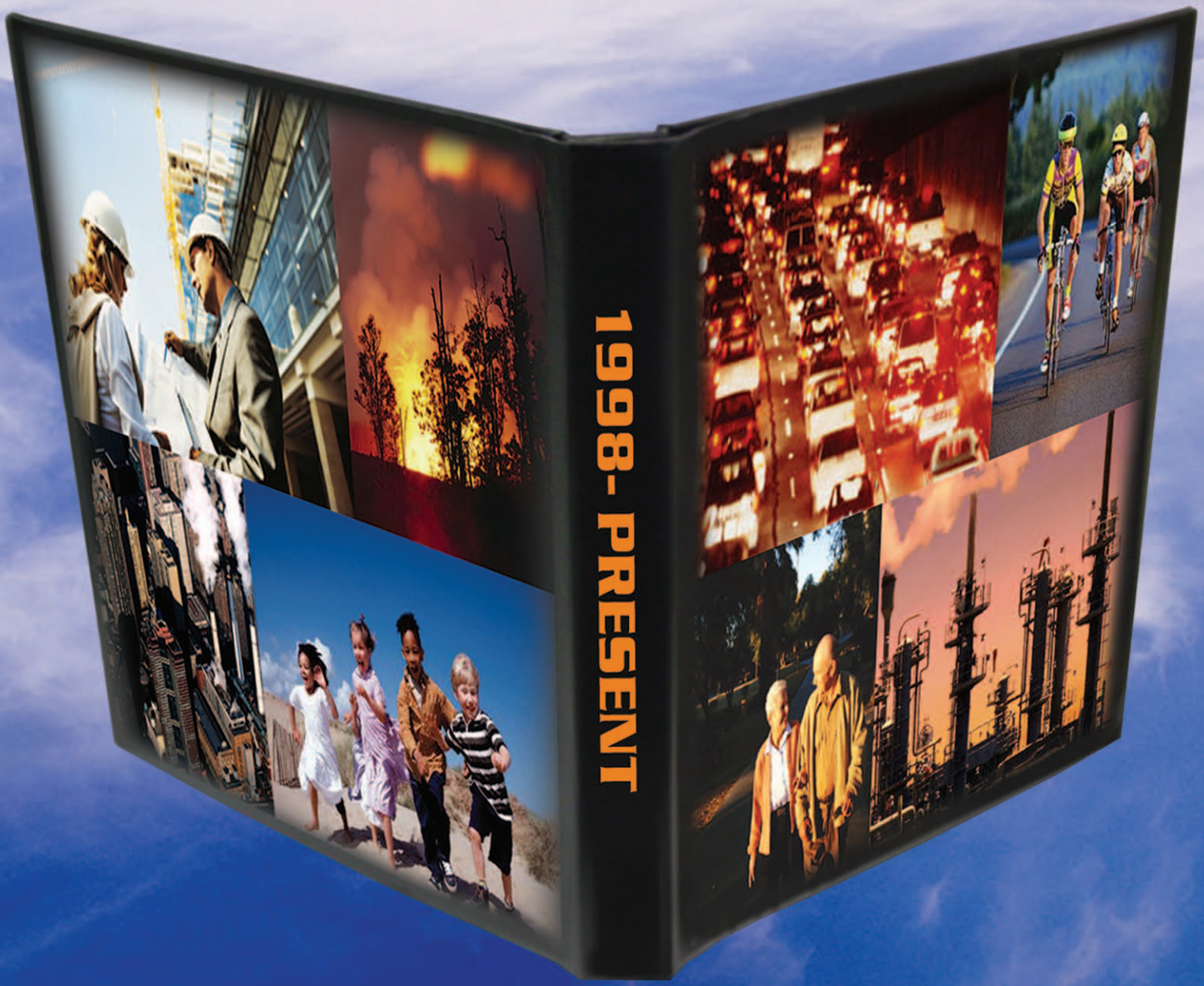
U.S. EPA PARTICULATE MATTER RESEARCH PUBLICATIONS



U.S. EPA PARTICULATE MATTER RESEARCH PUBLICATIONS

1998-PRESENT

Introduction

In 1998, Congress significantly expanded funding for the Environmental Protection Agency's (EPA) Particulate Matter (PM) Research Program, with the specific charge to accelerate the investigation of the role of PM in health effects associated with air pollution and to strengthen the science to support implementation of regulatory actions.

Since that time, EPA's PM research has been performed within a scientific framework developed by an expert committee convened by the National Research Council (NRC) of the National Academy of Sciences. The NRC Committee issued a series of reports entitled "Research Priorities for Airborne Particulate Matter," that outlined a research agenda to address the key scientific questions about PM and provided periodic assessments of progress.

Research at EPA is conducted within the Office of Research and Development (ORD) laboratories (listed below) and extramurally through research grants, cooperative agreements, and contracts. Significant elements of the extramural program include the Science To Achieve Results (STAR) research grants program and the Supersites ambient monitoring research program.

Together, EPA's intramural and extramural PM research programs focus on addressing the NRC priorities. The extramural STAR grant program develops solicitations for PM research in targeted environmental science, exposure, engineering, and health areas. This program included the establishment of five PM Research Centers that, together with the EPA intramural program, could broadly address the pressing PM research questions. An important goal of the entire program has been to communicate and coordinate new findings and research priorities with partners and other federal agencies.

This document catalogs the publications that describe salient scientific advances in PM-related health, exposure, and implementation research conducted by ORD and EPA-funded researchers since 1998.

Contributing EPA Offices and Laboratories:

National Center for Environmental Assessment
National Center for Environmental Research: STAR Grant Program, including PM Centers
National Exposure Research Laboratory
National Health and Environmental Effects Research Laboratory
National Risk Management Research Laboratory
Office of Air and Radiation: Supersites Program

1998 Publications:

Abbey, D. E. and R. J. Burchette, et al. (1998). Long-term particulate and other air pollutants and lung function in nonsmokers. *Am J Respir Crit Care Med.* 158(1): 289-298.

Ansari, A. S. and S. N. Pandis (1998). Response of inorganic PM to precursor concentrations. *Environ Sci Technol.* 32: 2706-2714.

Bahrmann, C. P. and V. K. Saxena (1998). The influence of air mass history on black carbon concentrations and regional climate forcing in southeastern United States. *J Geophys Res.* 103: 23153-23161.

Becker, S. and J. M. Soukup (1998). Decreased CD11b expression, phagocytosis, and oxidative burst in urban particulate pollution-exposed human monocytes and alveolar macrophages. *J Toxicol Environ Health A.* 55(7): 455-477.

Bennett, W. D., G. Scheuch, et al. (1998). Bronchial airway deposition and retention of particles in inhaled boluses: effect of anatomic dead space. *J Appl Physiol.* 85(2): 685-694.

Bonner, J. C., A. B. Rice, et al. (1998). Induction of the lung myofibroblast PDGF receptor system by urban ambient particles from Mexico City. *Am J Respir Cell Mol Biol.* 19: 672-680.

Boring, C. B., P. K. Dasgupta, et al. (1998). A compact field portable capillary ion chromatograph. *J Chromatography.* 840: 45-54.

Champion, M. and D. R. Jaasma (1998). Degradation of emissions control performance of wood stoves in Crested Butte, CO. Research Triangle Park, NC, National Risk Management Research Laboratory, EPA Report EPA-600/R-98-158 (NTIS PB99-127995).

Chapman, R. S., W. P. Watkinson, et al. (1998). Ambient particulate matter and respiratory and cardiovascular illness in adults: particle-borne transition metals and the heart-lung axis. *Environ Toxicol Pharmacol.* 4: 331-338.

Comer, J. K., Jr., C. Kleinstreuer, et al. (1998). Computational aerosol transport and deposition analyses for human exposure chambers and model respiratory airways. *ASME FEDSM98.* 5044: 1-6.

Costa, D. L. (1998). Is there a toxic role for constitutive transition metals? In: Lee, S. D., ed. *Air Pollution and the 21st Century: Priority Issues and Policy Trends. 5th U.S.-Dutch International Symposium.* Amsterdam: Elsevier, Ltd., 117-123.

Costa, D. L., S. H. Gavett, et al. (1998). Ambient particulate matter and health: what are the animals telling us? In: Mohr, U., ed. *International Life Sciences Institute Monographs, Relationships Between Respiratory Disease and Exposure to Air Pollution.* Washington, DC: ILSI Press, 185-194.

Cruz, C. N. and S. N. Pandis (1998). Activation of multicomponent organic and inorganic aerosols in ambient clouds. *J Geophys Res.* 103(13): 121-123.

Devlin, R. B., J. Quay, et al. (1998). In vitro models of acute inflammation in humans. In: Mohr, U., ed. *International Life Sciences Institute Monographs, Relationships Between Respiratory Disease and Exposure to Air Pollution*. Washington, DC: ILSI Press, 99-108.

Elias, V. O., B. R. T. Simoneit, et al. (1998). High temperature gas chromatography with a glass capillary column for the analysis of high molecular weight tracers in smoke samples from biomass burning. *J High Resolution Chromatography.* 21: 87-93.

Erlick, C. and J. E. Frederick (1998). Effects of aerosols on the wavelength dependence of atmospheric transmission in the ultraviolet and visible. 1. A single-scattering-separate delta-Eddington model. *J Geophys Res.*103: 11465-11472.

Erlick, C. and J. E. Frederick (1998). Effects of aerosols on the wavelength dependence of atmospheric transmission in the ultraviolet and visible. 2. Continental and urban aerosols in clear skies. *J Geophys Res.* 103: 23275-23285.

Erlick, C., J. E. Frederick, et al. (1998). Atmospheric transmission in the ultraviolet and visible: aerosols in cloudy atmospheres. *J Geophys Res.* 103: 31541-31556.

Gard, E. E., M. J. Kleeman, et al. (1998). Direct observation of heterogeneous chemistry in the atmosphere. *Science.* 279: 1184-1187.

Ge, Z., A. S. Wexler, et al. (1998). Deliquescence behavior of multicomponent aerosols. *J Physical Chemistry A.* 102: 173-180.

Ge, Z., A. S. Wexler, et al. (1998). Laser desorption/ionization of single ultrafine multicomponent aerosols. *Environ Sci Technol.* 32: 3218-3223.

Ghio, A. J., J. D. Carter, et al. (1998). Disruption of normal iron homeostasis after bronchial instillation of an iron-containing particle. *Am J Physiol.* 274(3 Pt 1): L396-L403.

Ghio, A. J., J. D. Carter, et al. (1998). Metal-dependent expression of ferritin and lactoferrin by respiratory epithelial cells. *Am J Physiol.* 274(5 Pt 1): L728-L736.

Ghio, A. J., T. P. Kennedy, et al. (1998). Depletion of iron and ascorbate in rodents diminishes lung injury after silica. *Exp Lung Res.* 24(2): 219-232.

Ghio, A. J., J. H. Richards, et al. (1998). Metal storage and transport proteins increase after exposure of the rat lung to an air pollution particle. *Toxicol Pathol.* 26(3): 388-394.

Ghio, A. J., D. E. Taylor, et al. (1998). The release of iron from different asbestos structures by hydrogen peroxide with concomitant O_2 generation. *Biometals.* 11(1): 41-47.

Goldsmith, C. A., A. Imrich, et al. (1998). Analysis of air pollution particulate-mediated oxidant stress in alveolar macrophages. *J Toxicol Environ Health A.* 54(7): 529-545.

Gwynn, R. and G. D. Thurston (1998). Acidic particulate matter air pollution and daily mortality and morbidity in New York City, NY. *Epidemiology.* 9(4): S60.

Jacobson, M. Z. (1998). *Fundamentals of Atmospheric Modeling.* New York: Cambridge University Press.

Jacobson, M. Z. (1998). Improvement of SMVGEAR II on vector and scalar machines through absolute error tolerance control. *Atmos Environ.* 32(4): 791-796.

Jacobson, M. Z. (1998). *Reversible Chemical Reactions in Aerosols.* Boca Raton, FL: CRC Press.

Jacobson, M. Z. (1998). Studying the effects of aerosols on vertical photolysis rate coefficient and temperature profiles over an urban airshed. *J Geophys Res.* 103: 10593-10604.

Kennedy, T., A. J. Ghio, et al. (1998). Copper-dependent inflammation and nuclear factor-kappaB activation by particulate air pollution. *Am J Respir Cell Mol Biol.* 19(3): 366-378.

Kim, C. S. and S. C. Hu (1998). Regional deposition of inhaled particles in human lungs: comparison between men and women. *J Appl Physiol.* 84(6): 1834-1844.

Kodavanti, U. P., D. L. Costa, et al. (1998). Rodent models of cardiopulmonary disease: their potential applicability in studies of air pollutant susceptibility. *Environ Health Perspect.* 106(Suppl 1): 111-130.

Kodavanti, U. P., R. Hauser, et al. (1998). Pulmonary responses to oil fly ash particles in the rat differ by virtue of their specific soluble metals. *Toxicol Sci.* 43: 204-212.

Kodavanti, U. P., Z. H. Meng, et al. (1998). In vivo and in vitro correlates of particle-induced lung injury: specific roles of bioavailable metals. In: Mohr, U., Dungworth, D. L., Brainet, J. D., et al., eds. *Relationships Between Respiratory Disease and Exposure to Air Pollution. ILSI Monographs.* Washington, DC: ILSI Press, 261-266.

Lay, J. C., W. D. Bennett, et al. (1998). Retention and intracellular distribution of instilled iron oxide particles in human alveolar macrophages. *Am J Respir Cell Mol Biol.* 18(5): 687-695.

Ledbetter, A. D., P. M. Killough, et al. (1998). A low-sample-consumption dry-particulate aerosol generator for use in nose-only inhalation exposures. *Inhalation Toxicol.* 10: 239-251.

Madl, A. K., D. W. Wilson, et al. (1998). Alteration in lung particle translocation, macrophage function, and microfilament arrangement in monocrotaline-treated rats. *Toxicol Appl Pharmacol.* 153(1): 28-38.

Mansoori, B. A., M. V. Johnston, et al. (1998). Laser desorption ionization of size resolved liquid microdroplets. *Anal Chimica Acta.* 359(1-2): 185-191.

Miller, C. A., W. P. Linak, et al. (1998). Fine particle emissions from heavy fuel oil combustion in a firetube package boiler. *Combustion Sci Technol.* 134: 477-502.

Nenes, A., S. N. Pandis, et al. (1998). ISORROPIA: a new thermodynamic equilibrium model for multiphase multicomponent inorganic aerosols. *Aquatic Geochemistry.* 4: 123-152.

Neubauer, K. R., M. V. Johnston, et al. (1998). Humidity effects on the mass spectra of single aerosol particles. *Atmos Environ.* 32(14-15): 2521-2529.

Pálotás, A. B., L. C. Rainey, et al. (1998). Where did that soot come from? *CHEMTEC.* 28(7): 24-30.

Quay, J. L., W. Reed, et al. (1998). Air pollution particles induce IL-6 gene expression in human airway epithelial cells via NF-kappaB activation. *Am J Respir Cell Mol Biol.* 19(1): 98-106.

Samet, J. M., L. M. Graves, et al. (1998). Activation of MAPKs in human bronchial epithelial cells exposed to metals. *Am J Physiol.* 275(3 Pt 1): L551-L558.

Stringer, B. and L. Kobzik (1998). Environmental particulate-mediated cytokine production in lung epithelial cells: role of preexisting inflammation and oxidant stress. *Toxicol Environ Health A.* 55(1): 31-44.

Tanner, R. L., R. J. Valente, et al. (1998). Measuring inorganic nitrate species with short time resolution from an aircraft platform by dual-channel ozone chemiluminescence. *J Geophys Res.* 103(D17): 22387-22395.

Timblin, C., K. Berube, et al. (1998). Ambient particulate matter causes activation of the c-jun kinase/stress-activated protein kinase cascade and DNA synthesis in lung epithelial cells. *Cancer Res.* 58(20): 4543-4547.

Watkinson, W. P., M. J. Campen, et al. (1998). Cardiac arrhythmia induction after exposure to residual oil fly ash particles in the pulmonary hypertensive rat. *Toxicol Sci.* 41: 209-216.

Wenny, B. N., J. S. Schafer, et al. (1998). A study of regional aerosol radiative properties and effects on ultraviolet-B radiation. *J Geophys Res.* 103: 17083-17097.

Yu, J., R. C. Flagan, et al. (1998). Identification of products containing -COOH, -OH, and -C=O in atmospheric oxidation of hydrocarbons. *Environ Sci Technol.* 32: 2357-2370.

1999 Publications:

Abbey, D. E., N. Nishino, et al. (1999). Long-term inhalable particles and other air pollutants related to mortality in nonsmokers. *Am J Respir Crit Care Med.* 159(2): 373-382.

Aneja, V. P., J. P. Chauhan, et al. (1999). Characterization of atmospheric ammonia emissions from swine waste storage and treatment lagoons. *J Geophys Res. (D Atmos.)* 105: 11535-11545.

Ansari, A. S. and S. N. Pandis (1999). An analysis of four models predicting the partitioning of semi-volatile inorganic aerosol components. *Aerosol Sci Technol.* 31: 129-153.

Ansari, A. S. and S. N. Pandis (1999). Prediction of multicomponent inorganic atmospheric aerosol behavior. *Atmos Environ.* 33(5): 745-757.

Becker, S., W. A. Clapp, et al. (1999). Compartmentalization of the inflammatory response to inhaled grain dust. *Am J Respir Crit Care Med.* 160(4): 1309-1318.

Becker, S. and J. M. Soukup (1999). Exposure to urban air particulates alters the macrophage-mediated inflammatory response to respiratory viral infection. *J Toxicol Environ Health A.* 57(7): 445-457.

Bennett, W. D., G. Scheuch, et al. (1999). Regional deposition and retention of particles in shallow, inhaled boluses: effect of lung volume. *J Appl Physiol.* 86(1): 168-173.

Boring, C. B., S. K. Poruthoor, et al. (1999). Wet effluent parallel plate diffusion denuder coupled capillary ion chromatograph for the determination of atmospheric trace gases. *Talanta.* 48(3): 675-684.

Capaldo, K. P., P. Kasibhatla, et al. (1999). Is aerosol production within the remote marine boundary layer sufficient to maintain observed concentrations? *J Geophys Res.* 104: 3483-3500.

Chang, M., S. Kim, et al. (1999). Experimental studies on particle impaction and bounce: effects of substrate design and material. *Atmos Environ.* 33(15): 2313-2322.

Clarke, R. W., P. J. Catalano, et al. (1999). Urban air particulate inhalation alters pulmonary function and induces pulmonary inflammation in a rodent model of chronic bronchitis. *Inhalation Toxicol.* 11(8): 637-656.

Costa, D. L. and K. L. Dreher (1999). What do we need to know about airborne particles to make effective risk management decisions? *Human Ecol Risk Assessment.* 5(3): 481-492.

Dassios, K. G. and S. N. Pandis (1999). The mass accommodation coefficient of ammonium nitrate aerosol. *Atmos Environ.* 33: 2993-3003.

Devlin, R. B., A. J. Ghio, et al. (1999). Responses of inflammatory cells. In: Gehr, P., Heyder, J., eds. *Particle-Lung Interactions*. New York: Marcel Dekker, Inc.

Duanping, L., J. Creason, et al. (1999). Daily variation of particulate air pollution and poor cardiac autonomic control in the elderly. *Environ Health Perspect.* 107(7): 521-525.

Dye, J. A., K. B. Adler, et al. (1999). Role of soluble metals in oil fly ash-induced airway epithelial injury and cytokine gene expression. *Am J Physiol Lung Cell Molec Physiol.* 277(21): L498-L510.

Eatough, D. J., F. Obeidi, et al. (1999). Integrated and real-time diffusion denuder samplers for $PM_{2.5}$ based on BOSS, PC and TEOM technology. *Atmos Environ.* 33: 2835-2844.

Eatough, D. J., Y. Pang, et al. (1999). Determination of $PM_{2.5}$ sulfate and nitrate with a PC-BOSS designed for routine sampling for semi-volatile particulate matter. *J Air Waste Manag Assoc.* 49(Special Issue): PM 69-75.

Elias, V. O., B. R. T. Simoneit, et al. (1999). The detection of heavy molecular weight organic tracers in vegetation smoke samples by high temperature gas chromatography-mass spectrometry. *Environ Sci Technol.* 33: 2369-2376.

Frampton, M. W., A. J. Ghio, et al. (1999). Effects of aqueous extracts of PM_{10} filters from the Utah Valley on human airway epithelial cells. *Am J Physiol.* 277(5 Pt 1): L960-L967.

Gallagher, J. R. (1999). Air pollution particles: effects on cellular oxidant radical generation in relation to particulate elemental composition. *Toxicol Appl Pharmacol.* 158: 81-91.

Gavett, S. H., S. L. Madison, et al. (1999). Residual oil fly ash amplifies allergic cytokines, airway responsiveness, and inflammation in mice. *Am J Respir Crit Care Med.* 160: 1897-1904.

Geigel, E. J., R. W. Hyde, et al. (1999). Rate of nitric oxide production by the lower airways of human lungs. *J Appl Physiol.* 86(1): 211-221.

Ghio, A. J., J. D. Carter, et al. (1999). Respiratory epithelial cells demonstrate lactoferrin receptors that increase after metal exposure. *Am J Physiol.* 276(6 Pt 1): L933-L940.

Ghio, A. J. and J. M. Samet (1999). Metals and air pollution particles. In: Holgate, S. T., Koren, H. L., Samet, J. M., Maynard, R. L., eds. *Air Pollutants and Effects on Health*. London: Academic Press, 635-651.

Ghio, A. J., J. Stoneheurner, et al. (1999). Metals associated with both the water-soluble and insoluble fractions of an ambient air pollution particle catalyze an oxidative stress. *Inhalation Toxicol.* 11(1): 37-49.

Ghio, A. J., J. Stoneheurner, et al. (1999). Sulfate content correlates with iron concentrations in ambient air pollution particles. *Inhalation Toxicol.* 11(4): 293-307.

Godleski, J. J. and R. W. Clarke (1999). Systemic responses to inhaled ambient particles: pathophysiologic mechanisms of cardiopulmonary effects. In: Gehr, P., Heyder, J., eds. *Particle-Lung Interactions*. New York: Marcel Dekker, Inc., 577-601.

Gold, D. R., A. I. Damokosh, et al. (1999). Particulate and ozone pollutant effects on the respiratory function of children in southwest Mexico City. *Epidemiology.* 10(1): 8-16.

Goldsmith, C. A., K. Hamada, et al. (1999). Effects of environmental aerosols on airway hyperresponsiveness in a murine model of asthma. *Inhalation Toxicol.* 11(11): 981-998.

Gopinath, A. and D. L. Koch (1999). Hydrodynamic interactions between two equal spheres in a highly rarefied gas. *Physics of Fluids.* 11: 2772-2787.

Gordon, T., H. Gerber, et al. (1999). A centrifugal particle concentrator for use in inhalation toxicology. *Inhalation Toxicol.* 11(1): 71-87.

Griffin, R. J. III, D. Dabdub, et al. (1999). Estimate of global atmospheric organic aerosol from oxidation of biogenic hydrocarbons. *Geophys Res Lett.* 26: 2721-2724.

Griffin, R. J. III, R. C. Flanagan, et al. (1999). Organic aerosol formation from the oxidation of biogenic hydrocarbons. *J Geophys Res.* 104: 3555-3567.

Hamada, K., C. A. Goldsmith, et al. (1999). Increased airway hyperresponsiveness and inflammation in a juvenile mouse model of asthma exposed to air-pollutant aerosol. *J Toxicol Environ Health A.* 58(3): 129-143.

Hosiokangas, J., J. Ruuskanen, et al. (1999). Effects of soil dust episodes and mixed fuel sources on source apportionment of PM_{10} particles in Kuopio, Finland. *Atmos Environ.* 33(23): 3821-3829.

Hughes, L. S., J. O. Allen, et al. (1999). The size and composition distribution of atmospheric particles in Southern California. *Environ Sci Technol.* 33: 3506-3515.

Hyde, D. M., L. A. Miller, et al. (1999). Neutrophils enhance clearance of necrotic epithelial cells in ozone-induced lung injury in rhesus monkeys. *Am J Physiol.* 277(6 Pt 1): L1190-L1198.

Imrich, A., Y. Y. Ning, et al. (1999). Intracellular oxidant production and cytokine responses in lung macrophages: evaluation of fluorescent probes. *J Leukoc Biol.* 65(4): 499-507.

Imrich, A., Y. Y. Ning, et al. (1999). Lipopolysaccharide priming amplifies lung macrophage tumor necrosis factor production in response to air particles. *Toxicol Appl Pharmacol.* 159(2): 117-124.

Jacobson, M. Z. (1999). Effects of soil moisture on temperatures, winds, and pollutant concentrations in Los Angeles. *J Applied Meteorology.* 38(5): 607-616.

Jacobson, M. Z. (1999). Isolating nitrated and aromatic aerosols and nitrated aromatic gases as sources of ultraviolet light absorption. *J Geophys Res.* 104(D3): 3527-3542.

Jacobson, M. Z. (1999). Studying the effects of calcium and magnesium on size-distributed nitrate and ammonium with EQUISOLV II. *Atmos Environ.* 33(22): 3635-3649.

Jaspers, I., J. M. Samet, et al. (1999). Arsenite exposure of cultured airway epithelial cells activates kappaB-dependent interleukin-8 gene expression in the absence of nuclear factor-kappaB nuclear translocation. *J Biol Chem.* 274(43): 31025-31033.

Kephart, T. S., P. K. Dasgupta, et al. (1999). An affordable high performance pumping system for gradient capillary liquid chromatography. *J Microcolumn Separations.* 11(4): 299.

Kevrekidis, P. G., M. Lazaridis, et al. (1999). A unified kinetic approach to binary nucleation. *J Chemical Physics.* 111(17): 8010-8012.

Kim, C. S. (1999). Deposition characteristics of aerosol particles in sequentially bifurcating airway models. *Aerosol Sci Technol.* 31: 198-220.

Kleeman, M. J., L. S. Hughes, et al. (1999). Source contributions to the size and composition distribution of atmospheric particles: Southern California in September 1996. *Environ Sci Technol.* 33: 4331-4341.

Kodavanti, U. P. and D. L. Costa (1999). Animal models to study for pollutant effects. In: Holgate, S. T., Samet, J. M., Koren, H. L., Maynard, R. L., eds. *Air Pollution and Health*. New York: Academic Press, 165-197.

Kodavanti, U. P., M. C. Jackson, et al. (1999). Lung injury from intratracheal and inhalation exposures to residual oil fly ash in a rat model of monocrotaline-induced pulmonary hypertension. *J Toxicol Environ Health.* 57: 101-121.

Lambert, A. L., W. Dong, et al. (1999). Residual oil fly ash exposure enhances allergic sensitization to house dust mite. *Toxicol Appl Pharmacol.* 158: 269-277.

Lay, J. C., W. D. Bennett, et al. (1999). Cellular and biochemical response of the human lung after intrapulmonary instillation of ferric oxide particles. *Am J Respir Cell Mol Biol.* 20(4): 631-642.

Liang, J. and M. Z. Jacobson (1999). A study of sulfur dioxide oxidation pathways over a range of liquid water contents, pH values, and temperatures. *J Geophys Res. (D Atmos.)* 104(D11): 13749-13769.

Liao, D., J. Creason, et al. (1999). Daily variation of particulate air pollution and poor cardiac autonomic control in the elderly. *Environ Health Perspect.* 107(7): 521-525.

Madden, M. C., M. J. Thomas, et al. (1999). Acetaldehyde (CH_3CHO) production in rodent lung after exposure to metal-rich particles. *Free Radical Biol Med.* 26(11-12): 1569-1577.

Mallina, R. V., A. S. Wexler, et al. (1999). High speed particle beam generation: simple focusing mechanisms. *J Aerosol Sci.* 30(6): 719-738.

Mondal, K., J. S. Haskill, et al. (1999). Adherence and particulate pollution-induced tyrosine phosphorylation and oxidant generation is neither necessary nor sufficient for cytokine induction in human monocytes and alveolar macrophages. *Am J Lung Cell Mol Biol.* 22(2): 200-208.

Monn, C. and S. Becker (1999). Cytotoxicity and induction of proinflammatory cytokines from human monocytes exposed to fine ($PM_{2.5}$) and coarse particles ($PM_{10-2.5}$) in outdoor and indoor air. *Toxicol Appl Pharmacol.* 155(3): 245-252.

Neas, L. M., D. W. Dockery, et al. (1999). Fine particles and peak flow in children: acidity versus mass. *Epidemiology.* 10(5): 550-553.

Neas, L. M., J. Schwartz, et al. (1999). A case-crossover analysis of air pollution and mortality in Philadelphia. *Environ Health Perspect.* 107(8): 629-631.

Nenes, A., S. N. Pandis, et al. (1999). Continued development and testing of a new thermodynamic aerosol module for urban and regional air quality models. *Atmos Environ.* 33(10): 1553-1560.

Niedziela, R. F., M. L. Norman, et al. (1999). A temperature- and composition-dependent study, of H_2SO_4 aerosol optical constants using Fourier transform and tunable diode laser infrared spectroscopy. *J Physical Chemistry A.* 103(40): 8030-8040.

Oros, D. R. and B. R. T. Simoneit (1999). Identification of molecular tracers in organic aerosols from temperate climate vegetation subjected to biomass burning. *Aerosol Sci Technol.* 31: 433-445.

Oros, D. R., L. J. Standley, et al. (1999). Epicuticular wax compositions for predominant conifers of western North America. *Zeitschrift fur Naturforschung.* 54C: 17-24.

Pietropaoli, A. P., I. B. Perillo, et al. (1999). Simultaneous measurement of nitric oxide production by conducting and alveolar airways of humans. *J Appl Physiol.* 87(4): 1532-1542.

Prahalad, A. K., D. K. Manchester, et al. (1999). Human placental microsomal activation and DNA adduction by air pollutants. *Bull Environ Contam Toxicol.* 62(1): 93-100.

Prahalad, A. K., J. M. Soukup, et al. (1999). Ambient air particles: effects on cellular oxidant radical generation in relation to particulate elemental chemistry. *Toxicol Appl Pharmacol.* 158(2): 81-91.

Prahalad, A. K., J. M. Soukup, et al. (1999). Induction of cyclooxygenase 2 expression in rats exposed to residual oil fly ash. *Exp Lung Res.* 26: 57-69.

Samet, J. M., R. Silbajoris, et al. (1999). Tyrosine phosphatases as targets in metal-induced signaling in human airway epithelial cells. *Am J Respir Cell Mol Biol.* 21(3): 357-364.

Sedman, C. B. (1999). Controlling emissions from fuel and waste combustion. *Chem Eng.* January: 82-88.

Simoneit, B. R. T. (1999). A review of biomarker compounds as source indicators and tracers for air pollution. *Environ Sci Pollution Res.* 6(3): 159-169.

Simoneit, B. R. T., J. J. Schauer, et al. (1999). Levoglucosan, a tracer for cellulose in biomass burning and atmospheric particles. *Atmos Environ.* 33(2): 173-182.

Sioutas, C., E. Abt, et al. (1999). Evaluation of the measurement performance of the scanning mobility particle sizer and aerodynamic particle sizer. *Aerosol Sci Technol.* 30(1): 84-92.

Sioutas, C., P. Koutrakis, et al. (1999). Experimental investigation of pressure drop with particle loading in nuclepore filters. *Aerosol Sci Technol.* 30(1): 71-83.

Song, X. H., P. K. Hopke, et al. (1999). Classification of single particles analyzed by ATOFMS using an artificial neural network, ART-2A. *Analytical Chemistry.* 71(4): 860-865.

Strader, R., F. Lurmann, et al. (1999). Evaluation of secondary organic aerosol formation in winter. *Atmos Environ.* 33: 4849-4863.

Tiittanen, P., K. L. Timonen, et al. (1999). Fine particulate air pollution, resuspended road dust and respiratory health among symptomatic children. *Eur Respir J.* 13(2): 266-273.

Tobias, H. J. and P. J. Ziemann (1999). Compound identification in organic aerosols using temperature-programmed thermal desorption particle beam mass spectrometry. *Analytical Chemistry.* 71: 3428-3435.

Veronesi, B., J. D. Carter, et al. (1999). Neuropeptides and capsaicin stimulate the release of inflammatory cytokines in a human bronchial epithelial cell line. *Neuropeptides.* 33(6): 447-456.

Veronesi, B., M. Oortgiesen, et al. (1999). Particulate matter initiates inflammatory cytokine release by activation of capsaicin and acid receptors in a human bronchial epithelial cell line. *Toxicol Appl Pharmacol.* 154(1): 106-115.

Wei, F., E. Teng, et al. (1999). Ambient concentrations and elemental compositions of PM_{10} and $PM_{2.5}$ in four Chinese cities. *Environ Sci Technol.* 33: 4188-4193.

West, J., A. Ansari, et al. (1999). Marginal $PM_{2.5}$. Nonlinear aerosol mass response to sulfate reductions. *J Air Waste Manag Assoc*. 49: 1415-1424.

Williams, R. W., R. R. Watts, et al. (1999). Evaluation of a personal air sampler for twenty-four hour collection of fine particles and semivolatile organics. *J Expo Anal Environ Epidemiol.* (2): 158-166.

Wu, W., L. M. Graves, et al. (1999). Activation of the EGF receptor signaling pathway in human airway epithelial cells exposed to metals. *Am J Physiol.* 277(5 Pt 1): L924-L931.

Yu, J., D. R. Cocker, et al. (1999). Gas-phase ozone oxidation of monoterpenes: gaseous and particulate products. *J Atmos Chem.* 34: 207-258.

Yu, J., R. J. Griffin, et al. (1999). Observation of gaseous and particulate products of monoterpene oxidation in forest atmospheres. *Geophys Res Lett.* 26: 1145-1148.

Zhang, J., Z. Qian, et al. (1999). Effects of air pollution on respiratory health of adults in three Chinese cities. *Arch Environ Health.* 54: 373-381.

Zhang, Y., C. Seigneur, et al. (1999). Simulation of aerosol dynamics: a comparative review of algorithms used in air quality models. *Aerosol Sci Technol.* 31(6): 487-514.

2000 Publications:

Allen, J. O., D. P. Fergenson, et al. (2000). Particle detection efficiencies of aerosol time of flight mass spectrometers under ambient sampling conditions. *Environ Sci Technol.* 34: 211-217.

Ansari, A. S. and S. N. Pandis (2000). The effect of metastable equilibrium states on the partitioning of nitrate between the gas and aerosol phases. *Atmos Environ.* 34(1): 157-168.

Ansari, A. S. and S. N. Pandis (2000). Water absorption by secondary organic aerosol and its effect on inorganic aerosol behavior. *Environ Sci Technol.* 34: 71-77.

Antley, J. T., R. W. Vanderpool, et al. (2000). An automated system for producing uniform surface deposits of dry particles. *Am Ind Hyg Assoc J.* 61(5): 669-677.

Babich, P., P. Wang, et al. (2000). Development and evaluation of a continuous ambient $PM_{2.5}$ mass monitor. *Aerosol Sci Technol.* 32(4): 309-324.

Braga, A. L., A. Zanobetti, et al. (2000). Do respiratory epidemics confound the association between air pollution and daily deaths? *Eur Respir J.* 16: 723-728.

Brown, J. E., M. J. Clayton, et al. (2000). Comparison of the particle size distribution of heavy-duty diesel exhaust using a dilution tailpipe sampler and an in-plume sampler during on-road operation. *J Air Waste Manag Assoc.* 50: 1407-1416.

Brown, J. E., D. B. Harris, et al. (2000). Heavy-duty truck test cycles: combining driveability with realistic engine exercise. *Heavy Vehicle Systems.* 7: 299-316.

Brown, J. S., C. S. Kim, et al. (2000). Generation of radiolabelled soot-like ultrafine aerosols suitable for use in human inhalation studies. *Aerosol Sci Technol.* 32: 325-337.

Calderon-Garciduenas, L., R. Delgado, et al. (2000). Malignant neoplasms of the nasal cavity and paranasal sinuses: a series of 256 patients in Mexico City and Monterrey. Is air pollution the missing link? *Otolaryngol Head Neck Surg.* 122(4): 499-508.

Calderon-Garciduenas, L., R. B. Devlin, et al. (2000). Respiratory tract pathology and cytokine imbalance in clinically healthy children chronically and sequentially exposed to air pollutants. *Med Hypotheses.* 55(5): 373-378.

Calderon-Garciduenas, L., A. Mora-Tiscareno, et al. (2000). Exposure to air pollution is associated with lung hyperinflation in healthy children and adolescents in southwest Mexico City: a pilot study. *Inhalation Toxicol.* 12(6): 537-561.

Campen, M. J., D. L. Costa, et al. (2000). Cardiac and thermoregulatory toxicity of residual oil fly ash in cardiopulmonary-compromised rats. *Inhalation Toxicol.* 12: 7-22.

Campen, M. J., J. Norwood, et al. (2000). Ozone-induced hypothermia and bradycardia in rats and guinea pigs in nose-only or whole-body inhalation systems. *J Thermal Biol.* 25: 81-89.

Capaldo, K. P., C. Pilinis, et al. (2000). A computationally efficient hybrid approach for dynamic gas/aerosol transfer in air quality models. *Atmos Environ.* 34: 3617-3627.

Carrothers, T. J. and J. S. Evans (2000). Assessing the impact of differential measurement error on estimates of fine particle mortality. *J Air Waste Manag Assoc.* 50: 65-74.

Cass, G. R., L. S. Hughes, et al. (2000). The chemical composition of atmospheric ultrafine particles. *Phil Trans Royal Soc London A.* 358: 2581-2592.

Christoforou, C. S., L. G. Salmon, et al. (2000). Trends in fine particle concentration and chemical composition in southern California. *J Air Waste Manag Assoc.* 50: 43-53.

Claiborn, C., D. Finn, et al. (2000). Windblown dust contributes to high $PM_{2.5}$ concentrations. *J Air Waste Manag Assoc.* 50(8): 1440-1445.

Clarke, R. W., P. Catalano, et al. (2000). Age-related responses in rats to concentrated urban air particles (CAPs). *Inhalation Toxicol.* 12(1): 73-84.

Clarke, R. W., B. A. Coull, et al. (2000). Inhaled concentrated ambient particles are associated with hematologic and bronchoalveolar lavage changes in canines. *Environ Health Perspect.* 108(12): 1179-1187.

Cohen, B. S., W. Li, et al. (2000). Detecting H^+ in ultrafine ambient aerosol using iron nano-film detectors and scanning probe microscopy. *Appl Occup Environ Hyg.* 15: 80-89.

Comer, J. K., C. Kleinstreuer, et al. (2000). Aerosol transport and deposition in sequentially bifurcating airways. *J Biomech Eng.* 122(2): 152-158.

Costa, D. L. (2000). Particulate matter and cardiopulmonary health: a perspective. *Inhalation Toxicol.* 12(Suppl 3): 35-44.

Costa, D. L. (2000). The relevance of the rat lung response to particle overload for human risk assessment: a workshop consensus report. ILSI Sponsored Workshop, March 1998. *Inhalation Toxicol.* 12: 1-17.

Devlin, R. B., A. J. Ghio, et al. (2000). Responses of the lung to inhaled particles. Cellular responses. In: Gehr, P., Hyder, J., eds. *Particle-Lung Interactions*. New York: Marcel Dekker, Inc., 437-472.

Dewanji, A. and S. H. Moolgavkar (2000). A poisson process for recurrent event data with environmental co-variates. *Environmetrics.* 11: 665-673.

Dietert, R. R., R. A. Etzel, et al. (2000). Workshop to identify critical windows of exposure for children's health: immune and respiratory systems work group summary. *Environ Health Perspect.* 108(3): 483-490.

Ding, Y. M. and P. Koutrakis (2000). Development of a dichotomous slit nozzle virtual impactor. *J Aerosol Sci.* 31(12): 1421-1431.

Donaldson, K., M. I. Gilmour, et al. (2000). Asthma and PM_{10} (Commentary). *Respiratory Res.* 1: 1-4.

Dreher, K. (2000). Particulate matter physicochemistry and toxicology: in search of causality—a critical perspective. *Inhalation Toxicol.* 12(Suppl 3): 45-57.

Driscoll, K. E., D. L. Costa, et al. (2000). Intratracheal instillation as an exposure technique for the evaluation of respiratory tract toxicity: uses and limitations. *Toxicol Sci.*

Eatough, D. J., N. L. Eatough, et al. (2000). Continuous determination of $PM_{2.5}$ mass, including semi-volatile species. *Aerosol Sci Technol.* 34: 1-8.

Edney, E. O., D. J. Driscoll, et al. (2000). Impact of aerosol liquid water on secondary organic aerosol yields of irradiated toluene/propylene/NO_x/$(NH_4)_2SO_4$/air mixtures. *Atmos Environ.* 34(23): 3907-3919.

Elder, A. C. P., R. Gelein, et al. (2000). Pulmonary inflammatory response to inhaled ultrafine particles is modified by age, ozone exposure, and bacterial toxin. *Inhalation Toxicol.* 12(S4): 227-246.

Elder, A. C. P., C. Johnston, et al. (2000). Induction of adaptation to inhaled lipopolysaccharide in young and old rats and mice. *Inhalation Toxicol.* 12(3): 225-244.

Evans, G. F., R. V. Highsmith, et al. (2000). The 1999 Fresno particulate matter exposure studies: comparison of community, outdoor, and residential PM mass measurements. *J Air Waste Manag Assoc.* 50(11): 1887-1896.

Felix, L. G., J. P. Gooch, et al. (2000). An electrifying new solution to an old problem. *Pollution Eng.* 38-42.

Felix, L. G., R. F. Heaphy, et al. (2000). Reducing energy and space requirements by electrostatic augmentation of a pulse-jet fabric filter. *J Air Waste Manag Assoc*.

Gardner, S. Y., J. R. Lehmann, et al. (2000). Oil fly ash-induced elevations of plasma fibrinogen in rats. *Toxicol Sci.* 57: 175-180.

Geron, C., R. Rasmussen, et al. (2000). A review and synthesis of monoterpene speciation from forests in the United States. *Atmos Environ.* 34: 1761-1781.

Ghio, A. J., J. D. Carter, et al. (2000). Diminished injury in hypotransferrinemic mice after exposure to a metal-rich particle. *Am J Physiol Lung Cell Mol Physiol* 278(5): L1051-L1061.

Ghio, A. J., C. Kim, et al. (2000). Concentrated ambient air particles induce mild pulmonary inflammation in healthy human volunteers. *Am J Respir Crit Care Med.* 162(3 Pt 1): 981-988.

Ghio, A. J., J. H. Richards, et al. (2000). Accumulation of iron in the rat lung after tracheal instillation of diesel particles. *Toxicol Pathol.* 28(4): 619-627.

Ghio, A. J., J. H. Richards, et al. (2000). Iron disequilibrium in the rat lung after instilled blood. *Chest.* 118(3): 814-823.

Gilmour, M. I., M. J. Selgrade, et al. (2000). Enhanced allergic sensitization in animals exposed to particulate air pollutants. *Inhalation Toxicol.* 12(3): 373-380.

Gold, D. R., A. Litonjua, et al. (2000). The relationship between particulate pollution and heart rate variability. *Circulation.* 101(11): 1267-1273.

Gong, H., W. Linn, et al. (2000). Controlled human exposures to concentrated ambient fine particles in Los Angeles. *Am J Respir Crit Care Med.* 161: 239.

Gong, H. J., C. Sioutas, et al. (2000). Controlled human exposures to concentrated ambient fine particles in metropolitan Los Angeles. Methodology and preliminary health-effect findings. *Inhalation Toxicol.* 12(1): 107-119.

Gordon, T. and J. Reibman (2000). Cardiovascular toxicity of inhaled ambient particulate matter. *Toxicol Sci.* 56(1): 2-4.

Gwynn, R. C., R. T. Burnett, et al. (2000). A time-series analysis of acidic particulate matter and daily mortality and morbidity in the Buffalo, New York, region. *Environ Health Perspect.* 108(2): 125-133.

Hamada, K., C. A. Goldsmith, et al. (2000). Resistance of very young mice to inhaled allergen sensitization is overcome by coexposure to an air-pollutant aerosol. *Am J Respir Crit Care. Med.* 161(4 Pt 1): 1285-1293.

Heller-Zeisler, S. F., P. V. Borgoul, et al. (2000). Comparison of INAA and RNAA methods with thermal-ionization mass spectrometry for iridium determinations in atmospheric tracer studies. *J Radioanalytical Nuclear Chem.* 244(1): 93-96.

Hiura, T. S., N. Li, et al. (2000). The role of a mitochondrial pathway in the induction of apoptosis by chemicals extracted from diesel exhaust particles. *J Immunol.* 165: 2703-2711.

Howard-Reed, C., A. W. Rea, et al. (2000). Use of a continuous nephelometer to measure personal exposure to particles during the U.S. Environmental Protection Agency Baltimore and Fresno panel studies. *J Air Waste Manag Assoc.* 50(7): 1125-1132.

Huffman, G. P., F. E. Huggins, et al. (2000). Characterization of fine particulate matter produced by combustion of residual fuel oil. *J Air Waste Manag Assoc.* 50: 1106-1114.

Hughes, L. S., J. O. Allen, et al. (2000). Evolution of atmospheric particles along trajectories crossing the Los Angeles Basin. *Environ Sci Technol.* 34: 3058-3068.

Jaques, P. A. and C. S. Kim (2000). Measurement of total lung deposition of inhaled ultrafine particles in healthy men and women. *Inhalation Toxicol.* 12(8): 715-731.

Jaspers, I., J. M. Samet, et al. (2000). Vanadium-induced kappaB-dependent transcription depends upon peroxide-induced activation of the p38 mitogen-activated protein kinase. *Am J Respir Cell Mol Biol.* 23(1): 95-102.

Jayne, J. T., D. L. Leard, et al. (2000). Development of an aerosol mass spectrometer for size and composition analysis of submicron particles. *Aerosol Sci Technol.* 33: 49-70.

Jiang, N., K. L. Dreher, et al. (2000). Residual oil fly ash induces cytotoxicity and mucin secretion by guinea pig tracheal epithelial cells via oxidant-mediated mechanism. *Toxicol Appl Pharmacol.* 163: 221-230.

Kasibhatla, P. and W. L. Chameides (2000). Seasonal modeling of regional ozone pollution in the eastern United States. *Geophys Res Lett.* 27: 1415-1418.

Kavouras, I. G., S. T. Ferguson, et al. (2000). Development and validation of a high-volume, low-cutoff inertial impactor. *Inhalation Toxicol.* 12: 35-50.

Kephart, T. S. and P. K. Dasgupta (2000). Hot eluent capillary liquid chromatography. *Anal Chem.* 414: 71-78.

Kephart, T. S. and P. K. Dasgupta (2000). Hot eluent capillary liquid chromatography using zirconia and titania based stationary phases. *Anal Chimica Acta.* 414(1-2): 71-78.

Kim, C. S. (2000). Methods of calculating lung delivery and deposition of aerosol particles. *Respir Care.* 45(6): 695-711.

Kim, C. S. and P. A. Jaques (2000). Respiratory dose of inhaled ultrafine particles in healthy adults. *Phil Trans Royal Soc London A.* 358: 2693-2705.

Kim, S., M. C. Chang, et al. (2000). A new generation of portable coarse, fne and utrafine particle cncentrators for use in inhalation toxicology. *Inhalation Toxicol.* 12(1): 121-137.

Kim, S., C. Sioutas, et al. (2000). Factors affecting the stability of the performance of ambient fine-particle concentrators. *Inhalation Toxicol.* 12(4): 284-298.

Kodavanti, U. P., M. C. Jackson, et al. (2000). The combination of elastase and sulfur dioxide exposure causes COPD-like lesions in the rat. *Chest.* 299S-302S.

Kodavanti, U. P., R. Mebane, et al. (2000). Variable pulmonary responses from exposure to concentrated ambient air particles in a rat model of bronchitis. *Toxicol Sci.* 54: 441-451.

Kodavanti, U. P., M. C. J. Schladweiler, et al. (2000). The spontaneously hypertensive rat as a model of human cardiovascular disease: evidence of exacerbated cardiopulmonary injury and oxidative stress from inhaled emission particulate matter. *Toxicol Appl Pharmacol.* 164: 250-263.

Kronholm, D. F. and J. B. Howard (2000). Analysis of soot surface growth pathways using published plug-flow reactor data with new particle size distribution measurements and published premixed flame data. *Proc Combustion Inst.* 28: 2555-2561.

Laden, F., L. M. Neas, et al. (2000). Association of fine particulate matter from different sources with daily mortality in six U.S. cities. *Environ Health Perspect.* 108(10): 941-947.

Levy, J. I., E. A. Houseman, et al. (2000). Particle concentrations in urban microenvironments. *Environ Health Perspect.* 108(11): 1051-1057.

Li, J. and P. K. Dasgupta (2000). Measurement of atmospheric hydrogen peroxide and hydroxymethyl hydroperoxide with a diffusion scrubber and light emitting diode-liquid core waveguide-based fluorometry. *Anal Chem.* 72: 5338-5347.

Li, N., M. I. Venkatesan, et al. (2000). Induction of heme oxygenase-1 expression in macrophages by diesel exhaust particle chemicals and quinones via the antioxidant-responsive element. *J Immunol.* 165: 3393-3401.

Linak, W. P., C. A. Miller, et al. (2000). Comparison of particle size distributions and elemental partitioning from the combustion of pulverized coal and residual fuel oil. *J Air Waste Manag Assoc.* 50: 1532-1544.

Linak, W. P., C. A. Miller, et al. (2000). Fine particulate emissions from residual fuel oil combustion: characterization and mechanisms of formation. *Proc Combustion Inst.* 28: 2651-2658.

Linn, W. S., Y. Szlachcic, et al. (2000). Air pollution and daily hospital admissions in metropolitan Los Angeles. *Environ Health Perspect.* 108(5): 427-434.

Lippmann, M., K. Ito, et al. (2000). Associations of particulate matter components with daily mortality and morbidity in urban populations. Research Report 95. Boston, MA: Health Effects Institute.

Lippmann, M., J. Q. Xiong, et al. (2000). Development of a continuous monitoring system for PM_{10} and components of $PM_{2.5}$. *Appl Occup Environ Hyg.* 15(1): 57-67.

Long, C. M., H. H. Suh, et al. (2000). Characterization of indoor particle sources using continuous mass and size monitors. *J Air Waste Manag Assoc.* 50(7): 1236-1250.

Longphre, M., D. Li, et al. (2000). Lung mucin production is stimulated by the air pollutant residual oil fly ash. *Toxicol Appl Pharmacol.* 162(2): 86-92.

Lumley, T. and D. Levy (2000). Bias in the case-crossover design: implications for studies of air pollution. *Environmetrics.* 11: 689-704.

Lumley, T. and L. Sheppard (2000). Assessing seasonal confounding and model selection bias in air pollution epidemiology using positive and negative control analyses. *Environmetrics.* 11: 705-717.

Madden, M. C., J. H. Richards, et al. (2000). Effect of ozone on diesel exhaust particle toxicity in rat lung. *Toxicol Appl Pharmacol.* 168(2): 140-148.

Mallina, R., A. Wexler, et al. (2000). High speed particle beam generation: a dynamic focusing mechanism for selecting ultrafine particles. *Aerosol Sci Technol.* 33(1-2): 87-104.

Mar, T. F., G. A. Norris, et al. (2000). Associations between air pollution and mortality in Phoenix, 1995-1997. *Environ Health Perspect.* 108(4): 347-353.

Mavliev, R. and H.-C. Wang (2000). Design and performance characteristics of a turbulent mixing condensation nuclei counter. *J Aerosol Sci.* 31(8): 933-944.

McDonnell, W. F., N. Nishino-Ishikawa, et al. (2000). Relationships of mortality with the fine and coarse fractions of long- term ambient PM_{10} concentrations in nonsmokers. *J Expo Anal Environ Epidemiol.* 10(5): 427-436.

McMurry, P. H., K. S. Woo, et al. (2000). Size distributions of 3-10 nm atmospheric particles: implications for nucleation mechanisms. *Phil Trans Royal Soc London.* 358: 2625-2642.

Mendoza-Dominguez, A. and A. G. Russell (2000). Iterative inverse modeling and direct sensitivity analysis of a photochemical air quality model. *Environ Sci Technol.* 34(23): 4974-4981.

Mendoza-Dominguez, A., J. G. Wilkinson, et al. (2000). Modeling and direct sensitivity analysis of biogenic emissions impacts on regional ozone formation in the Mexico-U.S. border area. *J Air Waste Manag Assoc.* 50(1): 21-31.

Moolgavkar, S. H., W. Hazelton, et al. (2000). Air pollution, pollens, and admissions for chronic respiratory disease in King County, Washington. *Inhalation Toxicol.* 12(Suppl 1): 157-171.

Moya, M., A. S. Ansari, et al. (2000). Partitioning of nitrate and ammonium between the gas and aerosol phases during the1997 IMADA-AVER study in Mexico City. *Atmos Environ.* 35: 1791-1804.

Musante, C. J. and T. B. Martonen (2000). Computational fluid dynamics in human lungs. I. Effects of natural airway features. In: Martonen, T. B., ed. *Medical Applications of Computer Modelling and Fluid Dynamics: Respiratory System.* Billerica, MA: WIT Press.

Musante, C. J. and T. B. Martonen (2000). Computational fluid dynamics in human lungs. II. Effects of airway disease. In: Martonen, T. B., ed. *Medical Applications of Computer Modelling and Fluid Dynamics: Respiratory System*. Billerica, MA: WIT Press.

Nadadur, S. S., M. Jackson, et al. (2000). A pulmonary rat gene array for screening altered expression profiles in air pollutant-induced lung injury. *Inhalation Toxicol.* 12: 1239-1254.

Neas, L. M. (2000). Fine particulate matter and cardiovascular disease. *Fuel Processing Technol.* 65-66: 55-67.

Ning, Y., A. Imrich, et al. (2000). Alveolar macrophage cytokine production in response to air particles in vitro: role of endotoxin. *J Toxicol Environ Health A.* 59(3): 165-180.

Norris, G., T. Larson, et al. (2000). Asthma aggravation, combustion, and stagnant air. *Thorax.* 55(6): 466-470.

Oberdorster, G. (2000). Toxicology of ultrafine particles: in vivo studies. *Phil Trans Royal Soc London A.* 358: 2719-2740.

Oros, D. R. and B. R. T. Simoneit (2000). Identification and emission rates of molecular tracers in coal smoke particulate matter. *Fuel.* 79(5): 515-536.

Pattanaik, S., F. E. Huggins, et al. (2000). XAFS spectroscopy analysis of the molecular structure of metals and sulfur in fine particulate matter (PM) derived from the combustion of residual oil. *ACS Fuel Chemistry Division*.

Patterson, E. and D. L. Eatough (2000). Indoor/outdoor relationships for ambient $PM_{2.5}$ and associated pollutants: epidemiological implications in Lindon, Utah. *J Air Waste Manag Assoc.* 50: 103-110.

Pilinis, C., K. P. Capaldo, et al. (2000). MADM—a new multicomponent aerosol dynamics model. *Aerosol Sci Technol.* 32(5): 482-502.

Pinkerton, K. E., F. H. Green, et al. (2000). Distribution of particulate matter and tissue remodeling in the human lung. *Environ Health Perspect.* 108(11): 1063-1069.

Pinkerton, K. E. and J. P. Joad (2000). The mammalian respiratory system and critical windows of exposure for children's health. *Environ Health Perspect.* 108(3): 457-462.

Prahalad, A. K., J. Inmon, et al. (2000). Enhancement of 2'-deoxyguanosine hydroxylation and DNA damage by coal and oil fly ash in relation to particulate metal content and availability. *Chem Res Toxicol.* 13(10): 1011-1019.

Purvis, C. R., R. C. McCrillis, et al. (2000). Fine particulate matter (PM) and organic speciation of fireplace emissions. *Environ Sci Technol.* 34: 1653-1658.

Qian, Z., R. S. Chapman, et al. (2000). Effects of air pollution on children's respiratory health in three Chinese cities. *Arch Environ Health.* 55: 126-133.

Richter, H. and J. B. Howard (2000). Formation of polycyclic aromatic hydrocarbons and their growth to soot—a review of chemical reaction pathways. *Prog Energy Combust Sci.* 26: 565-608.

Riesenfeld, E., D. Chalupa, et al. (2000). Ultrafine particle concentrations in a hospital. *Inhalation Toxicol.* 12(Suppl 2): 83-94.

Samet, J. M., A. J. Ghio, et al. (2000). Increased expression of cyclooxygenase 2 mediates oil fly ash-induced lung injury. *Exp Lung Res.* 26: 57-69.

Sarnat, J. A., P. Koutrakis, et al. (2000). Assessing the relationship between personal particulate and gaseous exposures of senior citizens living in Baltimore. *J Air Waste Manag Assoc.* 50: 1184-1198.

Schlesinger, R. B. (2000). Properties of ambient PM responsible for human health effects: coherence between epidemiology and toxicology. *Inhalation Toxicol.* 12(Suppl 1): 23-25.

Schwartz, J. (2000). Assessing confounding, effect modification, and thresholds in the association between ambient particles and daily deaths. *Environ Health Perspect.* 108(6): 563-568.

Schwartz, J. (2000). Daily deaths are associated with combustion particles rather than $S0_2$ in Philadelphia. *Occup Environ Med.* 57: 692-697.

Schwartz, J. and L. M. Neas (2000). Fine particles are more strongly associated than coarse particles with acute respiratory health effects in schoolchildren. *Epidemiology.* 11(1): 6-10.

Schwartz, J., K. L. Timonen, et al. (2000). Respiratory effects of environmental tobacco smoke in a panel study of asthmatic and symptomatic children. *Am J Respir Crit Care Med.* 161(3 Pt 1): 802-806.

Schwartz, J. and A. Zanobetti (2000). Using meta-smoothing to estimate dose-response trends across multiple studies, with application to air pollution and daily death. *Epidemiology.* 11(6): 666-672.

Segal, R. A., T. B. Martonen, et al. (2000). Comparison of computer simulations of total lung deposition to human subject data in healthy test subjects. *J Air Waste Manag Assoc.* 50(7): 1262-1268.

Sheppard, L. and D. Damian (2000). Estimating short-term PM effects accounting for surrogate exposure measurements from ambient monitors. *Environmetrics.* 11: 675-687.

Sheppard, L. and J. Kaufman (2000). Sorting out the role of air pollutants in asthma initiation. *Epidemiology.* 11: 100-101.

Sheppard, L. and T. Lumley (2000). Comments on combining evidence on air pollution and daily mortality from the 20 largest U.S. cities: a hierarchical modeling strategy. In: Dominici, F., Samet, J. M., and Zeger, S. L., eds. *JRSSB.* 163: 297.

Shukla, A., C. Timblin, et al. (2000). Inhaled particulate matter causes expression of nuclear factor (NF)-kappaB-related genes and oxidant-dependent NF-kappaB activation in vitro. *Am J Respir Cell Mol Biol.* 23(2): 182-187.

Silbajoris, R., A. J. Ghio, et al. (2000). In vivo and in vitro correlation of pulmonary MAP kinase activation following metallic exposure. *Inhalation Toxicol.* 12(6): 453-468.

Simoneit, B. R. T., D. R. Oros, et al. (2000). Molecular tracers for smoke from charring/burning of chitin biopolymer. *Chemosphere Global Change Sci.* 2(1): 101-105.

Simoneit, B. R. T., W. F. Rogge, et al. (2000). Molecular characterization of smoke from campfire burning of pine wood (Pinus elliottii). *Chemosphere Global Change Sci.* 2(1): 107-122.

Sioutas, C., S. Kim, et al. (2000). Field evaluation of a modified DataRAM MIE scattering monitor for real-time $PM_{2.5}$ mass concentration measurements. *Atmos Environ.* 34(28): 4829-4838.

Solomon, P. A., W. Mitchell, et al. (2000). Evaluation of $PM_{2.5}$ chemical speciation samplers for use in the U.S. EPA National $PM_{2.5}$ chemical speciation network. Research Triangle Park, NC, U.S. Environmental Protection Agency, National Exposure Research Laboratory, EPA Report EPA-454/R-01-005 (NTIS PB#2001-105814).

Soukup, J. M., A. J. Ghio, et al. (2000). Soluble components of Utah Valley particulate pollution alter alveolar macrophage function in vivo and in vitro. *Inhalation Toxicol.* 12(5): 401-414.

Srivastava, R. K., D. S. McRae, et al. (2000). An adaptive grid algorithm for air quality modeling. *J Computational Physics.* 165(2): 437-472.

Stehr, J., R. R. Dickerson, et al. (2000). Observations of NO_y, CO and SO_2 and the origin of reactive nitrogen to the Eastern United States. *J Geophys Res.* 105: 3553-3563.

Stolzenburg, M. R. and S. V. Hering (2000). A method for the automated measurement of fine particle nitrate in the atmosphere. *Environ Sci Technol.* 34(5): 907-914.

Stonehuerner, J., I. Jaspers, et al. (2000). Changes in gene expression in NHBE cells exposed to transition metals. *The Toxicologist.* 54: 1503.

Su, W. Y., R. H. Jaskot, et al. (2000). Induction of pulmonary matrilysin expression by combustion and ambient air particles. *Am J Physiol Lung Cell Mol Biol.* 279: L152-L160.

Su, W. Y., J. H. Jaskot, et al. (2000). Particulate matter induction of pulmonary gelatinase A, gelatinase B, and tissue inhibitor of metalloproteinase expression. *Inhalation Toxicol.* 12(2): 105-119.

Sun, L., J. V. Zidek, et al. (2000). Interpolating Vancouver's daily ambient PM_{10} field. *Environmetrics.* 11(6): 651-663.

Tanner, R. L. and W. J. Parkhurst (2000). Chemical composition of fine particles in the Tennessee Valley region. *J Air Waste Manag Assoc.* 50: 1299-1307.

Tobias, H. J., K. S. Docherty, et al. (2000). Effect of relative humidity on the chemical composition of secondary organic aerosol formed from reactions of 1-tetradecene and O_3. *Environ Sci Technol.* 34: 2116-2125.

Tobias, H. J., P. M. Kooiman, et al. (2000). Real-time chemical analysis of organic aerosols using a thermal desorption particle beam mass spectrometer. *Aerosol Sci Technol.* 33: 170-190.

Tobias, H. J. and P. J. Ziemann (2000). Thermal desorption mass spectrometric analysis of organic aerosol formed from reactions of 1-tetradecene and O_3 in the presence of alcohols and carboxylic acids. *Environ Sci Technol.* 34: 2105-2115.

Walker, J. T., V. P. Aneja, et al. (2000). Atmospheric transport and wet deposition of ammonium in North Carolina, USA. *Atmos Environ.* 34: 3407-3418.

Walker, J. T., V. P. Aneja, et al. (2000). Trends in ammonium concentration in precipitation and atmospheric ammonia emissions at a coastal plain site in North Carolina, USA. *Environ Sci Technol.* 34: 3527-3534.

Watkinson, W. P., M. J. Campen, et al. (2000). Cardiovascular effects following exposure to particulate matter in healthy and cardiopulmonary-compromised rats. In: Henrich, U., Mohr, U., eds. *Relationships Between Acute and Chronic Effects of Air Pollution*. Washington, DC: ILSI Press, 447-463.

Watkinson, W. P., M. J. Campen, et al. (2000). Thermoregulatory effects following exposure to particulate matter in healthy and cardiopulmonary-compromised rats. *J Thermal Biol.* 25: 131-137.

Williams, R., J. Creason, et al. (2000). Indoor, outdoor, and personal exposure monitoring of particulate air pollution: the Baltimore elderly epidemiology-exposure pilot study. *Atmos Environ.* 34: 4193-4204.

Williams, R., J. Suggs, et al. (2000). Comparison of $PM_{2.5}$ and PM_{10} monitors. *J Exposure Anal Environ Epidemiol.* 10(5): 497-505.

Williams, R., J. Suggs, et al. (2000). The 1998 Baltimore Particulate Matter Epidemiology-Exposure Study. Part 1. Comparison of ambient, residential outdoor, indoor and apartment particulate matter monitoring. *J Exposure Anal Environ Epidemiol.* 10(6 Pt 1): 518-532.

Williams, R., J. Suggs, et al. (2000). The 1998 Baltimore Particulate Matter Epidemiology-Exposure Study. Part 2. Personal exposure assessment associated with an elderly study population. *J Exposure Anal Environ Epidemiol.* 10(6 Pt 1): 533-543.

Wilson, W. E., D. T. Mage, et al. (2000). Estimating separately personal exposure to ambient and non-ambient particulate matter for epidemiology and risk assessment; why and how. *J Air Waste Manag Assoc.* 50: 1167-1183.

Yu, O., L. Sheppard, et al. (2000). Effects of ambient air pollution on symptoms of asthma in Seattle-area children enrolled in the CAMP study. *Environ Health Perspect.* 108(12): 1209-1214.

Zanobetti, A. and J. Schwartz (2000). Race, gender, and social status as modifiers of the effects of PM_{10} on mortality. *J Occup Environ Med.* 42(5): 469-474.

Zanobetti, A., M. P. Wand, et al. (2000). Generalized additive distributed lag models: quantifying mortality displacement. *Biostatistics.* 1(3): 279-292.

Zelikoff, J. (2000). Woodsmoke, kerosene heater emissions, and diesel exhaust. In: Cohen, M. D., Zelikoff, J., Schlesinger, R., eds. *Pulmonary Immunotoxicology*. Boston: Kluwer Academic Publishers, 369-386.

Zhang, Y., C. Seigneur, et al. (2000). A comparative study of inorganic aerosol thermodynamic equilibrium modules: similarities, differences, and their likely causes. *Atmos Environ.* (34): 117-137.

Zhang, Z., C. Kleinstreuer, et al. (2000). Effects of asymmetric branch flow rates on aerosol deposition in bifurcating airways. *J Med Eng Technol.* 24(5): 192-202.

2001 Publications:

Allen, R., M. Box, et al. (2001). A cost-effective weighing chamber for particulate matter filters. *J Air Waste Manag Assoc.* 51(12): 1650-1653.

Anderson, M. J., S. L. Miller, et al. (2001). Source apportionment of exposure to toxic volatile organic compounds using positive matrix factorization. *J Expo Anal Environ Epidemiol.* 11(4): 295-307.

Aneja, V. P., B. Bunton, et al. (2001). Measurement and analysis of atmospheric ammonia emissions from anaerobic lagoons. *Atmos Environ.* 35: 1949-1958.

Azadniv, M., A. Torres, et al. (2001). Neutrophils in lung inflammation: which reactive oxygen species are being measured? *Inhalation Toxicol.* 13(6): 485-495.

Bateson, T. and J. Schwartz (2001). Selection bias and confounding in case-crossover analyses of environmental time series data. *Epidemiology.* 12: 654-661.

Bhave, P. V., D. P. Fergenson, et al. (2001). Source apportionment of fine particulate matter by clustering single-particle data: tests of receptor model accuracy. *Environ Sci Technol.* 35: 2060-2072.

Braga, A. L., A. Zanobetti, et al. (2001). The lag structure between particulate air pollution and respiratory and cardiovascular deaths in ten U.S. cities. *J Occup Environ Med.* 43(11): 927-933.

Braga, A. L., A. Zanobetti, et al. (2001). The time course of weather related deaths. *Epidemiology.* 12: 662-667.

Brown, J. E. (2001). Heavy duty diesel fine particulate matter emissions: development and application of on-road measurement capabilities. Research Triangle Park, NC, U.S. Environmental Protection Agency, National Risk Management Research Laboratory, EPA Report EPA-600/R-01-079.

Burke, J. M., M. J. Zufall, et al. (2001). A population exposure model for particulate matter: case study results for $PM_{2.5}$ in Philadelphia, PA. *J Expo Anal Environ Epidemiol.* 11(6): 470-489.

Calderon-Garciduenas, L., T. M. Gambling, et al. (2001). Canines as sentinel species for assessing chronic exposures to air pollutants. Part 2. Cardiac pathology. *Toxicol Sci.* 61(2): 356-367.

Calderon-Garciduenas, L., A. Mora-Tiscareno, et al. (2001). Canines as sentinel species for assessing chronic exposures to air pollutants. Part 1. Respiratory pathology. *Toxicol Sci.* 61(2): 342-355.

Calderon-Garciduenas, L., G. Valencia-Salazar, et al. (2001). Ultrastructural nasal pathology in children chronically and sequentially exposed to air pollutants. *Am J Respir Cell Mol Biol.* 24(2): 132-138.

Campen, M. J., J. P. Nolan, et al. (2001). Cardiovascular and thermoregulatory effects of inhaled PM-associated transition metals: demonstrating a synergism between nickel and vanadyl sulfate. *Toxicol Sci.* 64: 243-252.

Chandramouli, B. and R. M. Kamens (2001). The photochemical formation and gas-particle partitioning of oxidation products of decamethyl cyclopentasiloxane and decamethyl tetrasiloxane in the atmosphere. *Atmos Environ.* 35(1): 87-95.

Chang, M. C., C. Sioutas, et al. (2001). Field evaluation of a mobile high-capacity particle size classifier (HCPSC) for separate collection of coarse, fine and ultrafine particles. *J Aerosol Sci.* 32: 139-156.

Chattopadhyay, S., H. J. Tobias, et al. (2001). A method for measuring vapor pressures of low-volatility organic aerosol compounds using a thermal desorption particle beam mass spectrometer. *Anal Chem.* 73(16): 3797-3803.

Chen, L.-W., B. G. Doddridge, et al. (2001). Seasonal variations in elemental carbon aerosol, carbon monoxide, and sulfur dioxide: implications for sources. *Geophys Res Lett.* 28: 1711-1714.

Childers, J. W., E. L. Thompson, et al. (2001). Application of standardized quality control procedures to open-path Fourier transform infrared data collected at a concentrated swine production facility. *Environ Sci Technol.* 35: 1859-1866.

Childers, J. W., E. L. Thompson, et al. (2001). Comparison of an innovative algorithm to classical least squares for analyzing open-path Fourier transform infrared spectra collected at a concentrated swine production facility. *Applied Spectroscopy.* 56: 325-336.

Childers, J. W., E. L. Thompson, Jr., et al. (2001). Multi-pollutant concentration measurements around a concentrated swine production facility using open-path FTIR spectrometry. *Atmos Environ.* 35: 1923-1936.

Cicero-Fernandez, P., V. Torres, et al. (2001). Evaluation of human exposure to ambient PM_{10} in the metropolitan area of Mexico City using a GIS-based methodology. *J Air Waste Manag Assoc.* 51(11): 1586-93.

Cifuentes, L., V. Borja-Aburto, et al. (2001). Assessing the health benefits of urban air pollution reductions associated with climate change mitigation (2000-2020): Santiago, São Paulo, Mexico City, and New York City. *Environ Health Perspect.* 109(3): 419-425.

Cifuentes, L., V. H. Borja-Aburto, et al. (2001). Climate change. Hidden health benefits of greenhouse gas mitigation. *Science.* 293(5533): 1257-1259.

Clegg, S. L., J. H. Seinfeld, et al. (2001). Thermodynamic modeling of aqueous aerosols containing electrolytes and dissolved organic compounds. *J Aerosol Sci.* 32(6): 713-738.

Comer, J. K., C. Kleinstreuer, et al. (2001). Flow structures and particle deposition patterns in double bifurcation airway models. Part 2. Aerosol transport and deposition. *J Fluid Mech.* 435: 55-80.

Conner, T. L., G. A. Norris, et al. (2001). Individual particle analysis of indoor, outdoor, and community samples from the 1998 Baltimore particulate matter study. *Atmos Environ.* 35(23): 3935-3946.

Costa, D. L. (2001). Air Pollution. In: Klaassen, C. D. *Casarett and Doull's Toxicology, The Basic Science of Poisons*. New York: McGraw-Hill, S: 979-1012.

Coull, B. A., J. Schwartz, et al. (2001). Respiratory health and air pollution: additive mixed model analyses. *Biostatistics.* 2: 337-349.

Creason, J., L. Neas, et al. (2001). Particulate matter and heart rate variability among elderly retirees: the Baltimore 1998 PM study. *J Expo Anal Environ Epidemiol.* 11(2): 116-22.

Dayton, D.-P. and J. T. Bursey (2001). Source sampling fine particulate matter: wood-fired industrial boiler. Research Triangle Park, NC, U.S. Environmental Protection Agency, National Risk Management Research Laboratory, EPA Report EPA-600/R-01-106.

Demokritou, P., I. Kavouras, et al. (2001). Development and laboratory performance evaluation of a personal multipollutant sampler for simultaneous measurements of particulate and gaseous pollutants. *Aerosol Sci Technol.* 35: 741-752.

Demokritou, P., I. Kavouras, et al. (2001). Development and evaluation of an impactor for a $PM_{2.5}$ speciation sampler. *J Air Waste Manag Assoc.* 51: 514-523.

Dennis, R. L. and R. Mathur (2001). Airshed domains for modeling atmospheric deposition of oxidized and reduced nitrogen to the Neuse/Pamlico system. *Hydrological Sci Technol.* 17(1-4): 107-117.

Devlin, R. B., A. J. Ghio, et al. (2001). Pulmonary toxicity of Utah Valley PM: are empirical indices of adverse health effects coherent with the epidemiology? In: Mohr, U., ed. *Relationships Between Acute and Chronic Effects of Air Pollution*. Washington, DC: ILSI Press, 159-168.

Dills, R. L., X. Zhu, et al. (2001). Measurement of urinary methoxyphenols and their use for biological monitoring of wood smoke exposure. *Environ Res.* 85(2): 145-158.

Dockery, D. W. (2001). Epidemiologic evidence of cardiovascular effects of particulate air pollution. *Environ Health Perspect.* 109(Suppl 4): 483-486.

Drossinos, Y., P. G. Kevrekidis, et al. (2001). Translational invariance in nucleation theories: theoretical formulation. *Physical Review.* 63(E): 036123.

Dye, J. A., J. R. Lehmann, et al. (2001). Acute pulmonary toxicity of particulate matter (PM) filter extracts in rats: coherence with epidemiological studies in Utah Valley residents. *Environ Health Perspect.* 109(Suppl 3): 395-403.

Fahey, K. and S. N. Pandis (2001). Optimizing model performance: variable size resolution in cloud chemistry modeling. *Atmos Environ.* 35(26): 4471-4478.

Fine, P. M., G. R. Cass, et al. (2001). Chemical characterization of fine particle emissions from the fireplace combustion of woods grown in the northeastern United States. *Environ Sci Technol.* 35(13): 2665-2675.

Frampton, M. W. (2001). Systemic and cardiovascular effects of airway injury and inflammation: ultrafine particle exposure in humans. *Environ Health Perspect.* 109(Suppl 4): 529-532.

Fruin, S. A., M. J. St. Denis, et al. (2001). Reductions in human benzene exposure in the California south coast air basin. *Atmos Environ.* 35: 1069-1077.

Gavett, S. H. and H. S. Koren (2001). The role of particulate matter in exacerbation of atopic asthma. *Int Arch Allergy Immunol.* 124: 109-112.

Ghio, A. J. and R. B. Devlin (2001). Inflammatory lung injury after bronchial instillation of air pollution particles. *Am J Respir Crit Care Med.* 164(4): 704-708.

Ghio, A. J., J. G. Gilbey, et al. (2001). Diffuse alveolar damage after exposure to an oil fly ash. *Am J Respir Crit Care Med.* 164(8 Pt 1): 1514-1518.

Gilliland, A. B., R. L. Dennis, et al. (2001). Developing seasonal ammonia emission estimates with an inverse modeling technique. *Scientific World J.* 1(Suppl 2): 356-362.

Gilmour, M. I., M. Daniels, et al. (2001). Air pollutant-enhanced respiratory disease in experimental animals. *Environ Health Perspect.* 109(4): 619-622.

Goo, J. and C. S. Kim (2001). Analysis of aerosol bolus dispersion in a cyclic tube flow by finite element method. *Aerosol Sci Technol.* 34: 321-331.

Guazzotti, S. A., J. R. Whiteaker, et al. (2001). Real-time measurements of the chemical composition of size-resolved particles during a Santa Ana wind episode, California, USA. *Atmos Environ.* 35(19): 3229-3240.

Guo, Z., R. B. Mosley, et al. (2001). Dissociation of sulfur hexafluoride tracer gas in the presence of an indoor combustion source. *J Air Waste Manag Assoc.* 51: 616-622.

Gwynn, R. C. and G. D. Thurston (2001). The burden of air pollution: impacts among racial minorities. *Environ Health Perspect.* 109(Suppl 4): 501-506.

Hamilton, R.F. Jr., J. C. Pfau, et al. (2001). Silica and PM1648 modify human alveolar macrophage antigen presenting cell activity in vitro. *J Environ Pathol Toxicol Oncol.* 20(1): 75-80.

Harder, S. D., J. M. Soukup, et al. (2001). Inhalation of $PM_{2.5}$ does not modulate host defense or immune parameters in blood or lung of normal human subjects. *Environ Health Perspect.* 109 (Suppl 4): 599-604.

Harris, D. B., E. L. J. Thompson, et al. (2001). Field evaluation of a method for estimating gaseous fluxes from area sources using open-path Fourier transform infrared. *Environ Sci Technol.* 35: 2309-2313.

Hattis, D., A. Russ, et al. (2001). Human interindividual variability in susceptibility to airborne particles. *Risk Anal.* 21: 585-599.

Heist, D. K., M. P. Tolocka, et al. (2001). Changes in operating procedures for aerosol concentration uniformity for $PM_{2.5}$ and PM_{10} sampler testing. *Aerosol Sci Technol.* 34(5): 430-432.

Huang, Y. T., A. J. Ghio, et al. (2001). Vascular release of nonheme iron in perfused rabbit lungs. *Am J Physiol Lung Cell Mol Physiol.* 280(3): L474-L481.

Huang, Y. T., W. Wu, et al. (2001). Acute lung injury induced by residual oil fly ash and tyrosine phosphorylation. *Exp Lung Res.*

Ito, K., G. D. Thurston, et al. (2001). Monitor-to-monitor temporal correlation of air pollution and weather variables in the North-Central U.S. *J Exposure Anal Environ Epidemiol.* 11(1): 21-32.

Jang, M. and R. M. Kamens (2001). Atmospheric secondary aerosol formation by heterogeneous reactions of aldehydes in the presence of a sulfuric acid aerosol catalyst. *Environ Sci Technol.* 35(24): 4758-4766.

Jaoui, M. and R. M. Kamens (2001). Mass balance of gaseous and particulate products analysis from α-pinene + NO_x in the presence of natural sunlight. *J Geophys Res.* 106(D12): 12541-12558.

Jaspers, I., W. Zhang, et al. (2001). Hydrogen peroxide has opposing effects on IKK activity and I-kappaB-alpha breakdown in airway epithelial cells. *Am J Respir Cell Mol Biol.* 24(6): 769-77.

Kamens, R. M. and M. Jaoui (2001). Modeling aerosol formation from α-pinene + NO_x in the presence of natural sunlight using gas phase kinetics and gas-particle partitioning theory. *Environ Sci Technol.* 35: 1394-1405.

Kavouras, I. G. and P. Koutrakis (2001). Use of polyurethane foam as the impaction substrate/collection medium in conventional inertial impactors. *Aerosol Sci Technol.* 34(1): 46-56.

Kegler, S. R., W. E. Wilson, et al. (2001). PM_1, intermodal ($PM_{2.5}$-PM_1) mass, and the soil component of $PM_{2.5}$ in Phoenix, AZ, 1995-96. *Aerosol Sci Technol.* 35: 914-920.

Kelly, J. T., C. M. Bobbitt, et al. (2001). In vivo measurement of fine and coarse aerosol deposition in the nasal airways of female Long-Evans rats. *Toxicol Sci.* 64(2): 253-258.

Kelly, J. T., J. S. Kimbell, et al. (2001). Deposition of fine and coarse aerosols in a rat nasal mold. *Inhalation Toxicol.* 13(7): 577-588.

Kidwell, C. B. and J. M. Ondov (2001). Development and evaluation of a prototype system for collecting sub-hourly ambient aerosol for chemical analysis. *Aerosol Sci Technol.* 35(1): 596-601.

Kim, S., P. A. Jaques, et al. (2001). Versatile aerosol concentration enrichment system (VACES) for simultaneous in vivo and in vitro evaluation of toxic effects of ultrafine, fine and coarse ambient particles. Part I. Development and laboratory characterization. *J Aerosol Sci. 32*: 1281-1297.

Kim, S., P. A. Jaques, et al. (2001). Versatile aerosol concentration enrichment system (VACES) for simultaneous in vivo and in vitro evaluation of toxic effects of ultrafine, fine and coarse ambient particles. Part II. Field evaluation. *J Aerosol Sci.* 32: 1299-1314.

Kleeman, M. J. and G. R. Cass. (2001). A 3D Eulerian source-oriented model for an externally mixed aerosol. *Environ Sci Technol.* 35: 4834-4848.

Kleeman, M. J., A. Eldering, et al. (2001). Effect of emissions control programs on visibility in Southern California. *Environ Sci Technol.* 35: 4668-4674.

Knight, L., A. Levin, et al. (2001). Candles and incense as potential sources of indoor air pollution: market analysis and literature review. Research Triangle Park, NC, U.S. Environmental Protection Agency, National Risk Management Research Laboratory, EPA Report EPA-600/R-01-001.

Kodavanti, U. P. and D. L. Costa (2001). Rodent models of susceptibility: what is their place in inhalation toxicology? *Resp Physiol.* 128: 57-70.

Kodavanti, U. P., M. C. J. Schladweiler, et al. (2001). Acute lung injury from intratracheal exposure to fugitive residual oil fly ash and its constituent metals in normo- and spontaneously hypertensive rats. *Inhalation Toxicol.* 13: 37-54.

Lambert, A., M. J. Selgrade, et al. (2001). TNF-α enhanced allergic sensitization to house dust mite in Brown Norway rats. *Exp Lung Res.* 27: 617-635.

Landis, M. S., G. Norris, et al. (2001). Personal exposures to $PM_{2.5}$ mass and trace elements in Baltimore, Maryland. *Atmos Environ.* (35): 6511-6524.

Lawless, P., C. Rodes, et al. (2001). Aerosol concentrations during the 1999 Fresno exposure studies as functions of size, season, and meteorology. *Aerosol Sci Technol.* 34: 66-74.

Lay, J. C., K. L. Zeman, et al. (2001). Effects of inhaled iron oxide particles on alveolar epithelial permeability in normal subjects. *Inhalation Toxicol.* 13(12): 1065-1078.

Levy, D., T. Lumley, et al. (2001). Referent selection in case-crossover analyses of acute health effects of air pollution. *Epidemiology.* 12(2): 186-192.

Levy, D., L. Sheppard, et al. (2001). A case-crossover analysis of particulate matter air pollution and out-of-hospital primary cardiac arrest. *Epidemiology.* 12(2): 193-199.

Levy, J. I., E. A. Houseman, et al. (2001). Fine particulate matter and polycyclic aromatic hydrocarbon concentration patterns in Roxbury, Massachusetts: a community-based GIS analysis. *Environ Health Perspect.* 109(4): 341-347.

Lewtas, J., Y. Pang, et al. (2001). Comparison of sampling methods for semi-volatile organic carbon associated with $PM_{2.5}$. *Aerosol Sci Technol.* 34: 9-22.

Li, J., P. K. Dasgupta, et al. (2001). Measurement of atmospheric formaldehyde with a diffusion scrubber and light emitting diode-liquid core waveguide based fluorometry. *Field Anal Chem Technol.* 5: 2-11.

Long, C. M., H. H. Suh, et al. (2001). A pilot investigation of the relative toxicity of indoor and outdoor fine particles: in vitro effects of endotoxin and other particulate properties. *Environ Health Perspect.* 109(10): 1019-1026.

Long, C. M., H. H. Suh, et al. (2001). Using time- and size-resolved particulate data to quantify indoor penetration and deposition behavior. *Environ Sci Technol.* 35(10): 2089-2099.

Mamane, Y., R. D. Willis, et al. (2001). Evaluation of computer-controlled scanning electron microscopy applied to an ambient urban aerosol sample. *Aerosol Sci Technol.* (34): 97-107.

Marcus, A. H. and S. R. Kegler (2001). Confounding in air pollution epidemiology: when does two-stage regression identify the problem? *Environ Health Perspect.* 109: 1193-1196.

Mendoza-Dominguez, A. and A. G. Russell (2001). Estimation of emission adjustments from the application of four-dimensional data assimilation to photochemical air quality modeling. *Atmos Environ.* 35(16): 2879-2894.

Mendoza-Dominguez, A., J. Wilkinson, et al. (2001). Emission strength validation using four-dimensional data assimilation: application to primary aerosol and precursors to ozone and secondary aerosol. *J Air Waste Manag Assoc.* 51: 1538-1550.

Menetrez, M. Y., K. K. Foarde, et al. (2001). An analytical method for the measurement of non-viable bioaerosols. *J Air Waste Manag Assoc.* 51: 1436-1442.

Misra, C., M. D. Geller, et al. (2001). Development and evaluation of a continuous coarse (PM_{10}-$PM_{2.5}$) particle monitor. *J Air Waste Manag Assoc.* 51(9): 1309-1317.

Modey, W. K., Y. Pang, et al. (2001). Fine particulate ($PM_{2.5}$) composition in Atlanta: assessment of the particle concentrator–Brigham Young University Organic Sampling System, PC-BOSS, during the EPA Supersite Study. *Atmos Environ.* 35(36): 6493-6502.

Mosley, R. B., D. J. Greenwell, et al. (2001). Penetration of ambient fine particles into the indoor environment. *Aerosol Sci Technol.* 34: 127-136.

Muleski, G. E. and J. C. Cowherd (2001). Particulate emission measurements from controlled construction activities. Research Triangle Park, NC, U.S. Environmental Protection Agency, National Risk Management Research Laboratory, EPA Report EPA-600/R-01-031.

Nel, A., D. Diaz-Sanchez, et al. (2001). The role of particulate pollutants in pulmonary inflammation and asthma: evidence for the involvement of organic chemicals and oxidative stress. *Curr Opinion Pulmonary Med.* 7: 20-26.

Nguyen, K. and D. Dabdub (2001). Two-level time-marching scheme using splines for solving the advection equation. *Atmos Environ.* 35: 1627-1637.

Noble, C. A., R. W. Vanderpool, et al. (2001). Federal reference and equivalent methods for measuring fine particulate matter. *Aerosol Sci Technol.*(34): 457-464.

Norwood, J., Jr., A. D. Ledbetter, et al. (2001). Residual oil fly ash inhalation in guinea pigs: influence of ascorbate and glutathione depletion. *Toxicol Sci.* 61: 144-153.

Oberdorster, G. (2001). Pulmonary effects of inhaled ultrafine particles. *Int Arch Occup Environ Health.* 74(1): 1-8.

Oros, D. R. and B. R. T. Simoneit (2001). Identification and emission factors of molecular tracers in organic aerosols from biomass burning. Part 1. Temperate climate conifers. *Applied Geochemistry.* 16(13): 1513-1544.

Oros, D. R. and B. R. T. Simoneit (2001). Identification and emission factors of molecular tracers in organic aerosols from biomass burning. Part 2. Deciduous trees. *Applied Geochemistry.* 16(13): 1545-1565.

Pang, Y., Y. Ren, et al. (2001). Semi-volatile species in $PM_{2.5}$: comparison of integrated and continuous samplers for $PM_{2.5}$ research or monitoring. *J Air Waste Manag Assoc.* 51: 25-36.

Pankow, J. F., J. H. Seinfeld, et al. (2001). Modeling the Formation of Secondary Organic Aerosol (SOA). The application of theoretical principles to measurements obtained in the a-Pinene-, b-Pinene-, Sabinene-, D3-Carene, and Cyclohexene-ozone systems. *Environ Sci Technol.* 35: 1164-1172.

Pereira, P. A., J. B. de Andrade, et al. (2001). Determination of 16 priority polycyclic aromatic hydrocarbons (PAH) in particulate matter by HRGC-MS after extraction by sonication. *Anal Sci.* 17: 1229-1231.

Perillo, I. B., R. W. Hyde, et al. (2001). Chemiluminescent measurements of nitric oxide pulmonary diffusing capacity and alveolar production in humans. *J Appl Physiol.* 91(5): 1931-1940.

Peters, A., D. W. Dockery, et al. (2001). Increased particulate air pollution and the triggering of myocardial infarction. *Circulation.* 103: 2810-2815.

Peters, T., G. A. Norris, et al. (2001). Field performance of $PM_{2.5}$ federal reference method samplers. *Aerosol Sci Technol.* 34(5): 433-443.

Peters, T., R. W. Vanderpool, et al. (2001). Design and calibration of the EPA $PM_{2.5}$ well impactor ninety-six (WINS). *Aerosol Sci Technol.* 34(5): 389-397.

Peters, T., R. W. Vanderpool, et al. (2001). Methodology for measuring $PM_{2.5}$ separator characteristics using an aerosizer. *Aerosol Sci Technol.* 34(5): 398-406.

Phalen, R. F. and M. J. Oldham (2001). Methods for modeling particle deposition as a function of age. *Respir Physiol.* 128(1): 119-130.

Phares, D. J., K. P. Rhoads, et al. (2001). Application of the ART-2a algorithm to laser ablation aerosol mass spectrometry of particle standards. *Anal Chem.* 73(10): 2338-2344.

Pope, C. A., D. J. Eatough, et al. (2001). Acute exposure to environmental tobacco smoke and heart rate variability. *Environ Health Perspect.* 109(7): 711-716.

Prahalad, A. K., J. Inmon, et al. (2001). Air pollution particles mediated oxidative DNA base damage in a cell free system and in human airway epithelial cells in relation to particulate metal content and bioreactivity. *Chem Res Toxicol.* 14(7): 879-887.

Prather, K. A. (2001). Formation of aerosol particles from reactions of secondary and tertiary alkylamines: characterization by aerosol time-of-flight mass spectrometry. *Environ Sci Technol.* 35(15): 3130-3138.

Qian, Z., J. Zhang, et al. (2001). Long term ambient air pollution levels in four Chinese cities: inter city and intra city concentration gradients for epidemiological studies. *J Exposure Anal Environ Epidemiol.* 11: 341-351.

Quintana, P. J., J. R. Valenzia, et al. (2001). Monitoring of 1-min personal particulate matter exposures in relation to voice-recorded time-activity data. *Environ Res.* 87(3): 199-213.

Rea, A. W., M. J. Zufall, et al. (2001). The influence of human activity patterns on personal PM exposure: a comparative analysis of filter-based and continuous particle measurements. *J Air Waste Manag Assoc.* 51(9): 1271-1279.

Rice, T. M., R. W. Clarke, et al. (2001). Differential ability of transition metals to induce pulmonary inflammation. *Toxicol Appl Pharmacol.* 177: 46-53.

Robarge, W., J. T. Walker, et al. (2001). Atmospheric concentrations of ammonia and ammonium at an agricultural site in the southeast United States. *Atmos Environ.* 36: 1661-1674.

Rodes, C. E., P. A. Lawless, et al. (2001). The relationships between personal PM exposures for elderly populations and indoor and outdoor concentrations for three retirement center scenarios. *J Expo Anal Environ Epidemiol.* 11(2): 103-115.

Sarnat, J. A., J. Schwartz, et al. (2001). Gaseous pollutants in particulate matter epidemiology: confounders or surrogates? *Environ Health Perspect.* 109: 1053-1061.

Schell, B., I. J. Ackermann, et al. (2001). Modeling the formation of secondary organic aerosol within a comprehensive air quality model system. *J Geophys Res.* 106(D22): 28275-28293.

Schwartz, J. (2001). Is there harvesting in the association of airborne particles with daily deaths and hospital admissions? *Epidemiology.* 12(1): 55-61.

Schwartz, J., F. Ballester, et al. (2001). The concentration-response relation between air pollution and daily deaths. *Environ Health Perspect.* 109(10): 1001-1006.

Seinfeld, J. H., G. B. Erdakos, et al. (2001). Modeling the formation of secondary organic aerosol (SOA). 2. The predicted effects of relative humidity on aerosol formation in the a-pinene-, b-pinene-, sabinene-, D3-carene, and cyclohexene-ozone systems. *Environ Sci Technol.* 35: 1806-1817.

Sheppard, L., D. Levy, et al. (2001). Correcting for the effects of location and atmospheric conditions on air pollution exposures in a case-crossover study. *J Exposure Anal Environ Epidemiol.* 11: 86-96.

Shoji, T., F. E. Huggins, et al. (2001). XAFS spectroscopy analysis of selected elements in fine particulate matter (PM) derived from coal combustion. *Energy & Fuels.* 16(2): 325-329.

Solomon, P. A., M. P. Tolocka, et al. (2001). Chemical analysis methods for atmospheric aerosol components. In: P. Barron and K. Willeke. *Aerosol Measurement: Principles, Techniques, and Application, Second Edition*. New York, NY: John Wiley & Sons, Inc.

Soukup, J. M. and S. Becker (2001). Human alveolar macrophage responses to air pollution particulates are associated with insoluble components of coarse material, including particulate endotoxin. *Toxicol Appl Pharmacol.* 171(1): 20-26.

Srivastava, R. K., D. S. McRae, et al. (2001). Simulation of a reacting pollutant puff using an adaptive grid algorithm. *J Geophys Res.* 106(D20): 24245-24258.

Srivastava, R. K., D. S. McRae, et al. (2001). Simulation of dispersion of a power plant plume using an adaptive grid algorithm. *Atmos Environ.* 35(28): 4801-4818.

Sun, G., K. Crissman, et al. (2001). Oxidative interactions of synthetic lung epithelial lining fluid with metal-containing particulate matter. *Am J Physiol Lung Cell Mol Biol.* (281): L807-L815.

Tanner, R. L., W. J. Parkhurst, et al. (2001). Impact of the 1998 Central American fires on $PM_{2.5}$ mass and composition in the southeastern United States. *Atmos Environ.* 35: 6539-6547.

Thornburg, J. W., D. S. Ensor, et al. (2001). Penetration of particles into buildings and associated physical factors. Part I. Model development and computer simulations. *Aerosol Sci Technol.* 34: 284-296.

Tolocka, M. P., T. M. Peters, et al. (2001). On the modification of the low flow-rate PM_{10} dichotomous sampler inlet. *Aerosol Sci Technol.* 34(5): 407-415.

Tolocka, M. P., P. A. Solomon, et al. (2001). East versus west in the U.S.: chemical characteristics of $PM_{2.5}$ during the winter of 1999. *Aerosol Sci Technol.* Special Issue for PM2000, 34(1): 88-96.

Tolocka, M. P., P. T. Tseng, et al. (2001). Optimization of the wash-off method for measuring aerosol concentrations. *Aerosol Sci Technol.* 34(5): 416-421.

Vanderpool, R. W., T. Peters, et al. (2001). Evaluation of the loading characteristics of the EPA WINS $PM_{2.5}$ separator. *Aerosol Sci Technol.* 34(5): 444-456.

Vanderpool, R. W., T. Peters, et al. (2001). Sensitivity analysis of the USEPA WINS $PM_{2.5}$ separator. *Aerosol Sci Technol.* 34(5): 465-476.

Vette, A., A. Rea, et al. (2001). Characterization of indoor-outdoor aerosol concentration relationships during the Fresno PM exposure studies. *Aerosol Sci Technol.* (34): 118-126.

von Mutius, E., J. Schwartz, et al. (2001). Relation of body mass index to asthma and atopy in children: the National Health and Nutrition Examination Study. III. *Thorax.* 56(11): 835-838.

Watkinson, W. P., M. J. Campen, et al. (2001). Cardiovascular and systemic responses to inhaled pollutants in rodents: effects of ozone and particulate matter. *Environ Health Perspect.* 109: 539-546.

Watkinson, W. P., M. J. Campen, et al. (2001). Impact of toxic agents or diverse conditions on thermoregulatory function in awake rodents. *J Thermal Biol.* 26: 331-338.

Weber, R. J., D. Orsini, et al. (2001). A particle-into-liquid collector for rapid measurement of aerosol bulk chemical composition. *Aerosol Sci Technol.* 35(3): 718-727.

Wesselkamper, S. C., L. C. Chen, et al. (2001). Development of pulmonary tolerance in mice exposed to zinc oxide fumes. *Toxicol Sci.* 60: 144-151.

Wesselkamper, S. C., L. C. Chen, et al. (2001). Genetic variability in the development of pulmonary tolerance to inhaled pollutants in inbred mice. *Am J Physiol Lung Cell Mol Physiol.* 281: L1200-L1209.

Willis, R. D., W. D. Ellenson, et al. (2001). Monitoring and source apportionment of particulate matter near a large phosphorus production facility. *J Air Waste Manag Assoc.* 51(8): 1142-1166.

Woo, K. S., D. R. Chen, et al. (2001). Measurement of Atlanta aerosol size distributions: observations of ultrafine particle events. *Aerosol Sci Technol.* 34: 75-87.

Woo, K. S., D. R. Chen, et al. (2001). Use of continuous measurements of integral aerosol parameters to estimate particle surface area. *Aerosol Sci Technol.* 34: 57-64.

Wu, W., J. M. Samet, et al. (2001). Activation of the EGF receptor signaling pathway in airway epithelial cells exposed to Utah Valley PM. *Am J Lung Cell Mol Physiol.* 281(2): L483-L489.

Xie, S. X., D. Liao, et al. (2001). Measurement error reduction using weighted average method for repeated measurements from heterogeneous instruments. *Environmetrics.* 12(8): 785-790.

Yang, G., S. Teague, et al. (2001). Synthesis of an ultrafine iron and soot aerosol for the evaluation of particle toxicity. *Aerosol Sci Technol.* 35: 759-766.

Zanobetti, A. and J. Schwartz (2001). Are diabetics more susceptible to the health effects of airborne particles? *Am J Respir Crit Care Med.* 164(5): 831-833.

Zanobetti, A., J. Schwartz, et al. (2001). The temporal pattern of mortality responses to air pollution: a multicity assessment of mortality displacement. *Epidemiology.* 13(1): 87-93.

Zareba, W., J. P. Couderc, et al. (2001). Cardiac effects of air pollution: what to measure in ECG? *Toxicol Sci.* 60: 16.

Zareba, W., A. Nomura, et al. (2001). Cardiovascular effects of air pollution: what to measure in ECG? *Environ Health Perspect.* 109(Suppl 4): 533-538.

Zhang, K., H. Mao, et al. (2001). Numerical investigation of boundary-layer evolution and nocturnal low-level jets: local versus non-local PBL schemes. *J Environ Fluid Mech.* 1: 171-208.

Zhang, Z., C. Kleinstreuer, et al. (2001). Effects of curved inlet tubes on air flow and particle deposition in bifurcating lung models. *J Biomech.* 34(5): 659-669.

Zhang, Z., C. Kleinstreuer, et al. (2001). Flow structure and particle transport in a triple bifurcation airway model. *ASME J Fluids Eng.* 123: 320-330.

2002 Publications:

Alexis, N. E., J. H. Richards, et al. (2002). Iron-binding and storage proteins in sputum. *Inhalation Toxicol.* 14(4): 387-400.

Anderson, N. J., R. Strader, et al. (2002). Airborne reduced nitrogen: ammonia emissions from agricultural and other sources. *Environ International.* 29(2-3): 277-286.

Batalha, J. R. F., P. H. N. Saldiva, et al. (2002). Concentrated ambient air particles induce vasoconstriction of small pulmonary arteries in rats. *Environ Health Perspect.* 110(12): 1191-1197.

Becker, S., M. J. Fenton, et al. (2002). Involvement of microbial components and toll-like receptors 2 and 4 in cytokine responses to air pollution particles. *Am J Resp Cell Mol Biol.* 27(5): 611-618.

Becker, S., J. M. Soukup, et al. (2002). Differential particulate air pollution induced oxidant stress in human granulocytes, monocytes and alveolar macrophages. *Toxicol In Vitro.* 16(3): 209-218.

Bhave, P. V., J. O. Allen, et al. (2002). A field-based approach for determining the ATOFMS instrument sensitivities to ammonium and nitrate. *Environ Sci Technol.* 36(22): 4868-4879.

Bhave, P. V., M. J. Kleeman, et al. (2002). Evaluation of an air quality model for the size and composition of source-oriented particle classes. *Environ Sci Technol.* 36: 2154-2163.

Boring, D. G., R. Al-Horr, et al. (2002). Field measurement of acid gasses and soluble anions in atmospheric particulate matter using a parallel plate wet denuder and an alternating filter-based automated analysis system. *Anal Chem.* 74: 1256-1268.

Braga, A. L., A. Zanobetti, et al. (2002). The effect of weather on respiratory and cardiovascular deaths in 12 U.S. cities. *Environ Health Perspect.* 110(9): 859-869.

Broderick, C.-J., H. A. Dwyer, et al. (2002). Effects of engine speed and accessory load on idling emissions from heavy-duty diesel trucks. *J Air Waste Manag Assoc.* 52: 1026-1031.

Brown, J. E., F. G. King, Jr., et al. (2002). On-road facility to measure and characterize emissions from heavy-duty diesel engines. *J Air Waste Manag Assoc.* 52: 388-395.

Cabada, J. C., S. N. Pandis, et al. (2002). Sources of atmospheric particulate matter in Pittsburgh, Pennsylvania. *J Air Waste Manag Assoc.* 52: 732-741.

Campen, M. J., J. P. Nolan, et al. (2002). Cardiac and thermoregulatory effects of instilled particulate matter-associated transition metals in healthy and cardiopulmonary-compromised rats. *J Toxicol Environ Health.* 65: 1615-1631.

Cardello, N., J. Volckens, et al. (2002). Technical note: performance of a personal electrostatic precipitator particle sampler. *Aerosol Sci Technol.* 36(2): 162-165.

Carrico, C. M., M. H. Bergin, et al. (2002). Urban aerosol radiative properties: measurements during the Atlanta Supersite 1999 Experiment. *J Geophys Res.* 108(D7): 8422, doi: 10.1029/2001JD001222.

Chalupa, D. C., F. R. Gibb, et al. (2002). A facility for controlled human exposures to ultrafine particles. In: Heinrich, U., Mohr, U., eds. *Crucial Issues in Inhalation Research—Mechanistic, Clinical and Epidemiologic*. Stuttgart, Germany: Fraunhofer IRB Verlag.

Chameides, W. L., C. Luo, et al. (2002). Correlation between model-calculated anthropogenic aerosols and satellite-derived cloud optical depths: indication of indirect effect? *J Geophys Res.* 107(D10): 4085, doi: 10.1029/2000JD000208.

Chang, M. C., M. D. Geller, et al. (2002). Development and evaluation of a compact highly efficient coarse particle concentration for toxicological studies. *Aerosol Sci Technol.* 36: 492-501.

Chen, L. C. and G. Thurston (2002). World Trade Center cough. *The Lancet.* 360(Suppl 1): s37-s38.

Chow, J. C., J. P. Engelbrecht, et al. (2002). Exposure measurements. *Chemosphere.* 49: 873-902.

Chow, J. C., J. P. Engelbrecht, et al. (2002). Designing monitoring networks to represent outdoor human exposure. *Chemosphere.* 49: 961-978.

Claiborn, C. S., T. Larson, et al. (2002). Testing the metals hypothesis in Spokane, Washington. *Environ Health Perspect.* 110 (Suppl 4): 547-552.

Clancy, L., P. Goodman, et al. (2002). Effect of air-pollution control on death rates in Dublin, Ireland: an intervention study. *The Lancet.* 360(9341): 1210-1214.

Cohen, M. D., M. Sisco, et al. (2002). Effects of inhaled chromium on pulmonary A1AT. *Inhalation Toxicol.* 14: 765-771.

Cohen, M. D., M. Sisco, et al. (2002). Effects of inhaled ozone on pulmonary immune cells critical to antibacterial responses in situ. *Inhalation Toxicol.* 14(6): 599-619.

Couderc, J.-P., A. C. P. Elder, et al. (2002). Limitation of power spectrum and time-domain analysis of heart rate variability in short-term ECG recorded using telemetry in unrestrained rats. *Computers Cardiol.* 29: 589-592.

Cyrys, J., J. Heinrich, et al. (2002). Emissionen, immission und messungen feiner und ultrafeiner partikel. *Umweltmed Forsch Prax.* 7: 67-77.

DeForest, C. L., J. Qian, et al. (2002). Composition determination of multi-component organic aerosols by on-line FT-IR spectroscopy. *Applied Spectroscopy.* 56(11): 1429-1435.

DeForest, C. L., J. Qian, et al. (2002). Time-resolved studies of the interactions between pulsed lasers and aerosols. *Applied Optics.* 41(27): 5804-5813.

Demokritou, P., T. Gupta, et al. (2002). A high volume apparatus for the condensational growth of ultrafine particles for inhalation toxicological studies. *Aerosol Sci Technol.* 36: 1061-1072.

Demokritou, P., T. Gupta, et al. (2002). Development and laboratory characterization of a prototype coarse particle concentrator for inhalation toxicological studies. *J Aerosol Sci.* 33: 1111-1123.

Demokritou, P., T. Gupta, et al. (2002). Development and laboratory performance evaluation of a personal cascade impactor. *J Air Waste Manag Assoc.* 52(10): 1230-1237.

Demokritou, P., I. G. Kavouras, et al. (2002). Development of a high volume cascade impactor for toxicological and chemical characterization studies. *Aerosol Sci Technol.* 36: 925-933.

Devlin, R. B., A. J. Ghio, et al. (2002). Exposure of humans to concentrated ambient air pollution particles (CAPS) results in decreased heart rate variability in elderly but not young volunteers. *Eur Resp J.*

Ding, Y., Y. Pang, et al. (2002). High-volume diffusion denuder sampler for the routine monitoring of fine particulate matter. I. Design and optimization of the PC-BOSS. *Aerosol Sci Technol.* 36: 369-382.

Ding, Y., Y. Pang, et al. (2002). High-volume diffusion denuder sampler for the routine monitoring of fine particulate matter. II. Field evaluation of the PC-BOSS aerosol science and technology. *Aerosol Sci Technol.* 36: 383-396.

Eisner, A. D. and R. W. Wiener (2002). Discussion and evaluation of the volatility test for equivalency of other methods to the federal reference method for fine particulate matter. *Aerosol Sci Technol.* 36(4): 433-440.

Elder, A. C. P., R. Gelein, et al. (2002). Systemic interactions between inhaled ultrafine particles and endotoxin. *Ann Occup Hyg.* 146(Suppl 1): 231-234.

Evans, J. S., K. Wolff, et al. (2002). Exposure eficiency: an idea whose time has come? *Chemosphere.* 49: 1075-1091.

Fehsenfeld, F. C., L. G. Huey, et al. (2002). Results from an informal intercomparison of ammonia measurement techniques. *J Geophys Res.* 107(D24): 4812, doi: 10.1029/2001JD001327.

Fine, P. M., G. R. Cass, et al. (2002). Organic compounds in biomass smoke from residential wood combustion: emissions characterization at a continental scale. *J Geophys Res. (D Atmos.)* 107(D21): 8349, doi: 10.1029/2001JD000661.

Frampton, M. W., W. Zareba, et al. (2002). Inhalation of ultrafine particles alters myocardial repolarization in humans. *Am J Respir Crit Care Med.* 165.

Frey, H. C. and S. Bammi (2002). Probabilistic nonroad mobile source emission factors. *ASCE J Environ Eng.* 129(2): 162-168.

Frey, H. C. and S. Bammi (2002). Quantification of variability and uncertainty in lawn and garden equipment NO_x and total hydrocarbon emission factors. *J Air Waste Manag Assoc.* 52(4): 435-448.

Frey, H. C. and J. Zheng (2002). Probabilistic analysis of driving cycle-based highway vehicle emission factors. *Environ Sci Technol.* 36: 5184-5191.

Frey, H. C. and J. Zheng (2002). Quantification of variability and uncertainty in utility NO_x emission inventories. *J Air Waste Manag Assoc.* 52(9): 1083-1095.

Garnes, L. A. and D. T. Allen (2002). Size distributions of organonitrates in ambient aerosol collected in Houston, Texas. *Aerosol Sci Technol.* 36: 983-992.

Garrick, M. D., K. G. Dolan, et al. (2002). DMT1: a mammalian transporter for multiple metals. *Biometals*.

Gavett, S. H. (2002). World Trade Center fine particulate matter—chemistry and toxic respiratory effects. *Environ Health Perspect.* doi: 10.1289/6278.

Gavett, S. H., N. Haykal-Coates, et al. (2002). Toxicological effects of fine particulate matter derived from the destruction of the World Trade Center. U.S. Environmental Protection Agency.

Geller, M., M. C. Chang, et al. (2002). Characteristics and indoor/outdoor relationship of coarse and fine particles in the Coachella Valley, California. *Atmos Environ.* 36: 1099-1110.

Geller, M. D., S. Kim, et al. (2002). Methodology for measuring size-dependent chemical composition of ultrafine particles. *Aerosol Sci Technol.* 36(6): 748-763.

Ghio, A. J., T. P. Kennedy, et al. (2002). Iron regulates xanthine oxidase activity in the lung. *Am J Physiol Lung Cell Mol Physiol.* 283(3): L563-L572.

Ghio, A. J., R. Silbajoris, et al. (2002). Biologic effects of oil fly ash. *Environ Health Perspect.* 110(Suppl 1): 89-94.

Ghio, A. J., H. B. Suliman, et al. (2002). Overexpression of extracellular superoxide dismutase decreases lung injury after exposure to oil fly ash. *Am J Physiol Lung Cell Mol Physiol.* 283(1): L211-L218.

Gilmour, M. I. and H. S. Koren (2002). Interaction of inhaled particles with the immune system. In: Gehr, P., Heyder, J. *Particle-Lung Interactions. The Lung Series.* New York: Marcel Dekker, Inc.

Godleski, J. J., R. W. Clarke, et al. (2002). Composition of inhaled urban air particles determines acute pulmonary responses. *Ann Occup Hyg.* 46(Suppl 1): 419-424.

Goebes, M. D., R. Strader, et al. (2002). An ammonia emission inventory for fertilizer application in the United States. *Atmos Environ.* 37(18): 2539-2550.

Goldsmith, C. A., Y. Ning, et al. (2002). Combined air pollution particle and ozone exposure increases airway responsiveness in mice. *Inhalation Toxicol.* 14(4): 325-347.

Gopinath, A. and D. L. Koch (2002). Collision and rebound of small droplets in an incompressible continuum gas. *J Fluid Mech.* 454: 145-201.

Goswami, E., T. Larson, et al. (2002). Spatial characteristics of fine particulate matter: identifying representative monitoring locations in Seattle, Washington. *J Air Waste Manag Assoc.* 52(3): 324-333.

Griffin, R. J., D. Dabdub, et al. (2002). Secondary organic aerosol. 1. Atmospheric chemical mechanism for production of molecular constituents. *J Geophys Res.* 107(D17): doi: 10.1029/2001JD000541.

Griffin, R. J., D. Dabdub, et al. (2002). Secondary organic aerosol. 3. Urban/regional scale model of size- and composition-resolved aerosols. *J Geophys Res.* 107(D17): doi: 10.1029/2001JD000544.

Guan, X., R. A. Segal, et al. (2002). Mathematical model of airflow in the lungs of children. II: effects of ventilatory parameters. *J Theoretical Med.*

Hays, M. D., C. Geron, et al. (2002). Speciation of gas-phase and fine particle emissions from burning of foliar fuels. *Environ Sci Technol.* 36: 2281-2295.

Henry, F. S., J. P. Butler, et al. (2002). Kinematically irreversible acinar flow: a departure from classical dispersive aerosol transport theories. *J Appl Physiol.* 92: 835-845.

Hong, Y.-C., J.-T. Lee, et al. (2002). Effects of air pollutants on acute stroke mortality. *Environ Health Perspect.* 110(2): 187-191.

Houseman, E. A., L. Ryan, et al. (2002). Autocorrelation in real time continuous monitoring of microenvironments. *J Applied Stat.* 29(6): 855-872.

Huang, Y., G. Davidson, et al. (2002). Activation of nuclear factor-kappaB and not activator protein-1 in cellular response to nickel compounds. *Environ Health Perspect.* 110(Suppl 5): 835-839.

Huang, Y. C., J. Soukup, et al. (2002). Mitochondrial oxidant production by a pollutant dust and NO-mediated apoptosis in human alveolar macrophage. *Am J Cell Physiol.* 11: 11.

Huang, Y. C., W. Wu, et al. (2002). Activation of EGF receptors mediates pulmonary vasoconstriction induced by residual oil fly ash. *Exp Lung Res.* 28(1): 19-38.

Ibald-Mulli, A., H. E. Wichmann, et al. (2002). Epidemiological evidence on health effects of ultrafine particles. *J Aerosol Med.* 15(2): 189-201.

Jang, M., N. M. Czoschke, et al. (2002). Heterogeneous atmospheric aerosol production by acid-catalyzed particle-phase reactions. *Science.* 298: 814-817.

Janssen, N. A. H., J. Schwartz, et al. (2002). Air conditioning and source-specific particles as modifiers of the effect of PM_{10} on hospital admissions for heart and lung disease. *Environ Health Perspect.* 110: 43-49.

Jetter, J. J., Z. Guo, et al. (2002). Characterization of emissions from burning incense. *Sci Total Environ.* 295: 51-67.

Johnson, T. A., R. B. Devlin, et al. (2002). Cardiopulmonary effects of nebulized residual oil fly ash in anesthetized pigs. In: Heinrich, U., Mohr, U., eds. *INIS Monograph Series, Crucial Issues in Inhalation Research. B. Mechanistic, Clinical and Epidemiologic.* Stuttgart, Germany: Fraunhofer IRB Verlag, 199-212.

Kelly, J. T., E. W. Tewksbury, et al. (2002). Nasal and lung deposition of fine and coarse particles in rats. *Ann Occup Hyg.* 46(Suppl 1): 346-349.

Kim, S., S. Shen, et al. (2002). Size distribution and diurnal and seasonal trends of ultrafine particles in source and receptor sites of the Los Angeles Basin. *J Air Waste Manag Assoc.* 52(3): 297-307.

Kleindienst, T. E., E. W. Corse, et al. (2002). Secondary organic aerosol formation from the irradiation of simulated automobile exhaust. *J Air Waste Manag Assoc.* 52(3): 259-272.

Kodavanti, U. P., M. C. J. Schladweiler, et al. (2002). Pulmonary and systemic effects of zinc-containing emission particles in three rat strains: multiple exposure scenarios. *Toxicol Sci.* 70: 73-85.

Kodavanti, U. P., M. C. J. Schladweiler, et al. (2002). Temporal association between pulmonary and systemic effects of particulate matter in healthy and cardiovascular compromised rats. *J Toxicol Environ Health.* 65(Part A): 1545-1569.

Kreyling, W. G., M. Semmler, et al. (2002). Ultrafine insoluble iridium particles are negligibly translocated from lung epithelium to extrapulmonary organs. *J Toxicol Environ Health.* 65(20): 1513-1530.

Lambert, A. L., M. J. Selgrade, et al. (2002). Enhanced allergic sensitization by residual oil fly ash particles is mediated by soluble metal constituents. *Toxicol Appl Pharmacol.* 165: 84-93.

LaRosa, L. E., T. J. Buckley, et al. (2002). Real-time indoor and outdoor measurements of black carbon in an occupied house: an examination of sources. *J Air Waste Manag Assoc.* 52(1): 41-49.

Lee, S. H., D. M. Murphy, et al. (2002). Chemical components of single particles measured with particle analysis by laser mass spectrometry (PALMS) during the Atlanta Supersite Experiment: focus on organic/sulfate, lead, soot, and mineral particles. *J Geophys Res.* 107(D1): 4003, doi: 10.1029/2000JD000011.

Lemire, K. R., D. T. Allen, et al. (2002). Fine particulate matter source attribution for Southeast Texas. *J Geophys Res.* 107(D22): 4613, doi: 10.1029/ 2002JD002339.

Levy, J. I., T. Dumyahn, et al. (2002). Particulate matter and polycyclic aromatic hydrocarbon concentrations in indoor and outdoor microenvironments in Boston, Massachusetts. *J Expo Anal Environ Epidemiol.* 12(2): 104-114.

Le Tertre, A., S. Medina, et al. (2002). Short-term effects of particulate air pollution on cardiovascular diseases in eight European cities. *J Epidemiol Community Health.* 56(10): 773-779.

Levy, J. I., S. K. Wolff, et al. (2002). A regression-based approach for estimating primary and secondary particulate matter intake fractions. *Risk Anal.* 22(5): 895-904.

Li, N., S. Kim, et al. (2002). Use of a stratified oxidative stress model to study the biological effects of ambient concentrated and diesel exhaust particulate matter. *Inhalation Toxicol.* 14(5): 459-486.

Lim, H. J. and B. J. Turpin (2002). Origins of primary and secondary organic aerosol in Atlanta: results of time-resolved measurements during the Atlanta Supersite Experiment. *Environ Sci Technol.* 36: 4489-4496.

Linak, W. P., C. A. Miller, et al. (2002). On trimodal particle size distributions in fly ash from pulverized coal combustion. *Proc Combustion Inst.* 29: 441-447.

Lioy, P. J., C. Weisel, et al. (2002). Characterization of the dust/smoke aerosol that settled east of the World Trade Center (WTC) in lower Manhattan after the collapse of the WTC September 11, 2001. *Environ Health Perspect.* 110: 703-714.

Liu, L.-J., C. Slaughter, et al. (2002). Comparison of light scattering devices and impactors for particulate measurements in indoor, outdoor, and personal environments. *Environ Sci Technol.* 36: 2977-2986.

Long, R. W., R. Smith, et al. (2002). Sources of fine particulate organic material along the Wasatch Front. *Energy & Fuels.* 16(2): 282-293.

Lumley, T. and L.-J. Liu (2002). On estimating the distribution of correlations. *Med Stat*.

Maciejczyk, P. B., C. B. Kidwell, et al. (2002). System for precise control of volumetric flow rate during sampling with a cascade impactor. *Aerosol Sci Technol.* 36(4): 397-406.

Mao, D., J. R. Edwards, et al. (2002). A model for fine particle agglomeration in circulating fluidized bed absorbers. *Heat Mass Transfer.* 38: 379-388.

Mao, D., J. R. Edwards, et al. (2002). Particle flow, mixing, and chemical reaction in circulating fluidized bed absorbers. *Chem Eng Sci.* 57: 3107-3117.

McClenny, W. A., E. J. Williams, et al. (2002). Preparing to measure the effects of the NO_x SIP call—methods for ambient air monitoring of NO, NO_2, NO_y, and individual NO_z species. *J Air Waste Manag Assoc.* 52(5): 542-562.

McMurry, P. H., X. Wang, et al. (2002). The relationship between mass and mobility for atmospheric particles: a new technique for measuring particle density. *Aerosol Sci Technol.* 36: 227-238.

McMurry, P. H. and K. S. Woo (2002). Size distributions of 3 to 100 nm urban Atlanta aerosols: measurement and observations. *J Aerosol Med.* 15(2): 169-178.

Melikian, A. A., Q. Qu, et al. (2002). Personal exposure to different levels of benzene and its relationships to the urinary metabolites S-phenylmercapturic acid and trans,trans-muconic acid. *J Chromatography B.* 778: 211-221.

Mihailovic, D. T., S. T. Rao, et al. (2002). An approach for the aggregation of aerodynamic surface parameters in calculating the turbulent fluxes over heterogeneous surfaces in atmospheric models. *Environ Fluid Mech.* 2(4): 315-337.

Miller, C. A. and W. P. Linak (2002). Primary particles from the combustion of heavy fuel oil and coal: a review of research results from EPA's National Risk Management Research Laboratory. Research Triangle Park, NC, U.S. Environmental Protection Agency, National Risk Management Research Laboratory, EPA Report EPA-600/R-02-093.

Miller, C. A., R. K. Srivastava, et al. (2002). Advances in control of $PM_{2.5}$ and $PM_{2.5}$ precursors generated by the combustion of pulverized coal. *International J Environ Pollution* 17: 143-156.

Misra, C., S. Kim, et al. (2002). A high flow rate, very low pressure drop impactor for inertial separation of ultrafine from accumulation mode particles. *J Aerosol Sci.* 33(5): 735-752.

Misra, C., M. Singh, et al. (2002). Development and evaluation of a Personal Cascade Impactor Sampler (PCIS). *J Aerosol Sci.* 33(7): 1027-1047.

Molinelli, A. R., M. C. Madden, et al. (2002). Effect of metal removal on the toxicity of airborne particulate matter from the Utah Valley. *Inhalation Toxicol.* 14(10): 1069-1086.

Mortimer, K. M., L. M. Neas, et al. (2002). The effect of air pollution on inner-city children with asthma. *Eur Respir J.* 19(4): 699-705.

Moya, M., S. N. Pandis, et al. (2002). Is the size distribution of urban aerosols determined by thermodynamic equilibrium? *Atmos Environ.* 36: 2349-2365.

Moyer, C. F., U. P. Kodavanti, et al. (2002). Systemic vascular disease in male B6C3F1 mice exposed to particulate matter by inhalation: studies conducted by the National Toxicology Program. *Toxicol Pathol.* 30(4): 427-434.

Nadadur, S. S. and U. P. Kodavanti (2002). Altered gene expression profiles of rat lung in response to an emission particulate matter and its metal constituents. *J Toxicol Environ Health.* 65(Part A): 1333-1350.

Nadziejko, C., K. Fang, et al. (2002). Effect of concentrated ambient particulate matter on blood coagulation parameters in rats. Boston, MA: Health Effects Institute Research Report 111: 1-29.

Nadziejko, C., K. Fang, et al. (2002). Immediate effects of particulate air pollutants on heart rate and respiratory rate in hypertensive rats. *Cardiovasc Toxicol.* 2(4): 245-252.

Nadziejko, C., K. Fang, et al. (2002). Quantitative analysis of cardiac data from rats monitored by telemetry: reducing within- and between-animal variability. *Cardiovasc Toxicol.* 2(4): 237-244.

Nguyen, K. and D. Dabdub (2002). NO_x and VOC control and its effect on the formation of aerosols. *Aerosol Sci Technol.* 36: 560-572.

Nishioka, Y., J. I. Levy, et al. (2002). Integrating risk assessment and life cycle assessment: a case study of insulation. *Risk Anal.* 22(5): 1003-1017.

Obeidi, F. and D. J. Eatough (2002). Continuous measurement of semi-volatile fine particulate mass in Provo, UT. *Aerosol Sci Technol.* 36: 191-203.

Obeidi, F., N. L. Eatough, et al. (2002). Use of the RAMS to measure semivolatile fine particulate matter at Riverside and Bakersfield, California. *Aerosol Sci Technol.* 36: 204-216.

Oberdorster, G., Z. Sharp, et al. (2002). Extrapulmonary translocation of ultrafine carbon particles following whole-body inhalation exposure of rats. *J Toxicol Environ Health A.* 65(20): 1531-1543.

Obot, C. J., M. T. Morandi, et al. (2002). Surface components of airborne particulate matter induce apoptosis through scavenger receptors. *Toxicol Appl Pharmacol.* 184(2): 98-106.

Oldham, M. J. and R. F. Phalen (2002). Dosimetry implications of upper tracheobronchial airway anatomy in two mouse varieties. *Anat Rec.* 268(1): 59-65.

Paatero, P. and P. K. Hopke (2002). Utilizing wind direction and wind speed as independent variables in multilinear receptor modeling studies. *Chemo Intel Lab Sys.* 60: 25-41.

Pagan, I., D. L. Costa, et al. (2002). Metals mimic rat tracheal epithelial cell toxic responses induced by ambient particulate matter filter extracts. *Toxicol Sci.*

Pang, Y., L. A. Gundel, et al. (2002). Development and evaluation of a personal particulate organic and mass sampler. *Environ Sci Technol.* 36(23): 5205-5210.

Pang, Y., N. L. Eatough, et al. (2002). Effect of semivolatile material on $PM_{2.5}$ measurement by the $PM_{2.5}$ Federal Reference Method Sampler at Bakersfield, California. *Aerosol Sci Technol.* 36: 289-299.

Pang, Y., N. L. Eatough, et al. (2002). Evaluation of the RAMS continuous monitor for determination of $PM_{2.5}$ mass including semi-volatile material in Philadelphia, PA. *J Air Waste Manag Assoc.* 52(5): 563-572.

Pang, Y., N. L. Eatough, et al. (2002). $PM_{2.5}$ semivolatile organic material at Riverside, California: implications for the $PM_{2.5}$ Federal Reference Method Sampler. *Aerosol Sci Technol.* 36: 277-288.

Pekkanen, J., A. Peters, et al. (2002). Particulate air pollution and risk of ST-segment depression during repeated submaximal exercise tests among subjects with coronary heart disease: the Exposure and Risk Assessment for Fine and Ultrafine Particles in Ambient Air (ULTRA) Study. *Circulation.* 106(8): 933-938.

Pereira, P. A., J. B. de Andrade, et al. (2002). Measurements of semivolatile and particulate polycyclic aromatic hydrocarbons in a bus station and an urban tunnel in Salvador, Brazil. *J Environ Monit.* 4(4): 558-561.

Peters, A., J. Heinrich, et al. (2002). Gesundheitliche wirkungen von feinstaub: epidemiologie der kurzzeiteffekte. *Umweltmed Forsch Prax.* 7: 101-115.

Phares, D. J., K. P. Rhoads, et al. (2002). Performance of a single-ultrafine-particle mass spectrometer. *Aerosol Sci Technol.* 36(5): 583-592.

Pope, C. A. I., R. T. Burnett, et al. (2002). Lung cancer, cardiopulmonary mortality and long-term exposure to fine particulate air pollution. *JAMA.* 287: 1132-1141.

Pun, B. K., R. J. Griffin, et al. (2002). Secondary organic aerosol. 2. Thermodynamic model for gas/particle partitioning of molecular constituents. *J Geophys Res.* 107(D17): doi: 10.1029/2001JD000542.

Qian, J., C. L. DeForest, et al. (2002). Time-resolved step-scan FT-IR spectroscopy: applications to the in situ, real-time analysis of aqueous and organic aerosols. *Anal Chem.*

Reibman, J., Y. Hsu, et al. (2002). Size fractions of ambient particulate matter induce granulocyte macrophage colony-stimulating factor in human bronchial epithelial cells by mitogen-activated protein kinase pathways. *Am J Respir Cell Mol Biol.* 27(4): 455-462.

Romieu, I., J. J. Sienra-Monge, et al. (2002). Antioxidant supplementation and lung functions among children with asthma exposed to high levels of air pollutants. *Am J Respir Crit Care Med.* 166: 703-709.

Rosati, J. A., J. S. Brown, et al. (2002). A polydisperse aerosol inhalation system for use in human inhalation studies. *Aerosol Sci Technol.* 33: 1433-1446.

Saldiva, P. H., R. W. Clarke, et al. (2002). Lung inflammation induced by concentrated ambient air particles is related to particle composition. *Am J Respir Crit Care Med.* 165(12): 1610-1617.

Samet, J. M., J. Q. Quay, et al. (2002). Activation of NFkB in human bronchial epithelial cells exposed to vanadium-laden particles.

Samet, J. M., R. Silbajoris, et al. (2002). Transcription factor activation following exposure of an intact lung preparation to metallic particulate matter. *Environ Health Perspect.* 110(10): 985-990.

Sarnat, J. A., C. M. Long, et al. (2002). Using sulfur as a tracer of outdoor fine particulate matter. *Environ Sci Technol.* 36(24): 5305-5314.

Savov, J. D., S. H. Gavett, et al. (2002). Neutrophils play a critical role in the development of LPS-induced airway disease. *Am J Physiol Lung Cell Mol Physiol.* 283(5 Part 1): L952-L962.

Schwartz, J. (2002). The use of epidemiology in environmental risk assessment. *J Human Ecol Risk Assessment.* 8(6): 1253-1265.

Schwartz, J., F. Laden, et al. (2002). The concentration-response relation between $PM_{2.5}$ and daily deaths. *Environ Health Perspect.* 110(10): 1025-1029.

Segal, R. A., T. B. Martonen, et al. (2002). Computer simulations of particle deposition in the lungs of chronic obstructive pulmonary disease patients. *Inhalation Toxicol.* 14(7): 705-720.

Selgrade, M. J. K. (2002). Air pollution and respiratory disease: extrapolating from animal models to human health effects. *Immunopharmacology.* 48(3): 319-324.

Selgrade, M. J. K. (2002). Applying pulmonary immunotoxicity data to risk assessment. *Pulmonary Immunotoxicology*. In: Cohen, M., J. T. Zelikoff, and R. B. Schleschinger. Norwell: Kluwer Academic Publishers.

Shen, S., Y. Zhu, et al. (2002). Evaluation of the SMPS-APS system as a continuous monitor for measuring $PM_{2.5}$ and PM_{10}. *Atmos Environ.* 36: 3939-3950.

Singh, M., P. Jaques, et al. (2002). Size distribution and diurnal characteristics of particle-bound metals in source and receptor sites of the Los Angeles Basin. *Atmos Environ.* 36(10): 1675-1689.

Singh, P., D. Demarini, et al. (2002). Comparative toxicity and mutagenicity of diesel particulate from automobile and off-road combustion sources. *Toxicol Sci.*

Smith, G. D., E. Woods, et al. (2002). Reactive uptake of ozone by oleic acid aerosol particles: application of single-particle mass spectrometry to heterogeneous reaction kinetics. *J Physical Chem A.* 106(35): 8085-8095.

Smith, K. R., S. Kim, et al. (2002). Health effects of concentrated California particulate matter in rats. *The Toxicologist.* 66(1-S): 359-360.

Smith, K. R., D. L. Uyeminanami, et al. (2002). Inhibition of tobacco smoke-induced lung inflammation by a catalytic antioxidant. *Free Radical Biol Med.* 33(8): 1106-1114.

Stanier, C. O., A. Khlystov, et al. (2002). Chemical processes and long-range transport of aerosols: insights from the Pittsburgh Air Quality Study. *Long Range Transport of Air Pollution*. Kluwer Academic Publishers.

Thurston, G. and L. C. Chen (2002). Risk communication in the aftermath of the World Trade Center disaster. *Am J Industrial Med.* 42(6): 543-544.

Tsuda, A., R. A. Rogers, et al. (2002). Chaotic mixing deep in the lung. *Proc National Acad Sci USA.* 99(15): 10173-10178.

Turi, J. L., I. Jaspers, et al. (2002). Oxidative stress activates anion exchange protein 2 and AP-1 in airway epithelial cells. *Am J Physiol Lung Cell Mol Physiol.* 283(4): L791-L798.

U.S. EPA Science Advisory Board. (2002). Interim review of the particulate matter (PM) research centers of the USEPA: an EPA Science Advisory Board Report.

Utell, M. J., M. W. Frampton, et al. (2002). Cardiovascular effects associated with air pollution: potential mechanisms and methods of testing. *Inhalation Toxicol.* 14(12): 1231-1247.

Wang, X., A. J. Ghio, et al. (2002). Iron uptake and Nramp2/DMT1/DCT1 in human bronchial epithelial cells. *Am J Physiol Lung Cell Mol Physiol.* 282(5): L987-L995.

Wasson, S. J. and Z. Guo (2002). Analysis of lead in candle particulate emissions by XRF using UniQuant® 4. *Adv X-ray Anal.* 45: 539-543.

Wasson, S. J., Z. Guo, et al. (2002). Lead in candle emissions. *Sci Total Environ.* 296: 159-174.

Watson, J. G., T. Zhu, et al. (2002). Receptor modeling application framework for particle source apportionment. *Chemosphere.* 49: 1093-1136.

Wellenius, G. A., P. H. N. Saldiva, et al. (2002). Electrocardiographic changes during exposure to Residual Oil Fly Ash (ROFA) particles in a rat model of myocardial infarction. *Toxicol Sci.* 66: 327-335.

Whitekus, M. J., N. Li, et al. (2002). Thiol antioxidants inhibit the adjuvant effects of aerosolized diesel exhaust particles in a murine model for ovalbumin sensitization. *J Immunol.* 168: 2560-2567.

Wichmann, H. E., J. Cyrys, et al. (2002). Sources and elemental composition of ambient particles in Erfurt, Germany. *Ecomed Verlag Landsberg.* Monograph.

Williams, R., L. Wallace, et al. (2002). Preliminary particulate matter mass concentrations associated with longitudinal panel studies. Research Triangle Park, NC, U.S. Environmental Protection Agency, National Exposure Research Laboratory, EPA Report EPA/600/R-01/086.

Wilson, W. E., J. C. Chow, et al. (2002). Monitoring of particulate matter outdoors. *Chemosphere.* 49: 961-979.

Wu, W., L. M. Graves, et al. (2002). Src-dependent phosphorylation of the epidermal growth factor receptor on tyrosine 845 is required for zinc-induced Ras activation. *J Biol Chem.* 277(27): 24252-24257.

Wu, W., I. Jaspers, et al. (2002). Role of Ras in metal-induced EGF receptor signaling and NF-kappaB activation in human airway epithelial cells. *Am J Physiol Lung Cell Mol Physiol.* 282(5): L1040-L1048.

Yang, F., X. B. Liu, et al. (2002). Regulation of reticuloendothelial iron transporter MTP1 (Slc11a3) by inflammation. *J Biol Chem.* 277(42): 39786-39791.

Yang, F., X. Wang, et al. (2002). Iron increases expression of iron-export protein MTP1 in lung cells. *Am J Physiol Lung Cell Mol Physiol.* 283(5): L932-L939.

Young, D., K. M. Douglas, et al. (2002). Laser desorption-ionization of polycyclic aromatic hydrocarbons from glass surfaces with ion mobility spectrometry analysis. *Anal Chimica Acta.* 453(2): 231-243.

Zanobetti, A. and J. Schwartz (2002). Cardiovascular damage by airborne particles: are diabetics more susceptible? *Epidemiology.* 13(5): 588-592.

Zelikoff, J. T., L. C. Chen, et al. (2002). The toxicology of inhaled woodsmoke. *J Toxicol Environ Health.* 5: 269-282.

Zelikoff, J. T., K. R. Schermerhorn, et al. (2002). A role for association transition metals in the immunotoxicity of inhaled ambient particulate matter. *Environ Health Perspect.* 110: 871-875.

Zhang, J., W. L. Chameides, et al. (2002). An evaluation of the thermodynamic equilibrium assumption for fine particulate composition: nitrate and ammonium during Atlanta '99 Supersite Experiment. *J Geophys Res.* 108(D7): 8414, doi: 10.1029/2001JD001592.

Zhang, J. J., W. Hu, et al. (2002). Children's respiratory morbidity prevalence in relation to air pollution in four Chinese cities. *Environ Health Perspect.* 110: 961-967.

Zhang, X., K. A. Smith, et al. (2002). A numerical characterization of particle beam collimation by an aerodynamic lens-nozzle system. Part I. An individual lens or nozzle. *Aerosol Sci Technol.* 36: 617-631.

Zhang, Z., C. Kleinstreuer, et al. (2002). Aerosol deposition efficiencies and upstream release positions for different inhalation modes in an upper bronchial airway model. *Aerosol Sci Technol.* 36: 828-844.

Zhang, Z., C. Kleinstreuer, et al. (2002). Aerosol transport and deposition in a triple bifurcation bronchial airway models with local tumors. *Inhalation Toxicol.* 14(11): 1111-1133.

Zhang, Z., C. Kleinstreuer, et al. (2002). Computational analysis of micron-particle deposition in a human triple bifurcation airway model. *Comput Methods Biomech Biomed Eng.* 5(2): 135-147.

Zhang, Z., C. Kleinstreuer, et al. (2002). Cyclic micron-size particle inhalation and deposition in a triple bifurcation lung airway model. *Aerosol Sci Technol.* 33: 257-281.

Zhang, Z., C. Kleinstreuer, et al. (2002). Gas-solid two-phase flow in a triple bifurcation lung airway model. *Int J Multiphase Flow.* 28: 1021-1046.

Zhang, Z., C. Kleinstreuer, et al. (2002). Micro-particle transport and deposition in a human oral airway model. *Aerosol Sci Technol.* 33: 1635-1652.

Zhu, Y., W. C. Hinds, et al. (2002). Concentration and size distribution of ultrafine particles near a major highway. *J Air Waste Manag Assoc.* 52: 1032-1042.

Zhu, Y., W. C. Hinds, et al. (2002). Study of ultrafine particles near a major highway with heavy-duty diesel traffic. *Atmos Environ.* 36: 4323-4335.

Zidek, J. V., L. Sun, et al. (2002). Contending with space-time interaction in the spatial prediction of pollution: Vancouver's hourly ambient PM_{10} field. *Environmetrics.* 13(5-6): 595-613.

2003 Publications:

Abdel-Aziz, A. M. and H. C. Frey (2003). Development of hourly probabilistic utility NO_x emission inventories using time series techniques. Part 1. Univariate approach. *Atmos Environ.* 37(38): 5379-5389.

Abdel-Aziz, A. M. and H. C. Frey (2003). Development of hourly probabilistic utility NO_x emission inventories using time series techniques. Part 2. Multivariate approach. *Atmos. Environ.* 37(38): 5391-5401.

Adam, M., M. Pahlow, et al. (2003). Aerosol optical characterization by nephelometer and lidar during the Baltimore PM Supersite, 12 July 2002. *J Geophys Res.* 109: D16SO210.1029.

Al-Horr, R., G. Samanta, et al. (2003). A continuous analyzer for soluble anionic constituents and ammonium in atmospheric particulate matter. *Environ Sci Technol.* 37(24): 5711-5720, doi: 10.1021/es034464j.

Allen, R., T. Larson, et al. (2003). Use of real-time light scattering data to estimate the contribution of infiltrated and indoor-generated particles to indoor air. *Environ Sci Technol.* 37(16): 3484-3492.

Aneja, V. P., D. R. Nelson, et al. (2003). Agricultural ammonia emissions and ammonium concentrations associated with aerosols and precipitation in the southeast United States. *J Geophys Res. (D Atmos.)* 108: 4152-4162.

Baumann, K., F. Ift, et al. (2003). Discrete measurements of reactive gases and fine particle mass and composition during the 1999 Atlanta Supersite Experiment. *J Geophys Res.* 108(D7): 8416, doi: 10.1029/2001JD001210.

Becker, S., J. M. Soukup, et al. (2003). Functional alterations in human alveolar macrophages following exposure to ultrafine, fine and coarse urban air particles. *Exp Lung Res.* 29(1): 29-44.

Brass, D. M., J. D. Savov, et al. (2003). Subchronic endotoxin inhalation causes persistent airway disease. *Am J Physiol Lung Cell Mol Physiol.* 285: L755-L761.

Butler, A. J., M. S. Andrew, et al. (2003). Daily sampling of $PM_{2.5}$ in Atlanta: results of the first year of the Assessment of Spatial Aerosol Composition in Atlanta Study. *J Geophys Res.* 108(D7): 8415, doi: 10.1029/2002JD002234.

Chandramouli, B., M. Jang, et al. (2003). Gas-particle partitioning of semi-volatile organic compounds (SOCs) on mixtures of aerosols in a smog chamber. *Environ Sci Technol.* 37(18): 4113-4121.

Chandramouli, B., M. Jang, et al. (2003). Gas-particle partitioning of semi-volatile organics on organic aerosols using a predictive activity coefficient model: analysis of the effects of parameter choices on model performance. *Atmos Environ.* 37(6): 853-864.

Chandrasekar, A., C. R. Philbrick, et al. (2003). A large-eddy simulation of the convective boundary layer over Philadelphia during the 1999 summer NEOPS campaign. *Environ Fluid Mechanisms.* 3(4): 305-329.

Chandrasekar, A., C. R. Philbrick, et al. (2003). Evaluating the performance of a computationally efficient MM5/CALMET system for developing wind field inputs to air quality models. *Atmos Environ.* 37(23): 3267-3276.

Cohen, M. D., M. Sisco, et al. (2003). Impact of co-exposure to ozone on the carcinogenic potential of inhaled chromium. 1. Effects on the retention and on extra- and intracellular distribution. *J Toxicol Environ Health.* 66: 39-55.

Costa, D. L. (2003). Issues that must be addressed for risk assessment of mixed exposures: the EPA experience with air quality. *J Toxicol Environ Health A.* 67: 195-207.

Costa, D. L. (2003). Chapter 7. Inhalation toxicology: methods and models. In: Notter, R. H., Finkelstein, J. N., and Holm, B. A. *Lung Injury: Mechanisms, Pathophysiology, and Therapy*.

Costa, D. L. and U. P. Kodavanti (2003). Toxic responses of the lung to inhaled pollutants: benefits and limitations of lung-disease models. *Toxicol Lett.* 140/141: 195-203.

Cui, Y., Z. F. Zhang, et al. (2003). Air pollution and case fatality of SARS in the people's Republic of China: an eco-logic study. *Environ Health: A Global Access Sci Source.* 2: 15.

Daigle, C. C., D. C. Chalupa, et al. (2003). Ultrafine particle deposition in humans during rest and exercise. *Inhalation Toxicol.* 15(6): 539-552.

Dechapanya, W., A. A. Eusebi, et al. (2003). Secondary organic aerosol formation aromatic precursors. Part I. Mechanisms for individual hydrocarbons. *Environ Sci Technol.* 37: 3662-3670.

Dechapanya, W., A. A. Eusebi, et al. (2003). Secondary organic aerosol formation aromatic precursors. Part II. Mechanisms for lumped species. *Environ Sci Technol.* 37: 3671-3679.

DeLeon, S. F., G. D. Thurston, et al. (2003). Contribution of respiratory disease to non-respiratory mortality associations with air pollution in New York City. *Am J Respir Crit Care Med.* 167: 1117-1123.

Demokritou, P., T. Gupta, et al. (2003). Development of a high-volume concentrated ambient particles system (CAPS) for human and animal inhalation toxicological studies. *Inhalation Toxicol.* 15(2): 111-129.

Devlin, R. B., A. J. Ghio, et al. (2003). Elderly humans exposed to concentrated air pollution particles have decreased heart rate variability. *Eur Respir J Suppl.* 40: 76-80.

Dick, C. A., P. Singh, et al. (2003). Murine pulmonary inflammatory responses following instillation of size fractionated ambient particulate matter. *J Toxicol Environ Health.* 66(23): 2103-2208.

Dominici, F., L. Sheppard, et al. (2003). Health effects of air pollution: a statistical review. *International Stat Rev.* 71(2): 243-276.

Drewnick, F., J. J. Schwab, et al. (2003). Intercomparison and evaluation of four semi-continuous $PM_{2.5}$ sulfate instruments. *Atmos Environ.* 37(24): 3335-3350.

Dye, J. A. and D. L. Costa (2003). Pulmonary function testing. Pulmonary Mechanics. In: King, K., ed. *Textbook of Respiratory Disease in Dogs and Cats*. Philadelphia: W.B. Saunders, Co., 157-175.

Eatough, D. J., R. W. Long, et al. (2003). Semi-volatile secondary organic aerosol in urban atmospheres: meeting a measurement challenge. *Atmos Environ.* 37(9-10): 1277-1292.

Eiguren Fernandez, A., A. Miguel, et al. (2003). Evaluation of a denuder-MOUDI-PUF sampling system to measure the size distribution of semi-volatile polycyclic aromatic hydrocarbons in the atmosphere. *Aerosol Sci Technol.* 37: 201-209.

Eiguren-Fernandez, A. and A. H. Miguel (2003). Determination of semi-volatile and particulate polycyclic aromatic hydrocarbons in SRM 1649a and $PM_{2.5}$ samples by HPLC-fluorescence. *Polycyclic Aromatic Compounds.* 23: 193-205.

Fine, P. M., S. V. Hering, et al. (2003). Performance evaluation and field use of a continuous monitor for measuring size-segregated $PM_{2.5}$ particulate nitrate. *Aerosol Sci Technol.* 37: 342-354.

Fraser, M. P., B. Buzcu, et al. (2003). Separation of fine particulate matter from gasoline and diesel vehicles using chemical mass balancing techniques. *Environ Sci Technol.* 37: 3904-3909.

Gavett, S. H., N. Haykal-Coates, et al. (2003). Metal composition of ambient $PM_{2.5}$ influences severity of allergic airways disease in mice. *Environ Health Perspect.* 111(12): 1471-1477.

Gavett, S. H., N. Haykal-Coates, et al. (2003). World Trade Center fine particulate matter causes respiratory tract hyperresponsiveness in mice. *Environ Health Perspect.* 111(7): 981-991.

Gaydos, T. M., B. Koo, et al. (2003). Development and application of an efficient moving sectional approach for the solution of the atmospheric aerosol condensation/evaporation equations. *Atmos Environ.* 37(23): 3303-3316.

Ghio, A.J., J. D. Carter, et al. (2003). Iron and iron-related proteins in the lower respiratory tract of ARDS patients. *Am J Respir Crit Care Med.* 31: 395-400.

Ghio, A. J., A. Hall, et al. (2003). Exposure to concentrated ambient air particles alters hematologic indices in humans. *Inhalation Toxicol.* 15(14): 1465-1478.

Gold, D., J. Schwartz, et al. (2003). Ambient pollution and reduced heart rate variability. In: *Revised Analyses of Time-Series Studies of Air Pollution and Health.* Boston, MA: Health Effects Institute Special Report, 107-112.

Gong, H., Jr., W. S. Linn, et al. (2003). Controlled exposures of healthy and asthmatic volunteers to concentrated ambient fine particles in Los Angeles. *Inhalation Toxicol.* 15(4): 305-325.

Goo, J. and C. S. Kim (2003). Theoretical analysis of deposition of inhaled particles in human lungs considering stochastic variations of airway morphology. *Aerosol Sci Technol.* 34: 585-602.

Haber, S., D. Yitzhak, et al. (2003). Gravitational deposition in a rhythmically expanding and contracting alveolus. *J Appl Physiol.* 95(2): 657-671.

Hao, M., S. Comier, et al. (2003). Diesel exhaust particles exert acute effects on airway inflammation and function in murine allergen provocation models. *J Allergy Clin Immunol.* 112(5): 905-914.

Hasson, A. S. and S. E. Paulson (2003). An investigation of the relationship between gas-phase and aerosol-borne hydroperoxides in urban air. *J Aerosol Sci.* 34: 459-468.

Hays, M. D., N. D. Smith, et al. (2003). Polycyclic aromatic hydrocarbon size distributions in aerosols from appliances of residential wood combustion as determined by direct thermal desorption-GC/MS. *J Aerosol Sci.* 34(8): 1061-1084.

Hazi, Y., M. S. A. Heikkinen, et al. (2003). Size distribution of acidic sulfate ions in fine ambient particulate matter and assessment of source region effect. *Atmos Environ.* 37: 5403-5413.

Holgate, S. T., R. B. Devlin, et al. (2003). Health effects of acute exposure to air pollution. Part II. Healthy subjects exposed to concentrated ambient particles. *Res Rep Health Eff Inst.* 112: 31-50; discussion 51-67.

Hopke, P. K., Z. Ramadan, et al. (2003). Receptor modeling of ambient and personal exposure samples: 1998 Baltimore Particulate Matter Epidemiology-Exposure Study. *Atmos Environ.* 37(32): 3289-3302.

Huang, Y. C., A. J. Ghio, et al. (2003). The role of soluble components in ambient fine particles-induced changes in human lungs and blood. *Inhalation Toxicol.* 15(4): 327-342.

Ito, K. (2003). Associations of particulate matter components with daily mortality and morbidity in Detroit, MI. In: *Revised Analyses of Time-Series Studies of Air Pollution and Health.* Boston, MA: Health Effects Institute Special Report, 123-156.

Ito, K. (2003). Re-analysis of PM components' associations with mortality and morbidity in Detroit, MI. In: *Revised Analyses of Time-Series Studies of Air Pollution and Health.* Boston, MA: Health Effects Institute Special Report, 143-156.

Jang, M., B. Carroll, et al. (2003). Particle growth by acid-catalyzed heterogeneous reactions of organic carbonyls on pre-existing aerosols. *Environ Sci Technol.* 37(17): 3828-3837.

Jang, M., S. Lee, et al. (2003). Organic aerosol growth by acid-catalyzed heterogeneous reactions of octanal in a flow reactor. *Atmos Environ.* 37(15): 2125-2138.

Jaoui, M. and R. M. Kamens (2003). Gas and particulate products distribution from the photooxidation of alpha-humulene in the presence of NO_x, natural atmospheric air and sunlight. *J Atmos Chem.* 46(1): 29-54.

Jaoui, M. and R. M. Kamens (2003). Gaseous and particulate oxidation products analysis of a mixture of α-pinene + β-pinene/O_3/Air in the absence of light and α-pinene + β-pinene/NO_x/air in the presence of natural sunlight. *J Atmos Chem.* 44(3): 259-297.

Jaoui, M. and R. M. Kamens (2003). Gas phase photolysis of pinonaldehyde in sunlight. *Atmos Environ.* 37(13): 1835-1851.

Jaoui, M., S. Leungsakul, et al. (2003). Gas and particle products distribution from the reaction of beta-caryophyllene with ozone. *J Atmos Chem.* 45(3): 261-287.

Jimenez, J. L., J. T. Jayne, et al. (2003). Ambient aerosol sampling using the Aerodyne Aerosol Mass Spectrometer. *J Geophys Res.* 108(D7): 8425, doi: 10.1029/2001JD001213.

Kim, E., T. Larson, et al. (2003). Source identification of $PM_{2.5}$ in an arid Northwest U.S. city by positive matrix factorization. *Atmos Res.* 66(4): 291-305.

Kodavanti, U. P., A. D. Ledbetter, et al. (2003). Reply: letter to the editor. *Toxicol Sci.* 74: 228-230.

Kodavanti, U. P., C. Moyer, et al. (2003). Inhaled environmental combustion particles cause myocardial injury in the Wistar Kyoto rat. *Toxicol Sci.* 71: 237-245.

Koenig, J. Q., K. Jansen, et al. (2003). Measurement of offline exhaled nitric oxide in a study of community exposure to air pollution. *Environ Health Perspect.* 111(13): 1625-1629.

Koo, B., A. S. Ansari, et al. (2003). Integrated approaches to modeling the organic and inorganic atmospheric aerosol components. *Atmos Environ.* 37(34): 4757-4768.

Koo, B., T. M. Gaydos, et al. (2003). Evaluation of the equilibrium, dynamic, and hybrid aerosol modeling approaches. *Aerosol Sci Technol.* 37: 53-64.

Lake, D. A., M. P. Tolocka, et al. (2003). Mass spectrometry of individual particles between 50 and 750 nm in diameter at the Baltimore Supersite. *Environ Sci Technol.* 37: 3268-3274.

Lee, S. H., D. M. Murphy, et al. (2003). Nitrate and oxidized organic ions in single particle mass spectra during the 1999 Atlanta Supersite Project. *J Geophys Res.* 108(D7): 8417, doi: 10.1029/2001JD001455.

Levy, J. I., D. H. Bennett, et al. (2003). Influence of traffic patterns on particulate matter and polycyclic aromatic hydrocarbon concentrations in Roxbury, Massachusetts. *J Expo Anal Environ Epidemiol.* 13(5): 364-371.

Levy, J. I., A. Wilson, et al. (2003). Estimation of primary and secondary particulate matter intake fractions for power plants in Georgia. *Environ Sci Technol.* 37(24): 5528-5536.

Lewis, C. W., G. A. Norris, et al. (2003). Source apportionment of Phoenix $PM_{2.5}$ aerosol with the unmix receptor model. *J Air Waste Manag Assoc.* 53(3): 325-338.

Li, N., M. Hao, et al. (2003). Particulate air pollutants and asthma: a paradigm for the role of oxidative stress in PM-induced adverse health effects. *Clinical Immunol.* 109: 250-265.

Li, N., C. Sioutas, et al. (2003). Ultrafine particulate pollutants induce oxidative stress and mitochondrial damage. *Environ Health Perspect.* 111(4): 455-460.

Lim, H.-J., B. J. Turpin, et al. (2003). Semi-continuous aerosol carbon measurements: comparison of Atlanta Super-site measurements. *J Geophys Res (D Atmos).* 108(D7): 8419, doi: 1029/2001JD001214.

Linak, W. P., C. A. Miller, et al. (2003). Formation of fine particles from residual oil combustion: reducing nuclei through the addition of inorganic sorbent. *Korean J Chem Eng.* 20(4): 664-669.

Lippmann, M. (2003). Invited editorial: winter air pollution and respiratory function. *Occup Environ Med.* 60: 81.

Lippmann, M., M. Frampton, et al. (2003). The U.S. Environmental Protection Agency Particulate Matter Health Effects Research Centers Program: a midcourse report of status, progress, and plans. *Environ Health Perspect.* 111 (8): 1074-1092.

Lippmann, M. and K. Ito (2003). Contributions that epidemiological studies can make to the search for a mechanistic basis for the health effects of ultrafine and larger particles. In: Brown, L.., Collings, N., Harrison, R. M., et al, eds. *Ultrafine Particles in the Atmosphere*. London: Imperial College Press, 289-301.

Liu, D. Y., R. J. Wenzel, et al. (2003). Aerosol time-of-flight mass spectrometry during the Atlanta Supersite Experiment. 1. Measurements. *J Geophys Res.* 108(D7): 14-1-14-16, 8426, doi: 10.1029/2001JD001562.

Liu, L. J., M. Box, et al. (2003). Exposure assessment of particulate matter for susceptible populations in Seattle. *Environ Health Perspect.* 111(7): 909-918.

Long, R. W., N. L. Eatough, et al. (2003). The measurement of $PM_{2.5}$, including semi-volatile components, in the EMPACT program: results from the Salt Lake City study and implications for public awareness, health effects, and control strategies. *Atmos Environ.* 37(31): 4407-4417.

Lumley, T. and L. Sheppard (2003). Time series analyses of air pollution and health: straining at gnats and swallow-ing camels? *Epidemiology.* 14(1): 13-14.

Madden, M. C., L. A. Dailey, et al. (2003). Responses of cultured human airway epithelial cells treated with diesel exhaust extracts will vary with the engine load. *J Toxicol Environ Health A.* 66(24): 2281-2297.

Mao, D., J. R. Edwards, et al. (2003). Development of low-diffusion flux-splitting methods for dense gas-solid flows. *J Computational Physics.* 185: 100-119.

Mar, T. F., G. A. Norris, et al. (2003). Air pollution and cardiovascular mortality in Phoenix, 1995-1997. In: *Revised Analyses of Time-Series Studies of Air Pollution and Health.* Boston, MA: Health Effects Institute Special Report, 177-182.

Martonen, T. B., J. Fleming, et al. (2003). In silico modeling of asthma. *Adv Drug Delivery Rev.* 55: 829-849.

Martonen, T. B. and J. D. Schroeter (2003). Risk assessment dosimetry model for inhaled particulate matter. I. Human subjects. *Toxicol Lett.* 138: 119-132.

Martonen, T. B. and J. D. Schroeter (2003). Risk assessment dosimetry model for inhaled particulate matter. II. Laboratory surrogates (rat). *Toxicol Lett.* 138: 133-142.

Mathur, R. and R. L. Dennis (2003). Seasonal and annual modeling of reduced nitrogen compounds over the eastern United States: emissions, ambient levels, and deposition amounts. *J Geophys Res.* 108(D15): 2201-2219.

Maykut, N. N., J. Lewtas, et al. (2003). Source apportionment of $PM_{2.5}$ at an urban IMPROVE site in Seattle, Washington. *Environ Sci Technol.* 37(22): 5135-5142.

McConnell, R., K. Berhane, et al. (2003). Prospective study of air pollution and bronchitic symptoms in children with asthma. *Am J Respir Crit Care Med.* 168: 790-797.

McGee, J. K., L. C. Chen, et al. (2003). Chemical analysis of World Trade Center fine particulate matter for use in toxicological assessment. *Environ Health Perspect.* 111: 973-980.

Middlebrook, A. M., D. M. Murphy, et al. (2003). A comparison of particle mass spectrometers during the 1999 Atlanta Supersite Project. *J Geophys Res.* 108(D7): 12-1-12-13, 8424, doi: 10.1029/2001JD000660.

Misra, C., M. D. Geller, et al. (2003). Development and evaluation of a PM_{10} inertial impactor for coarse particle measurement and speciation. *Aerosol Sci Technol.* 37: 271-282.

Narciso, S. P., E. Nadziejko, et al. (2003). Adaptation to stress induced by restraining rats and mice in nose-only inhalation holders. *Inhalation Toxicol.* 15: 1133-1143.

Noble, C. A., S. Mukerjee, et al. (2003). Continuous measurement of fine and ultrafine particulate matter, criteria pollutants and meteorological conditions in urban El Paso, Texas. *Atmos Environ.* 37(6): 827-840.

Offenberg, J. H., S. J. Eisenreich, et al. (2003). Persistent organic pollutants in the dusts that settled across lower Manhattan after 11 September 2001. *Environ Sci Technol.* 37: 502-508.

O'Neill, M., J. R. F. Batalha, et al. (2003). Examining modification of the effect of temperature on mortality in Mexico with the case-only design. *Epidemiology*.

O'Neill, M. S. (2003). Air conditioning and heat-related health effects. *Appl Environ Sci Public Health.* 1(1): 9-12.

O'Neill, M. S., M. Jerrett, et al. (2003). Health, wealth, and air pollution: advancing theory and methods. *Environ Health Perspect.* 111(16): 1861-1870.

O'Neill, M. S., A. Zanobetti, et al. (2003). Modifiers of the temperature and mortality association in seven U.S. cities. *Am J Epidemiol.* 157(12): 1074-1082.

Orsini, D. A., Y. Ma, et al. (2003). Refinements to the particle-into-liquid sampler (PILS) for ground and airborne measurements of water soluble aerosol composition. *Atmos Environ.* 37: 1243-1259.

Pagan, I., D. L. Costa, et al. (2003). Metals mimic airway epithelial injury induced by in vitro exposure to Utah Valley ambient particulate matter extracts. *J Toxicol Environ Health Part A.* 66: 1087-1112.

Pandis, S. N. (2003). Estimates of diesel and other emissions: overview of the supersite program in improving estimates of diesel and other emissions for epidemiological studies. Boston, MA: Health Effects Institute. *HEI Communication.* 10: 135-141.

Park, K., F. Cao, et al. (2003). Relationship between particle mass and mobility for diesel exhaust particles. *Environ Sci Technol.* 37(3): 577-583.

Park, K., D. B. Kittelson, et al. (2003). A closure study of aerosol mass concentration measurements: comparison of values obtained with filters and by direct measurements of mass distributions. *Atmos Environ.* 37(9-10): 1223-1230.

Phares, D. J., K. P. Rhoads, et al. (2003). Size-resolved ultrafine particle composition analysis. Part 2. Houston. *J Geophys Res. (D Atmos.)* 108(D7): doi: 10.1029/2001JD001212.

Reibman, J., Y. Hsu, et al. (2003). Airway epithelial cells release MIP-3alpha/CCL20 in response to cytokines and ambient particulate matter. *Am J Respir Cell Mol Biol.* 28: 648-654.

Reisen, F., S. Wheeler, et al. (2003). Methyl- and dimethyl-/ethyl-nitronaphthalenes measured in ambient air in Southern California. *Atmos Environ.* 37: 3653-3657.

Ren, X., H. Harder, et al. (2003). HO_x concentrations and OH reactivity observations in New York City during PMTACS-NY 2001. *Atmos Environ.* 37: 3627-3637.

Ren, X., H. Harder, et al. (2003). OH and HO_2 chemistry in the urban atmosphere of New York City. *Atmos Environ.* 37: 3639-3651.

Rhoads, K. P., D. J. Phares, et al. (2003). Size-resolved ultrafine particle composition analysis. Part 1. Atlanta. *J Geophys Res. (D Atmos.)* 108(D7): 8418, doi: 10.1029/2001JD001211.

Rhoden, C. R., J. Lawrence, et al. (2003). N-acetylcysteine prevents lung inflammation after short-term inhalation exposure to concentrated ambient particles. *Toxicol Sci.* 79: 209-303.

Riediker, M., R. Williams, et al. (2003). Exposure to particulate matter, volatile organic compounds, and other air pollutants inside patrol cars. *Environ Sci Technol.* 37(10): 2084-2093.

Roberts, E. S., J. H. Richards, et al. (2003). Oxidative stress mediates air pollution particle-induced acute lung injury and molecular pathology. *Inhalation Toxicol.* 15: 1327-1346.

Rosati, J. A., D. Leith, et al. (2003). Monodisperse and polydisperse aerosol deposition in a packed bed. *Aerosol Sci Technol.* 37: 528-535.

Samet, J. M., W. Wu, et al. (2003). Mechanisms for Zn-induced signal initiation through the epidermal growth factor receptor. *Toxicol Appl Pharmacol.* 191(1): 86-93.

Savage, S. T., J. Lawrence, et al. (2003). Does the Harvard/U.S. Environmental Protection Agency ambient particle concentrator change the toxic potential of particles? *J Air Waste Manag Assoc.* 53: 1088-1097.

Schwartz, J. and B. A. Coull (2003). Control for confounding in the presence of measurement error in hierarchical models. *Biostatistics.* 4(4): 539-553.

Schwartz, J., A. Zanobetti, et al. (2003). Morbidity and mortality among elderly residents of cities with daily PM measurements. In: *Revised Analyses of Time-Series Studies of AirPollution and Health.* Boston, MA: Health Effects Institute Special Report, 25-58.

Sheppard, L. (2003). Ambient air pollution and nonelderly asthma hospital admissions in Seattle, Washington, 1987-1994. In: *Revised Analyses of Time Series Studies of Air Pollution and Health*. Boston, MA: Health Effects Institute Special Report, 227-230.

Sheppard, L. (2003). Insights on bias and information in group-level studies. *Biostatistics.* 4(2): 265-278.

Singh, M., C. Misra, et al. (2003). Field evaluation of a Personal Cascade Impactor Sampler (PCIS). *Atmos Environ.* 37: 4781-4793.

Singh, R. B., A. H. Huber, et al. (2003). Development of a microscale emission factor model for particulate matter for predicting real-time motor vehicle emissions. *J Air Waste Manag Assoc.* 53(10): 1204-1217.

Slaughter, J. C., T. Lumley, et al. (2003). Effects of ambient air pollution on symptom severity and medication use in children with asthma. *Ann Allergy Asthma Immunol.* 91(4): 346-353.

Smith, K. R., S. Kim, et al. (2003). Airborne particles of the California central valley alter the lungs of healthy adult rats. *Environ Health Perspect.* 111(7): 902-908.

Solomon, P., E. Cowling, et al. (2003). Preface to special section: Southern Oxidants Study 1999 Atlanta Supersite Project (SOS3). *J Geophys Res.* 108(D7): 8428, doi: 10.1029/2003JD003536.

Solomon, P. A., K. Baumann, et al. (2003). Comparison of integrated samplers for mass and composition during the 1999 Atlanta-Supersites Project. *J Geophys Res.* 108(D7): 8423, doi: 10.1029/2001JD001218.

Solomon, P. A., W. Chameides, et al. (2003). Overview of the 1999 Atlanta Supersites Project. *J Geophys Res.* 108 (D7): 8413, doi: 10.1029/2001JD001458.

Solomon, P. A., W. Chameides, et al. (2003). Southern Oxidants Study special section: the 1999 Atlanta Supersite Project. *J Geophys Res.* 108(D7): 8413-9000.

Solomon, P. A., E. Cowling, et al. (2003). Preface: The Atlanta Supersites Project. *J. Geophys Res. (D Atmos.)* 108 (D7): SOS 0-1.

Speer, R. E., E. O. Edney, et al. (2003). Impact of organic compounds on the concentrations of liquid water in ambient $PM_{2.5}$. *Aerosol Sci Technol.* 34(1): 63-77.

Stolzenburg, M. R., D. Dutcher, et al. (2003). Automated measurement of the size distribution of airborne particulate nitrate. *Aerosol Sci Technol.* 37(7): 537-546.

Sullivan, J., N. Ishikawa, et al. (2003). Exposure to ambient fine particulate matter and primary cardiac arrest among persons with and without clinically recognized heart disease. *Am J Epidemiol.* 157(6): 501-509.

Swartz, E., L. Stockburger, et al. (2003). Recovery of semivolatile organic compounds during sample preparation: implications for characterization of airborne particulate matter. *Environ Sci Technol.* 37(3): 597-605.

Veranth, J. M., R. Gelein, et al. (2003). Vaporization—condensation generation of ultrafine hydrocarbon particulate matter for inhalation toxicology studies. *Aerosol Sci Technol.* 37: 1-8.

Wallace, L. A., H. Mitchell, et al. (2003). Particle concentrations in inner-city homes of children with asthma: the effect of smoking, cooking, and outdoor pollution. *Environ Health Perspect.* 11(9): 1265-1272.

Watkinson, W. P., M. J. Campen, et al. (2003). Cardiac and thermoregulatory responses to inhaled pollutants in healthy and compromised rodents: modulation via interaction with environmental factors. *Environ Res.* 92(1): 35-47.

Weber, R., M. Bergin, et al. (2003). Short-term temporal variation in $PM_{2.5}$ mass and chemical composition during the Atlanta Supersite Experiment, 1999. *J Air Waste Manag Assoc.* 53(1): 84-91.

Weber, R., D. Orsini, et al. (2003). Intercomparison of near real time monitors of $PM_{2.5}$ nitrate and sulfate at the U.S. Environmental Protection Agency Atlanta Supersite. *J Geophys Res.* 108(D7): 8421, doi: 10.1029/2001 JD001220.

Weber, R., D. Orsini, et al. (2003). Transient $PM_{2.5}$ aerosol events in metro Atlanta: implications for air quality and health. *J Air Waste Manag Assoc.* 53: 84-91.

Wellenius, G. A., B. A. Coull, et al. (2003). Inhalation of concentrated ambient air particles exacerbates myocardial ischemia in conscious dogs. *Environ Health Perspect.* 111(4): 402-408.

Wenzel, R. J., D. Y. Liu, et al. (2003). Aerosol time-of-flight mass spectrometry during the Atlanta Supersite Experiment. 2. Scaling procedures. *J Geophys Res.* 108(D7): 15-1-15-8, 8427, doi: 10.1029/2001JD001563.

Wichers, L. B., J. P. Nolan, et al. (2003). Effects of instilled combustion-derived environmental particles in spontaneously hypertensive rats. Part II. Pulmonary responses. *Inhalation Toxicol.* 16: 407-419.

Wilhelm, M. and B. Ritz (2003). Residential proximity to traffic and adverse birth outcomes in Los Angeles County, California, 1994-1996. *Environ Health Perspect.* 111(2): 207-216.

Wu, W., X. Wang, et al. (2003). Zinc-induced PTEN protein degradation through the proteasome pathway in human airway epithelial cells. *J Biol Chem.* 278(30): 28258-28263.

Yu, F., T. Lanni, et al. (2003). Measurements of ion concentration in gasoline and diesel engine exhaust. *Atmos Environ.* 38(10): 1417-1423.

Yu, S., P. Kasibhatla, et al. (2003). Moment-based simulation of microphysical properties of sulfate aerosols in the eastern United States: model description, evaluation and regional analysis. *J Geophys Res.* 108(12): 4353, doi: 10.1029/2002JD002890.

Zanobetti, A., J. Schwartz, et al. (2003). The temporal pattern of respiratory and heart disease mortality in response to air pollution. *Environ Health Perspect.* 111(9): 1188-1193.

Zelikoff, J. T., L. C. Chen, et al. (2003). Effects of inhaled ambient particulate matter on pulmonary anti-microbial immune defense. *Inhalation Toxicol.* 15: 131-150.

Zhang, G., S. Slanina, et al. (2003). Continuous wet denuder measurements of atmospheric nitric and nitrous acids during the 1999 Atlanta Supersite. *Atmos Environ.* 37: 1351-1364.

Zhou, X., H. Gao, et al. (2003). Nitric acid photolysis on surfaces in low-NO_x environments: significant atmospheric implications. *Geophys Res Lett.* 30: 2217, doi: 10.1029/2003GL108620.

2004 Publications:

Abdel-Aziz, A. M. and H. C. Frey (2004). Propagation of uncertainty in hourly utility NO_x emissions through a photochemical grid air quality model: a case study for the Charlotte, NC, modeling domain. *Environ Sci Technol.* 38(7): 2153-2160.

Adamkiewicz, G., S. Ebelt, et al. (2004). Association between air pollution exposure and exhaled nitric oxide in an elderly population. *Thorax*. 59: 204-209.

Arey, J. (2004). A tale of two diesels. *Environ Health Perspect.* 112(8): 812-813.

Cabada, J. C., S. N. Pandis, et al. (2004). Estimating the secondary organic aerosol contribution to $PM_{2.5}$ using the EC tracer method. *Aerosol Sci Technol.* 38S: 140-155.

Cabada, J. C., S. L. Rees, et al. (2004). Mass size distributions and size resolved chemical composition of fine particulate matter at the Pittsburgh Supersite. *Atmos Environ.* 38: 3127-3141.

Canagaratna, M. J., J. T. Jayne, et al. (2004). Case studies of particulate emissions from in-use New York City vehicles. *Aerosol Sci Technol.* 38: 555-573.

Chakrabarti, B., P. Fine, et al. (2004). Performance evaluation of an active personal data RAM $PM_{2.5}$ mass monitor (Thermo Anderson pDR-1200) designed for continuous personal exposure measurements. *Atmos Environ.* 38: 3319-3340.

Chakrabarti, B., M. Singh, et al. (2004). Development of a near-continuous monitor for measurement of the sub-150 nm PM mass concentration. *Aerosol Sci Technol.* 38(S1): 239-252.

Chen, L. C., D. Taatjes, et al. (2004). Effects of subchronic exposures to CAPs in mice. V. Exacerbation of aortic plaque development in hyperlipidemic mice after subchronic exposures to CAPs. *Inhalation Toxicol.*

Chen, Y., N. Shah, et al. (2004). Investigation of primary fine particulate matter from coal combustion by computer-controlled scanning electron microscopy. *Fuel Processing Technol.* 85: 743-761.

Cho, A. K., E. DiStefano, et al. (2004). Determination of four quinones in diesel exhaust particles, SRM 1649a and atmospheric $PM_{2.5}$. *Aerosol Sci Technol.* 38(S1): 68-81.

Cohen, B. S., M. S. A. Heikkinen, et al. (2004). Airborne fine and ultrafine particles near the World Trade Center disaster site. *Aerosol Sci Technol.* 38: 338-348.

Cohen, M. D. (2004). Pulmonary immunotoxicology of select metals: aluminum, arsenic, cadmium, chromium, copper, manganese, nickel, vanadium, and zinc. *J Immunotoxicol.* 1: 39-70.

Dechapanya, W., M. M. Russell, et al. (2004). Estimates of anthropogenic secondary organic aerosol formation in Houston, Texas. *Aerosol Sci Technol.* 38(S1): 156-166.

DeMarini, D. M., L. R. Brooks, et al. (2004). Bioassay-directed fractionation and salmonella mutagenicity of automobile and forklift diesel exhaust particles. *Environ Health Perspect.* 112(8): 814-819.

Demokritou, P., S. J. Lee, et al. (2004). Development and evaluation of a high loading $PM_{2.5}$ speciation sampler. *Aerosol Sci Technol.* 38: 111-119.

Dorman, D. C. and J. A. Dye (2004). Chemical toxicities. In: Ettinger, S., Feldman, E. *Textbook of Veterinary Internal Medicine.* Philadelphia: W.B. Saunders, Co.

Dreher, K. L. (2004). Health and environmental impact of nanotechnology: toxicological assessment of manufactured nanoparticles. *Toxicol Sci.* 77: 3-5.

Drewnick, F., J. J. Schwab, et al. (2004). Measurement of ambient aerosol composition during the PMTACS-NY 2001 campaign using an aerosol mass spectrometer. Part I. Mass concentrations. *Aerosol Sci Technol.* 38(SI): 92-103.

Drewnick, F., J. T. Jayne, et al. (2004). Measurement of ambient aerosol composition during the PMTACS-NY 2001 campaign using an aerosol mass spectrometer. Part II. Chemically speciated mass distribution. *Aerosol Sci Technol.* 38(SI): 104-117.

Dutkiewicz, V. A., S. Qureshi, et al. (2004). Sources of fine particulate sulfate in New York. *Atmos Environ.* 38: 3179-3189.

Eiguren-Fernandez, A., A. H. Miguel, et al. (2004). Seasonal and spatial variations of polycyclic aromatic hydrocarbons in vapor-phase and $PM_{2.5}$ in Southern California urban and rural communities. *Aerosol Sci Technol.* 38: 447-455.

Elder, A. C. P., R. Gelein, et al. (2004). Effects of inhaled fine/ultrafine particles combined with other air pollutants. In: Heinrich, U., ed. *Effects of Air Contaminants on the Respiratory Tract—Interpretations From Molecules to Meta Analysis.* Stuttgart, Germany: Fraunhofer IRB Verlag, 53-68.

Elder, A. C. P., R. Gelein, et al. (2004). Efficient depletion of alveolar macrophages using intratracheally inhaled aerosols of liposome-encapsulated clodronate. *Exp Lung Res.* 30: 105-120.

Fine, P. M., B. Chakrabarti, et al. (2004). Diurnal variations of individual organic compound constituents of ultrafine and accumulation mode particulate matter in the Los Angeles Basin. *Environ Sci Technol.* 38: 1296-1304.

Fine, P. M., S. Shen, et al. (2004). Inferring the sources of fine and ultrafine particulate matter at downwind receptor sites in the Los Angeles Basin using multiple continuous measurements. *Aerosol Sci Technol.* 38(S1): 182-195.

Gaffney, J. S., N. A. Marley, et al. (2004). Natural radionuclides in fine aerosols in the Pittsburgh area. *Atmos Environ.* 38: 3191-3200.

Gardner, S. Y., J. K. McGee, et al. (2004). Emission particle-induced ventilatory abnormalities in a rat model of pulmonary hypertension. *Environ Health Perspect.* 112(8): 872-878.

Gasparini, R., R. Li, et al. (2004). Integration of size distributions and size-resolved hygroscopicity measured during the Houston Supersite for compositional categorization of the aerosol. *Atmos Environ.* 38: 3285-3303.

Gavett, S. H., M. Kollarik, et al. (2004). Irritant agonists and air pollutants: neurologically mediated respiratory and cardiovascular responses. In: Foster, W. M., Costa, D. L., eds. *Air Pollutants and Respiratory Tract*. New York: Marcel Dekker, Inc.

Ghio, A. J. (2004). Biological effects of Utah Valley air pollution particles: a review. *J Aerosol Med.* 17(2): 157-164.

Ghio, A. J. and Y. C. Huang (2004). Exposure to concentrated ambient particles (CAPs): a review. *Inhalation Toxicol.* 16(1): 53-59.

Ghio, A. J., Y. C. Huang, et al. (2004). A similar biological response following exposure to different types of particles suggests a common mechanism of injury. In: Heinrich, U., ed. *Effects of Air Contaminants on the Respiratory Tract—Interpretations From Molecular to Meta Analysis.* Stuttgart, Germany: Fraunhofer IRB Verlag, 259-268.

Gilmour, M. I., S. O'Connor, et al. (2004). Differential pulmonary inflammation and in vitro cytotoxicity of size-fractionated fly ash particles from pulverized coal combustion. *J Air Waste Manag Assoc.* 54: 286-295.

Gilmour, P. S., M. C. J. Schladweiler, et al. (2004). The hypertensive rats are susceptible to TLR4-mediated signaling following exposure to combustion source particulate matter (PM). *Inhalation Toxicol.* 16(Suppl 1): 5-18.

Gong, H., W. Linn, et al. (2004). Altered heart rate variability in asthmatic and healthy volunteers exposed to concentrated ambient coarse particles. *Inhalation Toxicol.* 16: 335-343.

Goodman, P. G., D. W. Dockery, et al. (2004). Cause-specific mortality and the extended effects of particulate pollution and temperature exposure. *Environ Health Perspect.* 112(2): 179-185.

Goss, C. H., S. A. Newsom, et al. (2004). Effect of ambient air pollution on pulmonary exacerbations and lung function in cystic fibrosis. *Am J Respir Crit Care Med.* 169(7): 816-821.

Harder, V., P. S. Gilmour, et al. (2004). Cardiovascular responses in unrestrained WKY-rats to inhaled ultrafine carbon particles. *Inhalation Toxicol.*

Hays, M. D., N. D. Smith, et al. (2004). The nature of unresolved complex mixture in size distributed emissions from residential wood combustion as measured by thermal desorption-gas chromatography-mass spectrometry. *J Geophys Res.* 109(D16S04): doi: 10.1029/2003JD004051.

Hogrefe, O., F. Drewnick, et al. (2004). Development, operation and applications of an aerosol generation, calibration and research facility, new instruments and data inversion methods. *Aerosol Sci Technol.* 38(SI): 196-214.

Huggins, F. E., G. P. Huffman, et al. (2004). Quantifying hazardous species in particulate matter derived from fossil-fuel combustion. *Environ Sci Technol.* 38(6): 1836-1842.

Jaques, P. A., J. L. Ambs, et al. (2004). Field evaluation of the differential TEOM® monitor for continuous $PM_{2.5}$ mass concentrations. *Aerosol Sci Technol.* 38(S1): 49-59.

Jeong, C.-H., P. K. Hopke, et al. (2004). Characteristics of nucleation and growth events of ultafine particles measured in Rochester, NY. *Environ Sci Technol.* 38: 1933-1940.

Kadiiska, M. B., A. J. Ghio, et al. (2004). ESR investigation of the oxidative damage in lungs caused by asbestos and air pollution particles. *Spectrochim Acta A Mol Biomol Spectrosc.* 60(6): 1371-1377.

Khlystov, A., C. O. Stanier, et al. (2004). An algorithm for combining electrical mobility and aerodynamic size distribution data when measuring ambient aerosol. *Aerosol Sci Technol.* 38S: 229-238.

Kim, E., P. Hopke, et al. (2004). Factor analysis of Seattle fine particles. *Aerosol Sci Technol.* 38: 724-738.

Kim, E., P. K. Hopke, et al. (2004). Analysis of ambient particle size distributions using unmix and positive matrix factorization. *Environ Sci Technol.* 38(1): 202-209.

Kodavanti, U. P. and W. P. Watkinson (2004). Bio-availability of particle-associated air pollutants and relationship to cardiopulmonary injury. In: Foster, W. M., and Costa, D. L., eds. *Air Pollutants and Respiratory Tract.* New York: Marcel Dekker, Inc.

Landrigan, P. J., P. J. Lioy, et al. (2004). Health and environmental consequences of the World Trade Center disaster. *Environ Health Perspect.* 112: 731-739.

Larson, T., T. Gould, et al. (2004). Source apportionment of indoor, outdoor and personal $PM_{2.5}$ in Seattle, WA using positive matrix factorization. *J Air Waste Manag Assoc.* Special September issue.

Laurent, J.-P. and D. T. Allen (2004). Size distributions of organic functional groups in ambient aerosol collected in Houston, Texas. *Aerosol Sci Technol.* 38(S1): 82-91.

Li, Z., J. D. Carter, et al. (2004). Vanadyl sulfate inhibits NO production via threonine phosphorylation of eNOS. *Environ Health Perspect.* 112(2): 201-206.

Liming, Z., P. K. Hopke, et al. (2004). Advanced factor analysis for multiple time resolution aerosol composition data. *Atmos Environ.* 38: 4909-4920.

Lithgow, G. A., A. L. Robinson, et al. (2004). Ambient measurements of metal-containing $PM_{2.5}$ in an urban environment using laser-induced breakdown spectroscopy. *Atmos Environ.* 38: 3319-3328.

McGaughey, G. R., N. R. Desai, et al. (2004). Analysis of motor vehicle emissions in a Houston tunnel during the Texas air quality study 2000. *Atmos Environ.* 38(20): 3363-3372.

Metzger, K. B., P. E. Tolbert, et al. (2004). Ambient air pollution and cardiovascular emergency department visits. *Epidemiology.* 15(1): 46-56.

Miguel, A. H., A. Eiguren-Fernandez, et al. (2004). Seasonal variation of the particle size distribution of polycylic aromatic hydrocarbons and of major aerosol species in Claremont, California. *Atmos Environ.* 38: 3241-3251.

Misra, C., P. Fine, et al. (2004). Development and evaluation of a compact facility for exposing humans to concentrated ambient ultrafine particles. *Aerosol Sci Technol.* 38: 27-35.

Modey, W. K., D. J. Eatough, et al. (2004). Ambient fine particulate concentrations and chemical composition at two sampling sites in metropolitan Pittsburgh: a 2001 intensive summer study. *Atmos Environ.* 38: 3165-3178.

Nadadur, S. S. and U. P. Kodavanti (2004). Genomic approaches for cardiopulmonary disease and toxicology. In: Cunningham, M. J., ed. *Genomics and Proteomics in Toxicity Testing*. New York: Humana Press.

Nadziejko, C., L. C. Chen, et al. (2004). The fishing license method for analyzing the time course of effects in repeated measurements. *Statist Med.* 23: 1399-1411.

Nadziejko, C., K. Fang, et al. (2004). Effect of particulate and gaseous pollutants on spontaneous arrhythmias in aged rats. *Inhalation Toxicol.* 16: 373-380.

O'Neill, M. S., D. Loomis, et al. (2004). Do associations between airborne particles and daily mortality in Mexico City differ by method, region, or modeling strategy? *J Exposure Anal Environ Epidemiol.* 1-11.

Pope, C. A., R. T. Burnett, et al. (2004). Cardiovascular mortality and long-term exposure to particulate air pollution: epidemiological evidence of general pathophysiological pathways of disease. *Circulation.* 109(1): 71-77.

Pope, C. A., 3rd, M. L. Hansen, et al. (2004). Ambient particulate air pollution, heart rate variability, and blood markers of inflammation in a panel of elderly subjects. *Environ Health Perspect.* 112(3): 339-345.

Rees, S. L., A. L. Robinson, et al. (2004). Mass balance closure and the Federal Reference Method for $PM_{2.5}$ in Pittsburgh, Pennsylvania. *Atmos Environ.* 38: 3305-3318.

Riediker, M., W. E. Cascio, et al. (2004). Particulate matter exposure in cars is associated with cardiovascular effects in healthy young men. *Am J Respir Crit Care Med.* 169(8): 934-940.

Roberts, E. S., L. Charoneau, et al. (2004). Application of laser capture microdissection and protein microarray technologies in the molecular analysis of airway injury following pollution particle exposure. *J Toxicol Environ Health.* 67(11): 851-861.

Rodriguez, C. E., M. Shinyashiki, et al. (2004). An examination of quinone toxicity using the yeast Saccharomyces cerevisiae model system. *Toxicology.* 201: 185-196.

Russell, M. M. and D. T. Allen (2004). Seasonal and spatial trends in primary and secondary organic carbon concentrations in southeast Texas. *Atmos Environ.* 38: 3225-3239.

Russell, M. M., D. T. Allen, et al. (2004). Daily, seasonal and spatial trends in $PM_{2.5}$ mass and composition in southeast Texas. *Aerosol Sci Technol.* 38(S1): 14-26.

Salnikow, K., X. Li, et al. (2004). Effect of nickel and iron co-exposure on human lung cells. *Toxicol Appl Pharmacol.* 196: 258-265.

S-Bae, M., J. J. Schauer, et al. (2004). Validation of a semi-continuous instrument for elemental carbon and organic carbon using a thermal-optical method. *Atmos Environ.* 38: 2885-2893.

S-Bae, M., J. J. Turner, et al. (2004). Hourly and daily patterns of particle-phase organic and elemental carbon concentrations in the urban atmosphere. *J Air Waste Manag Assoc.* 54: 823-833.

Schwab, J. J., H. D. Felton, et al. (2004). Aerosol chemical composition in New York state from integrated filter samples: urban/rural and seasonal contrasts. *J Geophys Res.* 109(D16S05): doi: 10.1029/2003JD004078.

Schwartz, J. and T. Bateson (2004). Who is sensitive to the effects of particulate air pollution on mortality?: a case-crossover analysis of effect modifiers. *Epidemiology.* 15(2): 143-149.

Shi, H., C. Kleinstreuer, et al. (2004). Nano-particle transport and deposition in bifurcating tubes with different inlet conditions. *Physics Fluids.* 16: 2199-2213.

Simpson, C. D., R. L. Dills, et al. (2004). Determination of levoglucosan in atmospheric fine particulate matter. *J Air Waste Manag Assoc.* 54(6).

Singh, P., D. M. DeMarini, et al. (2004). Sample characterization of automobile and forklift diesel exhaust particles and comparative pulmonary toxicity in mice. *Environ Health Perspect.* 112(8): 820-825.

Sioutas, C., S. N. Pandis, et al. (2004). Preface to special issue of *Atmospheric Environment* on findings from EPA's Particulate Matter Supersites Program. *Atmos Environ.* 38(20): 3101-3106.

Slaughter, J. C., E. Kim, et al. (2004). Association between particulate matter and emergency room visits, hospital admissions and mortality in Spokane, Washington. *J Expo Anal Environ Epidemiol*.

Slaughter, J. C., J. Q. Koenig, et al. (2004). Association between lung function and exposure to smoke among firefighters at prescribed burns. *Occup Environ Hyg.* 1: 45-49.

Smith, K. R., B. Hu, et al. (2004). Tobacco smoke induces inflammation and apoptosis in the lungs of spontaneously hypertensive rats. *Toxicol Sci*.

Solomon, P. A. and D. T. Allen (2004). Preface to special issue of *Aerosol Science and Technology* on findings from the Fine Particulate Matter Supersites Program. *Aerosol Sci Technol.* 38(S1): 1-4.

Srivastava, R. K., C. A. Miller, et al. (2004). Emissions of sulfur trioxide from coal-fired power plants. *J Air Waste Manag Assoc.* 54: 750-762.

Stanier, C. O., A. Khlystov, et al. (2004). A method for the in-situ measurement of aerosol water content of ambient aerosols: the Dry Ambient Aerosol Size Spectrometer (DAASS). *Aerosol Sci Technol.* 38S: 215-228.

Stanier, C. O., A. Y. Khlystov, et al. (2004). Ambient aerosol size distribution and number concentrations measured during the Pittsburgh Air Quality Study. *Atmos Environ.* 38: 3275-3284.

Stanier, C. O., A. Y. Khlystov, et al. (2004). Nucleation events during the Pittsburgh Air Quality Study: description and relation to key meteorological, gas phase, and aerosol parameters. *Aerosol Sci Technol.* 38S: 253-254.

Su, Y. X., M. F. Sipin, et al. (2004). Development and characterization of an ATOFMS with increased detection effciency. *Anal. Chem.* 76: 712.

Subramanian, R., A. Y. Khlystov, et al. (2004). Positive and negative artifacts in particulate organic carbon measurements with denuded and undenuded sampler configurations. *Aerosol Sci Technol.* 38(S): 27-48.

Sullivan, A. P., R. Weber, et al. (2004). A method for on-line measurement of water-soluble organic carbon in ambient aerosol particles: results from an urban site. *Geophys Res Lett.* 31: L13105, doi: 10.1029/2004GL019681.

Tanner, R. L., W. J. Parkhurst, et al. (2004). Fossil sources of $PM_{2.5}$ aerosol carbon based on 14C measurements. *Aerosol Sci Technol.* 38(S1): 133-138.

Tolocka, M. P., D. A. Lake, et al. (2004). Concentrations of fine and ultrafine particles containing metals. *Atmos Environ.* 38: 3263-3273.

Tolocka, M. P., D. A. Lake, et al. (2004). Ultrafine nitrate particle events in Baltimore observed by real-time single particle mass spectrometry. *Atmos Environ.* 38: 3215-3223.

Vette, A., S. Gavett, et al. (2004). Environmental research in response to 9/11 and homeland security. *Environ Manager*. Feature: 14-22.

Vizuete, W., V. Junquera, et al. (2004). Sesquiterpene emissions and secondary organic aerosol formation potentials for southeast Texas. *Aerosol Sci Technol.* 38(S1): 167-181.

Walker, J. T., D. Whitall, et al. (2004). Ambient ammonia and ammonium aerosol across a region of variable ammonia emission density. *Atmos Environ.* 38: 1235-1246.

Wichers, L. B., J. P. Nolan, et al. (2004). Effects of instilled combustion-derived environmental particles in spontaneously hypertensive rats. Part I. Cardiovascular responses. *Inhalation Toxicol.* 16: 391-405.

Wittig, A. E., N. Anderson, et al. (2004). Pittsburgh Air Quality Study overview. *Atmos Environ.* 38: 3107-3112.

Wittig, A. E., S. Takahama, et al. (2004). Semi-continuous $PM_{2.5}$ inorganic composition measurements during the Pittsburgh Air Quality Study. *Atmos Environ.* 38: 3201-3213.

Yu, R. C., H. W. Teh, et al. (2004). Quality control of semi-continuous mobility size-fractionated particle number concentration data. *Atmos Environ.* 38: 3341-3348.

Zhang, Z., C. Kleinstreuer, et al. (2004). Vaporizing micro-droplet inhalation, transport, and deposition in a human upper airway model. *Aerosol Sci Technol.* 38: 36-49.

Zhao, W., P. K. Hopke, et al. (2004). Source identification of volatile organic compounds in Houston, Texas. *Environ Sci Technol.* 38(20): 1338-1347.

Zheng, J. and H. C. Frey (2004). Quantification of variability and uncertainty using mixture distributions: evaluation of sample size, mixing weights, and separation between components. *Risk Anal.* 24(3): 553-571.

Zhou, L., E. Kim, et al. (2004). The advanced factor analysis on Pittsburgh particle size distribution data. *Aerosol Sci Technol.* 38S: 118-132.

Zhu, Y., W. C. Hinds, et al. (2004). Seasonal trends of concentration and size distribution of ultrafine particles near major highways in Los Angeles. *Aerosol Sci Technol.* 38: 5-13.

Publications in Press:

Allen, D. T. (in press). Response to comments on 'size distributions of organonitrates in ambient aerosol collected in Houston, Texas'. *Aerosol Sci Technol.*

Allen, R., L. Wallace, et al. (in press). Estimated hourly personal exposures to ambient and non-ambient particulate matter among sensitive populations in Seattle, Washington. *J Air Waste Manag Assoc.* Special September Issue.

Asgharian, B., J. T. Kelly, et al. (in press). Respiratory deposition and inhalability of monodisperse aerosols in Long Evan rats. *Toxicol Sci.*

Bennett, W. D. and J. S. Brown (in press). Particle dosimetry in the respiratory tract. In: Forster, W. M., and Costa, D. L. *Air Pollutants in the Respiratory Tract*. New York, NY: Marcel Dekker, Inc.

Binkowski, F. and S. Roselle (in press). Models-3/CMAQ Model aerosol component. I. Description. *J Geophys Res.*

Boylan, J. W., M. T. Odman, et al. (in press). Development of a comprehensive, multiscale one atmosphere modeling system: application to the southern Appalachian Mountains. *Atmos Environ.*

Brown, J. S. and W. D. Bennett (in press). Deposition of coarse particles in cystic fibrosis: model predictions vs. experimental results. *J Aerosol Med.*

Cabada, J. C., A. Khlystov, et al. (in press). Light scattering by fine particles during PAQS: measurements and modeling. *J Geophys Res.*

Cascio, W., M. Hazucha, et al. (in press). Cardiovascular effects of air pollutants. In: *Netter's Cardiology*. Teterboro, NJ: Icon Learning Systems.

Chalupa, D. C., P. E. Morrow, et al. (in press). Ultrafine article deposition in subjects with asthma. *Environ Health Perspect.*

Chen, L. C. and G. D. Thurston (in press). Community environmental impacts related to the WTC disaster. *The Lancet*.

Chen, L. C., G. Thurston, et al. (in press). Is airborne acid an important cause of health effects? In: Ayres, J. G., Richards, R., and Maynard, R. *Air Pollution*. London: Imperial College Press.

Chen, L.-W., B. G. Doddridge, et al. (in press). Origins of fine aerosol mass in the Baltimore-Washington corridor: implications from observation, factor analysis, and ensemble air back trajectory. *Atmos Environ.*

Chu, S. H., J. W. Paisie, et al. (in press). PM data analysis—a comparison of two urban areas: Fresno and Atlanta. *J Geophys Res.*

Cohen, B. S., M. S. A. Heikkinen, et al. (in press). Field validation of nanofilm acid detectors for assessment of H+ in indoor and outdoor air and measured ambient concentrations of ultrafine acid particles. Boston, MA: Health Effects Institute.

Demeo, D. L., J. Schwartz, et al. (in press). Longitudinal analysis of ambient pollution and oxygen saturation in a cohort of elderly individuals. *Am J Respir Crit Care Med.*

Demokritou, P., S. J. Lee, et al. (in press). A compact multistage (cascade) impactor for the characterization of atmospheric aerosols. *J Aerosol Sci*.

Demokritou, P., S. J. Lee, et al. (in press). A compact multistage (cascade) impactor for the characterization of atmospheric aerosols. *Aerosol Sci Technol*.

Dong, Y., M. D. Hays, et al. (in press). Inverting cascade impactor data for size-resolved characterization of fine particulate source emissions. *J Aerosol Sci*.

Ebelt, S. T., W. E. Wilson, et al. (in press). A comparison of health effects from exposure to the ambient and non-ambient components of particulate matter. *Epidemiology*.

Edney, E. O., T. E. Kleindienst, et al. (in press). Polar organic oxygenates in $PM_{2.5}$ at a southeastern site in the United States. *Atmos Environ*.

Elder, A. C. P., R. Gelein, et al. (in press). On-road exposure to highway aerosols. 2. Exposures of aged, compromised rats. *Inhalation Toxicol.* 16(Suppl 1).

Elder, A. C. P., R. Gelein, et al. (in press). Systemic interactions between inhaled ultrafine particles and endotoxin in two rat strains. *Inhalation Toxicol.* 16:6-7.

Fine, P. M., S. Si, et al. (in press). Diurnal and seasonal characteristics and size of ultrafine PM in receptor areas of the Los Angeles Basin. *Aerosol Sci Technol*.

Gaydos, T., C. O. Stanier, et al. (in press). Modeling of in-situ particle formation in the eastern United States. *J Geophys Res*.

Geller, M. D., P. Fine, et al. (in press). The relationship between real-time and time-integrated fine and coarse particle concentrations at an urban site in Los Angeles. *J Air Waste Manag Assoc*.

Gong, H., Jr., W. S. Linn, et al. (in press). Controlled exposures of volunteers with and without chronic obstructive pulmonary disease (COPD) to concentrated ambient fine particulate pollution in Los Angeles. *Inhalation Toxicol*.

Gong, H., Jr., W. S. Linn, et al. (in press). Exposures of elderly volunteers with and without chronic obstructive pulmonary disease (COPD) to concentrated ambient fine particulate pollution. *Inhalation Toxicol*.

Gunnison, A. and L. C. Chen (in press). Effects of subchronic exposures to CAPs in mice. VI. Genetic marker responses to subchronic exposure to CAPs. *Inhalation Toxicol*.

Han, J., R. M. Pope, et al. (in press). Mapping of protein phosphorylation by dual enzyme digestion and MALDI/Quadrupole TOF mass spectrometry. *Analytical Biochem*.

Harrison, D., S. S. Park, et al. (in press). Highly time-resolved particulate nitrate measurements at the Baltimore Supersite. *Atmos Environ*.

Hays, M. D., et al. (in press). *Semivolatile Organic Acids and Levoglucosan in New York City Air Following 9/11/2001*. Washington, DC: A.C.S. Books.

Hiyoshi, K., H. Takano, et al. (in press). Effects of single intratracheal administration of phenanthraquinone on murine lung. *J Appl Toxicology*.

Hogrefe, O., J. J. Schwab, et al. (in press). Semi-continuous $PM_{2.5}$ sulfate and nitrate measurements at an urban and a rural location in New York: PMTACS-NY Summer 2001 and 2002 campaigns. *J Air Waste Manag Assoc.* 54.

Houston, D., P. Ong, et al. (in press). Structural disparities of urban traffic in Southern California: implications for vehicle-related air pollution exposure in minority and high-poverty neighborhoods. *J Urban Affairs.*

Hwang, J.-S. and L. C. Chen (in press). Effects of subchronic exposures to CAPs in mice. IV. Characterization of acute and chronic effects of ambient air fine particulate matter exposures on heart rate variability. *Inhalation Toxicol.*

Hwang, J.-S., C. Nadziejko, et al. (in press). Effects of subchronic exposures to CAPs in mice. III. Characterization of acute and chronic effects of ambient air fine particulate matter exposures on heart rate, heart rate variance, and body temperature responses. *Inhalation Toxicol.*

Ito, K., S. F. DeLeon, et al. (in press). Monitor-to-monitor temporal correlation of air pollution in the contiguous U.S. *J Exposure Anal Environ Epidemiol.*

Ito, K., N. Xue, et al. (in press). Spatial variation of $PM_{2.5}$ chemical species and source-apportioned mass concentrations in New York City. *Atmos Environ.*

Janes, H., L. Sheppard, et al. (in press). Overlap bias in the case-crossover design, with application to air pollution exposures. *Statistics in Medicine*.

Jaques, P. A., J. L. Ambs, et al. (in press). Field assessment of the dynamics of particulate nitrate vaporization using differential TEOM and automated nitrate monitors. *Atmos Environ.*

Kendall, M., L. Brown, et al. (in press). Molecular adsorption at particle surfaces: a PM toxicity mediation mechanism. *Inhalation Toxicol.*

Kendall, M., J. Gunthern, et al. (in press). Urban $PM_{2.5}$ surface chemistry and interactions with broncho-alveolar lavage fluid (BALF). *Inhalation Toxicol.*

Kidwell, C. B. and J. M. Ondov (in press). Elemental analysis of sub-hourly ambient aerosol collections. *Aerosol Sci Technol.*

Kinsey, J. S., K. J. Linna, et al. (in press). Characterization of the fugitive particulate emissions from construction mud/dirt carryout. *J Air Waste Manag Assoc*.

Kittelson, D. B., W. F. Watts, et al. (in press). On-road exposure to highway aerosols. 1. Aerosol and gas measurements. *Inhalation Toxicol.* 16(Suppl 1).

Kleinman, M., C. Sioutas, et al. (in press). Inhalation of concentrated ambient particulate matter near a heavily trafficked road stimulates antigen-induced airway responses in mice. *J Air Waste Manag Assoc*.

Lall, R., M. Kendall, et al. (in press). Estimation of historical annual $PM_{2.5}$ exposures for health effects assessment. *Atmos Environ.*

Li, N., J. Alam, et al. (in press). Nrf2 is a key transcription factor in antioxidant defense in macrophages and epithelial cells: protecting against the injurious effects of pro-oxidative air pollutants. *J Immunol.*

Li, Z., P. K. Hopke, et al. (in press). Sources of fine particle composition in New York City. *Atmos Environ.*

Linn, W. S., M. Avila, et al. (in press). Offline measurement of exhaled nitric oxide: sources of error. *Archives of Environmental Health*.

Lippmann, M., T. Gordon, et al. (in press). Effects of subchronic exposures to CAPs in mice. I. Introduction, objectives and experimental plan. *Inhalation Toxicol*.

Lippmann, M., T. Gordon, et al. (in press). Effects of subchronic exposures to CAPs in mice. IX. Integral assessment and human health implications of subchronic exposures of mice to CAPs. *Inhalation Toxicol*.

Luchtel, D., C. Fu, et al. (in press). A mouse model to study toxicity of particulate matter (PM). *Am J Respir Crit Care Med*.

Maciejczyk, P. and L. C. Chen (in press). Effects of subchronic exposures to CAPs in mice. II. The design of a CAPs exposure system for biometric telemetry monitoring. *Inhalation Toxicol*.

Maciejczyk, P. and L. C. Chen (in press). Effects of subchronic exposures to CAPs in mice. VIII. Source-related daily variations in in vitro responses to CAPs. *Inhalation Toxicol*.

Mar, T., J. Koenig, et al. (in press). An analysis of the association between air pollution and blood pressure, heart rate, and pulse oximetry in elderly subjects. *Epidemiology*.

Mebust, M., B. K. Eder, et al. (in press). Models—3/CMAQ model aerosol component. II. Model evaluation. *J Geophys Res*.

Millet, D. B., N. M. Donahue, et al. (in press). Partitioning VOCs and organic aerosols into primary and secondary sources: results from the Pittsburgh Air Quality Study. *J Geophys Res*.

Modey, W. K., E. J. Eatough, et al. (in press). Performance and evaluation of the PC-BOSS for fine $PM_{2.5}$ sampling during the summer EPA Supersite Program in Atlanta. *J Air Waste Manag Assoc*.

Moffet, R. C., L. G. Shields, et al. (in press). Characterization of a coarse particle concentrator used for human exposure studies: aerosol size distribution, chemical composition, and concentration enrichment. *Aerosol Sci Technol*.

Mulik, K. R., G. Li, et al. (in press). Analysis of an air pollution event using Raman Lidar. *J Air Waste Manag Assoc*.

Norris, G. A., E. M. Birch, et al. (in press). Comparison of particulate organic and elemental carbon measurements made with the IMPROVE and NIOSH method 5040 protocols. *Aerosol Sci Technol*.

Oberdörster, G., Z. Sharp, et al. (in press). Translocation of inhaled ultrafine particles to the brain. *Inhalation Toxicol*. 16: 6-7.

Oldham, M. J., R. F. Phalen, et al. (in press). Performance of a portable whole body mouse exposure system. *Inhalation Toxicol*.

Pahlow, M., J. Kleissl, et al. (in press). Atmospheric boundary layer structure as observed during a haze event due to forest fire smoke. *Boundary Layer Meteorology*.

Pan, C. G., D. A. Schmitz, et al. (in press). Inherent redox properties of diesel exhaust particles: catalysis of the generation of reactive oxygen species by biological reductants. *Toxicol Sci*.

Pang, Y., D. J. Eatough, et al. (in press). Determination of $PM_{2.5}$ sulfate and nitrate with a PC-BOSS designed for routine sampling for semi-volatile particulate matter. *J Air Waste Manag Assoc*.

Park, S. S., D. Harrison, et al. (in press). Highly time-resolved organic and elemental carbon measurements at the Baltimore Supersite in 2002. *J Geophys Res.* Special Supersites Issue.

Park, S. S., P. J. Pancras, et al. (in press). A new pseudo-deterministic multivariate receptor model for individual source apportionment using highly time-resolved ambient concentrations measurements. *J Geophys Res.* Special Supersites Issue.

Peters, A., S. von Klot, et al. (in press). Exposure to traffic and the onset of myocardial infarction. *New Engl J Med.*

Phalen, R. F. (in press). The particulate air pollution controversy. *Nonlinearity Biol Toxicol Med.*

Phuleria, H., P. M. Fine, et al. (in press). Characterization of particulate matter and co-pollutants during the fall 2003 California fires. *J Geophys Res.*

Pietropaoli, A. P., M. Frampton, et al. (in press). Pulmonary function, diffusing capacity and inflammaton in healthy and asthmatic subjects exposed to ultrafine particles. *Inhalation Toxicol.* 16(Suppl 1).

Santarpia, J. L., R. Li, et al. (in press). Direct measurement of the hydration state of ambient aerosol populations. *J Geophys Res. (D Atmos.)*

Sardar, S. B., P. M. Fine, et al. (in press). Seasonal and spatial variability of the size-resolved chemical composition of PM_{10} in the Los Angeles Basin. *J Geophys Res.*

Sardar, S. B., P. M. Fine, et al. (in press). The relationship between particle number and co-pollutant concentrations in the Los Angeles Basin. *J Air Waste Manag Assoc.*

Sarnat, J. A., K. W. Brown, et al. (in press). Relationships among personal exposures and ambient concentrations of particulate and gaseous pollutants and their implications for particle health effects studies. *Epidemiology.*

Schwab, J. J., O. Hogrefe, et al. (in press). Laboratory characterization of modified TEOM samplers. *J Air Waste Manag Assoc.* 54.

Schwab, J. J., J. Spicer, et al. (in press). Long-term field characterization of TEOM and modified TEOM samplers in urban and rural New York state locations. *J Air Waste Manag Assoc.* 54.

Schwartz, J. (in press). Who is sensitive to extremes of temperature? A case-only analysis. *Epidemiology.*

Sheppard, L. (in press). Acute air pollution effects: consequences of exposure distribution and measurements. *J Toxicol Environ Health.*

Sheppard, L., C. Slaughter, et al. (in press). Exposure and measurement contributions to estimates of acute air pollution effects. *J Exposure Anal Environ Epidemiol.*

Sheppard, L. and J. C. Wakefield (in press). Discussion of 'Statistical issues in studies of the long-term effects of air pollution: The Southern California Children's Health Study' by Berhane, Gauderman, Stram and Thomas. *Stat Sci.*

Sienra-Monge, S. J., M. Ramirez-Aguilar, et al. (in press). Antioxidant supplementation and inflammatory responses among young asthmatics exposed to high levels of air pollutants. *Am J Respir Clin Care Med.*

Soukup, J., L. Dailey, et al. (in press). TLR2 is involved in the airway epithelial cell response to air pollution particles. *Toxicol Appl Pharmacol*.

Sullivan, J., A. Schreuder, et al. (in press). Relation between short-term fine PM exposure and onset of myocardial infarction in the community-based Myocardial Infarction Triage and Intervention (MITI) Study. *Epidemiology*.

Takahama, S., D. Vayenas, et al. (in press). Modeling the diurnal variation of nitrate during the Pittsburgh Air Quality Study. *J Geophys Res*.

Tang, W., T. Raymond, et al. (in press). Spatial variations of $PM_{2.5}$ during the Pittsburgh Air Quality Study. *Aerosol Sci Technol*.

Venkatachari, P., P. K. Hopke, et al. (in press). Measurement of particle-bound reactive oxygen species in rubidoux aerosols. *J Atmos Chem*.

Veronesi, B., O. Makwana, et al. (in press). Effects of subchronic exposures to CAPs in mice. VII. Degeneration of dopaminergic neurons in ApoE1-mice. *Inhalation Toxicol*.

Weber, R., D. Orsini, et al. (in press). Transient $PM_{2.5}$ aerosol events in metro Atlanta: implications for air quality and health. *Geophys Res Lett*.

Wu, C. F., R. J. Delfino, et al. (in press). Evaluation and quality control of personal nephelometers in indoor, outdoor and personal environments. *J Expo Anal Environ Epidemiol*.

Xia, T., T. Korge, et al. (in press). Quinones and aromatic chemical compounds in particulate matter (PM) induce mitochondrial dysfunction: implications for ultrafine particle toxicity. *Environ Health Perspect*.

Yiin, L.-M., J. R. Millette, et al. (in press). Comparisons of the dust-smoke particulate that settled inside the surrounding buildings and outside on the streets of southern New York City after the collapse of the World Trade Center, 11 September, 2001. *J Air Waste Manag Assoc*.

Yu, S., R. Dennis, et al. (in press). An assessment of the ability of 3-D air quality models with current thermodynamic equilibrium models to predict aerosol NO_3^-. *J Geophys Res. (D Atmos.)*

Zanobetti, A. and J. Schwartz (in press). Are diabetics more susceptible to CVD health effects of airborne particles? Results from four cities. *Epidemiology*.

Zhang, K. M., A. Wexler, et al. (in press). Evolution of particle number distribution near roadways. Part II. The "road-to-ambient" process. *Atmos Environ*.

Zhang, Q., C. O. Stanier, et al. (in press). Insights into the chemistry of new particle formation and growth events in Pittsburgh based on aerosol mass spectrometry. *Environ Sci Technol*.