION

University of Washington	<i>Mechanical Engineering, B.S., summa cum laude</i>	1993
University of California at Berkeley	<i>Mechanical Engineering (Combustion), M.S.</i>	1995
University of Washington	<i>Interdisciplinary Ph.D. (Atmospheric Sciences, Civil Engineering, Mechanical Engineering)</i>	2000
NOAA/Pacific Marine Environmental Labs	<i>NOAA Climate and Global Change Postdoctoral Fellow</i>	2002

ACADEMIC & PROFESSIONAL APPOINTMENTS

2019-present	Walter Scott, Jr. Presidential Chair in Energy, Environment and Health; Professor, Department of Mechanical Engineering, Colorado State University
2014-2019	Nathan M. Newmark Distinguished Professor, Civil & Environmental Engineering; Affiliate Professor, Atmospheric Sciences, University of Illinois at Urbana- Champaign
2018-2019	Leverhulme Visiting Professor, University of Leeds, United Kingdom
2009-2014	Associate Professor, Civil & Environmental Engineering, University of Illinois
2011-2012	Senior Visiting Scholar, Tsinghua University, Beijing, China
2003-2009	Assistant Professor, Civil & Environmental Engineering, University of Illinois
2002-2003	Visiting Scientist, National Center for Atmospheric Research.

HONORS AND AWARDS

University of Washington Diamond Award for Distinguished Achievement in Academia, 2018
American Association for Aerosol Research Outstanding Publication Award ("Light Absorption by
Carbonaceous Particles", 2006), awarded in 2017
John D. and Catherine T. MacArthur Foundation Fellow, 2014
University of Illinois University Scholar, 2012-2015
ISI Highly Cited Researcher, 2015, 2016, 2017, 2018

ACTIVITIES AND SERVICE

U.S. Technical Advisory Group Delegate to ISO TC 285 on Clean Cooking Stoves; Working Group 1 on Conceptual Framework, convenor, 2014-2018; currently member and convenor support NAS/NRC Committees: Future of Atmospheric Chemistry Research, 2015-2016; Significance of the International Transport of Air Pollutants, 2008-2009
Global Alliance for Clean Cookstoves, Co-Chair, Standards & Testing Working Group, 2010-2011
Commission on Atmospheric Chemistry and Global Pollution, Member, 2006-2010
Testimony before U.S. House of Representatives: Committee on Oversight and Government Reform, October 2007; Committee on Energy Independence and Global Warming, March 2010

SAMPLE OF REFEREED JOURNAL PUBLICATIONS

Listed here are recent, representative, or seminal papers

- M. Fawaz, C. Lautenberger, and T. C. Bond, Prediction of organic aerosol precursor emission from the pyrolysis of thermally thick wood, *Fuel*, 269, June 2020.
- C. L. Weyant, P. Chen, A. Vaidya, C. Li, Q. Zhang, R. Thompson, Y. Chen, R. Edwards, S. Kang, G. R. Shrestha, and T. C. Bond, Emissions from traditional biomass cookstoves from South Asia and Tibet using uncontrolled field measurements, *Environmental Science and Technology*, 53, 3306-3314, 2019.
- L. Liu, T. Hwang, S. Lee, Y. Ouyang, B. Lee, S. J. Smith, C. W. Tessum, J. D. Marshall, F. Yan, K. Daenzer, and T. C. Bond, Health and climate impacts of future U.S. freight transportation assessed with linked global, regional, and urban models, *Nature Sustainability*, <https://dx.doi.org/10.1038/s41893-019-0224-3>, 2019.
- T. Sun, L. Liu, M. G. Flanner, T. W. Kirchstetter, C. Jiao, C. V. Preble, W. L. Chang and T. C. Bond, Constraining a historical black carbon emission inventory of the United States for 1960-2000, *Journal of Geophysical Research: Atmospheres*, 124, <https://doi.org/10.1029/2018JD030201>, 2019.
- Y. Chen, B. Singh, P.-L. Ma, P. Rasch, T. C. Bond, Investigating the linear dependence of direct and indirect radiative forcing on emission of carbonaceous aerosols, *Journal of Geophysical Research: Atmospheres*, 123, <https://doi.org/10.1002/2017JD027244>, 2018.
- L. Fierce, N. Riemer, T. C. Bond, Toward reduced representation of mixing state for simulating aerosol effects on climate, *Bulletin of the American Meteorological Association*, 971-980, May 2017.
- L. Fierce, T. C. Bond, S. E. Bauer, F. Mena, N. Riemer, Black carbon absorption at the global scale is affected by particle-scale diversity in composition, *Nature Communications* 7:12361, doi: 10.1038/ncomms12361, 2016
- E. Winijkul and T. C. Bond, Emissions from residential combustion considering end-uses and spatial constraints: Part II, emission reduction scenarios, *Atmospheric Environment*, 124, 1-11, 2016.
- F. Yan, T. C. Bond, and D.G. Streets, Effectiveness of mitigation measures in reducing future primary particulate matter emissions from on-road vehicles, *Environmental Science and Technology*, 48(24), 14455-14463, 2014.

- U. Rajarathnam, V. Athalye, B. Ragavan, S. Maithel, D. Lalchandani, S. Kumar, E. Baum, C. Weyant, and T. Bond, Assessment of air pollutants from brick kilns, *Atmospheric Environment*, 98, 549-553, 2014.
- A. Torres, T. C. Bond, C. Lehmann, R. Subramanian, and O. L. Hadley, Measuring organic carbon and black carbon in rainwater: Evaluation of methods, *Aerosol Science and Technology*, 48, 239-250, 2014.
- T. C. Bond, S. J. Doherty, D. W. Fahey, P. M. Forster, T. Berntsen, B. J. DeAngelo, M. G. Flanner, S. Ghan, B. Kärcher, D. Koch, S. Kinne, Y. Kondo, P. K. Quinn, M. C. Sarofim, M. G. Schultz, M. Schulz, C. Venkataraman, H. Zhang, S. Zhang, N. Bellouin, S. K. Guttikunda, P. K. Hopke, M. Z. Jacobson, J. W. Kaiser, Z. Klimont, U. Lohmann, J. P. Schwarz, D. Shindell, T. Storelvmo, S. G. Warren, C. S. Zender, Bounding the role of black carbon in the climate system: A scientific assessment, *Journal of Geophysical Research - Atmospheres*, 118, doi:10.1002/jgrd.50171 (177 pp), 2013.
- Y. Chen and T. C. Bond, Light absorption by organic carbon from wood combustion, *Atmospheric Chemistry and Physics*, 10, 1773-1787, 2010.
- T. C. Bond, E. Bhardwaj, R. Dong, R. Jogani, S. Jung, C. A. Roden, D. G. Streets, and N. M. Trautmann, Historical emissions of black and organic carbon aerosol from energy-related combustion, 1850-2000, *Global Biogeochemical Cycles* 21: GB2018, doi:10.1029/2006GB002840, 2007.
- T. C. Bond, G. Habib, and R. W. Bergstrom, Limitations in the enhancement of visible light absorption due to mixing state, *Journal of Geophysical Research - Atmospheres*, 111, D20211, doi:10.1029/2006JD007315, 2006.
- T. C. Bond and H. Sun, Can reducing black carbon emissions counteract global warming? *Environmental Science and Technology* 39, 5921-5926, 2005.
- T. C. Bond and R. W. Bergstrom, Light absorption by carbonaceous particles: An investigative review. *Aerosol Science and Technology* 40, 27-67, 2006.