

## M. Ariel Wallace, Chemist, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division

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**Area of Expertise:** Dr. Wallace recently joined the EPA as a Post-Doctoral Scientist in the fall of 2015. Dr. Wallace is currently working with Dr. Joachim Pleil on projects involving human environmental exposure science. Her current project involves GC-MS method development for the analysis of firefighter breath samples for volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs). Dr. Wallace will also be studying the metabolism of methyl tertiary butyl ether (MTBE) in liver cells. As a graduate student at Duke University in Dr. Michael Fitzgerald's lab, Dr. Wallace investigated protein-ligand binding interactions involving ATP, geldanamycin, and manassantin A using the Stability of Proteins from Rates of Oxidation (SPROX) technique.

### Select Publications:

Geer, M. A., and M. C. Fitzgerald. 2016. Characterization of the *Saccharomyces cerevisiae* ATP-Interactome using the iTRAQ-SPROX Technique. *J. Am. Soc. Mass Spectrom.* 27:233-43.

Geer, M. A., and M. C. Fitzgerald. 2014. Energetics-Based Methods for Protein-Folding and Stability Measurements. *Annu. Rev. Anal. Chem.* 7:209-28.

Strickland, E. C., Geer, M. A., Hong, J., and Fitzgerald, M. C. 2014. False-positive rate determination of protein target discovery using a covalent modification- and mass spectrometry-based proteomics platform. *J. Am. Soc. Mass Spectrom.* 25:132-40.

Melesse, M., Choi, E., Hall, H., Walsh, M. J., Geer, M. A., and Hall, M. C. 2014. Timely activation of budding yeast APCCdh1 involves degradation of its inhibitor, Acm1, by an unconventional proteolytic mechanism. *PLoS One* 9:e103517.

Strickland, E. C., Geer, M. A., Tran, D. T., Adhikari, J., West, G. M., DeArmond, P. D., Xu, Y., and Fitzgerald, M. C. 2013. Thermodynamic analysis of protein-ligand binding interactions in complex biological mixtures using the stability of proteins from rates of oxidation. *Nat. Protoc.* 8:148-61.

### Education:

- Ph.D., Chemistry, Duke University, Durham, NC 2015
- B.S., Biochemistry, Indiana Wesleyan University, 2010

### Professional Experience:

- Chemist (GS-12), U.S. EPA, Research Triangle Park, NC, 2015-Present