Edward Heithmar, Research Chemist, in EPA's National Exposure Research Laboratory

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Area of Expertise: My major areas of research include 1) the development of analytical methods to determine individual species of trace elements, and 2) the development of detection and characterization methods for engineered nanomaterials (ENM). Emphasis is on methods applicable to environmentally relevant concentrations and matrices. My speciation research is driven by the fact that the predominant species of a trace element often influences its mobility in soils and sediments, as well as its bioavailability to organisms. My ENM research addresses the dearth of practical analysis tools for these materials in the environment, which are vital to understanding their behavior and ultimate environmental implications.

Select Publications:

PERGANTIS, S. A., T. L. JONES-LEPP, AND E. M. HEITHMAR. Hydrodynamic Chromatography On-line with Single Particle -Inductively Coupled Plasma – Mass Spectrometry for Ultratrace Detection of Metal-Containing Nanoparticles. Analytical Chemistry. American Chemical Society, Washington, DC, 84(15):6454-6462, (2012).

HEITHMAR, E. M. Screening Methods for Metal-Containing Nanoparticles in Water. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-11/096, 2011.

HEITHMAR, E. M. AND S. Pergantis. Characterizing Concentrations and Size Distributions of Metal-Containing Nanoparticles in Waste Water. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/117, 2010.

View more research publications by Edward Heithmar.

Education:

- Ph.D. in Analytical Chemistry, University of Pittsburgh
- B.A. in Mathematics, Biscayne College

Professional Experience:

- Research Chemist, U.S. EPA, NERL
- Assistant Professor of Chemistry, University of New Orleans