Shawn J. Roselle, Branch Chief, in EPA's National Exposure Research Laboratory

Computational Exposure Division
Mailing Address

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Area of Expertise: My expertise is in development, application, and evaluation of air quality modeling systems. My primary research areas include CMAQ model application & evaluation and development of the CMAQ Sulfur Tracking Model. I have also been involved in the development of various scientific components of earlier versions of CMAQ, including modules for clouds and photolysis rates, as well as aerosol code integration. As Chief of the Atmospheric Model Application & Analysis Branch, I supervise principal investigators across various research programs that include model evaluation, atmospheric-ecosystems applications, community tool development and wind tunnel studies.

Select Publications:

Binkowski, F.S., S.J. Roselle, M.R. Mebust, and B.K. Eder, Modeling Atmospheric Particulate Matter in an Air Quality Modeling System using a Modal Method, in *The IMA Volumes in Mathematics and its Applications, Volume 130: Atmospheric Modeling*, edited by D.P. Chock and G.R. Carmichael, Springer-Verlag, New York (2002).

McNider, R.T., W.B. Norris, D.M. Casey, J.E. Pleim, S.J. Roselle, and W.M. Lapenta, Assimilation of Satellite Data in Regional Air Quality Models, *Air Pollution and Its Application XII*, edited by S.-E. Gryning and N. Chaumerliac, Plenum Press, New York (1998).

Roselle, S.J. and K.L. Schere, Modeled Response of Photochemical Oxidants to Systematic Reductions in Anthropogenic VOC and NO_x Emissions, *J. Geophys. Res., 100(D11):*22,929-22,941 (1995).

John, K., S.T. Rao, G. Sistla, N. Zhou, W. Hao, K. Schere, S. Roselle, N. Possiel, and R. Scheffe. Examination of the Efficacy of VOC and NO_x Emissions reductions on Ozone Improvement in the New York Metropolitan Area, in *Air Pollution Modeling and Its Application X*, edited by S.-V. Gryning and M.M Millán, Plenum Press, New York (1994).

View more research publications by Shawn Roselle.

Education:

- B.S. Meteorology, North Carolina State University, 1985
- M.S. Atmospheric Sciences, North Carolina State University, 1991

Professional Experience:

- Supervisory Physical Scientist, EPA/ORD/NERL/CED/AMAAB, Research Triangle Park, NC, 2015 – present
- Supervisory Research Physical Scientist, EPA/ORD/NERL/AMAD/EMEB, Research Triangle Park, NC, 2011 – 2015
- Research Physical Scientist, EPA/ORD/NERL/AMAD/AMDB, Research Triangle Park, NC, 2008 – 2011
- Meteorologist, NOAA Atmospheric Sciences Modeling Division (in partnership with EPA/NERL), Research Triangle Park, NC, 1989 – 2008
- Scientific Programmer/Analyst, Computer Sciences Corp. (EPA contractor), Research Triangle Park, NC, 1986 – 1989
- Meteorological Technician, NOAA/NESDIS/NCDC, Asheville, NC, 1985 – 1986

Honors and Awards:

- 2014 STAA Level III Award for Development of a System for the Comprehensive Evaluation of Meteorological and Air Quality Models
- 2013 STAA Level III Award for the Development and Systematic Evaluation of a Substantially Upgraded Air Quality Modeling System
- EPA Silver Medal, 2011, for scientific leadership in developing and delivering integrated atmospheric modeling systems to inform policies that simultaneously address air quality, climate change, and energy issues
- NERL Special Achievement Award, 2011, for promoting an international exchange of ideas and advancing air quality modeling research under the auspices of AQMEII
- ORD Special Recognition Award, 2009: CMAQ Model Team, Exceptional/Outstanding ORD Technical Assistance to the Regions or Program Offices.
- NERL Special Achievement Award, 2009, for advancements in the NERL Climate and Air Quality Program
- EPA Bronze Medal, 2008: CMAQ Multipollutant Model Team, for exceptional accomplishments in developing, applying, and evaluating the CMAQ multipollutant air quality model for assessing co-benefits of potential emissions management strategies.
- U.S. EPA, NERL Special Achievement Award, 2007 (Goal 1- Support the Agency's Mission: Multipollutant Model Development Team)
- U.S. EPA, Bronze Medal, 2005 (The Community Multiscale Air Quality (CMAQ) Modeling Team: In recognition for the development and application of the Nation's premier numerical air quality simulation model)
- U.S. EPA, Bronze Medal, 2004 (ORD Five-year PM Accomplishments Team: In recognition of outstanding effort in preparation of the ORD Five-Year PM Accomplishments Reports)
- U.S. EPA, Bronze Medal, 1999, for outstanding team research achievement in the development and evaluation of the Models-3 Computational Framework and the Community Multi-Scale Air Quality Modeling System