

Amara Holder, Mechanical Engineer in EPA's National Risk Management Research Laboratory

Air and Energy Management Division

[Mailing Address](#)

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Areas of expertise:

- Measurement methodologies for particulate matter physical, chemical, and optical characterization
- Emissions measurements from prescribed and wildfires, munitions and pyrotechnics, residential heating and cooking appliances
- Particulate matter and black carbon sensor development
- Black carbon and brown carbon characterization from combustion systems and atmospheric transformations

Select publications

Xie, M., Chen, X., Hays, M. D., Lewandowski, M., Offenberg, J., Kleindienst, T. E., **Holder, A. L.** (2017). [Light absorption of secondary organic aerosol: Composition and contribution of nitro-aromatic compounds](#), *Environmental Science & Technology* 51:1160-11616

Holder, A. L., Gullett, B. K., Urbanski, S. P., Elleman, R., O'Neill, S., Tabor, D., Mitchell, W., Baker, K. R. (2017) [Emissions from prescribed burning of agricultural fields in the pacific northwest](#), *Atmospheric Environment* 166:22-33.

Gullett, B. K., Aurell, J., **Holder, A. L.**, Mitchell, W., Greenwell, D., Hays, M., Conmy, R., Tabor, D., Preston, W., George, I., Abrahamson, J. P., Vander Wal, R., Holder, E., (2017). [Characterization of emissions and residues from simulations of the Deepwater Horizon surface oil burns](#), *Marine Pollution Bulletin* 117:392-405.

Holder, A. L., Hagler, G. S. W., Aurell, J., Hays, M. D., Gullett, B. K., (2016). [Particulate matter and black carbon optical properties and emission factors from prescribed fires in the southeastern United States](#), *Journal of Geophysical Research – Atmospheres* 121:3465-3483.

Black, R., B. Gullett, I. George, J. Aurell, A. **Holder**, M. Hays, Chris Geron, and D. Tabor. (2016). [Characterization of Gas and Particle Emissions from Laboratory Burns of Peat](#). *Atmospheric Environment*, 132:49-57.

Pavlovic, J., **Holder, A. L.**, Yelverton, T. L. B. (2015). Effects of aftermarket control technologies on gas and particle oxidative potential from diesel engine emissions. *Environmental Science & Technology* 49:10544-10552.

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Education:

- Ph.D., University of California, Berkeley, CA; Mechanical Engineering, 2008
- M.S., University of Texas, Austin, TX; Mechanical Engineering, 2003
- B.S., University of Texas, El Paso, TX; Mechanical Engineering, 1999

Professional Experience:Committees and Affiliations

- Adjunct Assistant Professor, North Carolina State University, 2013-present

Awards and Honors

- EPA Office of Research and Development Bronze Medal Award – The ORD Household Energy Research Team, 2017
- ORD Bronze Award – Black Carbon Sensor Team, 2017
- Exceptional/Outstanding ORD Technical Assistance to the Regions or Program Office – Deepwater Horizon Team, 2017
- Postdoctoral Fellow, Virginia Tech, 2009 – 2010

[Science Matters: Evaluating Low-cost Air Sensor Performance Near Wildfires](#)

[Science Matters: Advancing Sensor Technology to Monitor Wildfires](#)

[Science Matters: Simulating Oil Spill Burns to Improve Clean Up and Protect Air Quality](#)

[Science Matters: Novel Air Measurement Technology Supports Smoke Management Practices for Prescribed Burns](#)