

John W. Washington, Research Chemist, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division

[Mailing Address](#)

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Area of Expertise: Recent research has been directed at understanding sources, transport and transformations of fluorotelomer and perfluorinated compounds in the environment using LC/MS/MS and GC/MS. Past research areas include: 1) characterizing redox potential and controls on electron-exchange reactions in environmental systems; 2) controls on mobility and transformations of agricultural nutrients, especially nitrogen; 3) quantifying thermodynamic properties and hydrolysis rates of volatile organic compounds as well as analytical modeling of these compounds in the environment; and 4) elucidating geochemical controls on the concentrations and distribution of radionuclides and metals in the environment. Analytically, this research entailed ion and gas chromatography, spectrometric, fluorescence and phosphorescence detectors, as well as other conventional analytical methods.

Select Publications:

- Naile, J.E., A.W. Garrison*, J.K. Avants, J.W. Washington*. 2016. Isomers/Enantiomers of Perfluorocarboxylic Acids: Method Development and Detection in Environmental Samples. *Chemosphere*. 144. 1722-1728.
- Washington, J.W.*, T.M. Jenkins. 2015. Abiotic hydrolysis of fluorotelomer polymers as a source of perfluorocarboxylates at the global scale. *Environmental Science & Technology*. 49. 14129-14135.
- Washington, J.W.*, T.M. Jenkins, E.J. Weber*. 2015. Identification of unsaturated and 2H polyfluorocarboxylate homologous series, and their detection in environmental samples and as polymer degradation products. *Environmental Science & Technology*. 49. 13256.
- Washington, J.W.*, T.M. Jenkins, K. Rankin, J.E. Naile. 2015. Decades-Scale Degradation of Commercial, Side-Chain, Fluorotelomer-based Polymers in Soils & Water. *Environmental Science & Technology*. 49. 915-923.
- Washington, J.W.*, J.E. Naile, T.M. Jenkins, D.G. Lynch. 2014. Characterizing Fluorotelomer & Polyfluoroalkyl Substances in New & Aged Fluorotelomer-Based Polymers for Degradation Studies with GC/MS & LC/MS/MS. *Environmental Science & Technology*. 48. 5762-5769.
- Yoo, H., J.W. Washington*, T.M. Jenkins, J.J. Ellington. 2011. Quantitative determination of perfluorochemicals and fluorotelomer alcohols in plants from biosolid-amended fields using LC/MS/MS and GC/MS. *Environmental Science & Technology*. 45. 7985-7990.

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Education:

- Ph.D. Geochemistry & Mineralogy, Penn State University, 1991
- M.S. Environmental Pollution Control, Penn State University, 1985
- B.S. Environmental Resource Management, Penn State University, 1982

Professional Experience:

- Research Chemist (formerly Chemist), National Exposure Research Laboratory, USEPA, Athens, GA. Oct. 2002-present (Sept. 1998-Oct. 2002).
- Adjunct faculty, Department of Geology, University of Georgia, Athens, GA, Aug. 2006-present.
- Vice President, Meiser & Earl, Inc., State College, PA. Dec. 1997-Aug. 1998.
Secretary, Board of Directors, Meiser & Earl, Inc., State College, PA. Dec. 1997-Aug. 1998.
- Senior Geochemist (formerly Project Hydrogeologist), Meiser & Earl, Inc., State College, PA. Jan. 1992-Aug. 1998 (May 1985-Dec. 1991).
- Graduate Assistant, Department of Geosciences (formerly Department of Agronomy), Penn State University, University Park, PA. Sept. 1985-Jun. 1990 (Dec. 1982-Jun. 1985).

Honors and Awards:

- USEPA STAAs: Level I ('07), Level II ('15,'12,'05), Level III ('10,'10,'08), Hon. Mention ('08,'03)
- USEPA Honor Awards: Gold ('07), Silver ('11), Bronze ('13,'10,'09,'06), Science Achievement Award/Earth Sci. ('04)
- ACS Chemist of the Year, Northeast Georgia Section ('11)