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**CURRICULUM VITAE**

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**Birthdate:** April 27, 1930 Birthplace: New York, New York

**Citizenship:** U.S.A.

**Personal Data:** Married, three children

**Education:** M.D., 1953, Harvard Medical School, Boston, Massachusetts

B.S., 1949, Queens College, Flushing, New York

**Positions:**

2002-present Scientific Director, Center for Environmental Medicine, Asthma, and Lung Biology, School of Medicine, University of North Carolina at Chapel Hill.

1991-present Distinguished Professor of Medicine, School of Medicine, University of North Carolina at Chapel Hill.

1979-2002 Director, Center for Environmental Medicine & Lung Biology, School of Medicine, University of North Carolina at Chapel Hill.

1975-1991 Professor of Medicine, School of Medicine, University of North Carolina at Chapel Hill.

1975-1990 Director, Division of Pulmonary Diseases, Department of Medicine, School of Medicine, University of North Carolina at Chapel Hill.

1968-1975 Assoc. Prof to Professor (1971) of Medicine, and Director, Division of Pulmonary Diseases, Ohio State University College of Medicine, Columbus, Ohio.

1960-1968 Instructor to Assistant Prof (1962) to Associate Professor (1967) of Medicine, School of Medicine, University of Pittsburgh, Pittsburgh, Pennsylvania.

1959-1960 Senior Assistant Resident in Medicine, Peter Bent Brigham Hospital, Boston, Massachusetts.

1958-1959 Research Fellow in Medicine, Harvard Medical School, and Assistant in Medicine, Peter Bent Brigham Hospital, Boston, Massachusetts.

1957-1958 Assistant Resident in Medicine, Peter Bent Brigham Hospital, Boston, Massachusetts.

1955-1957 Captain, United States Army Medical Corps, Chief of Professional Services, 5th Army Headquarters Dispensary, Chicago, Illinois.

1954-1955 Research Fellow in Medicine, Mt. Sinai Hospital, New York, New York.

1953-1954 Intern, Medicine, Peter Bent Brigham Hospital, Boston, Massachusetts.

**Medical Board Certification and Licensure:**

Certified, American Board of Internal Medicine, 1961.

Certified in Pulmonary Diseases, American Board of Internal Medicine, 1972.

Licensure: Ohio, 1968.

North Carolina, 1975.

**Honors:**

Queens College Scholar and Phi Beta Kappa, 1949

Alpha Omega Alpha (Harvard), 1952.

US Army Commendation Medal (1957)

US Army Medal for Excellence in Serving the Needs in the Pacific. Surgeon of the Pacific Command (~1990)

Distinguished Lecturer, Annual Mtg. NC Lung Assoc. & Thoracic Society, May 2003.

Norma Berryhill Distinguished Lecturer, UNC-CH, October 28, 2004.

Heineman Distinguished Lecturer, University of California @ Davis, April 7, 2006.

Invited Lecturer (Commemoration of David V. Bates), Annual Meeting of the Health Effects Institute, Chicago, IL, April 17, 2007.

Invited Speaker, Mickey Leland Center Air Toxics Workshop II, Houston, TX, June 12, 2007.

Invited Speaker, NIEHS Frontiers in Environmental Science Seminar, RTP, NC, November 16, 2007.

Keynote Speaker, 22nd Annual Yash P. Kataria Research Day-2008, Brody School of Medicine, East Carolina University, Greenville, NC, May 29, 2008.

**ATS/ALA Service:**

American Thoracic Society, 1962 - present. (Environmental Occupational Health Assembly)

American Lung Association Policy and Nominating Committee, 1970 - 1973.

Member, American Thoracic Society Committee to revise statement on air pollution (N.R. Frank, Chair), 1981 - 1984.

Member, American Thoracic Society Board of Directors, 1983 - 1986.

Member, ATS/ALA Federal Lung Program and Government Relations Committee,

1984 - 1995.

Member, ATS Committee to review the Health Effects of Air Pollution II (1991-6)

**Professional Societies, other than ATS:**

American Federation for Clinical Research, 1961 - present.

Fellow, American College of Physicians, 1968 - present.

Central Society for Clinical Research, 1969 - present.

North Carolina Thoracic Society, 1975 - present.

Southern Society for Clinical Investigation, 1976 - present.

American Physiological Society, 1979 - present.

European Respiratory Society, 2002 - present.

International Society for Aerosols in Medicine, 2008-present.

**Editorial Boards, Study Sections, Advisory Committees:**

Associate Editor, American Journal of Medical Sciences, 1968 - 1970.

Chairman, Food and Drug Administration Pulmonary-Allergy Advisory Committee, 1972 - 1976.

Member, National Heart and Lung Institute Pulmonary Disease Advisory Committee, 1975 - 1979.

Member, American Heart Association, Research Study Committee Cardiovascular D, 1984 – 1987; Scientific Cardiopulmonary Council, 1983 - 1987.

Member, Editorial Board of Journal of Applied Physiology, 1984 - 1989.

Member, Editorial Board of Physiological Reviews (The American Physiological Society), 1986 - 1990 (Associate Editor, Pulmonary Section).

Member, Subspecialty Board on Pulmonary Diseases, American Board of Internal Medicine, 1986 - 1992.

Member, NHLBI Research Manpower Review Committee, 1986 - 1990. (Chairman, 1989-1990).

Member, Advisory Board of the NIEHS Environmental Health Sciences Center, The Johns Hopkins University (Morton Corn, Ph.D., Director), 1990 - 1996.

Chairman, External Advisory Board of the NIEHS Center in Urban Environmental Health, The Johns Hopkins University (John D. Groopman, Ph.D., Director), 2000 – 2005.

Member, EPA Science Advisory Board Panel to review EPA’s “Report on the Environment: 2003”. (2004).

Member, NIEHS ad hoc committees to review L-30, L-40 applications (2004, 2005).

Member, Editorial Board of the Journal of Aerosol Medicine, and Pulmonary Drug Delivery, 2008-date.

**University Administrative Committees:**

Member, Advisory Committee to the Dean, School of Medicine, University of North Carolina at Chapel Hill, 1980 - 2002.

Member, Medical School Faculty Committee to Review Appointments and Promotions to Associate Professor, University of North Carolina at Chapel Hill, July 1, 1983 - June 30, 1987.

Member, Chancellor’s University Self-Study Task Group, University of North Carolina at Chapel Hill, 1984-1985.

Member, Committee on Financial Exigency and Program Change, University of North Carolina at Chapel Hill, 1991 - 2000.

Member, Faculty Council, University of North Carolina at Chapel Hill, 1992 - 2001. (Agenda Committee, 1994-5).

Co-chair, Taskforce on Environmental Health Sciences, UNC Schools of Medicine and Public Health, 1993 - 1996.

Member, Steering Committee, Carolina Federation of Environmental Programs. 1994 - 1996.

Member, Faculty Advisory Committee, Carolina Environmental Program, 1997 – 1999; 2002 - to date. [Member of Subcommittee on Ecology and Human Health].

Chair, Subcommittee to Review the Proposal for Development of a UNC Center for Health Ethics, Policy and Law, 1997.

Member, Faculty Assembly (representing UNC-Chapel Hill), University of North Carolina, 1999 - 2002.

Member, Chancellor’s Advisory Committee, UNC-CH, 2001 - 2004.

Member, UNC Internal Review Committee for the Blavatnik National Awards for Young

Scientists, 2015.

**Teaching and Training:**

NIH HL07106, Training Grant in Pulmonary Medicine, P.I. 1975 – 1995, Co-I 1995-date.

**Current Grant and Contract Support**

Health Effects Institute (#4902-RFA) 10-1/11-3-5 “Multicenter Ozone Study in Elderly

Subjects (MOSES)” P.A. Bromberg, M.D., P.I. $20,797 direct cost/year: (01/01/2015 – 06/30/2017). Percent effort: 10%.

**Past Support**

HEI (RFA 10-1 Phase 1) “Acute Effects of 03 on Coagulation and Vascular Function”.  P.A.

Bromberg, M.D., P.I. $230,000 direct cost/year: Role: Co-PI. (07/01/2011-12/31/15). Percent effort: 25%.

US Environmental Protection Agency Cooperative Agreement 83346301"Health effects of exposure to air pollutants in humans." (David B. Peden, MD, Project Manager). Funding period (7-1-2007 to 1-31-2015). Renewal anticipated 1 January 2015 for 7 years. No salary support [See “Introductory Statement”].

NHLBI. T32 Training Grant (Pulmonary), PI (1975-1995).

US Environmental Protection Agency CR83346301 "Human Health effects of environmental pollutants" (David B. Peden, MD, Project Manager.; Direct costs of entire project $1.2 million/year: Percent effort: 41% (7/01/2007 - 1/31/2015).  (Renewal for R82952201) Role: Co-Investigator

P50 HL084934 – NIH/NHLBI “SCCOR in Host Factors in Chronic Lung Disease”, R. C. Boucher, M.D, P.I., 09/15/06 – 07/31/11.  Annual direct costs:  $2,027,271.  Role: Co-Investigator Project IV; (10% effort).

National Institutes of Health-NIAID (1U19AI077437-01) “Immunobiology of Acute Environmental Asthma”, D. B. Peden, P.I. $1,030,220/year direct costs for project (proposed budget period 03/01/2008-02/28/2013), Role: Co-PI. (5% effort).

**PUBLICATIONS:** Peer-Reviewed Articles:

1. Weissmann B, **Bromberg PA**,Gutman AB Chromatographic investigation of purines in normal human urine. Proc. Soc. Exp. Biol. Med. 87:257-260, 1954.
2. Weissmann B., **Bromberg PA**,Gutman A.B. Identification of N2-methylguanine (2-methylamino-6-hydroxy-purine) as a normal constituent of human urine. Nature 176:1217-1218, 1955.
3. **Bromberg** **PA**,Gutman AB, Weissmann B. The purine bases of human urine. I. Separation and identification. J. Biol. Chem., 224:407-422, 1957.
4. **Bromberg** **PA**, Gutman AB, Weissmann B. The purine bases of human urine. II. Semiquantitative estimation and isotope incorporation. J. Biol. Chem. 224:423-434, 1957.
5. Robin ED, Travis DM, **Bromberg PA**, Forkner CE Jr., Tyler JM. Ammonia excretion by mammalian lung. Science 129:270-271, 1959.
6. Robin ED, **Bromberg PA**. Claude Bernard’s milieu interieur extended: Intracellular acid-base relationships. (Editorial) Amer. J. Med. 27:689-692, 1959.
7. **Bromberg PA**, Robin ED, Forkner CE, Jr. The existence of ammonia in blood in vivo with observations on the significance of the NH4-NH3 system. J. Clin. Invest. 39:332-341, 1960.
8. Robin ED, Forkner CE, Jr., **Bromberg PA**, Croteau J, Travis DM. Alveolar gas exchange in clinical pulmonary embolism. N. Eng. J. Med. 262:283-287, 1960.
9. Robin ED, **Bromberg PA**, Forkner CE, Jr., Croteau JR. Extracellular-intracellular acid-base relationships using ammonia-ammonium buffer pair. J. Appl. Physiol. 15:527-532, 1960.
10. Robin ED, **Bromberg PA**,Wilson RJ. Intracellular acid-base relations and intracellular buffers. Ann. N.Y. Acad. Sci. 92:539-546, 1961.
11. **Bromberg PA**, Theodore J, Robin ED, Jensen WN. Anion and hydrogen ion distribution in human blood. J. Lab. and Clin. Med. 66:464-475, 1965.
12. Jensen WN, **Bromberg PA**,Bessis M. Microincision of sickled erythrocytes by a laser beam. Science 155:704-707, 1967.
13. **Bromberg PA**,Jensen WN. Arterial oxygen unsaturation in sickle cell disease. Amer. Rev. Resp. Dis. 96:400-407, 1967.
14. **Bromberg PA**, Jensen WN. Blood oxygen dissociation curves in sickle cell disease. J. Lab. Clin. Med. 70:480-488, 1967.
15. Gilcher RO, **Bromberg PA**, Finn FM, Jensen WN. Hemoglobin JOxford: Effects of hemoglobin and erythrocyte function. Blood 32:260-270, 1968.
16. Robin ED, **Bromberg PA**,Tushan FS. The sensor of acid-base changes in chronic hypercapnia. New Eng. J. Med. 280:163-164, 1969.
17. Robin ED, **Bromberg PA**, Cross CE. Some aspects of the evolution of vertebrate acid-base regulation. Yale J. Biol. and Med. 41:448-467, 1969.
18. Thompson ME, **Bromberg** **PA**, Amenta JS. Acid mucopolysaccharide determination. A useful adjunct for the diagnosis of malignant mesothelioma with effusion. Amer. J. Clin. Path. 52(3):335-339, 1969.
19. Tushan FS, **Bromberg** **PA**, Shively JG, Robin ED. Intracellular pH and electrolyte metabolism in chronic stable hypercapnia. Arch. Int. Med. 125:967-974, 1970.
20. **Bromberg** **PA.** Cellular cyanosis and the shifting sigmoid: The blood oxygen dissociation curve. (Editorial) Am. J. Med. Sci. 260:1-10, 1970.
21. **Bromberg** **PA**, Padilla F, Guy JT, Balcerzak SP Effect of a new hemoglobin (Hb Little Rock) on the physiology of oxygen delivery. J Lab Clin Med. 78(5):837-8, 1971.
22. **Bromberg** **PA**, Padilla F, Guy JT, Balcerzak SP Effect of hemoglobin Little Rock on the physiology of oxygen delivery. Chest 61(2): Suppl: 14S, 1972.
23. **Bromberg** **PA**, Alben JO, Bare GH, Balcerzak SP, Jones RT, Brimhall B, Padilla F. High oxygen affinity variant of haemoglobin Little Rock with unique properties.  
    Nature-New Biology. 243(127):177-9, 1973.
24. Padilla F, **Bromberg** **PA**, Jensen WN. The sickle-unsickle cycle: A cause of cell fragmentation leading to permanently deformed cells. Blood 41:653-660, 1973.
25. Kataria YP, LoBuglio AF, Sagone A, **Bromberg** **PA**. In vitro observations on sarcoid lymphocytes and their correlation with cutaneous energy and clinical severity of disease. Am. Rev. Resp. Dis., 108:767-776, 1973.
26. Bare GH, Alben JO, **Bromberg** **PA**, Jones RT, Brimhall B, Padilla F. Hemoglobin Little Rock (143 (H21) His→Gln): Effects of an amino acid substitution at the 2, 3 diphosphoglycerate binding site. J. Biol. Chem. 249:773-779, 1974.
27. **Bromberg PA.** Pulmonary aspects of sickle cell disease. Arch. Int. Med. 133:652-657, 1974.
28. Guy JT, **Bromberg** **PA**, Metz EN, Ringle R, Balcerzak SP. Oxygen delivery following transfusion of stored blood: I. Normal rats. J. Appl. Physiol. 37:60-63, 1974.
29. Mondzelewski JP, Guy JT, **Bromberg** **PA**, Metz EN, Balcerzak SP. Oxygen delivery following transfusion of stored blood: II. Acidotic rats. J. Appl. Physiol. 37:64-66, 1974.
30. Masys DR, **Bromberg** **PA**, Balcerzak SP. Red cells shrink during sickling. Blood 44:885-889, 1974.
31. Alben JO, Bare GH, **Bromberg** **PA**. Sulfhydryl groups in hemoglobin: A new molecular probe at the **α**1ß1 interface observed by Fourier transform infrared (FTIR) spectroscopy. Nature 252:736-737, 1974.
32. Brownlee NR, Long LC, Balcerzak SP, **Bromberg** **PA**, Mills RL, Cornwell DG. Relationship between erythrocyte lipid content and cell volume in normal subjects and in sickle cell disease. Physiol. Chem. and Physics 6:479-484, 1974.
33. Bare GH, Alben JO, **Bromberg** **PA**. Sulfhydryl groups in hemoglobin: A new molecular probe at the **α**1ß1 interface studied by Fourier transform infrared (FTIR) spectroscopy. Biochemistry 14:1578-1583, 1975.
34. Wagner SM, Bishop J, Flanigan PW, **Bromberg** **PA**, Balcerzak SP. Enhancement of filterability of sickle cells with cyanate: An effect independent of O2 saturation. J. Lab. Clin. Med. 85:445-450, 1975.
35. Balcerzak SP, **Bromberg** **PA.** Secondary polycythemia. Semin Hematol. 12(4):353-82, 1975.
36. Kataria YP, LoBuglio AF, Helentjaris T, **Bromberg** **PA**. Phytohemagglutinin (PHA) skin test in patients with sarcoidosis. Am. Rev. Resp. Dis. 112:575-578, 1975.
37. Bare GH, **Bromberg** **PA**, Alben JO. Altered C-terminal salt bridges in hemoglobin York cause high oxygen affinity. Nature 259:155-156, 1976.
38. Kataria YP, LoBuglio AF, **Bromberg** **PA**. Sarcoidosis lymphocytes: Spontaneous transformation and release of macrophage migration inhibition activity. Am. Rev. Resp. Dis. 113:315-323, 1976.
39. Balcerzak SP, Melaragno A, Flanigan PW, **Bromberg** **PA**. Impaired tissue oxygenation in cyanate-treated animals. J. Pharmacol. Exp. Therap. 197:229-234, 1976.
40. Kataria YP, LoBuglio AF, **Bromberg** **PA**, Hurtubise PE. Sarcoid lymphocytes: B- and T-cell quantitation. Ann N Y Acad Sci. 278:69-79, 1976.
41. Pimmel RL, Sunderland RA, Robinson DJ, Williams HB, Hamlin RL, **Bromberg** **PA**. Instrumentation for measuring respiratory impedance by forced oscillations. IEEE Trans. Biomed. Eng. BME-24:89-93, 1977.
42. Tsai MJ, Pimmel RL, Stiff EJ, **Bromberg** **PA**, Hamlin RL. Respiratory parameter estimation using forced oscillatory impedance data. J. Appl. Physiol. 43:322-330, 1977.
43. Christakis J, Bare GH, Balcerzak SP, Alben JO, **Bromberg** **PA**. Mechanisms of inhibition of hemoglobin S polymerization by cyanate. J. Lab. Clin. Med. 89:992-1001, 1977.
44. Tsai MJ, Pimmel RL, L McGhee RB, **Bromberg PA**. An evaluation of recovery of ventilation-perfusion ratios from inert gas data. Comp. Biomed. Res. 10:101-112, 1977.
45. Pimmel RL, Tsai MJ, **Bromberg PA**. Estimating VA/Q distributions from inert gas data with an enforced smoothing algorithm. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 43:1106-1110, 1977.
46. Pimmel RL, Tsai MJ. Winter DC, **Bromberg PA**. Estimating central and peripheral respiratory resistance. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 45:375-380, 1978.
47. Hayes DA, Pimmel RL, Fullton JM, **Bromberg PA**. Detection of respiratory mechanical dysfunction by forced random noise impedance parameters. Am. Rev. Resp. Dis. 120(5):1095-1100, 1979.
48. Tsai MJ, Pimmel RL, **Bromberg PA**. Enforced smoothing techniques for recovering VA/Q distribution from inert gas data. IEEE Trans. Biomed. Eng. 26:140-147, 1979.
49. Haddad AG, Pimmel RL, Scaperoth DD, **Bromberg PA**. Forced oscillatory respiratory parameters following papain exposure. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 46:61-66, 1979.
50. Boucher RC, **Bromberg PA**, Gatzy JT. Airway transepithelial electric potential in vivo: Species and regional differences. J. Appl. Physiol. 48:169-176, 1980.
51. Pimmel RL, Winter DC, **Bromberg PA**. Vagal effects on respiratory impedance and derived parameters in dogs. IEEE Trans. Biomed. Eng. 27:146-149, 1980.
52. Donohue JF, Scott RJ, Walker DH, **Bromberg PA**. Phycomycosis: A cause of bronchial obstruction. Southern Med. J. 73:734-6, 1980.
53. **Bromberg PA**, Lewis BF. Monitoring oxygen therapy. Am Rev Respir Dis. 122(5 Pt 2):55-9, 1980.
54. **Bromberg PA**, Menzel DB. Proceedings of the Symposium on Experimental Models for Pulmonary Research. Summary and future research needs. Environ Health Perspect. 35:199-202, 1980.
55. Pimmel RL, Winter DC, **Bromberg PA**. Forced oscillatory parameters of the canine respiratory system with altered vagal tone. IEEE Trans. Biomed. Eng. BME- 27(3):146-9, 1980.
56. Boucher RC, Stutts MJ, **Bromberg PA**, Gatzy JT. Regional differences in canine airway surface liquid composition. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 50:613-620, 1981.
57. Pimmel RL, Fullton JM, Ginsberg JF, Hazucha MJ, Haak ED, McDonnell WF, **Bromberg PA**. Correlation of airway resistance with forced random noise resistance parameters. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 51:33-39, 1981.
58. Fouke JM, Pimmel RL, **Bromberg PA**. Direct dynamic measurements of airway diameter. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 51:767-771, 1981.
59. Pimmel RL, Friedman M, Murray GF, Wilcox BR, **Bromberg PA**. Forced oscillatory resistance and compliance parameters following pneumonectomy in beagle dogs. Respiration 41:17-24, 1981.
60. Stutts MJ, Boucher RC, **Bromberg PA**, Gatzy JT. Effects of ammonium and nitrate salts on ion transport across the excised canine trachea. Toxicology and Applied Pharmacology 60:91-105, 1981.
61. Solic JJ, Hazucha MJ, **Bromberg PA**. The acute effects of 0.2 ppm ozone in patients with chronic obstructive lung disease. Am. Rev. Resp. Dis. 125:664-669, 1982.
62. Eyles JG, Pimmel RL, Fullton JM, **Bromberg PA**. Parameter estimates in a five-element respiratory mechanical model. IEEE Trans. Biomed. Eng. BME-29:460-463, 1982.
63. **Bromberg, P.A.**, M.J. Hazucha. Is “adaptation” to ozone protective? (Editorial). Am. Rev. Resp. Dis. 125:489-490, 1982.
64. Knowles MR, Buntin WH, **Bromberg PA**, Gatzy JT, Boucher RC. Measurements of transepithelial electric potential differences in the trachea and bronchi of human subjects in vivo. Am Rev Respir Dis. 126(1):108-12, 1982.
65. Hazucha MJ, Ginsberg JF, McDonnell WF, Haak ED, Pimmel RL, House DE, **Bromberg PA**. “Changes in bronchial reactivity of asthmatics and normals following exposure to 0.1 ppm NO2”. In, Air Pollution by Nitrogen Oxides, Vol. 21, Eds. T.I. Schneider and R. Grant. Elsevier Publ. Co., Amsterdam, pp. 387-400, 1983.
66. Hazucha MJ, Ginsberg JF, McDonnell WF, Haak ED, Pimmel RL, Salaam SA, House DE, **Bromberg PA**. Effects of 0.1 ppm nitrogen dioxide on airways of normal and asthmatic subjects. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 54:730-739, 1983.
67. Kehrl HR, Hazucha MJ, Solic JJ, **Bromberg PA**. “The acute effects of 0.2 and 0.3 ppm ozone in persons with chronic obstructive lung disease (COLD)”. In, Biomedical Effects of Ozone and Related Photochemical Oxidants. Eds., S.D. Lee, M.A. Mehlman and M.G. Mustafa. Princeton: Princeton Scientific Publishers, Inc., Chapter 17, pp. 213-225, 1983.
68. Friedman M, Gallo JM, Nichols HP, **Bromberg PA**. Changes in inert gas rebreathing parameters after ozone exposure in dogs. Am. Rev. Resp. Dis. 128:851-856, 1983.
69. Jarnigan F, Davis JD, **Bromberg PA**, Gatzy JT, Boucher RC. Bioelectric properties and ion transport of excised rabbit trachea. J. Appl. Physiol. 55:1884-1892, 1983.
70. Friedman M, Wilkins SA, Jr., Rothfeld AF **Bromberg PA**. Effect of ventilation and perfusion imbalance on inert gas rebreathing variables. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol. 56:364-369, 1984.
71. Fullton JM, Drake AF, Fischer ND, **Bromberg PA**. Frequency dependence of effective nasal resistance. Ann. Otol. Rhinol. Laryngol. 93:140-145, 1984.
72. Kehrl HR, Hazucha MJ, Solic JJ, **Bromberg PA**. Responses of persons with chronic obstructive lung disease after exposure to 0.3 ppm ozone. Am. Rev. Resp. Dis. 131:719-724, 1985.
73. Sheps D, Adams K, Vincent L, Goldstein G, O’Neil J, Horstman D, Koch G, **Bromberg PA**. Lack of effect of 4% carboxyhemoglobin concentration on cardiovascular function in patients with ischemic heart disease. Archives Environ. Health 42:108-116, 1987.
74. Mechanic GL, Farb RM, Henmi M, Ranga V, **Bromberg PA**, Yamauchi M. Structural cross-linking of lung connective tissue collagen in the blotchy mouse. Exp. Lung Res. 12:109-117, 1987.
75. Stutts MJ, **Bromberg PA**. Effects of ozone on airway epithelial permeability and ion transport. Toxicology Letters 35:315-319, 1987.
76. Weinberg PB, **Bromberg PA**, Askin FB. "Recurrence" of a plasma cell granuloma 11 years after initial resection. South Med J. 80(4):519-21, 1987.
77. Kehrl HR, Vincent LM, Kowalsky RJ, Horstman DH, O’Neil JJ, McCartney WH, **Bromberg PA**. Ozone exposure increases respiratory epithelial permeability in man. Am. Rev. Resp. Dis. 135:1124-1128, 1987.
78. Adams KF, Koch G, Chatterjee B, Goldstein GM, O’Neil JJ, **Bromberg PA**, Sheps DS, McAllister S, Price CJ, Bissette J. Acute elevation of blood carboxyhemoglobin to 6% impairs exercise performance and aggravates symptoms in patients with ischemic heart disease. J. Am. Coll. Cardiol. 12:900-909, 1988.
79. Hazucha MJ, Bates DV, **Bromberg PA**. Mechanism of action of ozone on the human lung. J. Appl. Physiol., 67:1535-1541, 1989.
80. Koren HS, Devlin RB, Graham DE, Mann R, McGee MP, Horstman DH, Kozumbo WJ, Becker S, House DE, McDonnell WF, **Bromberg PA**. Ozone-induced inflammation in the lower airways of human subjects. Am. Rev. Resp. Dis. 139:407-415, 1989.
81. Sheps DS, Herbst MC, Hinderliter AL, Adams KF, Ekelund LG, O’Neil JJ, Goldstein GM, **Bromberg PA**, Dalton JL, Ballenger MN, Davis SM, Koch GG. Production of arrhythmias by elevated carboxyhemoglobin in patients with coronary artery disease. Annals Int. Med. 113:343-351, 1990.
82. Sheps DS, Herbst MC, Hinderliter AL, Adams KF, Ekelund LG, O’Neil JJ, Goldstein GM, **P.A. Bromberg PA**, Ballenger MN, Davis SM, Koch G. Effects of 4 percent and 6 percent carboxyhemoglobin on arrhythmia production in patients with coronary artery disease. Research Report No. 41, Health Effects Institute, Cambridge, MA, 1991.
83. **Bromberg PA**, Ranga V, Stutts MJ. Effects of ozone on airways epithelial permeability and ion transport. Res Rep Health Eff Inst. (48):1-22; discussion 23-32, 1991.
84. McDonnell WF, Muller KE, **Bromberg PA**, Shy CM. Predictors of individual differences in acute response to ozone exposure. Amer. Rev. Respir. Dis. 147:818-825, 1993.
85. Koren HS, Becker S, **Bromberg PA**, Devlin RB. “Time- and dose-dependent cellular and biochemical changes in response to ozone exposure”. In, Advances in Controlled Clinical Inhalation Studies, U. Mohr, Editor-in-Chief. Eds., D.V. Bates, H. Fabel, and M.J. Utell. Springer-Verlag, Berlin. pp. 169-183, 1993.
86. Tepper JS, Costa DL, Fitzgerald S, Doerfler DL, **Bromberg PA**. Role of tachykinins in ozone-induced acute lung injury in guinea pigs. J. Appl. Physiol. 75:1404-1411, 1993.
87. Benignus VA, Hazucha MJ, Smith MV, **Bromberg PA**. Prediction of carboxyhemoglobin formation due to transient exposure to carbon monoxide. J. Applied Physiol. 76:1739-1745, 1994.
88. Smith MV, Hazucha MJ, Benignus VA, **Bromberg PA**. Effect of regional circulation patterns on observed COHb levels. J. Appl. Physiol*.* 77:1659-1665, 1994.
89. Hazucha MJ, Folinsbee LJ, Seal E, **Bromberg PA**. Lung function response of healthy subjects following sequential exposures to NO2 and O3. Amer. J. Respir. and Critical Care Medicine. 150:642-647, 1994.
90. Koren HS, **Bromberg PA.** Respiratory responses of asthmatics to ozone. International Archives of Allergy and Immunology. 107:236-238, 1995.
91. Gerrity TR, Biscardi F, Strong A, Garlington AR, Brown JS, **Bromberg PA**. Bronchoscopic determination of ozone uptake in humans. J. Appl. Physiol. 79:852-860, 1995.
92. Koren HS, **Bromberg PA**. Is ozone a risk factor in environmental asthma? Allergo J. 4:215-218, 1995.
93. Shy CM, Degnan D, Fox DL, Mukerjee S, Hazucha MJ, Boehlecke BA, Briggs P, Devlin R, Wallace D, Stevens RK, **Bromberg PA**. Respiratory effects of waste incinerators: An air quality and epidemiological study of six communities. Env. Health Persp. 103:714-724, 1995.
94. **Bromberg PA**, Koren HS**.** Ozone-induced human respiratory dysfunction and disease. Toxicology Letters, 82-83:307-316, 1995.
95. Bascom R, **Bromberg PA**, Costa D, Devlin R, Dockery D, Frampton M, Lambert W, Samet J, Speizer F, Utell M. Health effects of outdoor air pollution: State-of-the-Art. Amer. J. Respir. and Critical Care Medicine. Part I--153:3-50, 1996 and Part II--153:477-498, 1996.
96. Hazucha MJ, Madden M, Pape G, Becker S, Devlin RB, Koren HS, Kehrl H, **Bromberg PA**. Effects of cyclo-oxygenase inhibition on ozone-induced respiratory inflammation and lung function changes. Europ. J. Appl. Physiol. Occup. Med. 73:17-27, 1996.
97. Samet JM, Reed W, Ghio AJ, Devlin RB, Carter JD, Dailey LA, **Bromberg PA**, Madden MC. Induction of prostaglandin H synthase 2 in human airway epithelial cells exposed to residual oil fly ash. Toxicol. Appl. Pharmacol. 141:159-168, 1996.
98. Samet JM, Stonehuerner J, Reed W, Devlin RB, Dailey LA, Kennedy TP, **Bromberg PA**, Ghio AJ. Disruption of protein tyrosine phosphate homeostasis in bronchial epithelial cells exposed to oil fly ash. Am. J. Physiol. 272 (Lung Cell. Mol. Physiol. 16):L426-L432, 1997.
99. Peden, D.B., L. Dailey, I. Wortman, M. Madden, **P.A. Bromberg**. Epithelial cell-conditioned media inhibits degranulation of the RBL-2H3 rat mast cell line. Am. J. Physiol. 272 (Lung Cell. Molec. Physiol. 16):L1181-L1188, 1997.
100. Ghio AJ., Bassett M, Chall AN, Levin DG, **Bromberg PA**. Bronchoscopy in healthy volunteers. J Bronchology 5:185-194, 1998.
101. Kodavanti UP, Costa DL, **Bromberg PA**. Rodent models of cardiopulmonary diseases: Their potential applicability in studies of air pollutant susceptibility. Environmental Health Perspectives. 106, Suppl. 1:111-130, 1998.
102. Lay JC, Bennett WD, Kim CS, Devlin RB, **Bromberg PA**.Retention and intracellular distribution of instilled iron oxide particles in human alveolar macrophages. Am. J. Respir. Cell. Molec. Biol., 18:687-695, 1998.
103. Passannante AN, Hazucha MJ, **Bromberg PA**, Seal E, Folinsbee L, Koch G. Nociceptive mechanisms modulate ozone-induced human lung function decrements. J. Appl Physiol. 85:1863-1870, 1998.
104. Samet JM, Graves LM, Quay J, Dailey LA, Devlin RB, Ghio AJ, Wu W, **Bromberg PA**,Reed W. Activation of MAP kinases in human bronchial epithelial cells exposed to metals. Am J Physiol Lung Cell Mol Physiol, 275:L551-L558, 1998.
105. Lay JC, Bennett WD, Ghio AJ, **Bromberg PA,** Costa DL, Kim CS, Koren HS, Devlin RB. Cellular and biochemical response of the human lung following intrapulmonary instillation of insoluble ferric oxide particles. Am. J. Respir. Cell Molec. Biol., 20:631-642, 1999.
106. Noone PG, Bali D, Carson JL, Sannuti A, Gipson CL, Ostrowski LE, **Bromberg PA**, Boucher RC, Knowles MR. Discordant organ laterality in monozygotic twins with primary ciliary dyskinesia. Am. J. Med. Genet. 82:155-160, 1999.
107. Peden DB, Tucker K, Murphy P, Newlin-Clapp L, Boehlecke B, Hazucha M, **Bromberg PA**, Reed W. Eosinophil influx to the nasal airway after local, low-level LPS challenge in humans. J Allergy Clin Immunology 104:388-94, 1999.
108. Alexis N,Eldridge M, Reed W, **Bromberg PA**, Peden D. CD14-Dependent airway PMN response to inhaled LPS: Role of Atopy. J Allergy Clin Immunology 107:31-5, 2001.
109. Samet JM, Hatch GE, Horstman D, Steck SE, Arab L,**Bromberg PA**, Levine M, Devlin RB. Effect of antioxidant supplementation on ozone-induced lung injury in human subjects. Am. J. Respir. Crit. Care Med., 164:819-825, 2001.
110. Johnson TA, Devlin RB, Ghio AJ, Huang Y-C T, Costa DL, Engle CL, **Bromberg PA**, Cascio WE. Cardiopulmonary effects of nebulized residual oil fly ash in anesthetized pigs. In INIS Monograph Series-Crucial Issues in Inhalation Research – Mechanistic, Clinical and Epidemiologic. U. Heinrich and U. Mohr, Eds, Fraunhofer IRB Verlag, Stuttgart, Germany, pgs. 199-212, 2002*.*
111. Riediker M, Williams R, Devlin R, Griggs T, **Bromberg PA**. Exposure to particulate matter, volatile organic compounds, and other air pollutants inside patrol cars. Environ. Sci. Technol. 37:2084-2093, 2003.
112. Hazucha MJ, L.Folinsbee LJ, **Bromberg PA**. Distribution and reproducibility of spirometric response to ozone by gender and age. J. Appl. Physiol 85:1917-1925, 2003.
113. Boehlecke B, Hazucha M, Peden D, Jacobs R, Alexis N, Reist R, **Bromberg PA**. Low-dose endotoxin enhances bronchial responsiveness to inhaled allergen in atopic asthmatics. J. Allergy Clin. Immunol, 112:1241-3, 2003.
114. Wu W, Samet JM, Silbajoris R., Dailey L, Sheppard D, **Bromberg PA**, Graves L. Heparin-binding EGF cleavage mediates zinc-induced EGF receptor phosphorylation. Am J Respir Cell Molec Biol. 30:540-7, 2004.
115. Riediker M, Cascio W, Griggs T, Herbst M, **Bromberg PA**, Neas L, Williams R, Devlin R. Particulate matter exposure in cars is associated with cardiovascular effects in healthy young men. Am. J. Resp.Crit. Care Med. 169:934-40, 2004.
116. Alexis NE, Becker S, **Bromberg PA**, Devlin RB, Peden DB. Circulating CD11b expression correlates with the neutrophil response and airway mCD14 expression is enhanced following ozone exposure in humans. Clin.Immunol 111:126-31, 2004.
117. Riediker M, Devlin RB,Griggs TR, Herbst MC,**Bromberg PA**, Williams RW, Cascio WE. Cardiovascular effects in patrol officers are associated with fine particulate matter from brake wear and engine emissions. Particle and Fibre Toxicology 1:2, 2004.
118. Riediker M, M. Herbst, R. Devlin, T. Griggs, **P. Bromberg**, W. Cascio. Effect of the September 11, 2001 Terrorist attack on a state highway patrol trooper’s heart rate variability. Ann Noninvasive Electrocardiol. 10: 83-85, 2005.
119. Alexis, N., J.C. Lay, M. Almond, **P.A. Bromberg**, D. Patel, D.B. Peden. Acute LPS inhalation in healthy volunteers induces dendritic cell maturation *in vivo.* Journal of Allergy and Clinical Immunology, 115:345-350, 2005.
120. Wu W, Silbajoris R, Zhang W, Whang WE, Graves LM, **Bromberg PA**, Samet JM. **p38 and EGF receptor kinase-mediated activation of the phosphatidylinositol 3-kinase/Akt pathway is required for Zn2+-induced cyclooxygenase-2 expression**. Am J Physiol: Lung Cell Molec Physiol. 289: L883-889, 2005.
121. Selgrade MK, Lemanske TG, Gilmour I, Neas LM, Ward M, Henneberger PK, Weissman DN, Hoppin JA, Dietert RR, Sly PD, Geller AM, Enright PL, Backus GS, **Bromberg PA**, Germolec F, Yeatts KB. Induction of asthma and the environment: What we know and need to know. Environmental Health Perspectives. 114:615-619, 2006.
122. Tal T, Graves LM, Silbajoris R, **Bromberg PA**, Wu W, Samet JM. Inhibition of protein tyrosine phosphatase activity mediates epidermal growth factor receptor signaling in human airway epithelial cells exposed to Zn2+. Toxicology and Applied Pharmacology. 214:16-23*,* 2006.
123. Kim Y-M, Reed W Wu , **Bromberg PA**, Graves LM, Samet JM. Zn2+-induced IL-8 expression involves AP-1, JNK, and ERK activities in human airway epithelial cells. Am J Physiol Lung Cell Mol Physiol. 290:1028-1035, 2006.
124. Yeatts K, Sly P, Shore S, Weiss S, Martinez F, Geller A, **Bromberg PA**, Enright P, Koren H, Weissman D, Selgrade M. A brief targeted review of susceptibility factors, environmental exposures, asthma incidence, and recommendations for future asthma incidence research. Environ Health Perspect. 114:634-640, 2006.
125. Lay JC, Alexis NE, Kleeberger RR, Roubey RAS, Harris BD, **Bromberg PA**, Hazucha MJ, Devlin RB, Peden DB. Ozone enhances markers of innate immunity and antigen presentation on airway monocytes in healthy individuals. J. Allergy Clin Immunol. 120:719-22, 2007.
126. Kim Y-M, Cao D, Reed W, Wu W, Jaspers I, Tal T, **Bromberg PA**, Graves LM, Samet J. Zn2+-induced NF-kappaB-dependent transcriptional activity involves site-specific p65/RelA phosphorylation. Cell Signal. 19:538-546, 2007.
127. Cao D, Tal TL, Graves LM, Gilmour MI, Linak W, Reed W, **Bromberg PA**, Samet JM. Diesel exhaust particulate (DEP)-induced activation of Stat3 requires activities of EGFR and Src in airway epithelial cells. Am J Physiol Lung Cell Mol Physiol, 292:422-429, 2007.
128. Cao D, **Bromberg PA**, Samet JM. COX2 expression Induced by diesel particles involves chromatin modification and degradation of HDAC1. Am J Respir Cell Mol Biol. 37:232-9, 2007.
129. Bennett WD, Hazucha MJ, Folinsbee LJ, **Bromberg PA**, Kissling GE, SJ London. Acute Pulmonary Function Response to Ozone in Young Adults as a Function of Body Mass Index. Inhalation Toxicology 19:1147-1154, 2007.
130. Wu W, Alexis NE, Chen X., **Bromberg PA**, Peden DB**.** Involvement of **c-Jun N-terminal kinase** and NFκB in LPS-induced CD40 expression on human monocytic cells. Toxicology Appl. Pharm. 228:135-143, 2008.
131. Wu W., Silbajoris R., Cao D., **Bromberg PA**, Zhang Q, Peden DB, Samet J.M. Regulation of Cyclooxygenase-2 expression by cAMP response element and mRNA stability in zinc-exposed human airway epithelial cells. Toxicol Appl Pharmacol 231:260-266, 2008.
132. Tal TL, **Bromberg PA**, Kim YM, Samet JM. [Epidermal growth factor receptor activation by diesel particles is mediated by tyrosine phosphatase inhibition.](http://www.ncbi.nlm.nih.gov/pubmed/18926838?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum) Toxicol. Appl. Pharmacol 233:382-8, 2008.
133. Wu W, Alexis NE, **Bromberg PA**, Jaspers I, Peden DB. Mechanisms of LPS-induced CD40 expression in human peripheral blood monocytes. Biochem Biophys Res Commun. 379:573-577, 2009.
134. Zhou H, Alexis N.E., Donohue J., LaForce C, **Bromberg P.A.**, Peden D.B. Influence of C-159T SNP of CD14 gene promoter on lung function in smokers with chronic bronchitis. Respiratory Medicine 103:1358-65, 2009.
135. Samet JM, Rappold A, Graff D, Cascio WE, Berntsen JH, Huang YC, Herbst M, Bassett M, Montilla T, Hazucha MJ, **Bromberg PA**, Devlin RB. [Concentrated Ambient Ultrafine Particle Exposure Induces Cardiac Changes in Young Healthy Volunteers.](http://www.ncbi.nlm.nih.gov/pubmed/19234105?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum) Am J Respir Crit Care Med. 179:1034-42, 2009.
136. Silbajoris R, Huang J, Cheng W, Dailey L, Tal T, Jaspers I, Ghio A, **Bromberg P**, Samet J. Nanodiamond particles induce IL-8 expression through a transcript stabilization mechanism in human airway epithelial cells. Nanotoxicology 3:152-160, 2009.
137. Alexis N, Zhou H., Lay J, Harris B, Hernandez M, Lu T-S, **Bromberg P**, Diaz-Sanchez D, Devlin R, Kleeberger S, Peden D. The Glutathione-S-Transferase Mu 1 null genotype modulates ozone-induced airway inflammation in humans. J Allergy Clin Immunol. 124(6):1222-1228, 2009.
138. Goralski JL, **Bromberg PA**, Haithcock B. Intrapleural hemorrhage after administration of tPA: a case report and review of the literature. Therapeutic Advances in Respiratory Disease. 3:295-300, 2009.
139. Cao D, **Bromberg PA**, Samet JM. Diesel particle-induced transcription expression of p21 involves activation of EGFR, SRC and STAT3. American Journal of Respiratory Cell and Molecular Biology 42:88-95, 2010.
140. Tal TL, Simmons S, Silbajoris R, Dailey L, Cho SH, Ramabhadran R, Linak W, Reed W, **Bromberg PA**, Samet JM. [Differential transcriptional regulation of IL-8 expression by human airway epithelial cells exposed to diesel exhaust particles.](http://www.ncbi.nlm.nih.gov/pubmed/19914270?itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVDocSum&ordinalpos=1) Toxicol Appl Pharmacol. 243:46-54, 2010.
141. Hernandez ML, Harris B, Lay JC, **Bromberg PA**, Diaz-Sanchez D, Devlin RB, Kleeberger SR, Alexis NE, Peden DB. Comparative Airway Inflammatory Response of Normal Volunteers to Ozone and Endotoxin Challenge. Inhalation Toxicology 22:648-56, 2010.
142. Wu W, Samet JM, Peden DB, **Bromberg PA**. Phosphorylation of p65 is required for zinc oxide-induced interleukin-8 expression in human airway epithelial cells. Environmental Health Perspectives 118:982-7, 2010.
143. Cheng WY, Tong H, Miller EW, Chang CJ, Remington J, Zucker RM, **Bromberg PA**, Samet JM, Hofer TP. An integrated imaging approach to the study of oxidative stress generation by mitochondrial dysfunction in living cells. Environmental Health Perspectives 118:902-8, 2010.
144. Alexis N, Lay J, Hazucha M, Harris B, Hernandez M, **Bromberg P**, Kehrl H, Diaz-Sanchez D, Kim, Devlin R, Peden D. Low level ozone exposure induces airways inflammation and modifies cell surface phenotypes in healthy humans. Inhalation Toxicology, 22:593-600, 2010.
145. Hernandez ML, Lay JC, Harris BD, Esther Jr. CR, Brickey J, **Bromberg PA**, Diaz-Sanchez D, Devlin RB, Kleeberger SR, Alexis NE, Peden DB. Atopic asthmatics but not atopics without asthma have enhanced inflammatory response to ozone. Journal of Allergy Clinical Immunology, 126:537-44, 2010.
146. Gibbs-Flournoy E, **Bromberg PA**, Hofer T, Samet J, Zucker R. Darkfield-Confocal Microscopy detection of nanoscale particle internalization by human lung cells. Particle and Fibre Toxicology 8:2, 2011.
147. Dillon MA, Harris B, Hernandez ML, Zou B, Reed W, **Bromberg PA**, Devlin RB, Diaz-Sanchez D, Kleeberger S, Zhou H, Lay JC, Alexis NE, Peden DB. [Enhancement of systemic and sputum granulocyte response to inhaled endotoxin in people with the GSTM1 null genotype.](http://www.ncbi.nlm.nih.gov/pubmed/21441173) Occup Environ Med. 68(10):783-5, 2011.
148. Silbajoris R, Osornio-Vargas AR, Simmons SO, Reed W, **Bromberg PA**, Dailey LA, Samet JM. [Ambient Particulate Matter Induces IL-8 Expression through an Alternative NF-κB Mechanism in Human Airway Epithelial Cells.](http://www.ncbi.nlm.nih.gov/pubmed/21665565) Environ Health Perspect. 119(10):1379-83, 2011.
149. Cheng WY, Currier, J., **Bromberg PA**, Silbajoris R, Simmons SO, Samet, JM. Linking Oxidative Events to Inflammatory and Adaptive Gene Expression Induced by Exposure to an Organic PM Component (1, 2-naphthoquinone). Environ Health Perspect, 120(2):267-74, 2012.
150. Gibbs-Flournoy EA, Simmons SO, **Bromberg PA**, Dick TP, Samet JM. [Monitoring Intracellular Redox Changes in Ozone-Exposed Airway Epithelial Cells.](http://www.ncbi.nlm.nih.gov/pubmed/23249900) Environmental Health Perspectives, 121(3):312-317, 2013.
151. Carson JL, Brighton L, Collier A, **Bromberg PA**. Correlative ultrastructural investigations of airway epithelium following experimental exposure to defined air pollutants and lifestyle exposure. Inhalation Toxicology 25(3): 134-140, 2013.
152. Wu W, **Bromberg PA**, Samet, JM. Zinc Ions as Effectors of Environmental Oxidative Lung Injury. Free Radical Biology and Medicine. 65:57-69, 2013.
153. Hazucha MJ, **Bromberg PA**, Lay JC, Bennett W, Zeman K, Alexis NE, Kehrl H, Rappold A, Cascio WE, Devlin RB. [Pulmonary responses in current smokers and ex-smokers following a two hour exposure at rest to clean air and fine ambient air particles.](http://www.ncbi.nlm.nih.gov/pubmed/24245863) Particle and Fibre Toxicology. 10(1):58. doi: 10.1186/1743-8977-10-58., 2013.
154. Ghio AJ, Tong H, Soukup J, Dailey LA, Cheng W-Y, Samet JM, Kesic MJ, **Bromberg PA**, Turi JL, Upadyay D, Budinger GRS, Mutlu GM. Sequestration of mitochondrial iron by silica particle initiates a biological effect. American Journal of Physiology: Lung 305: L712-L724, 2013.
155. Wages P, Silbajoris R. Speen A, Brighton L, Henriquez A, Tong H, **Bromberg PA**, Simmons SO, Samet, JM. Role of H2O2 in the oxidative effects of zinc exposure in human airway epithelial cells. Redox Biology, 3:47-55, 2014.
156. Tong H, Rappold AG, Caughey M, Hinderliter AL, Bassett M, Montilla T, Case M, Berntsen JH, **Bromberg PA**, Cascio WE, Diaz-Sanchez D, Devlin RB, Samet JM. [Dietary Supplementation with Olive Oil or Fish Oil and Vascular Effects of Concentrated Ambient Particulate Matter Exposure in Human Volunteers.](http://www.ncbi.nlm.nih.gov/pubmed/25933197) Environ Health Perspect 123(11):1173-9, 2015.
157. Silbajoris R, Linak W, Shenderova O, Winterrowd C, Chang H-C, Zweier JL, Kota A, Dailey LA, **Bromberg PA**, Samet, JM. Detonational nanodiamond toxicity in human airway epithelial cells is modulated by air oxidation. Diamond & Related Materials 58:16-23, 2015.
158. Wages P, Lavrich K, Zhang Z, Cheng Wan-Yun, Corteselli E, Gold A,

**Bromberg PA**, Simmons S, Samet J. Protein Sulfenylation: A Novel Readout of Environmental Oxidant Stress. Chemical Research in Toxicology 28:2411-2418, 2015.

1. Bennett WD, Ivins S, Alexis NE, Wu J, **Bromberg PA**, Brar SS, Travlos G, London SJ. Effect of Obesity on Acute Ozone-Induced Changes in Airway Function, Reactivity and Inflammation in Adult Females. PLoS One. 2016 Aug 11;11(8):e0160030. doi: 10.1371/journal.pone.0160030. eCollection 2016.
2. **Bromberg PA**. Mechanisms of the Acute Effects of Ozone Inhalation in Humans. Biochim Biophys Acta. 2016 Dec;1860(12):2771-81. doi: 10.1016/j.bbagen.2016.07.015. Epub 2016 Jul 21. Review.
3. Lavrich K, Wages P, Simmons J, Corteselli E, Gibbs-Flournoy E, **Bromberg P**, Samet J. Investigating Mitochondrial Dysfunction in Human Lung Cells Exposed to Redox-Active PM Components. Toxicology and Applied Pharmacology 342:99-107, 2018.
4. [Frampton](https://www.healtheffects.org/author/mark-w-frampton) **MW,** [Balmes](https://www.healtheffects.org/author/john-r-balmes) **JR,** [**Bromberg**](https://www.healtheffects.org/author/philip-bromberg) **PA,** [Stark](https://www.healtheffects.org/author/paul-stark) **P, Arjomandi** [M,](https://www.healtheffects.org/author/mehrdad-arjomandi)  [Hazucha](https://www.healtheffects.org/author/milan-j-hazucha) **MJ, Rich** [DQ,](https://www.healtheffects.org/author/david-q-rich) [Hollenbeck-Pringle](https://www.healtheffects.org/author/danielle-hollenbeck-pringle) **D,** [Dagincourt](https://www.healtheffects.org/author/nicholas-dagincourt) **N,** [Alexis](https://www.healtheffects.org/author/neil-alexis) **NE,** [Ganz](https://www.healtheffects.org/author/peter-ganz) **P,** [Zareba](https://www.healtheffects.org/author/wojciech-zareba) W**,** [Costantini](https://www.healtheffects.org/about/staff/maria-g-costantini-0) **MG.** HEI Research Report 192, Multicenter Ozone Study in oldEr Subjects (MOSES): Part 1. Effects of Exposure to Low Concentrations of Ozone on Respiratory and Cardiovascular Outcomes. June 2017.
5. Rich DQ, Balmes JR, Frampton MW, Zareba W, Stark P, Arjomandi M, Hazucha MJ, Costantini M, Ganz P, Hollenbeck-Pringle D, Dagincourt N, **Bromberg PA**. Cardiovascular Function and Ozone Exposure: The Multicenter Ozone Study in Older Subjects (MOSES). Environ Int. 2018 Jun 29;119:193-202. doi: 10.1016/j.envint.2018.06.014. [Epub ahead of print]
6. Arjomandi M, Balmes JR, Frampton MW, **Bromberg P**, Stark P, Alexis NE, Rich DQ, Costantini M, Hollenbeck-Pringle D, Dagincourt N, Hazucha MJ. [Respiratory Responses to Ozone Exposure: The Multicenter Ozone Study in oldEr Subjects (MOSES).](https://www.ncbi.nlm.nih.gov/pubmed/29232153) Am J Respir Crit Care Med. 2018 May 15;197(10):1319-1327. doi: 10.1164/rccm.201708-1613OC.
7. Lavrich KS, Speen AM, Ghio AJ, **Bromberg PA**, Samet JM, Alexis NE. [Macrophages from The Upper and Lower Human Respiratory Tract Are Metabolically Distinct.](https://www.ncbi.nlm.nih.gov/pubmed/30091382) Am J Physiol Lung Cell Mol Physiol. 2018 Aug 9. doi: 10.1152/ajplung.00208.2018. [Epub ahead of print]
8. Rich DQ, Frampton MW, Balmes JR, Bromberg PA, Arjomandi M, Hazucha MJ, Thurston SW, Alexis NE, Ganz P, Zareba W, Koutrakis P, Thevenet-Morrison K. The Multicenter Ozone Study in oldEr Subjects (MOSES) Part II: Impacts of personal and ambient concentrations of ozone and other pollutants on cardiovascular and pulmonary function. Health Effects Institute 2018 (In review).
9. Samet J, Corteselli EM, Gibbs-Flournoy EA, Simmons SO, **Bromberg PA**, Gold A, James M Samet, PhD, MPH Long Chain Lipid Hydroperoxides Increase the Glutathione Redox Potential Through Glutathione Peroxidase 4. Biochimica Biophysica Acta 2019 (In Press).

Chapters:

1. **Bromberg, P.A.,** Robin, E.D. “Abnormalities of lung function in tuberculosis”. Advances in Tuberculosis Research (S. Karger, Basel) 12:1-27, 1963.

2. Robin, E.D., **Bromberg P.A.** “Pulmonary insufficiency”. In, Respiratory Therapy. Peter Safar, Chapter 1, pp. 1-12, 1965.

3. **Bromberg, P.A.**, Robin, E.D. “Clinical disorders of acid-base metabolism”. In, Scientific Clinician, Vol. 1, Unit 3, pp. 121-159, 1966.

4. **Bromberg PA**, et al. “Hemoglobin and its abnormalities”. In, Hematology*.* C. Eds. Mengel, E. Frei and R. Nachman. Yearbook Publishers, 1971. Chapter 8, pp. 222-286.

5. Balcerzak SP, Guy JT Metz EN, **Bromberg PA**. “Studies on the ability of stored blood to transport oxygen in vivo”. In, Hemoglobin and Red Cell Structure and Function. Ed. G.J. Brewer. New York: Plenum, 1972. Vol. 28.

6. Balcerzak SP, **Bromberg PA**. “Secondary polycythemia”. Seminars in Hematology. 12:353-382, 1975.

7. Scott RJ, **Bromberg PA**. “Acute respiratory failure”. In, Current Therapy. Ed. Howard F. Conn. Philadelphia: W.B. Saunders Company, Section 2, pp. 98-107, 1977.

8. **Bromberg PA**,Balcerzak SP. “Blood oxygen transport in humans”. In, Extrapulmonary Manifestations of Respiratory Disease. Editor, E.D. Robin. Vol. 8 of Lung Biology in Health and Disease. General Editor, C. J. Lenfant. Marcel Dekker, Inc., N.Y. Chapter 1, pp. 13-46, 1978.

9. Rothfeld AF, **Bromberg PA**. “Pneumothorax: Diagnosis and management”. Hosp. Med. 14:66-81, 1978.

10. **Bromberg PA**, Menzel DB. “Summary and future research needs”. Proceedings of the symposium on Experimental Models for Pulmonary Research, 1979. Environmental Health Perspectives 35:199-202, 1980.

11. Boucher RC, **Bromberg PA**,Gatzy JT. “Airway mucosal permeability”. In, Airway Reactivity. Ed. F. Hargreaves. Academic Press, Hamilton, Ontario, Canada: pp. 40-48, 1980.

12. **Bromberg PA**, Lewis BF. “Monitoring oxygen therapy”. Am. Rev. Resp. Dis. 122:55-59, November, 1980, (Part 2).

13. **Bromberg PA**. “Introduction”. In, Fundamentals of Extrapolation Modeling of Inhaled Toxicants. Eds., F.J. Miller and D.B. Menzel. Hemisphere Publishing Corporation; J. of Toxicology and Environ. Health 13: 297(117)-299(119), 1984.

14. **Bromberg PA**. “Clinical research insights into the pathogenesis of chronic lung disease”. In, Inhalation Toxicology of Air Pollution. Eds., Robert Frank, John J. O’Neil, Mark J. Utell, Jack D. Hackney, John Van Ryzin, Paul E. Brubaker. ASTM Special Technical Publication 872:100-105, 1985.

15. **Bromberg PA**,Ross DW. “The lung in hematologic disease”. In, Textbook of Respiratory Medicine. Eds., J.F. Murray, and J.A. Nadel W.B. Saunders Company, Philadelphia, pp. 1906-1920, Chapter 90, 1988.

16. **Bromberg PA.** “Automotive emissions and asthma”. In, Air Pollution, the Automobile, and Public Health. Eds., A. Watson, D. Kennedy and R. Bates. National Academy Press, Washington, D.C., pp. 465-498, 1988.

17. Berkowitz L, **Bromberg PA**. “Pulmonary manifestations of hematologic diseases”. In, Pulmonary Manifestations of Systemic Disease, Ed. J.F. Murray. Volume 59 of Lung Biology in Health and Disease. Executive Editor: C. Lenfant, M.D., Marcel Dekker Inc., N.Y., 1992.

18. **Bromberg PA**. “New approaches to evaluating the pulmonary effects of controlled inhalation exposures in human volunteers”. In, Advances in Controlled Clinical Inhalation Studies, U. Mohr, Editor-in-Chief. Eds., D.V. Bates, H. Fabel, and M.J. Utell. Springer-Verlag, Berlin. pp. 235-246, 1993.

19. **Bromberg PA**,Berkowitz L. “The Lung and Hematologic Disease”, In, Textbook of Respiratory Medicine, 2nd edition. Eds., J.F. Murray and J.A. Nadel. W.B. Saunders Company, Orlando, Florida. Chapter 90. pp. 2435-2462, 1994.

20. **Bromberg PA**. "Risk assessment of the effects of ozone exposure on respiratory health: Dealing with variability in human responsiveness to controlled exposures." In, Human Variability in Response to Chemical Exposures: Measures, Modeling, and Risk Assessment. Eds. D. Newmann and C.A. Kimmel, St. Lucie Press/CRC Press, Boca Raton, FL. pp. 139-163, 1998.

21. **Bromberg PA**,Rivera, M.P. "Hematological Disorders." In, Diffuse Lung Disorders. Ed. M. Sperber, Springer-Verlag, Berlin. pp. 263-294, 1998.

22. **Bromberg PA “**Structure-Function Relations.” In, Air Pollution and Health*,* Ed. S.T. Holgate, Academic Press, London, Eng. pp. 269-294, 1999.

23. Weil J, Crawford S, **Bromberg PA**. “Pulmonary Complications of Hematologic Disease”. Textbook of Respiratory Medicine, 3rd ed. Eds, Murray JF and Nadel JA. Chapter 86. WB Saunders Co, Philadelphia. pp. 2285-2308, 2000.

24. **Bromberg PA**, Chinet T. “La pollution atmosphérique: Facteur de risque respiratoire et sa prevention” (“Air pollution: Risk factor for respiratory disease and its prevention”). In, Pneumologie pour le praticien (Respiratory medicine for the practitioner). Ed., GJ Huchon, Paris, pp. 28-32, 2001.

1. Cascio WE, **Bromberg PA**, Hazucha, MJ, Devlin RB. "Cardiovascular Effects of Air Pollutants". In Netter’s Cardiology, 1st ed. Eds. Runge, M and Ohman, M., Icon Learning Systems, Teterboro, New Jersey. Chapter 65, pp. 627-631, 2004.
2. Ghio AJ, **Bromberg PA**. “Environmental Lung Disease”. In Netter’s Internal Medicine, 2nd ed. Eds. Runge, M and Greganti, MA, page 150-154, 2008.
3. **Bromberg PA**, Koren H, Peden DB, Shea K, Weber D. Chapter 3. “Public Health Effects of Climate Change”. In, The UNC-CH 2009 Climate Change Committee Report edited by L. Band and D. Salvesen. Presented to the UNC Board of Trustees, November 2008.