Jerold A. Herwehe, Research Physical Scientist, in EPA's National Exposure Research Laboratory

Computational Exposure Division
Mailing Address

herwehe.jerry@epa.gov

Areas of Expertise: Jerold Herwehe has expertise in meteorological and air quality modeling (primarily WRF, WRF/Chem, and RAMS); reactive turbulence modeling using large-eddy simulation coupled with photochemistry; and planetary boundary layer processes, with field campaign experience.

Select Publications:

Zheng, Y., K. Alapaty, J. A. Herwehe, A. D. Del Genio, and D. Niyogi, 2016: Improving high-resolution weather forecasts using the Weather Research and Forecasting (WRF) model with an updated Kain-Fritsch scheme. *Mon. Wea. Rev.*, doi:10.1175/MWR-D-15-0005.1; in press.

Spero, T. L., C. G. Nolte, J. H. Bowden, M. S. Mallard, and J. A. Herwehe, 2016: The impact of incongruous lake temperatures on regional climate extremes downscaled from the CMIP5 archive using the WRF model. *J. Climate*, 29, 839-853, doi:10.1175/JCLI-D-15-0233.1.

Herwehe, J. A., 2000: *A Numerical Study of the Effects of Large Eddies on Trace Gas Measurements and Photochemistry in the Convective Boundary Layer.* Ph. D. Dissertation, University of Alabama in Huntsville, Huntsville, Alabama, 242 pp.

Norris, W. B., R. T. McNider, A. Song, and J. A. Herwehe, 1998: The role of averaging time in interpreting observations made in a convective boundary layer (CBL). In *Measurement of Toxics and Related Pollutants: Proceedings of a Specialty Conference, September 1-3, 1998, in Cary, North Carolina*, Vol. I, p. 120-131. Published by the Air and Waste Management Association, December 1998, 587 pp.

Frost, G. J., M. Trainer, G. Allwine, M. P. Buhr, J. G. Calvert, C. A. Cantrell, F. C. Fehsenfeld, P. D. Goldan, J. Herwehe, G. Hübler, W. C. Kuster, R. Martin, R. T. McMillen, S. A. Montzka, R. B. Norton, D. D. Parrish, B. A. Ridley, R. E. Shetter, J. G. Walega, B. A. Watkins, H. H. Westberg, and E. J. Williams, 1998: Photochemical ozone production in the rural southeastern United States during the 1990 Rural Oxidants in the Southern Environment (ROSE) program. *J. Geophys. Res.*, 103, 22,491-22,508.

Nappo, C. J., K. S. Rao, and J. A. Herwehe, 1989: Pollutant transport and diffusion in katabatic flows. *J. Appl. Meteor.*, 28, 617-625.

View more research publications by Jerold Herwehe.

Education:

- Ph.D. Atmospheric Science, University of Alabama in Huntsville, 2000
- M.S. Meteorology, Iowa State University, 1984
- B.S. Meteorology, Iowa State University, 1979

Professional Experience:

- Research Physical Scientist, U.S. Environmental Protection Agency/ORD/NERL/ Computational Exposure Division, Research Triangle Park, NC, 2015 - Present
- Research Physical Scientist, U.S. Environmental Protection Agency/ORD/NERL/ Atmospheric Modeling and Analysis Division, Research Triangle Park, NC, 2008 - 2015
- Meteorologist, National Oceanic and Atmospheric Administration, OAR/ARL/Atmospheric Sciences Modeling Division (in partnership with EPA/NERL), Research Triangle Park, NC, 2005 - 2008
- Physical Scientist, National Oceanic and Atmospheric Administration, OAR/ARL/Atmospheric Turbulence and Diffusion Division, Oak Ridge, TN, 1989 - 2005
- Research Meteorologist, Oak Ridge Associated Universities, assigned to NOAA/OAR/ARL/ATDD, Oak Ridge, TN, 1988 - 1999
- Meteorological Computer Specialist, Oak Ridge Associated Universities, assigned to NOAA/OAR/ARL/ATDD, Oak Ridge, TN, 1987 - 1988
- Research Assistant, Applied Research Corporation, assigned to the Atmospheric Chemistry and Dynamics Branch, NASA/Goddard Space Flight Center, Greenbelt, MD, 1985 - 1987
- Research Assistant, Applied Research Corporation, assigned to the Oceans and Ice Branch, NASA/Goddard Space Flight Center, Greenbelt, MD, 1984 - 1985
- Research Assistant, Department of Earth Sciences, Iowa State University, Ames, IA, 1980 - 1984
- Teaching Assistant, Department of Earth Sciences, ISU, Ames, IA, 1979 - 1980

Honors and Awards:

- U.S. EPA/AMAD Blue Ribbon Paper Awards, 2015 (2014 JGR and 2014 JAMC papers)
- U.S. EPA/AMAD Blue Ribbon Paper Award, 2013 (2012 GRL paper)
- U.S. EPA On-The-Spot Award, 2012
- U.S. EPA Bronze Medal, 2012 (Regional Climate Downscaling Team)
- U.S. EPA Gold Medal, 2009 (Air Quality Forecasting Team)