

## OAQ Staff Publications and Presentations (updated March 2017)

### **2017**

Wagner J, Wang,Z, Ghosal S, Rochman C, Gassel M, and Wall S (2017) Novel method for the extraction and identification of microplastics in ocean trawl and fish gut matrices. *Anal. Methods* 9:1479-1490. [DOI: 10.1039/C6AY02396G](https://doi.org/10.1039/C6AY02396G) .

### **2016**

Wagner (2016) Analytical Issues for Intergrown Serpentine Mineral Phases in Natural Occurrences of Asbestos. Presented at *ASTM Michael E. Beard Conference: Asbestos and Fibrous Mineral Analysis and Research*, San Antonio, TX.

Wagner (2016) Novel Approaches in Toxics Identification, Environmental Forensics, and Exposure Assessment. Presented at *ECL Seminar Series*, California Department of Toxic Substances Control, Berkeley, CA.

Wall S, Wagner J, Ghosal S, Wang Z (2016) Identification of Non-Petroleum San Francisco Bay Contaminant Related to Extensive Water Fowl Mortality using Microspectroscopy. Presented at the *AEHS Annual International Conference on Soils, Water, Energy, and Air*, San Diego, CA.

### **2015**

Wagner J (2015) Analysis of Serpentine Polymorphs in Investigations of Natural Occurrences of Asbestos. *Environ. Sci.: Processes Impacts* 17: 985–996. [DOI: 10.1039/C5EM00089K](https://doi.org/10.1039/C5EM00089K)

Wall S, Wagner J, Ghosal S, and Wang Z (2015) Identification of Microplastics in Fish as a Toxic Chemical Exposure Pathway Using Microspectroscopy and Electron Microscopy. Presented at the *AEHS Annual International Conference on Soils, Water, Energy, and Air*, San Diego, CA.

### **2014**

Yonkos, L. T. et al. (2014) Microplastics in Four Estuarine Rivers in the Chesapeake Bay, U.S.A. *Environmental Science and Technology* 48 (24): 14195. [DOI:10.1021/es5036317](https://doi.org/10.1021/es5036317)

Ghosal, S. et al. (2014) Raman Spectroscopy based Identification of Flame Retardants in Consumer Products using an Acquired Reference Spectral Library. *Talanta* 132: 635.

[DOI:10.1016/j.talanta.2014.10.007](https://doi.org/10.1016/j.talanta.2014.10.007)

Ghosal, S. et al. (2014) Spatially resolved chemical imaging of individual atmospheric particles using nanoscale imaging mass spectrometry: insight into particle origin and chemistry. *Analytical Methods* 6: 2444 [Cover article] [DOI: 10.1039/C3AY42012D](https://doi.org/10.1039/C3AY42012D)

Wagner J and Casuccio G (2014) Spectral Imaging and Passive Sampling to Investigate Particle Sources in Urban Desert Regions. *Environ. Sci.: Processes Impacts* 16:1745-53. [DOI:10.1039/C4EM00123K](https://doi.org/10.1039/C4EM00123K).

Ghosal, S. et al. American Geophysical Union 2014 Fall Meeting on December 15-19, 2014 in San Francisco, CA: Poster Presentation on “Spatially resolved chemical imaging of individual atmospheric particles using nanoscale imaging mass spectrometry: Insights into particle origin and chemistry.”

Ghosal, S. et al. American Chemical Society 248<sup>th</sup> National Meeting on August 10 -14, 2014 in San Francisco, CA: Poster Presentation on “Correlated analysis of flame retardants using Raman micro-spectroscopy and scanning electron microscopy: A tool for studying composition, origin, and spatial heterogeneity of flame retardants in dust.”

## 2013

Wagner J, Ghosal S, Whitehead T, and Metayer C (2013) Morphology, spatial distribution, and concentration of flame retardants in consumer products and environmental dusts using scanning electron microscopy and Raman micro-spectroscopy. *Environment International* 59:16–26.

[DOI:10.1016/j.envint.2013.05.003](https://doi.org/10.1016/j.envint.2013.05.003)

Ghosal S and Wagner J. (2013) Correlated Raman micro-spectroscopy and scanning electron microscopy analyses of flame retardants in environmental samples: a micro-analytical tool for probing chemical composition, origin and spatial distribution. *Analyst* 138:3836-3844. DOI:[doi:10.1039/c3an00501a](https://doi.org/10.1039/c3an00501a)

Wagner J and Casuccio G (2013) Electron Microscopy Characterization of PM in Imperial Valley and Phoenix. Presented at the *Air and Waste Management Association Symposium on Air Quality Measurement Methods and Technology*, Sacramento, CA.

Wagner J and Ghosal S (2013) Morphology, Spatial Distribution, and Concentration of Flame Retardants in Consumer Products and Environmental Dusts Using Scanning Electron Microscopy. Presented at BFR 2013: *Sixth International Symposium On Flame Retardants*, San Francisco, CA.

Ghosal S and Wagner J (2013) Correlated Analysis of PBDE using Raman Micro-spectroscopy and Scanning Electron Microscopy: a Tool for Studying Composition, Origin, and Spatial Heterogeneity of Flame Retardants in Dust. Presented at BFR 2013: *Sixth International Symposium On Flame Retardants*, San Francisco, CA.

Wall S, Wagner J, and Ghosal S (2013) Forensic Identification of Contaminant Sources in Environmental Samples using Advanced Microscope Imaging and Microspectroscopy. Presented at *AEHS 23rd Annual International Conference on Soils, Water, Energy, and Air*, San Diego, CA.

Amanda L. Northcross, Rufus J. Edwards, Michael Johnson, Zhong-Min Wang, Kunning Zhou, Tracy Allen, Kirk R. Smith (2013) “Low-cost particle counter as a real-time fine-particle mass monitor”, *Environ. Sci.: Processes Impacts*, 2013,15, 433-439. [DOI: 10.1039/C2EM30568B](https://doi.org/10.1039/C2EM30568B)

## 2012

Stephen Wall, Thomas Kendig, Zhong-Min Wang (2012) Characterization of Radio-Frequency Electromagnetic Field Exposures from Wireless Communication Devices. Presented at the *AEHS Annual International Conference on Soils, Water, Energy, and Air*, San Diego, CA.

Zhong-Min Wang, Endalkachew Sahle-Demessie, Ashraf Aly Hassan, and Christopher Perrett, (2012) “Surface Structure and Photocatalytic Activity of Nano-TiO<sub>2</sub> Thin Film for Selective Oxidation” *Journal of Environmental Engineering*, 138(9): 923-931. [DOI: 10.1061/\(ASCE\)EE.1943-7870.0000542](https://doi.org/10.1061/(ASCE)EE.1943-7870.0000542)

Harnly M, Naik-Patel K, Wall S, Quintana P, Pon D, and Wagner J (2012) Agricultural burning: air monitoring and exposure reduction in Imperial County. *California Agriculture*, 66:85-90. ([Link to pdf](#))

Wagner J and Macher J (2012) Automated Spore Measurements Using Microscopy, Image Analysis, and Peak Recognition of Near-Monodisperse Aerosols. *Aerosol Sci. Technology*, 46: 862-873. [DOI:10.1080/02786826.2012.674232](https://doi.org/10.1080/02786826.2012.674232)

Wagner J, Naik-Patel K, Wall S, and Harnly M (2012) Measurement of ambient particulate matter concentrations and particle types near agricultural burns using electron microscopy and passive samplers. *Atmospheric Environment* 54:260-271. [DOI:10.1016/j.atmosenv.2012.01.067](https://doi.org/10.1016/j.atmosenv.2012.01.067)

De Vita J, Wall S, Wagner J, Wang Z, and Rao L (2012) Determining the Frequency of Asbestos Use in Automotive Brakes from a Fleet of On-Road California Vehicles. *Environmental Science & Technology* 46 :1344-51. [DOI:10.1021/es202667d](https://doi.org/10.1021/es202667d)

Wagner J, Naik-Patel K, Wall S, and Harnly M (2012) Measurement of Ambient PM and Particle Types near Agricultural Burns using Passive Samplers and Electron Microscopy. Presented at *EPA R9 Air Division Symposium*, San Francisco, CA.

Ghosal, S. et al. (2012) Raman Microspectroscopy-Based Identification of Individual Fungal Spores as Potential Indicators of Indoor Contamination and Moisture-Related Building Damage. *Environmental Science and Technology* 46 (11): 6088. [DOI: 10.1021/es203782j](https://doi.org/10.1021/es203782j).

## 2011

Zhong-Min Wang, Endalkachew Sahle-Demessie, Ashraf Aly Hassan, (2011) “Selective Oxidation Using Flame Aerosol Synthesized Iron and Vanadium Doped Nano-TiO<sub>2</sub>” *Journal of Nanotechnology*, vol. 2011, Article ID 209150, 11 pages, 2011. [doi:10.1155/2011/209150](https://doi.org/10.1155/2011/209150).

Wagner J, Macher J, Ghosal S, Ahmed K, Hemati K, Teckchandani S, Wall S and Kumagai K (2011) Rapid Detection and Identification of Biogenic Aerosol Releases and Sources. Presented at *Fall Meeting of the American Geophysical Union*, San Francisco, CA.

Macher J, Ghosal S, Wagner J, Ahmed K, Hemati K, Kumagai K and Wall S (2011) Alternatives to manual examination to detect and identify spores. Presented at *Pan-American Aerobiology Association Meeting*, San Diego, CA.

Macher J, Ghosal S, Wagner J, Ahmed K, Hemati K, Kumagai K and Wall S (2011) Alternatives to manual counting for the detection and identification of airborne fungal and actinomycete spores. Presented at *Indoor Air 2011*, Austin, TX.

Wang Z, Wagner J, and Wall S (2011) Source Characterization of Automobile Brake Wear Emissions. Presented at *AEHS 21st Annual International Conference on Soils, Sediments, Water, and Energy*, San Diego, CA.

Wagner J, Scales D, Ghosal S, Wang Z, Smith G, and Wall S (2011) Identification of Airborne Unknown Substances using FTIR, Raman, Optical, and Electron Microscopy. Presented at *AEHS 21st Annual International Conference on Soils, Sediments, Water, and Energy*, San Diego, CA.

Wang Z, Wagner J, and Wall S (2011) Characterization of Laser Printer Nanoparticle and VOC Emissions, Formation Mechanisms, and Strategies to Reduce Airborne Exposures. *Aerosol Sci. Technol.* 45: 1060-1068. [DOI:10.1080/02786826.2011.580799](https://doi.org/10.1080/02786826.2011.580799)

Ghosal, S. et al. American Chemical Society 242<sup>nd</sup> National Meeting on August 28- September 1, 2011 in Denver, CO: Poster Presentation on “Identification of Airborne Microbial Agents Utilizing Raman Micro-Spectroscopy.”

Ghosal, S. et al. 21<sup>st</sup> Annual International Conference on Soils, Sediments, Water, and Energy, March 14-17, 2011, San Diego, CA: Oral Presentation on “Identification of Airborne Microbial Agents Utilizing Raman Micro-Spectroscopy.” (Invited)

## 2010

Kim T and Wagner J (2010) PM<sub>2.5</sub> and CO concentrations inside an indoor go-kart facility. *Journal of Occupational & Environmental Hygiene* 7: 7, 397-406.

[DOI:10.1080/15459621003791628](https://doi.org/10.1080/15459621003791628)

Wagner J and Wall S (2010) SEM/EDS Characterization of Ambient PM during Agricultural Burns. Presented at *Fall Meeting of the American Geophysical Union*, San Francisco, CA.

Wagner J and Wall S (2010) Assessment of community PM exposures during agricultural burns using passive samplers and electron microscopy. Presented at *American Association for Aerosol Research Specialty Conference - Air Pollution and Health*, San Diego, CA.

Zhong-Min Wang,, Jeff Wagner, and Stephen Wall, “Characterization of Laser Printer Nanoparticle and VOC Emissions, Formation Mechanisms, and Strategies to Reduce Airborne Exposures”, AAAR Air Pollution and Health Conference, San Diego, CA, USA, March 22-26, 2010.

McIntire, T.M. et al. (2010) Why ozonolysis may not increase the hydrophilicity of particles. *Atmospheric Environment* 44 (7): 939.

Weber, P. K. et al. (2010) Elemental distribution in *Bacillus* spores determined by focused ion beam sectioning and high spatial resolution secondary ion mass spectrometry. *Journal of Microscopy* 238(3): 189. [Cover article]

Ghosal, S. et al. (2010) Spatially resolved characterization of water and ion incorporation in *Bacillus* spores. *Applied and Environmental Microbiology* 76(10): 3275.

Ghosal, S. et al. American Geophysical Union 2010 Fall Meeting on December 13-17, 2010 in San Francisco, CA: Poster Presentation on “Depth resolved characterization of model and ambient atmospheric particles using high-resolution Secondary Ion Mass Spectrometry.”

## 2009

Baer, M. D. et al. (2009) Interfacial Behavior of Perchlorate versus Chloride Ions in Aqueous Solutions. *Journal of Physical Chemistry B* 113: 15843.

Ghosal, S. et al. (2009) Controlling atomic layer deposition of TiO<sub>2</sub> in aerogels through reversible surface functionalization. *Chemistry of Materials* 21 (9): 1989.

Ghosal, S. et al. American Chemical Society 237<sup>th</sup> National Meeting on March 22-26, 2009 in Salt Lake City, UT: Oral Presentation on “Controlling atomic layer deposition of TiO<sub>2</sub> in aerogels through reversible surface functionalization.”

Ghosal, S. et al. American Chemical Society 237<sup>th</sup> National Meeting on March 22-26, 2009 in Salt Lake City, UT: Poster Presentation on “Partitioning behavior of perchlorate versus chloride ions in aqueous solution: An Electron spectroscopy and MD Simulation Study.”

Ghosal, S. et al. Gordon Research Conference on Chemical reactions at surfaces on February 8-13, 2009 in Ventura, CA: Poster Presentation on “Synthesis of Nanoporous Materials via Atomic Layer Deposition.”

## 2008

Wagner J, Wang Z, Willis B, and Casuccio G (2008).SEM/EDS of Submicron and Coarse PM Using Modified Passive Aerosol Sampler Substrates. Presented at *Fall Meeting of the American Geophysical Union*, San Francisco, CA.

Wang Z, Wagner J, and Wall S (2008) Characterization of Nanoparticles and Emission Variation from a LaserJet under Different Printing Conditions. Presented at annual meeting of the *American Association for Aerosol Research*, Orlando, FL.

Ghosal, S. et al. (2008). Surface Enhancement of Bromide vs. Chloride in Mixed Alkali halide Solution: An Electron Spectroscopy Study. *Journal of Physical Chemistry A* 112 (48): 12378.

Ghosal, S. et al. (2008).Imaging and 3D Elemental Characterization of Intact Bacterial Spores byHigh-Resolution Secondary Ion Mass Spectrometry (NanoSIMS). *Analytical Chemistry* 80: 5986.

## 2007

Ghosal, S. et al. Advanced Light Source User’s Meeting on October 4-6, 2007 in Lawrence Berkeley NationalLaboratory, CA: Invited Oral Presentation on “Characterization of the liquid/vapor interface of model sea salt aerosol: An Electron Spectroscopy Study.” (Invited)

## 2006

Wall SM, Wagner J, Scales D, and Pon D (2006) Measurements of the contribution of asbestos to aerosols derived from brake wear. Presented at annual meeting of the *American Association for Aerosol Research*, St. Paul, MN.

Leith D, Merrifield T, Willis B, Conner T, Boundy M, Wagner J, Casuccio G, Cowley C., and Peters T (2006) Passive Aerosol Sampler for PM10-2.5. Presented at the *Air and Waste Management Association Symposium on Air Quality Measurement Methods and Technology*, Durham, NC.

Willis B, Leith D, Merrifield T, Wagner J, Casuccio G, Cowley C., Conner T, and Peters T (2006) Evaluation of PM10, PM2.5 and PM10-2.5 Measurements using a Passive Particulate Sampler. Presented at the *Air and Waste Management Association Symposium on Air Quality Measurement Methods and Technology*, Durham, NC.

Wagner J, Leith D, Casuccio G, Merrifield T, Peters T and Willis B (2006) Passive Aerosol Sampler for Characterization, Ambient Concentration, and Particle Size Measurement Presented at the *Air and Waste Management Association Symposium on Air Quality Measurement Methods and Technology*, Durham, NC.

Brewer, L. N. et al (2006) Microanalytical Methods for Bio-Forensics Investigations. *Microscopy and Microanalysis*. 12: 24

Bluhm, H. et al (2006). Soft X-ray Microscopy and Spectroscopy at the Molecular Environmental Science Beamline at the Advanced Light Source. *J. Electr. Spectr. Rel. Phenom.* 150.

Ghosal, S. et al. American Vacuum Society 53<sup>rd</sup> International Symposium & Exhibition on November 12-17, 2006 in San Francisco, CA: Oral Presentation on “Characterization of Bacterial Spores using Nano-Secondary Ion Mass Spectrometry (NanoSIMS).”

Ghosal, S. et al. American Chemical Society 232<sup>nd</sup> National Meeting on September 10-14, 2006 in San Francisco, CA: Oral Presentation on “Characterization of Bacterial Spores using Nano-Secondary Ion Mass Spectrometry (NanoSIMS).”

Ghosal, S. et al. Gordon Research Conference on Chemistry at Interfaces on July 9-14, 2006 in Biddeford, ME: Poster Presentation on “Characterization of Bacterial Spores using Nano-Secondary Ion Mass Spectrometry (NanoSIMS).”

Ghosal, S. et al. American Chemical Society 231<sup>st</sup> National Meeting on March 26-30, 2006 in Atlanta, GA: Oral Presentation on “Analysis of bacterial spore permeability to water and ions using Nano-Secondary Ion Mass Spectrometry (NanoSIMS).”

## 2005

Leith D, Wagner J, Peters T, Casuccio G, and Merrifield T (2005) Collection and Characterization of PM<sub>2.5</sub>, PM<sub>10</sub>, and PMC Particles Using a Passive Air Sampler. Presented at annual meeting of the *American Association for Aerosol Research*, Austin, TX.

Wagner J, Casuccio G, Merrifield T, Peters T, and Leith D (2005) Collection and characterization of coarse, fine and ultrafine particulate matter using an innovative passive aerosol sampler. Presented at the *Air and Waste Management Association Symposium on Air Quality Measurement Methods and Technology*, San Francisco, CA.

Zhong-Min Wang and David Leith, "Comparison of Active and Passive Samplers for Monitoring Ambient Air", AAAR 2005 Annual Conference /Oct. 17-21, Austin, TX, USA.

Zhong-Min Wang and David Leith, "Ambient Air Nanoparticle Sampling Using Passive Sampler", 2<sup>nd</sup> International Symposium on Nanotechnology and Occupational Health, October 3-6, 2005, Minneapolis, Minnesota, USA.

Ghosal, S. et al (2005). Electron Spectroscopy of Aqueous Solution Interfaces Reveals Surface Enhancement of Halides: Implications for Atmospheric Chemistry. *Science* 307: 563.

Ghosal, S. et al (2005). In Situ Study of Water Induced Segregation of Bromide in Bromide-doped Sodium Chloride by Scanning Polarization Force Microscopy. *Journal of Physical Chemistry* 109: 4744.

Ghosal, S. et al. American Physical Society Meeting on March 21-25, 2005 in Los Angeles, CA: Oral Presentation on "Surface Segregation in Mixed Alkali Halide Solutions: An Electron Spectroscopy Study."

## 2004

Zhong-Min Wang, Endalkachew Sahle-Demessie, "Improving Photocatalytic Properties of TiO<sub>2</sub> through Thin Film Coating and Metal Doping via Flame Aerosol Coating Method" AIChE annual meeting / Nov. 7-12, 2004 / Advanced Oxidation Processes in Environmental Applications II, (390), Austin, TX, USA.

Zhong-Min Wang, Endalkachew Sahle-Demessie, Pratim Biswas, "Photocatalysis Evaluation of Nanostructured TiO<sub>2</sub> powders and Thin Films Prepared by Flame Aerosol Method for Partial Oxidation of Hydrocarbons", 23th Annual Meeting of the AAAR, Oct.. 4-8, AAAR annual meeting, 2004, Atlanta, GA, USA.

Wagner J., Sullivan D.P., Faulkner D., Fisk W.J., Alevantis L.E., Dod R.L, Gundel L.A., and Waldman J.M. (2004) Environmental tobacco smoke leakage from smoking rooms. *Journal of Occupational and Environmental and Hygiene* 1:110-118.



Mar Esperanza, Makram T. Suidan\*, Fumitake Nishimura, Zhong-Min Wang, George A. Sorial [2004]. Determination of Sex Hormones and Nonylphenol Ethoxylates in the Aqueous Matrices of Two Pilot-Scale Municipal Wastewater Treatment Plants. *Environ Sci. Technol*, 38, 3028-3035.

Ghosal, S. et al (2004). Surface Adsorbed Water on NaCl and its Effect on Nitric Acid Uptake. *Journal of Physical Chemistry* 108: 14102.

Ghosal, S. et al. American Geophysical Union 2004 Fall Meeting on December 13-17, 2004 in San Francisco, CA: Oral Presentation on “Interfacial segregation of halogen ions in alkali halide solutions – a model for sea salt aerosol.”

Ghosal, S. et al. American Vacuum Society 51<sup>st</sup> International Symposium & Exhibition on November 14-19, 2004 in Anaheim, CA: Oral Presentation on “Electron Spectroscopy of Aqueous Solution Interfaces Reveals Surface Enhancement of Halides.”

Ghosal, S. et al. Advanced Light Source User’s Meeting on October 18-20, 2004 in Berkeley, CA: Poster presentation on “Interfacial segregation of halogen ions at the alkali halide solution/water vapor interface.”

Ghosal, S. et al. Berkeley Atmospheric Sciences Symposium on October 8, 2004 in University of California, Berkeley: Poster presentation on “Interfacial segregation of halogen ions in alkali halide solutions – a model for sea salt aerosol.”

## 2003

Tiian Reponen, Sergey A. Grinshpun, Saulius Trakumas, Zhong-Min Wang, Grace LeMasters, James A Lockey, Pratim Biswas (2003), Concentration Gradient Patterns of Aerosol Particles Near Interstates Highway in The Greater Cincinnati Airshed. *Journal of Environmental Monitoring*, 5, 557-562.

Wagner J. and Macher J.M. (2003) Comparison of a passive aerosol sampler to size-selective pump samplers in indoor environments. *Am. Ind. Hyg. Assoc. J* 64:630-639.

Alevantis LE, Wagner J, Fisk WJ, Sullivan D, Faulkner D, Gundel LA, Waldman JM, and Flessel CP (2003) Designing for smoking rooms. *ASHRAE Journal* 45:26-31.

Wagner J, Wood N, and Wall S (2003) Automated elemental size distribution analyses and characterization of passive aerosol samples from New York City. Presented at annual meeting of the *American Association for Aerosol Research*, Anaheim, CA.

Ghosal, S. et al. American Vacuum Society 50<sup>th</sup> International Symposium & Exhibition on November 2-7, 2003 in Baltimore, Maryland : Poster presentation on “The Effect of Water Vapor on the Surface Composition of Alkali Halides: From Dry Solid to Solution. ”

Ghosal, S. et al. Nano and Bio-Nanoscience Research Meeting on June 11, 2003 in Berkeley, CA: Poster presentation on “The Effect of Water Vapor on the Surface Composition of Alkali Halides.”

## 2002

Wagner J, Sullivan D, Faulkner D, Gundel LA, Fisk WJ, Alevantis LE, and Waldman JM (2002) Measurements and Modeling of Environmental Tobacco Smoke leakage from Simulated Smoking Room. Presented at *9th International Conference on Indoor Air Quality and Climate – Indoor Air 2002*, Monterey, CA.

Wagner J, Sullivan D, Faulkner D, Gundel LA, Fisk WJ, Alevantis LE, and Waldman JM (2002) Measurements and modeling of environmental tobacco smoke leakage from a simulated smoking room. In *Proceedings of the 9th International Conference on Indoor Air Quality and Climate*. Indoor Air 2002, Santa Cruz, CA, pp. II-121-126.

Wall, S.M. (2002). Evaluation of Household Vacuum Cleaners in the Removal of Settled Lead Dust from Hard Floors. . Federal Housing and Urban Development Research. Final Report.

## 2001

Wagner, J. and Leith, D. (2001) Field Tests of a Passive Aerosol Sampler. *J. Aerosol Sci.* 32:33-48.

Wagner, J. and Leith, D. (2001) Passive aerosol sampler. Part II: Wind tunnel experiments. *Aerosol Sci. Technol.* 34:193-201.

Wagner, J. and Leith, D. (2001) Passive aerosol sampler. Part I: Principle of operation. *Aerosol Sci. Technol.* 34:186-192.

Fisk WJ, Wagner J, Sullivan D, Faulkner D, Alevantis L, Gundel L, and Waldman J. (2001) Evaluation of smoking room performance: field tests. Presented at the *7th Annual Investigator Meeting, Tobacco Related Disease Research Program*, San Jose, CA.

Fisk WJ, Wagner J, Sullivan D, Faulkner D, Alevantis L, Gundel L, and Waldman J. (2001) Evaluation of smoking room performance: laboratory experiments. Presented at the *6th Annual Investigator Meeting, Tobacco Related Disease Research Program*, Los Angeles, CA.

Wagner J, Sullivan D, Faulkner D, Gundel LA, Fisk WJ, Alevantis LE, and Waldman JM (2001) Measurement of particle- and gas-phase ETS leakage from a smoking room. Presented at annual meeting of the *American Association for Aerosol Research*, Portland, OR.

Zhong-Min Wang, Guixiang Yang, Pratim Biswas, Wayne Bresser and Punit Boolchand (2001). Processing of iron doped titania particles in aerosol flame reactors. *Powder Technology*, 114, 197-204.

Zhong-Min Wang, Pratim Biswas, Tiina Reponen, Saulius Trakumas, Sergey Grinshpun, Grace Lemasters, "Exposure Gradient Patterns of Transportation Emission and Ultra fine Particles Along Interstate Highways", 20th Annual Meeting of the AAAR, Oct. 15-19, AAAR annual meeting, 2001, Portland, Oregon, USA.

## 2000

Zhong-Min Wang, Guixiang Yang, C. B. Almquist, P. Biswas "Processing Iron-doped Titania in Flame Reactors", 19th Annual Meeting of the AAAR, Oct. 12-18, 2000, St. Louis, USA.

C. B. Almquist, Zhong-Min Wang, "An Investigation of Experimental Parameters and Catalyst Characteristics on Photoactivity of Flame Aerosol Processed Titanium Dioxide". London, Canada, June 26-30, 2000.

Zhong-Min Wang and P. Biswas (2000). Nickel Speciation and Aerosol Formation during Combustion of Surrogate Fuel Oil. *Aerosol Science and Technology*, 33, 525-535.

Gundel L.A., Shpilberg V.E., Sullivan D., Apte M.G., Wagner J., Fisk W.J., Waldmann J., and Alevantis L. (2000) Selective monitoring of dilute environmental tobacco smoke in ambient air with other sources. Presented at the *5th Annual Investigator Meeting of the Tobacco-related Disease Research Program*, San Diego, CA.

Wagner J. and Macher J.M. (2000) Comparison of 24-hour and 2-week PM samples using passive and conventional samplers. Presented at the annual meeting of the *American Association for Aerosol Research*, St. Louis, MO.

Gundel L.A., Shpilberg V.E., Sullivan D., Apte M.G., Wagner J., Fisk W.J., Waldmann J., and Alevantis L. (2000) Real-time monitoring of dilute environmental tobacco smoke in the presence of other particle sources. Presented at annual meeting of the *International Society for Exposure Assessment*, Monterey, CA.

Wall, S.M. (2000). Fundamental Laboratory Investigations of Lead Dust Removal from Hard Flooring Surfaces. Federal Housing and Urban Development Research Conference. Atlanta, Georgia.

Ghosal, S. et al (2000). Surface Segregation of Bromine in Bromide doped NaCl: Implications for the Seasonal Variations in Arctic Ozone. *Geophysical Research Letters* 27: 1879.

Ghosal, S. et al. American Geophysical Union 2000 Fall Meeting on December 15-19, 2000 in San Francisco, CA: Oral Presentation on "Surface Segregation of Bromine in Bromide doped NaCl: Implications for the Seasonal Variations in Arctic Ozone."

Ghosal, S. et al. American Vacuum Society 47<sup>th</sup> International Symposium on October 2-6, 2000 in Boston, Massachusetts: Oral Presentation on “Surface Segregation of Bromine in Bromide doped NaCl: Implications for the Seasonal Variations in Arctic Ozone.”

Ghosal, S. et al. 60<sup>th</sup> Annual Physical Electronics Conference on June 21-23, 2000 in Baton Rouge, Louisiana: Oral Presentation on “Surface Segregation of Bromine in Bromide doped NaCl: Implications for the Seasonal Variations in Arctic Ozone.”

## 1999

Endalkachew Sahle-Demessie, Michael Gonzalez, Zhong-Min Wang and Pratim Biswas (1999) “Synthesizing Alcohols and Ketones by Photoinduced Catalytic Partial-Oxidation of Hydrocarbons in TiO<sub>2</sub> Film reactors prepared by three different Methods”, Ind. Eng. Chem. Res 38(9), 3274-3284.

Zhong-Min Wang, Pratim Biswas, “Synthesizing Organic Compounds by Photocatalytic Oxidation on TiO<sub>2</sub> Films Deposited In Flame Aerosol Reactors”, 99th annual meeting of AWMA, #720, 1999, St. Louis, USA.

Zhong-Min Wang, Adrienne Menniti, Pratim Biswas, “In Situ Measurements of Side Stream Cigarette Smoke for Different Brands”, 18th Annual Meeting of the AAAR, Bellingham, Washington, USA. Oct. 22-26, 1999.

Dongsheng Zhu, Zhongmin Wang, Lin Lin, Yingke Tan (1999) “Enhancement of Thermal Conductivity by using polymer-zeolite in solid adsorption heat pumps”, Journal of Engineering Thermophysics, 20 (1), 94.

Zhenhua Ye, Wenhui Yuan, Zhong-Min Wang, Fanzhong Chen, (1999) “Measurement of Mass Transfer Coefficients of Xylose and Sorbinose Mixture In Chromatographic column”, J. of South China Univ. of Tech. 27, (1),62

Wagner J. and Leith D. (1999) Laboratory and field testing of a passive aerosol sampler. Presented at the annual meeting of the American Association for Aerosol Research, Tacoma, WA.

Wagner J. and Leith D. (1999) Laboratory and field testing of a passive aerosol sampler. Presented at 3rd Colloquium on Particulate Air Pollution and Human Health, Durham, NC.

Zhong-Min Wang, Pratim Biswas, Endalkachew Sahle-Demessie and Michael Gonzalez, “Nano-Structured Titania Film Reactors Prepared by Flame Aerosol Routes for Synthesis of Alcohols and Ketones by Partial Oxidation”, The Fourth International Conference on TiO<sub>2</sub> Photocatalytic Purification and Treatment of Air and Water, Albuquerque, May 24-28, 1999.

Zhong-Min Wang, Pratim Biswas, Endalkachew Sahle-Demessie and Michael Gonzalez, “Nano-Structured Titania Film Reactors Prepared by Flame Aerosol Routes for Synthesis of Alcohols

and Ketones by Partial Oxidation”, The Fourth International Conference on TiO<sub>2</sub> Photocatalytic Purification and Treatment of Air and Air, Albuquerque, May 24-28, 1999.

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