

CHRISTINE WIEDINMYER

National Center for Atmospheric Research
P.O. Box 3000, Boulder, CO 80307-3000

(303) 497-1414 (ofc) / (303) 497-1477 (fax)
christin@ucar.edu

EDUCATION

The University of Texas at Austin

Ph.D., Chemical Engineering, December, 1999

Advisor: Dr. David T. Allen

Dissertation Title: Biogenic Hydrocarbons in Texas: Source Characterization and Chemistry

The University of Texas at Austin

M.S. Chemical Engineering, May 1998

Tulane University, New Orleans, LA

B.S.E. Chemical Engineering, *Cum Laude*, May 1994

WORK EXPERIENCE

Scientist I

November 2005- present

National Center for Atmospheric Research, Boulder, CO

Atmospheric Chemistry Division, The Institute for Integrative and Multidisciplinary Earth Studies

Project Scientist I

Oct. 2001- Nov. 2005

National Center for Atmospheric Research, Boulder, CO

Atmospheric Chemistry Division

Research Associate

May - October, 2001

University of Colorado, CIRES, Boulder, CO

(at the National Oceanic and Atmospheric Administration, Aeronomy Lab)

Post-doctoral research scientist

April,

2000–April, 2001

University of Denver, Denver, CO

Department of Engineering

Graduate Research Assistant

1995-1999

University of Texas at Austin, Austin, Texas

Department of Chemical Engineering

HONORS

- Invited Speaker: International Young Scientist Global Change Conference, Trieste, Italy, November, 2003
- Invitee: Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS VI), Brookhaven National Laboratory. Brookhaven, NY, June 14 - 17, 2001
- University Continuing Fellowship recipient, 1998
- Tau Beta Pi (Engineering Honor Society), 1994
- Omega Chi Epsilon (Chemical Eng. Honor Society), 1993

PROFESSIONAL ORGANIZATIONS

American Geophysical Union member, 1998-present

American Association for Aerosol Research member, 2004–2006

Air & Waste Management Association member, 1997-1999

AIChE student member, 1992-1994

PROFESSIONAL SERVICE

- Leadership board member, Earth Science Women's Network (ESWN), 2002-present (<http://www.sage.wisc.edu/ESWN>).
- Associate Editor, *Journal of Geophysical Research- Atmospheres*, January 2007-present.
- Reviewer: *Journal of Geophysical Research- Atmospheres; Atmospheric Chemistry and Physics, Atmospheric Environment, Geophysical Research Letters, Environmental Science & Technology*, UK National Environment Research Council, U.S. EPA, U.S. Department of Defense.
- Nominated co-Chair for 2011 Gordon Research Conference: Biogenic Hydrocarbons and the Atmosphere (March 2007).
- Organizing Committee member, Biogenic Secondary Organic Aerosol Workshop series for early career US and Nordic Scientists, Jan. 2007 - present.
- Discussion leader/Panelist, NCAR GIS in Weather, Climate and Impacts Workshop 2005, Boulder, Colorado July 6-8, 2005.
- Co-Chair/Organizer, 2003 UCAR/NCAR Junior Faculty Forum on Future Scientific Directions: *Interactions between land ecosystems and the atmospheric hydrologic cycle*. NCAR, Boulder, CO, June, 2003.
- Organizer/Leader, BVOC Emissions Workshop, Lancaster University, Lancaster, U.K., September 2002.

SELECTED PEER-REVIEWED PUBLICATIONS

Tanarit Sakulyanontvittaya, T. Duhl, **C. Wiedinmyer**, D. Helmig, S. Matsunaga, M. Potosnak, J. Milford, A. Guenther. Monoterpene and Sesquiterpene Emission Estimates for the United States. *Environmental Science & Technology*, in Press.

Wiedinmyer, C. and J. Neff. CO₂ emissions from fires in the U.S.: Implications for policy. *Carbon Balance and Management*, **2** :10 (1 November 2007) .

Wiedinmyer, C. and H. Friedli. Mercury Emission Estimates from Fires: An Initial Inventory for the United States, in press, *Environmental Science & Technology*, October 17, 2007, DOI: 10.1021/es071289o.

Hodzic, A., S. Madronich, B. Bohn, S. Massie, L. Menut, **C. Wiedinmyer** (2007) Wildfire particulate matter in Europe during summer 2003: meso-scale modeling of smoke emissions, transport and radiative effects. *Atmos. Chem. Phys.*, **7**, 4043-4064.

Matsunaga, S.N., A.B. Guenther, Y. Izawa, **C. Wiedinmyer**, J.P. Greenberg, and K. Kawamura (2007) Importance of wet precipitation as a removal and transport process for atmospheric water soluble carbonyls, *Atmospheric Environment*, **41**, 790-796.

Guenther, A., T. Karl, P. Harley, **C. Wiedinmyer**, P. I. Palmer, C. Geron (2006) Estimates of global terrestrial isoprene emissions using MEGAN (Model of Emissions of Gases and Aerosols from Nature), *Atmospheric Chemistry and Physics*, **6**, 3181-3210.

Palmer, P.I., Abbot, D.S., Fu, T.-M., Jacob, D.J., Chance, K., Kurosu, T.P., Guenther, A., **Wiedinmyer, C.**, Stanton, J.C., Pilling, M.J., Pressley, S.N., Lamb, B., Sumner, A.L. (2006) Quantifying the seasonal and interannual variability of North American isoprene emissions using satellite observations of the formaldehyde column. *J. Geophys. Res.*, **111**(D12), D12315, 10.1029/2005JD006689.

Wiedinmyer, C., B. Quayle, C. Geron, A. Belote, D. McKenzie, X. Zhang, S. O'Neill, and K.K. Wynne (2006) Estimating emissions from fires in North America for Air Quality Modeling. *Atmospheric Environment*, **40**, 3419-3432.

Wiedinmyer, C., X. Tie, A. Guenther, R. Neilson, C. Granier. Future changes in biogenic isoprene emissions: how might they affect regional and global atmospheric chemistry? (2006) *Earth Interactions*, v10, paper 3.

Barth, M., J. McFadden, J. Sun, **C. Wiedinmyer**, P. Chuang, D. Collins, R. Griffin, M. Hannigan, T. Karl, S-W Kim, S. Lasher-Trapp, S. Levis, M. Litvak, N. Mahowald, K. Moore, S. Nandi, E. Nemitz, A. Nenes, M. Potosnak, T. Raymond, J. Smith, C. Still, C. Stroud (2005) Coupling between land ecosystems and the atmospheric hydrologic cycle through biogenic aerosol pathways, *Bull. Amer. Meteor. Soc.*, 86(12), 1738-1742.

Wiedinmyer, C., J. Greenberg, A. Guenther, B. Hopkins, K. Baker, C. Geron, P.I. Palmer, B. Long, J. Turner, G. Petron, T. Pierce, B. Lamb, H. Westberg, W. Baugh, P. Harley, M. Koerber, M. Janssen. (2005), Ozarks Isoprene Experiment (OZIE): Measurements and modeling of the "isoprene volcano," *J. Geophys. Res.*, 110, D18307, doi:10.1029/2005JD005800.

Pfister, G., P.G. Hess, L.K. Emmons, J.-F. Lamarque, **C. Wiedinmyer**, D.P. Edwards, G. Pétron, J.C. Gille, G. W. Sachse (2005) Constraints on Emissions for the Alaskan Wildfires 2004 using Data Assimilation and Inverse Modeling of MOPITT CO. *Geophysical Research Letters* v32, L11809, doi:10.1029/2005GL022995.

Greenberg, J.P., A.B. Guenther, G. Petron,, **C. Wiedinmyer**, O. Vega, L. Gatti, J. Tota, G. Fisch. (2004) Biogenic VOC emissions from forested and cleared Amazonian landscapes. *Global Change Biology*, 10(5), pp. 651-662.

Wiedinmyer, C., Guenther, A., Harley, P., Hewitt, C.N., Geron, C., Artaxo, P., Steinbrecher, R., Rasmussen. (2004) Global organic emissions from vegetation. Chapter in Emissions of Atmospheric Trace Compounds, Edited by Claire Granier, Paulo Artaxo, and Claire E. Reeves. Kluwer Academic Publishers, Dordrecht, The Netherlands, pp. 115 -170.

Wert, B.P., Trainer, M., Fried, A., Ryerson, T.B., Henry, B., Potter, W., Angevine, W.M., Atlas, E., Donnelly, S.G., Fehsenfeld, F., Frost, G.J., Goldan, P.D., Hansel, A., Holloway, J.S., Hubler, G., Kuster, W.C., Nicks, D.K. Jr., Neuman, J.A., Parrish, D.D., Schauffler, S., Stutz, J., Sueper, D.T., **Wiedinmyer, C., Wisthaler, A.** (2003) Signatures of alkene oxidation in airborne formaldehyde measurements during TexAQS2000. *Journal of Geophysical Research-Atmospheres*, 108(D3), 4104, doi:10.1029/2002JD002502.

Wiedinmyer, C., Guenther A., Strange, W., Yarwood, G., Allen, D. (2001) A land use database and examples of biogenic isoprene emission estimates for the state of Texas, USA. *Atmospheric Environment*. 35(36), pp. 6465-6477.

McDonald-Buller, E., **Wiedinmyer, C., Kimura, Y., Allen, D.** (2001) Effects of Land Use Data on Dry Deposition in a Regional Photochemical Model for Eastern Texas. *J. Air & Waste Management Assoc.* 51 (8), pp.1211-1218.

Wiedinmyer, C., Friedfeld, S., Baugh, W., Greenberg, J., Guenther, A., Fraser, M., Allen, D. (2001) Measurement and analysis of atmospheric concentrations of isoprene and its reaction products in central Texas. *Atmospheric Environment*, 35(6), pp. 1001-1013.

Wiedinmyer, C., Strange, W., Estes, M., Yarwood, G., Allen, D. (2000) Biogenic hydrocarbon emissions estimates in North Central Texas. *Atmospheric Environment*, 34(20), pp. 3419-3435.

SELECTED PRESENTATIONS, POSTERS, AND PAPERS

Wiedinmyer, Christine, Jerome Fast, Alex Guenther, Serena Chung. "The Influence of Aerosols on Biogenic Emissions: Case Studies for... (1) Mexico and (2) Eastern U.S.", presented at the AGU Fall Meeting, San Francisco, CA, December 10-15, 2006.

Wiedinmyer, Christine, Angie Belote, Kristina Klos, Alex Guenther, Brad Quayle, Chris Geron, Carol Shay, Tanarit Sakulyanontvittaya, and Jana Milford. "Estimating fire emissions and the impacts for air quality in the eastern United States", presented at the EastFIRE Conference, Fairfax, VA., May 11-13, 2005

Wiedinmyer, C. "Regional Air Quality in Texas and the Influence of Biogenic Isoprene." Gordon Research Conference: Biogenic Hydrocarbons and the Atmosphere. Ventura, CA. February 27 – March 3, 2000.

Wiedinmyer, Christine, Tanarit Sakulyanontvittaya, Jana Milford, Alex Guenther, Detlev Helmig, Chao-Jung Chien, John Ortega, Tiffany Duhl, David Tanner, Angie Belote, Chris Geron, Brad Quayle. "Estimating the impact of biogenic sesquiterpene and fire emissions to organic aerosol concentrations", presented at the 24th Annual AAAR Annual Conference, Austin, TX, Oct. 17-21, 2005.

Matsunaga, S., C. Wiedinmyer, S. Kato, A. Yoshino, Y. Miyakawa, J. Greenberg, Y. Kajii, A. Guenther. "Sources of Biogenic and Anthropogenic Semi Volatile Organic Carbonyls and Their Effects on the Air Quality in Suburban and Remote Areas." Presented at the 2004 Fall AGU Meeting, San Francisco, CA, December 12-17, 2004.

Chen, J., J. Avise, B. Lamb, C. Wiedinmyer, A. Guenther, J.F. Lamarque, E. Salathe, C. Mass. "Influence of Global Change and Asian Emissions on Regional Air Quality in the Pacific Northwest." Presented at the 2004 Fall AGU Meeting, San Francisco, CA, December 12-17, 2004.

Matsunaga, S., C. Wiedinmyer, T. Karl, A. Guenther, J. Orlando, C. Stroud, R. Schnell, D. Toohey, A. Delia, Y. Kajii. "Measurements and Modeling of Isoprene Photo-oxidation Products: Implications for Secondary Organic Aerosol Formation". Presented at the Biogenic Hydrocarbons and the Atmosphere Gordon Research Conference, Il Barga, Italy, May 2004.

Wiedinmyer, C. Ross J. Salawitch, Patrick J. Sheridan, Chuck Brock J. Michael Reeves, Martin Ross, J. C. Wilson. "Perturbed chemistry in a stratospheric plume containing carbon particles: Possible evidence for additional heterogeneous reactions." Atmospheric Chemistry Gordon Conference, Newport, RI, June, 2001.

Wiedinmyer, C., Strange, W., Allen, D. "Effects of Texas Vegetation Data on Biogenic Emissions Estimates and Photochemical Modeling." Environmental Solutions Program Fall Research Review Meeting, J.J. Pickle Research Campus, University of Texas at Austin, November 4-5, 1999.

