Tiffany L.B. Yelverton, Mechanical Engineer in EPA's National Risk Management Research Laboratory

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Mailing Address

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Areas of Expertise: Dr. Yelverton's expertise is in combustion and particulate matter production and mitigation (specifically soot and black carbon), relating to internal combustion engines. Her EPA research has focused on emissions from stationary diesel gensets as well as coal combustion for utilities, with interest in using waste or alternative fuels as replacements for traditional fossil fuels. Other research areas include fundamental flame/combustion characterization, diesel and biodiesel combustion, outdoor wood-fired hydronic heaters and pellet stoves, residential wood combustion, waste disposal solutions in rural areas, metal fuel additives, NOx control using SCR, and investigations into black carbon instrumentation and measurement techniques.

Select Publications:

Yelverton, T.L., Poe, A., D. Nash, E. Brown, C. Singer, P. Kariher, and J. Ryan. Characterization of emission from a pilot-scale combustor operating on coal blended with woody biomass (in draft, August 2018).

Yelverton, T., A. Brashear, D. Nash, E. Brown, C. Singer, P. Kariher, and J. Ryan. Comparison of gaseous and particulate emissions from a pilot-scale combustor using three varieties of coal. FUEL. Elsevier Science BV, Amsterdam, Netherlands, 215:572-579, (2018).

Yelverton, T., D. Nash, E. Brown, C. Singer, J. Ryan, and P. Kariher. Dry sorbent injection of trona to control acid gases from a pilot-scale coal-fired combustion facility. AIMS Environmental Science. AIMS Press, Springfield, MO, 3(1):45-57, (2016).

Pavlovic, J., A. Holder, and **T. Yelverton**. Effects of Aftermarket Control Technologies on Gas and Particle Phase Oxidative Potential from Diesel Engine Emissions. Environmental Science & Technology. American Chemical Society, Washington, DC, 49:10544-10552, (2015).

Yelverton, T., A. Holder, and J. Pavlovic. Emissions Removal Efficiency from Diesel Gensets Using Aftermarket PM Controls. Clean Technologies and Environmental Policy. Springer-Verlag, New York, NY, 17(7):1861-1871, (2015).

Yelverton, T. L., M. D. Hays, B. K. Gullett, and W. P. Linak. Black Carbon Measurements of Flame-Generated Soot as Determined by Optical, Thermal-Optical, Direct Absorption, and Laser Incandescence Methods. Environmental Engineering Science. Mary Ann Liebert, Inc., Larchmont, NY, 31(4):209-215, (2014).

View more research publications by Tiffany L.B. Yelverton

Education:

- Ph.D., North Carolina State University, Raleigh, NC; Mechanical Engineering, 2008
- M.S., North Carolina State University, Raleigh, NC; Aerospace Engineering, 2005
- B.S., North Carolina State University, Raleigh, NC; Aerospace Engineering, 2003

Professional Experience:

- Invited expert reviewer for international peer-reviewed journals *Atmospheric Environment; Atmosphere; Environmental Engineering Science; Clean Technologies and Environmental Policy; Aerosol Science and Technology; Combustion and Flame*; *Fuel*
- NSF and EPA STAR Grant Proposals Reviewer
- Expert reviewer for EPA ORD's Air, Climate, and Energy (ACE) Centers Programmatic Review (2015)
- CAAAC Air Toxics Work Group Member (2016)
- Active member of Combustion Institute; American Association for Aerosol Research; and Air and Waste Management Association

Awards and Honors

- EPA ORD Presidential Early Career Achievement in Science and Engineering (PECASE) 2015 nominee
- EPA STAA Award: Pollutant Emissions and Energy Efficiency under Controlled Conditions for Household Biomass Cookstoves and Implications for Metrics Useful in Setting International Test Standards (2014)
- EPA STAA Award: Post-processing Method to Reduce Noise while Preserving High Time Resolution in Aethalometer Real-time Black Carbon Data (2013)
- EPA STAA Award: Emissions Characterization of Residential Wood-Fired Hydronic Heater Technologies (2013)
- Exceptional/Outstanding ORD Technical Assistance to the Regions or Program Offices for research completed on coal emissions characterization (2015 & 2011)
- National Risk Management Research Laboratory Award: "Quality Assurance" for research and development completed on black carbon post-processing data tool (2011)
- GE Faculty of the Future Distinguished Fellow, National Award (2004-2005)