

## **Robert W. Vanderpool, Aerosol Research Engineer, in EPA's National Exposure Research Laboratory**

Exposure Methods and Measurements Division

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**Area of Expertise:** Robert's research focus includes studies regarding gas-borne particles with a particular emphasis on aerosol mechanics, aerosol generation, aerosol characterization, methods development, and methods evaluation. Initiatives include designing and conducting comprehensive field and laboratory studies to characterize ambient aerosols and to evaluate the performance of emerging aerosol sampling and analysis methods. Robert provides data validation, analysis, and interpretation of data collected from these studies towards evaluation of existing air quality regulations. He also provides technical assistance to regulatory agencies during the development of new sampling methods and the development of acceptance criteria for both reference and equivalent methods. Future research activities will continue to include all phases of PM method development, evaluation, and implementation.

### **Select Publications:**

Cho, S., J. Thornburg, J. Portzer, R. W. Vanderpool, J. Richmond-Bryant, J. Rice, and K. Cavender. A Literature Review of Concentrations and Size Distributions of Ambient Airborne Pb-Containing Particulate Matter, *Atm. Env.*, 45(28):5005-5015, 2011.

Vanderpool, R.W., Byrd, L.A., Wiener, R.W., Hunike, E.T., Labickas, M., Leston, A.R., Tolocka, M.P., McElroy, F.F., Murdoch, R.W., Natarajan, S., Noble, C.A., and Peters, T.M. Laboratory and Field Evaluation of Crystallized DOW 704 Oil on the Performance of the Well Impactor Ninety-Six Fine Particulate Matter Fractionator. *J. Air & Waste Manage. Assoc.* Vol. 57, 2007.

Vanderpool, R. W., Peters, T. M., Natarajan, S., Gemmill, D. B., and Wiener, R. W. Evaluation of the Loading Characteristics of the EPA WINS PM2.5 Separator. *Aerosol Sci. and Technol.* Vol. 34, No. 5, 2001.

Vanderpool, R. W., Peters, T. M., Natarajan, S., Tolocka, M. P., Gemmill, D. B., and Wiener, R. W., Sensitivity Analysis of the USEPA WINS PM2.5 Separator. *Aerosol Sci. and Technol.* Vol. 34, No. 5, 2001.

Heist, D. K., Tolocka, M. P., Vanderpool, R. W., Peters, T. M., Chen, F-L, and Wiener, R. W. Changes in Operating Procedures for Achieving Aerosol Concentration Uniformity for PM2.5 and PM10 Sampler Testing. *Aerosol Sci. and Technol.* Vol. 34, No. 5, 2001.

Noble, C. A., Vanderpool, R. W., Peters, T. M., McElroy, F. F., Gemmill, D. B., and Wiener, R. W. Federal Reference and Equivalent Methods for Measuring Fine Particulate Matter. *Aerosol Sci. and Technol.* Vol. 34, No. 5, 2001.

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**Education:**

- Ph.D., Environmental Engineering, University of Florida, 1991
- M.E., Environmental Engineering, University of Florida, 1983
- B.S., Environmental Engineering, University of Florida, 1981

**Professional Experience:**

- Aerosol Research Engineer, USEPA, ORD, NERL-HEASD, Process Modeling Research Branch, Research Triangle Park, NC 2003-present
- Program Manager, Research Triangle Institute, Center for Aerosol Technology, RTP, NC 1992-2003
- Instructor/ Research Assistant, University of Florida Gainesville, FL 1988-1991
- Consulting Engineer, Environmental Engineering Consultants, Gainesville, FL 1984-1988
- Teaching/Research Assistant, University of Florida, Gainesville, FL 1981-1984