

Karen D. Oliver, Research Chemist, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division

[Mailing Address](#)

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Area of Expertise: Karen has thirty plus years of experience in methods development and evaluation of analytical techniques and air monitoring instrumentation (both canister and sorbent-based systems) for sampling and analysis of parts-per-billion and parts-per-trillion levels of volatile organic compounds in ambient air. Career accomplishments include contributing to the development and refinement of EPA Compendium Methods TO-14, TO-15, and TO-17. Current research activities are development and evaluation of methods for determination of acrolein in ambient air and further refinement of the use of diffusive sampling devices such as Carbopack X sorbent tubes for ambient, fence line, and personal monitoring.

Select Publications:

- S. Mukerjee, L.A. Smith, E.D. Thoma, K.D. Oliver, D.A. Whitaker, T. Wu, M. Colon, L. Alston, T. Cousett and C. Stallings. Spatial Analysis of Volatile Organic Compounds in South Philadelphia Using Passive Samplers. JA&WMA, Published online Feb. 1, 2016.
- A.P. Eisele, S. Mukerjee, L.A. Smith, E.D. Thoma, D.A. Whitaker, K.D. Oliver, T. Wu, M. Colon, L. Alston, T. Cousett, M.C. Miller, D.M. Smith, and C. Stallings. Volatile Organic Compounds at Two Oil and Natural Gas Production Well Pads in Colorado and Texas Using Passive Samplers. JA&WMA, Published online Jan. 15, 2016.
- Majestic, Brian J., Garnet B. Erdakos, Michael Lewandowski, Karen D. Oliver, Robert D. Willis, Tadeusz E. Kleindienst, and Prakash V. Bhave. 2010. A review of selected engineered nanoparticles in the atmosphere: sources, transformations, and techniques for sampling and analysis. *Int. J. Occup. Environ. Health* 16:488-507.
- Mukerjee, S., K.D. Oliver, R.L. Seila, H.H. Jacumin, Jr., C. Croghan, E.H. Daughtrey, Jr., L.M. Neas, L.A. Smith. 2009. Field comparison of passive air samplers with reference monitors for ambient volatile organic compounds and nitrogen dioxide under week-long integrals. *J. Environ. Monit.* 11:220-227.
- McClenny, W.A., H.H. Jacumin, Jr., K.D. Oliver, E.H. Daughtrey, Jr., D.A. Whitaker. 2006. Comparison of 24 h averaged VOC monitoring results for residential indoor and outdoor air using Carbopack X-filled diffusive samplers and active sampling – a pilot study. *J. Environ. Monit.* 8:263-269.
- McClenny, W.A., K.D. Oliver, H.H. Jacumin, Jr., E.H. Daughtrey, Jr., D.A. Whitaker. 2005. 24 h diffusive sampling of toxic VOCs in air onto Carbopack X solid adsorbent

followed by thermal desorption/GC/MS analysis– laboratory studies. J. Environ. Monit. 7:248-256.

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Education:

- B.S., Chemistry, summa cum laude, Western Carolina University, 1983

Professional Experience:

- Research Chemist, USEPA, ORD, NERL-HEASD, Research Triangle Park, NC 2011-present
- Principal Senior Scientist, Alion Science & Technology (and predecessor companies Mantech Environmental Technology and Northrop Services – Environmental Sciences), Research Triangle Park, NC 1983-2011