

James J. Szykman, Senior Research Engineer, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division

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Area of Expertise: Remote sensing of aerosols and trace gases in the atmosphere, application of satellite aerosol and trace gas data sets to air quality analysis through multivariate analysis; numerical model evaluation using satellite and in-situ measurements and; coordination, leadership and execution of large collaborative intra- and inter-Agency research efforts.

Select Publications:

Wang, J., Aegerter, C., Xu, X. and Szykman, J.J. (2016). Potential application of VIIRS Day/Night Band for monitoring nighttime surface PM 2.5 air quality from space. *Atmospheric Environment*, 124, pp.55-63.

Chu D, Ferrare R, Szykman J, Lewis J, Scarino A, Hains J, Burton S, Chen G, Tsai T, Hostetler C, et al. (2015). Regional Characteristics of the Relationship between Columnar {AOD} and Surface PM2.5: Application of Lidar Aerosol extinction profiles over Baltimore-Washington Corridor during DISCOVER-AQ. *Atmospheric Environment*, 101, 338-349.

Knepp, T., Pippin, M., Crawford, J., Chen, G., Szykman, J., Long, R., Cowen, L., Cede, A., Abuhassan, N., Herman, J. (2013). "Estimating surface NO₂ and SO₂ mixing ratios from fast-response total column observations and potential application to geostationary missions." *Journal of Atmospheric Chemistry*: 1-26.

van Donkelaar A., R. Martin, A. Pasch, J. Szykman, et al., Reducing the uncertainty in daily satellite-derived ground-level fine aerosol estimates for North America, *Environ Sci Technol.* 2012 Nov 6;46(21):11971-8

Rappold AG, S. L. Stone, W. E. Cascio, L. M. Neas, V. Kilaru, M. S. Carraway, J. J. Szykman, et al., 2011 Peat Bog Wildfire Smoke Exposure in Rural North Carolina Is Associated with Cardiopulmonary Emergency Department Visits Assessed through Syndromic Surveillance. *Environ Health Perspect* 119(10).

Fairlie T. D., J. Szykman, et al., (2009). Lagrangian Sampling of 3-d Air Quality Model Results for Regional Transport Contributions to Sulfate Aerosol Concentrations at Baltimore, MD, in Summer 2004, *Atmos.. Environ.* 43(20), pp. 3275-3288

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Education:

- M.S. Water Resources and Environmental Engineering, Villanova University, 1992
- B.S. Chemical Engineering, The Pennsylvania State University, 1988

Professional Experience:

- Senior Research Engineer, SSAB/EMMD/NERL/ORD/USEPA RTP, NC 2014-present
- Environmental Engineer, LCB/ESD/NERL/ORD/USEPA – RTP, NC, 2004-2014
- Environmental Engineer, OAQPS/OAR/USEPA - RTP, NC, 1994-2004
- Environmental Engineer, Dept. of Navy, NAVFACENGCOM; Atlantic Division, Norfolk, VA, 1992-1994, Northern Division, Philadelphia, PA (1989-1992)

Science Teams and Committees:

- Tropospheric Emission Monitoring of Pollution (TEMPO) Science Team (2014 –present)
- European Space Agency (ESA) Sentinel-5 Precursor Validation Science Team (2015 – present)
- USGCRP Interagency Observations Working Group – EPA representative (2014 – present)