

## List of SERDP Publications and Presentations

### *Published or in press*

S. Angelino, D.T. Suess and K.A. Prather, Formation of Aerosol Particles in the Presence of Secondary and Tertiary Alkylamines. Characterization by Aerosol Time-of-Flight Mass Spectrometry, *Environ. Sci. Tech.*, 35:3130-3138 (2001).

W.P. Arnott, H. Moosmüller, and J. W. Walker. Nitrogen Dioxide and Kerosene-Flame Soot Calibration of Photoacoustic Instruments for Measurement of Light Absorption by Aerosols. *Review of Scientific Instruments*. 71(7) (2000) 4545.

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P.V. Bhave, D.P. Fergenson, K.A. Prather, G.R. Cass, Source Apportionment of Fine Particulate Matter by Clustering Single Particle Data: Tests of Receptor Model Accuracy, *Environ. Sci. Tech.*, 35:2060-2072 (2001).

P.V. Bhave, J.O. Allen, B.D. Morrical, D.P. Fergenson, G.R. Cass, K.A. Prather, A Field-Based Approach for Determining ATOFMS Instrument Sensitivities to Ammonium and Nitrate, *Environ. Sci. & Technol.* 36:4868-4879 (2002).

P.V. Bhave, M.J. Kleeman, J.O. Allen, L.S. Hughes, K.A. Prather, G.R. Cass, Evaluation of an air quality model for the size and composition of source-oriented particle classes, *Environ. Sci. & Technol.*, 36:2154-2163 (2002).

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S.A. Guazzotti, Suess, D.T., Coffee, K.R., Quinn, P.K., Bates, T.S., Wisthaler, A., Hansel, A., Ball, W.P., Dickerson, R. R., Neusüß, C., Crutzen, P.J., Prather, K. A. Characterization of carbonaceous aerosols outflow from India and Arabia: Biomass/biofuel burning and fossil fuel combustion, *J. Geophys. Res.*, 108: 4485 (2003).

D.S. Gross, E.E. Gälli, P.J. Silva, S.H. Wood, D.Y. Liu and K.A. Prather, Single Particle Characterization of Automobile and Diesel Truck Emissions in the Caldecott Tunnel, *Aerosol Sci. Tech.*, 32:152-163 (2000).

K.E. Kelly, D.A. Wagner, J. S. Lighty, A.F. Sarofim, C.F. Rogers, J. Sagebiel, B. Zielinska, W. P. Arnott, and G. Palmer Characterization of Exhaust Particles from Military Vehicles Fueled with Diesel, Gasoline, and JP-8, *J. Air & Waste Management Assoc.* (2003) 53, 273-282.

K.E. Kelly, D.A. Wagner, B. Bretecher, B. Holden, K. Sahay, Z. Nardi, J.S. Lighty, A.S. Sarofim, N. Helgeson Evaluation of Catalyzed and Electrically Heated Soot Filters for Removal of Particulate Emissions from Diesel and JP-8 Fueled Engines, *J. Air & Waste Management Assoc.* (2004) 54:83-92.

J. S. Lighty, J. M. Veranth, and A.F. Sarofim. Combustion Aerosols: Factors Governing their Size and Composition and Implications to Human Health. *J. Air & Waste Management Assoc.* (2000) 50, 1565-1618.

B.D. Morrical, D.P. Fergenson, K.A. Prather, Coupling Two-Step Laser Desorption/Ionization with Aerosol in Near Real-Time," *J. Amer. Soc. Mass Spec.*, 9:1068-1073 (1998).

B.D. Morrical. The Design and Application of a Field Transportable Time-of-Flight Mass Spectrometer (ATOFMS) and Use of Two Step Laser Desorption/Ionization (L2MS) to Determine PAH in Single Particles. Ph.D. Thesis, University of California, Riverside, 2000.

C.F. Rogers, J.C. Sagebiel, B. Zielinska, W.P. Arnott, E.M. Fujita, J.D. McDonald, J.B. Griffin, K. Kelly, D. Overacker, D., Wagner, J. Lighty, A. Sarofim, and G. Palmer. Characterization of Submicron Exhaust Particles from Engines Operating Without Load on Diesel and JP-8 Fuels. *Aerosol Sci. Technol.* 37 (4) (2003) 355.

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X.H. Song, N.M. Faber, P.K. Hopke, D.T. Suess, D.P. Fergenson and K.A. Prather, Source Apportionment of Gasoline and Diesel by Multivariate Calibration Based on Single Particle Mass Spectral Data, *Anal. Chim. Acta.* 446 (2001) 329-343.

X-H. Song, D.P. Fergenson, P.K. Hopke, K.A. Prather, Classification of Single Particles Analyzed by ATOFMS Using An Artificial Neural Network, ART-2a, *Anal. Chem.*, 71:860-865 (1999).

B. Zielinska, J. Sagebiel, W. P. Arnott, C.F. Rogers, K.E. Kelly, D.A. Wagner, J. S. Lighty, A.F. Sarofim, G. Palmer, Phase and Size Distribution of Polycyclic Aromatic Hydrocarbons in Diesel and Gasoline Vehicle Emissions. *Environ. Sci. Technol.* (2004) 38, 2557-2567.

### *In progress*

W. P. Arnott, B. Zielinska, C. F. Rogers, and J. Sagebiel, K. Kelly, D. Wagner, A. Sarofim, J. Lighty, G. Palmer, Evaluation of 1047 nm Photoacoustic Instruments and Photoelectric Aerosol Sensors in Source-Sampling of Black Carbon Aerosol and Particle Bound PAH's from Gasoline and Diesel Powered vehicles, In progress.

P. Jiang, C. Montgomery, A. Sarofim, K. Kelly, J. Lighty. Predicting the effect of dilution on particle size distributions in an exhaust plume. *J. Air & Waste Management Assoc.*, accepted.

J.S. Park, M.M. Shafer, J.J. Schauer, D. Wagner, A. F. Sarofim, J. Lighty, and G.R. Cass. Impact of Combustion Technology on the Composition Size Distribution of Fine Particulate Matter Emitted from the Combustion of Coal. In progress.

C.F. Rogers, J.C. Sagebiel, B. Zielinska, W.P. Arnott, K. Kelly, D., Wagner, J. Lighty, A. Sarofim. Evaluation of aircraft emissions at North Island Naval Air Station. *J. Air & Waste Management Assoc.* accepted.

J. J. Schauer, C. G. Christensen, and G.R. Cass. The Composition and Size Distribution of Fine Particulate Matter Emitted from Model Rockets. In progress.

### *Presentations*

Arnot, W.P., C.F. Rogers, H. Moosmuller, J. B. Griffin, 2000: Evaluation of Aerosol-Bound PAHs and Elemental Carbon Aerosol in Diesel and Gasoline Vehicles. Presented at Tenth Coordinating Research Council (CRC) On-Road Vehicle Emissions Workshop, San Diego, CA, March 27-29, 2000.

Jiang P., J.S. Lighty, A.F. Sarofim, E.G. Eddings, 2002, Coagulation Simulation and Inference of Initial Particle Size Distributions Annual Meeting, American Association for Aerosol Research.

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Kelly K.E., D. A. Wagner, A.F. Sarofim, J.S. Lighty, W.P. Arnott, E. Fujita, C.F. Rogers, J. Sagebiel, B. Zielinska, K.A. Prather, D.T. Suess, J. Schauer, G. Palmer (2001) Characterization of fine particulate emissions from vehicles using real-time instruments, *222nd ACS National Meeting -Chicago*, IL August 26-30, Paper 122.

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Kelly K.E., D.A. Wagner, A.F. Sarofim, J.S. Lighty, W.P. Arnott, E. Fujita, C.F. Rogers, J. Sagebiel, B. Zielinska, K. A. Prather and D. T. Suess, J. Schauer, G. Palmer, M. Calidonna (2001) Characterization of Particulate Matter from Aircraft Ground Support Equipment. *Real World Clean Air Conference*, San Diego, CA, April 23-25.

Lighty J.S., A.F. Sarofim, D.A. Wagner, K.E. Kelly, C.F. Rogers, B. Zielinska, J. Sagebiel, W.P. Arnott, Evaluation of real-time instruments for the characterization of aircraft particulate matter emissions. Phase and Size Distribution of Polycyclic Aromatic Hydrocarbons in Gasoline and Diesel Vehicle Emissions, 2002 Annual Meeting, American Association for Aerosol Research.

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Suess D.T., K.A. Prather, Characterization of Aerosol Combustion Sources: Road to Single Particle Source Apportionment, Analytical Chemistry Department Seminar, University of California at Riverside, March 15, 2001.

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Suess D.T., K.R. Coffee, K.A. Prather, Annual Research Progress of the ATOMS, Strategic Environmental Research and Development Program (SERDP): Source of Coal Combustion Particulate Emissions, Implementation of Aerodynamic Lenses, on ATOFMS and Hill Air Force Base Sandblasting and Ambient Results, *SERDP Advisory Panel Meeting*, San Diego CA, December 15, 2001.

Suess D.T., B. Morrical, K.A. Prather, J. Schauer, Z. Chowdury, P. Fine, G.R. Cass, Source Characterization of Biomass Burning Particulate Emissions Investigated by Single Particle Chemical Analysis. *American Association for Aerosol Research*, St. Louis, MO, November 10, 2000.

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Suess D.T., D.Y. Lui, M. Gaelli, K.A. Prather, Real-Time Single Particle Analysis at the Grand Canyon Utilizing an Aerosol Time-of-Flight Mass Spectrometer (ATOFMS), Western Regional ACS Meeting, Ontario, CA, October 8, 1999.

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D.T. Suess, P. Silva, K.A. Prather, J. Schauer, G.R. Cass, Application of a Combustion Source Study to Ambient Freeway Data Using Aerosol Time-of-Flight Mass Spectrometry,. Association for Aerosol Research Annual Conference, Tacoma, WA, October 14, 1999.

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B. Zielinska, J. Sagebiel, C.F. Rogers, W. P. Arnott, K.E. Kelly, D.A. Wagner, J. S. Lighty, A.F. Sarofim, and G. Palmer, 2002: Phase and Size Distribution of Polycyclic Aromatic Hydrocarbons in Gasoline and Diesel Vehicle Emissions, 2002 Annual Meeting, American Association for Aerosol Research.