

Abstracts:

1. Badeau A, Frazer DG, Day J [2003]. Particle characteristics in turbulent pipe flow generated from a normal human cough using CFD. BMES Annual Fall Meeting Oct. 1-4, Nashville, TN.
2. Day J, Jones B, Badeau A, Afshari A, Frazer DG, Goldsmith WT [2003]. Temporal characteristics of aerosol generation during a cough. BMES Annual Fall Meeting Oct. 1-4, Nashville, TN.
3. Afshari A, Azadi S, Ebeling TR, Badeau A, Goldsmith WT, Weber K, Frazer DG [2002]. Evaluation of cough using digital particle image velocimetry. 2nd Joint EMBS-BMES Conference, Oct. 23-26, Houston, TX.
4. Badeau A, Afshari A, Goldsmith WT, Frazer DG [2002]. Preliminary prediction of flow and particulate concentration produced from normal human cough dispersion. 2nd Joint EMBS-BMES Conference, Oct. 23-26, Houston, TX.
5. Afshari A, Azadi, S, Goldsmith WT, Frazer DG [2002]. A method to characterize aerosols produced by voluntary respiratory maneuvers. Society of Toxicology Annual Meeting.
6. Yang H-M, Ma JYC, Castranova V, Ma JKH [1997]. Pulmonary responses of rats to intratracheal instillation of diesel exhaust particles: inflammation, oxidative stress and alveolar macrophage cytokine secretion. *The Toxicologist* 36:395.
7. Yang H-M, Ma JYC, Castranova V, Barger MW, Ma JKH [1998]. Exposure to Diesel Exhaust Particles (DEP) Alters the Responsiveness of Rats to Bacterial Lipopolysaccharide (LPS) Insults. *The Toxicologist* 42(1-S):405.
8. Minhas NS, Battelli LA, Porter DW, Goldsmith T, Dotson A, Jones W, Greskevitch M, Ma JYC, Hubbs AF [1999]. Persistent Pulmonary Inflammation After Intratracheal Instillation of Abrasive Blasting Agents. *The Toxicologist* 48(1-S): 51.
9. Yang H-M, Antonini JM, Ma JYC, Barger MW, Ma JKH, Castranova V [1999]. Exposure to Diesel Exhaust Particles (DEP) Compromised the Pulmonary Clearance of *Listeria Monocytogenes* in Rats. *The Toxicologist* (1-S):258.
10. Al-Humadi NH, Siegel PD, Ma Jane YC, Jones WG, Barger MW, Lewis D, Ma JKH [2000]. Comparison of Pulmonary Response to Inhaled and Intratracheally Instilled Diesel Exhaust Particulate. *The Toxicologist* 54(1-S):A68.
11. Antonini JM, Jernigan MR, Yang HM, Ma JYC, Roberts JR, Barger MW, Butterworth L, Clark RW [2000]. Residual Oil Fly Ash Slows the Clearance of *Listeria Monocytogenes* from Rat Lungs [Abstract]. *The Toxicologist* 54(1-S):316.
12. Yang HM, Ma JYC, Roberts JR, Barger MW, Butterworth L, Castranova V, Antonini JM [2000]. Exposure to Silica Activates Macrophages and Increases the Pulmonary Clearance of *Listeria Monocytogenes* in Rats. *The Toxicologist* 54(1-S):318.

13. Antonini JM, Yang HM, Ma JYC, Roberts JR, Barger MW, Jernigan MR, Brain JD Clark RW [2000]. Effect of Age on Acute Mortality and Pulmonary Bacterial Clearance in Fischer 344 Rats Following Intratracheal Instillation of *Listeria monocytogenes*. *Am J Respir Critical Care Med* A178.
14. Ma JKH., Ma JYC, Yang HM, Antonini J, Castranova V, Siegel PD, Weissman DN [2000]. Alteration of Pulmonary Immun/Inflammatory Responses by Diesel Exhaust Particles (DEP). Proceedings for First International Conference of the Society for Free Radical Research-Africa, Malelane Gate, Kruger Park, Mpumalanga, South Africa, July 16-20, 2000, p.45.
15. Al-Humadi N, Hi N, Siegel PD, Lewis DM, Ma JYC , Ma JKH [2001]. Diesel Exhaust Particulate (DEP) Affected Thiol Levels in Both Alveolar Macrophages (AM) and Lymph Node Cells (LNC). *The Toxicologist* 60(1):167.
16. Ma JYC, Kane E, Barger MW, Castranova V [2001]. Effects of Diesel Exhaust Particles (DEP) Exposure on Pulmonary Cytochrome P-450 (P-450) Metabolism. *Am J Respir Crit Care Med* 163(5):A172.
17. Ma JYC, Rengasamy A, Barger MW, Kane E, Ma JKH, Castranova V, [2001]. Alteration of Pulmonary Cytochrome P450 System by Diesel Exhaust Particles. *Toxicology* 164(1-3):119.
18. Al-Humadi NH, Siegel PD, Lewis DM, Barger M, Ma JYC, Weissman DN, Ma JKH Ma [2001]. Effect of Diesel Exhaust Particles (DEP) on Pulmonary Allergic Sensitization in Brown Norway Rats. *Toxicology* 164(1-3):119.
19. Al-Humadi NH, Siegel PD, Lewis DM, Ma JYC, Barger MW, Weissman DN, and Ma JKH, [2001]. Role of Thiols in Pulmonary Immune Response to Allergic Sensitization: Adjuvant Effect of Diesel Exhaust Particulate (DEP). *Pharm. Sci. (Supplement)* 3(3): T3449.
20. Rengasamy A, Barger MW, Kane E, Ma JKH, Castranova V, Ma JYC [2002]. Diesel Exhaust Particle-Induced Alterations of Pulmonary Phase I and Phase II Enzyme Systems. *Toxicologist* 66(1-S): 126.
21. Al-Humadi H, Siegel PD, Lewis DM, Barger MW, Ma JYC, Weissman DN, Ma JKH [2002]. Thiol and Immune Exposure Dependent Response to Ovalbumin in Sensitized Rats. *Toxicologist* 66(1-S): 77.
22. Yin X, Schafer R, Antonini JM, Barger MW, Roberts JR, Delarosa P, Ma JYC, Ma JKH [2002]. Alternation of Innate and Cell-Mediated Immunity to *Listeria monocytogenes* by Short-Term Exposure to Diesel Exhaust Particles. *FASEB J* 16(5):A962.
23. Ma JYC, Zhao HW, Barger MW, Ma JKH, Castranova V [2003] Effects of Exposure to Diesel Exhaust Particles (DEP) on Pulmonary Activation of Mutagenic Agents. *The Toxicologist*, 72 (S-1):297.
24. Yin X, Ma JYC, Antonini J, Ma JKH [2003]. Roles of Reactive Oxygen Species, Heme Oxygenase-1, and Nitric Oxide in Diesel Exhaust Particle-Mediated Pulmonary Immune Responses to *Listeria monocytogenes* in Rats. *The Toxicologist*, 72 (S-1):375.

25. Ma JYC, H W Zhao, M W Barger, J K H Ma and V Castranova [2004]. Role of Nitric Oxide in Mediating Alveolar Macrophage Responses to Diesel Exhaust Particles. *The Toxicologist*, 78 (S-1):144.
26. X.J. Yin, C.C. Dong, J.Y.C. Ma, J.M. Antonini, J.R. Roberts, and J.K.H. Ma [2004]. Repeated Exposure to Diesel Exhaust Particles Causes Suppression of Cell-Mediated Immune Responses to *Listeria* Infection in Brown Norway Rats. *The Toxicologist*, 78 (S-1):99.
27. Ma JYC, H W Zhao, M W Barger, J K H Ma and V Castranova. [2004] Role of Nitric Oxide in the Induction of Lung Inflammation by the Organic Extract of Diesel Exhaust Particles, 2004 *Am J Respir Crit Care Med* 169(7):A279.
28. Yin XJ, C. C. Dong, J. Y. Ma, M. W. Barger, J. R. Roberts, J. M. Antonini, P. D. Siegel, and J. K. Ma. [2004] Effect of Inhaled Diesel Exhaust Particles on Allergic Sensitization by Ovalbumin in Brown Norway Rats. 2004 *Am J Respir Crit Care Med* 169(7):A279.
29. Ma JYC, H W Zhao, XJ Yin, M W Barger, J K H Ma, V Castranova and. [2005] Role of Nitric Oxide in Diesel Exhaust Particle-Induced Genotoxic and Mutagenic Activities in the Rat Lung. *The Toxicologist*, 84(Suppl 1):44-45.
30. Ma JYC, M W Barger, J K H Ma and V Castranova [2005] Induction of oxidative lung injury and cellular responses by diesel exhaust particles in wild type and inducible nitric oxide synthase-deficient mice. 2006 Soc. Toxicol. Annual Meeting, accepted.
31. Society of Toxicology Annual Meeting, Salt Lake City, UT, March 2003. Pulmonary responses to welding fumes: role of metal constituents.
32. 9th International Inhalation Symposium: Effects of Air Contaminants on the Respiratory Tract- Interpretations from Molecules to Meta-Analysis, Hannover, Germany, June 2003. Effect of metal-containing environmental and occupational particulates on lung defense mechanisms.
33. University of Pittsburgh, Department of Environmental and Occupational Health, December 2003. Effect of workplace particulates on the susceptibility to bacterial infection and the suppression of lung defense responses in rats.
34. Society of Toxicology Annual Meeting, Baltimore, MD, March 2004. Effect of workplace particulates on the susceptibility to bacterial infection and the suppression of lung defense responses in rats.
35. 1st International Conference on Nanotoxicology: Biomedical Aspects, Miami, FL, January 2006. Suppression of Lung Defense Responses After Bacterial Infection in Rats Exposed by Inhalation to Stainless Steel Welding Particles.

Publications

1. Yang HM, Ma JYC, Castranova V, Ma JKH [1997]. Effects of diesel exhaust particles on the secretion of interleukin-1 and tumor necrosis factor-alpha from rat alveolar macrophages. *Exp Lung Res*: 23,269-284.
2. Yang HM, Barger MW, Castranova V, Ma JKH, Yang JY, Ma JYC [1999]. Effect of Diesel Exhaust Particles (DEP), Carbon Black, and Silica on

- Macrophage Responses to Lipopolysacchride: Evidence of DEP Suppression of Macrophage Activity. *J Toxicol Environ Health* 58:261-278.
3. Castranova V, Ma JYC, Yang HM, Antonini JM, Butterworth L, Barger MW, Roberts JR, Ma JKH [2001]. Effect of Exposure to Diesel Exhaust Particles on the Susceptibility of the Lung to Infection. *Environ Health Perspect* 109:609-612.
 4. Antonini JM, Roberts JR, Yang HM, Barger MW, Jernigan MR, Ma JYC, Weissman DN, Clarke RW [2001]. Effect of age on respiratory defense mechanisms and pulmonary bacterial clearance in Fisher 344 rats after intratracheal instillation of *Listeria monocytogenes*. *Chest* 120:240-249.
 5. Al-Humadi NH, Siegel PD, Lewis DM, Barger MW, Ma JYC, Weissman DN, Ma JKH [2002]. Alteration of Intracellular Cysteine and Glutathione Levels in Alveolar Macrophages and Lymphocytes by Diesel Exhaust Particle Exposure. *Environ Health Perspect* 110:349-353.
 6. Al-Humadi NH, Siegel PD, Lewis DM, Barger MW, Ma JYC, Weissman DN, Ma JKH. [2002]. The Effect of Diesel Exhaust Particles (DEP) and Carbon Black (CB) on Thiol Changes in Pulmonary Ovalbumin Allergic Sensitized Brown Norway Rats. *Exp Lung Res* 28:333-349.
 7. Yin X-J, Schafer R, Ma JYC, Antonini JM, Weissman DD, Siegel PD, Barger MW, Roberts JR, Ma JKH [2002]. Alteration of Pulmonary Immunity to *Listeria monocytogenes* by Diesel Exhaust Particles (DEP) I. Effects of DEP on Early Pulmonary Responses. *Environ Health Perspect* 110:1105-1111.
 8. Ma JYC, Ma JKH [2002]. The Dual Effect of the Particulate and Organic Components of Diesel Exhaust Particles on the Alteration of Pulmonary Immune/Inflammatory Responses and Metabolic Enzymes. *J Environ Sci Health, Part C Environ Carcino Ecotox Revs* C20: 117-147.
 9. Rengasamy A, Barger MW, Kane E, Ma JKH, Castranova V, Ma JYC [2003]. Diesel Exhaust Particle-Induced Alterations of Pulmonary Phase I and Phase II Enzymes of Rats. *J Toxicol Environ Health, Part A* 66:153-167.
 10. Yin X-J, Schafer R, Ma JYC, Antonini JM, Weissman D, Siegel PD, Ma JKH [2003]. Alteration of Pulmonary Immunity to *Listeria monocytogenes* by Diesel Exhaust Particles (DEP) II. Effects of DEP on T-Cell-Mediated Immune Responses. *Environ Health Perspect*: 111:524-530.
 11. Ma JYC, Frazer D, Barger MW, Rengasamy A, Hubbs AF, Battelli L, Tomblyn S, Stone S, Castranova V [2003]. Inhalation Exposure of Rats to Asphalt Fumes Generated at Paving Temperature Alters Pulmonary Xenobiotic Metabolic Pathways without Lung Injury. *Environ Health Perspect* 111:1215-1221.
 12. Antonini JM, Roberts JR, Taylor MD, Yin XJ, Stone S, Moseley A, Ma JKH, Frazer DG, Castranova V, and Ma JYC [2003]. Effects of Asphalt Fume Inhalation Exposure at Simulated Road Paving Conditions Prior to Bacterial Infection on Lung Defense Responses in Rats. *Inhalation Toxicol* 15:1347-1368.
 13. Siegel PD, Saxena RK, Saxena QB, Ma JKH, Ma JYC, Yin X-J, Castranova V [2004]. Effect of diesel exhaust particulate (DEP) on immune responses: contributions of particulate versus organic soluble components. *J Toxicol Environ Health, Part A*. 67:221-231.

14. Zhao HW., Yin XJ, Frazer D, Barger MW, Siegel PD, Millecchia L, Zhong BZ, Tomblyn S, Stone S, Ma JKH, Castranova V and Ma JYC [2004]. Effects of Paving Asphalt Fume Exposure on Genotoxic and Mutagenic Activities in the Rat Lung. *Mutat Res*, 557:137-149.
15. Yin Xuejun, Caroline Dong, Jane Y. C. Ma, James Antonini, Jenny R. Roberts, Charles F. Stanley, Rosana Schafer, and Joseph K. H. Ma [2004]. Suppression of Cell-Mediated Immune Responses to *Listeria* Infection by Repeated Exposure to Diesel Exhaust Particles in Brown Norway Rats. *Toxicol Sci* 77:263-271.
16. Yin XJ, Ma JYC, Antonini J, Castranova V, and Ma JKH [2004]. Roles of Reactive Oxygen Species and Heme Oxygenase-1 in Modulation of Alveolar Macrophage-Mediated Pulmonary Immune Responses to *Listeria monocytogenes* by Diesel Exhaust Particles. *Toxicol Sci* 82:143-153.
17. Zhao H.W., M.W. Barger, J.K.H. Ma, V. Castranova, and J.Y.C. Ma [2004]. Effects of Exposure to Diesel Exhaust Particles (DEP) on Pulmonary Metabolic Activation of Mutagenic Agents, *Mutat Res*, 564:103-113.
18. Rao K. Murali Krishna , Jane Y. C. Ma, Terence Meighan, Mark W. Barger, Donna Pack, and Val Vallyathan. Time-Course of Gene Expression of Inflammatory Mediators in Rat Lung Following Diesel Exhaust Particle Exposure [2005] *Environ. Health Perspect.*, 113:612-617.
19. Dong C.C., X. J. Yin, J. Y. C. Ma, L. Millecchia, M. W. Barger, J. R. Roberts, J. M. Antonini, X-D Zhang, Joseph K. H. Ma.[2005]. Exposure of Brown Norway rats to diesel exhaust particles prior to ovalbumin (OVA) sensitization elicits IgE adjuvant activity but attenuates OVA-induced airway inflammation, *Toxicol. Sci.* 88:150-160.
20. Dong C.C., X. J. Yin, J. Y. C. Ma, L. Millecchia, Z-X Wu, M. W. Barger, J. R. Roberts, J. M. Antonini, R. D. Dey, J. K. H. Ma. [2005] Effect of Diesel Exhaust Particles on Allergic Responses and Airway Hyperresponsiveness in Ovalbumin-Sensitized Brown Norway Rats *Toxicol. Sci.* 88:202-212.
21. Yin,Xuejun J.; Dong,Caroline C.; Ma,Jane Y.C.; Antonini,James M.; Roberts,Jenny R.; Barger,Mark W.; Ma,Joseph K.H.[2005]. Sustained Effect of Inhaled Diesel Exhaust Particles on T-Lymphocyte-Mediated Immune Responses Against *Listeria monocytogenes*, *Toxicol. Sci.* 88:73-81.
22. Antonini JM, Yang H-M, Ma JYC, Roberts JR, Barger MW, Butterworth L, Charron TG, and Castranova V. Subchronic silica exposure enhances respiratory defense mechanisms and the pulmonary clearance of *Listeria monocytogenes* in rats. *Inhal Toxicol* 12: 1017-1036, 2000.
23. Antonini JM, Roberts JR, Yang H-M, Barger MW, Ramsey D, Castranova V, and Ma JYC. Effect of silica inhalation on the pulmonary clearance of a bacterial pathogen in Fischer 344 rats. *Lung* 178: 341-350, 2000.
24. Antonini JM, Roberts JR, and Clarke RW. Strain-related differences of non-specific respiratory defense mechanisms in rats using a pulmonary infectivity model. *Inhal Toxicol* 13: 85-102, 2001.
25. Yang H-M, Antonini JM, Barger MW, Butterworth L, Roberts JR, Ma JKH, Castranova V, and Ma JYC. Diesel exhaust particles suppress macrophage

- function and slow the pulmonary clearance of *Listeria monocytogenes* in rats. *Environ Health Perspect* 109: 515-521, 2001.
26. Antonini JM, Roberts JR, Clarke RW, Yang H-M, Barger MW, Ma JYC, and Weissman DN. Intratracheal instillation of *Listeria monocytogenes*: Effect of age on respiratory defense mechanisms and pulmonary bacterial clearance in Fischer 344 rats. *Chest* 120: 240-249, 2001.
 27. Yin X-J, Schafer R, Ma JYC, Antonini JM, Weissman DN, Siegel PD, Barger MW, Roberts JR, and Ma JKH. Alteration of pulmonary immunity to *Listeria monocytogenes* by diesel exhaust particles (DEPs) I. Effects of DEP on early pulmonary responses. *Environ Health Perspect* 110:1105-1111, 2002.
 28. Antonini JM, Roberts JR, Jernigan MR, Yang H-M, Ma JYC, and Clarke RW. Residual oil fly ash increases the susceptibility to infection and severely damages the lungs after pulmonary challenge with a bacterial pathogen. *Toxicol Sci* 70:110-119, 2002.
 29. Yin X-J, Schafer R, Ma JYC, Antonini JM, Roberts JR, Weissman DN, Siegel PD, and Ma JKH. Alteration of pulmonary immunity to *Listeria monocytogenes* by diesel exhaust particles (DEP) II. Effects of DEP on T cell-mediated immune responses. *Environ Health Perspect* 111:524-530, 2003.
 30. Antonini JM, Roberts JR, Taylor MD, Yin X-J, Stone S, Moseley A, Ma JKH, Frazer DG, Castranova V, and Ma JYC. Effect of asphalt fume inhalation exposure at simulated road paving conditions prior to bacterial infection on lung defense responses in rats. *Inhal Toxicol* 15:1347-1368, 2003.
 31. Roberts JR, Taylor MD, Castranova V, Clarke RW, and Antonini JM. Soluble metals associated with residual oil fly ash increase morbidity and lung injury after bacterial infection in rats. *J Toxicol Environ Health* 67:251-263, 2004.
 32. Antonini JM, Taylor MD, Millecchia L, Ebeling AR, and Roberts JR. Suppression in lung defense responses after bacterial infection in rats pretreated with different welding fumes. *Toxicol Appl Pharmacol* 200:206-218, 2004.
 33. Shvedova AA, Kisin ER, Mercer R, Murray AR, Johnson VJ, Potapovich AI, Tyurina YY, Gorelik O, Arepalli S, Schwegler-Berry D, Hubbs AF, Antonini J, Evans DE, Ku B-K, Ramsey D, Maynard A, Kagan VE, Castranova V, Baron P. Unusual inflammatory and fibrogenic pulmonary responses to single walled carbon nanotubes in mice. *Am J Physiol- Lung Cell Mol Physiol* 289:L698-L708, 2005.

NIOSH Conference:

1. Organized and co-chaired a conference entitled Health Effects of Welding at West Virginia University in Morgantown, WV, July 2005.