

ANDREW MARC CHURCH, M.D., Ph.D.

Curriculum Vitae

Date of birth: June 17th, 1946

Education:

Columbia University New York City, New York	A.B. (with Honors)	1967
University of Chicago Chicago, Illinois	Ph.D. (Pathology)	1971
University of Chicago Chicago, Illinois	M.D.	1973

Post-Doctoral Training

University of Chicago Hospitals & Clinics	
Internship (Pathology)	1974-1975
Residency (Pathology)	1975-1977
American Cancer Society Clinical Fellow	1975-1976
Stanford University, Stanford, California Post-Doctoral Fellow in Surgical and Pulmonary Pathology.	1977-1978

Professional Appointments

Instructor, Department of Pathology, University of Chicago	1976-1977
Assistant Professor of Pathology University of California	1978-1980
Associate Professor, Department of Pathology, University of British Columbia, Vancouver	1980-1986
Head, Department of Pathology, Department of Laboratory Medicine, University Hospital, UBC Site Vancouver, B.C.	1980-
Professor, Department of Pathology, University of British Columbia, Vancouver, B.C.	1986-
Head, Department of Laboratory Medicine, University Hospital	1989-

Membership in Professional Societies

Canadian Association of Pathologists
US-Canadian Association of Pathologists
American Thoracic Society
Fellow, American College of Chest Physicians
Canadian Society for Clinical Investigation
American Association of Pathologists
Pacific Northwest Society of Pathologists

Honors and Awards

Phi Beta Kappa	
Sheard-Sanford Award, American Society of Clinical Pathologists	1973
2nd Place, Hektoen Award Competition, The Chicago Pathological Society	1974

Board Certification

American Board of Pathology (Anatomic Pathology) 1977
Fellowship, Royal College of Physicians and Surgeons, 1984

Medical Licenses

Illinois
California
British Columbia

Public Service

Medical Research Council of Canada: Grants Committee-Respiratory Disease
External Reviewer, Medical Research Council of Canada
Canadian Mesothelioma Reference Panel
Canadian Lung Tumour Reference Panel
U.S. Mesothelioma Reference Panel
US-Canadian Mesothelioma Reference Panel
Pneumoconiosis Committee of the College of American Pathologists and the National Institutes of Occupational Safety and Health
Task Force on Nononcogenic El... Disease, Environmental Protection Agency, USA
Review panel, Biological Effects of Mount St. Helens Volcanic Ash study
Program Committee, Assembly on Environmental & Occupational Health, American Thoracic Society
Editorial Board, Modern Pathology
Editorial Board, American Review of Respiratory Disease
Editorial Board, Human Pathology

Publications

1. Andrew Churg and Ward R. Richter. Early changes in the exocrine pancreas of the dog and rat after ligation of the pancreatic duct: A light and electron microscopic study. *Amer J Path* 63:521-545, 1971.
2. Andrew Churg and Ward R. Richter. Histochemical distribution of carbonic anhydrase after ligation of the pancreatic duct. *Amer J Path* 68:23-30, 1972.
3. Andrew Churg. Carbonic anhydrase histochemistry-- Evidence for non-enzymatic reaction and artifact production. *Histochemie* 36:293-302, 1973.
4. Andrew Churg, Lourens J.D. Zaneveld and Gerhard F.B. Schumacher. Detergent treatment of human spermatozoa: Ultrastructural changes and release of midpiece enzymes. *Biology of Reproduction* 10:429-432, 1974.
5. Andrew Churg and Winston A. Anderson. Induction of endometrial peroxidase synthesis and secretion by estrogen and estrogen antagonists. *J Cell Biol* 62:449-459, 1974.
6. Martha L. Warnock and Andrew M. Churg. Association of asbestos and bronchogenic carcinoma in a population with low asbestos exposure. *Cancer* 35:1236-1242, 1975.
7. Andrew Churg and Martha L. Warnock. Pulmonary tumorlet. A form of peripheral carcinoid. *Cancer* 37:1469-1477, 1976.
8. Andrew Churg and Martha L. Warnock. So-called "Minute pulmonary chemodectoma." *Cancer* 37:1759-1769, 1976.
9. Frederick J. Stone and Andrew Churg. The ultrastructure of pulmonary hamartoma. *Cancer* 39:1064-1070, 1977.
10. Andrew Churg and Leonard B. Kahn. Myofibroblasts and related cells in malignant fibrous and fibro-histiocytic tumors. *Human Path* 8:205-218, 1977.
11. Andrew Churg. Large spindled-cell variant of peripheral bronchial carcinoid. *Arch Pathol* 101:216-218, 1977.
12. Andrew Churg, Naomi Sakoda and Martha L. Warnock. A simple method for preparing ferruginous bodies for electron microscopic examination. *Amer J Clin Path* 68:513-517, 1977.
13. A. Crockhard, J. Clark, M.L. Warnock, A.M. Churg and K. Hanlon. The significance of pulmonary changes associated with cerebral perfusion with hypoxic blood in monkeys. *Surgery* 82:588-598, 1977.
14. Andrew Churg and Martha L. Warnock. Analysis of the cores of ferruginous (asbestos) bodies from the general population. I. Patients with and without lung cancer. *Lab Invest* 37:280-286, 1977.
15. Andrew Churg and Martha L. Warnock. Correlation of quantitative counts and occupation in an urban population. *Arch Path Lab Med* 101:629-634, 1977.
16. Andrew Churg. Large cell undifferentiated carcinoma of the lung: Ultrastructural evidence of its relation to adeno and squamous cell carcinoma. *Human Pathol* 9:143-156, 1978.

17. Abid A. Shah, Andrew Churg, James A. Sbarbaro, J. Mark Sheppard and John Lambert. Malignant fibrous histiocytoma of the heart presenting as an atrial myxoma. *Cancer* 42:2466-2471, 1978.
18. Andrew Churg and Julius Ringus. Ultrastructural observations on the histogenesis of alveolar rhabdomyosarcoma. *Cancer* 41:1355-1361, 1978.
19. Andrew Churg, Martha Warnock, and Klaus G. Bensch. Mesothelioma arising after direct application of asbestos to a mesothelial surface. *Am Rev Respir Dis* 118:419-424, 1978.
20. Andrew Churg, Martha L. Warnock and Nina Green. Analysis of the cores of ferruginous (asbestos) bodies. II. True asbestos bodies and pseudoasbestos bodies. *Lab Invest* 40:31-38, 1979.
21. Jacob D. Bitran, Tom R. DeMeester, K. Rezai-Zadeh, L.H. Toledo-Pereyra, A. Churg and H.M. Golomb. Clinicopathologic correlations demonstrating the failure of ⁶⁷Gallium scanning in determining response to radio-therapy. *Chest* 73:356-359, 1978.
22. Stephen J. Rossiter, D. Craig Miller, Andrew M. Churg, Charles B. Carrington and James B.D. Mark. Open lung biopsy in the immunosuppressed patient: Is it really beneficial? *J Thoracic Cardiovasc Surg* 77:338-345, 1979.
23. Andrew Churg and Martha L. Warnock. Comparison of numbers of asbestos bodies in urban patients with lung and gastrointestinal carcinoma compared with matched controls. *Chest* 76:143-149, 1979.
24. Andrew Churg and Martha L. Warnock. Analysis of the cores of ferruginous (asbestos) bodies in the general population. III. Patients with environmental exposure. *Lab Invest* 40:622-626, 1979.
25. Andrew Churg, Charles B. Carrington and Raj Gupta. Necrotizing sarcoid granulomatosis. *Chest* 76:406-413, 1979.
26. Andrew Churg. Pulmonary aspiration of gastric contents. *Anesthesiology* 51:2-3, 1979 (editorial).
27. Martha L. Warnock, Michael Press and Andrew Churg. Further observations on cytoplasmic hyaline in the lung. *Human Pathol* 11:59-66, 1980.
28. Jeffrey Sklar, Andrew Churg and Klaus G. Bensch. Oncocytic carcinoid tumor of the lung. *Amer J Surgical Pathol* 4:287-292, 1980.
29. Martha L. Warnock and Andrew Churg. Asbestos bodies. *Chest* 77:129-130, 1980.(editorial)
30. Andrew Churg and Martha L. Warnock. Analysis of the cores of asbestos bodies from members of the general population: Patients with probable low level exposure to asbestos. *Amer Rev Respir Dis* 121:1223-1229, 1980.
31. Andrew Churg, William H. Johnston and Michael Stulberg. Small cell squamous and mixed small cell squamous-small cell anaplastic carcinoma of the lung. *Amer J Surgical Pathol* 4:255-263, 1980.
32. Andrew Churg, Wilbur Franklin, Kwok L. Chan, Elliot Kopp and Charles B. Carrington. Pulmonary hemorrhage and immune complex deposition in the lung in a patient with systemic lupus erythematosus. *Arch Pathol Lab Med*, 104:388-391, 1980.
33. D.C. Hohn, A.J. Meyers, S.T. Gherini, R.E. Markison, A.M. Churg. Production of acute pulmonary inflammation by leukocytes and activated complement. *Surgery* 88:48-58, 1980.

34. Fred S. Marcus, Michael A. Friedman, Peter W. Callen, John A. Harbour and Andrew Churg. Successful treatment of an ACTH producing gastric carcinoid APUD tumor. *Cancer* 46:1263-1269, 1980.
35. T. DeMeester, L.H. Toledo-Pereyra, A.M. Churg, H. MacMahon, H. Golomb and A. Kinnealey. Role of the transbronchial lung biopsy and open lung biopsy in immunosuppressed patients. *Chest* 77:647-650, 1980.
36. Andrew Churg. Reactions of the lung to silica, silicates and asbestos. In Topics in Environmental Pathology, edited by R.B. Hill and J.A. Terzian. Universities Associated for Research and Education in Pathology, Bethesda, 1980. pp. 64-79.
37. Andrew Churg and Martha L. Warnock. Asbestos fibres in the general population. *Amer Rev Respir Dis* 122:669-678, 1980.
38. M.R. Harrison, M.A. Bressack, A.M. Churg and A.A. de Lorimier. Correction of congenital diaphragmatic hernia in utero. II. Simulated correction permits fetal lung growth with survival at birth. *Surgery* 88:260-268, 1980.
39. Norio Azumi and Andrew Churg: Intravascular and sclerosing bronchiolo- alveolar tumor (IVSBAT). A form of vascular sarcoma. *Amer J Surg Path* 5: 587-596, 1981.
40. Andrew Churg and Martha L. Warnock. Asbestos and other ferruginous bodies: Their formation and clinical significance. *Amer J Pathol* 102: 447-456, 1981.
41. JP Wiener-Kronish, AM Solinger, ML Warnock, A Churg, N Ordóñez, JA Golden: Severe pulmonary involvement in mixed connective tissue disease. *Amer Rev Respir Dis* 124: 499-503, 1981.
42. Andrew Churg and Jeffrey Golden. Current problems in asbestos-related disease. In, Pathology Annual 1982 (part 2), edited by S.C. Sommers. New York, Appleton-Century-Crofts. Pages 33-66.
43. Andrew Churg. Fiber counting and analysis in the diagnosis of asbestos-related disease. *Human Pathol* 14: 381-392, 1982.
44. Emmel Golden, Martha Warnock, Lester Hulett, and Andrew Churg: Fly ash lung. A new pneumoconiosis? *Amer Rev Respir Dis* 125: 108-112, 1982.
45. Andrew Churg: Reactions of the lungs to silica, silicates, and asbestos. In, Environmental Pathology edited by R.B.Hill. New York, Alvin Liss Co, 1982. Pp. 201-228.
46. Craighead J, Abraham J, Churg A, Green F, Kleinerman J, Seemayer T, Vallayathan N, Weill H: Pathology standards for the diagnosis of asbestos-related diseases. *Arch Pathol Lab Med* 106: 541-597, 1982.
47. Andrew Churg: Asbestos related pleural plaques in a general autopsy population. *Amer J Pathol* 109: 79-96, 1982.
48. Andrew Churg, Jeffrey Golden, Suzanne Fligel, and James C Hogg: Bronchopulmonary dysplasia in the adult. *Amer Rev Respir Dis* 127: 117-120, 1983.
49. Andrew Churg: Nonasbestos pulmonary mineral fibers in the general population. *Environmental Res* 31:189-200, 1983.

50. Andrew Churg: A procedure for inflation of lung biopsies. *Am J Surg Pathol* 7: 69-72, 1983.
51. Andrew Churg: Asbestos fibre burden in the lungs of chrysotile miners with asbestos airways disease. *Amer Rev Respir Dis* 127: 470-473, 1983.
52. Andrew Churg and J.L. Wright: Small airways disease in persons with exposure to nonasbestos mineral dusts. *Human Pathol* 14: 688-693, 1983.
53. Andrew Churg: Current issues in the pathological and mineralogical evaluation of asbestos-related disease. *Chest* 84: 275-280, 1983.
54. Andrew Churg and J.L. Wright: Small airways disease and mineral dust exposure. In *Pathology Annual 1983* (part 2), edited by S.C. Sommers and P.P. Rosen. New York, Appleton-Century-Crofts. Pages 233-251.
55. Andrew Churg: Pulmonary angitis and granulomatosis revisited. *Human Pathol* 14: 868-883, 1983.
56. Andrew Churg and Patricia L. Wood: Observations on the distribution of asbestos fibers in human lung. *Environ Res* 31: 374-80, 1983.
57. Edmond Crouch and Andrew Churg: Progressive massive fibrosis secondary to intravenous drug abuse. Pathologic and mineralogic analysis. *Amer J Clin Pathol* 80: 520-526, 1983.
58. Lawrence T. Glickman, Linda M. Domanski, Tobi G. Maguire, Richard R. Dubielzig, Andrew Churg: Mesothelioma in pet dogs associated with exposure of their owners to asbestos. *Environ Res* 32: 305-313, 1983.
59. J.L. Wright and Andrew Churg: Morphology of airways disease in patients with asbestos exposure. *Human Pathol* 15: 68-74, 1984.
60. Ed Crouch and Andrew Churg: Ferruginous bodies and the histologic evaluation of mineral dust exposure. *Am J Surg Pathol* 8: 109-116, 1984.
61. Ed Crouch, Valerie White, Andrew Churg, Joanne Wright: Malakoplakia mimicking carcinoma metastatic to the lung. *Am J Surg Pathol* 8: 151-156, 1984.
62. Janet Holden and Andrew Churg: Immunohistochemical staining for keratin and carcinoembryonic antigen in the diagnosis of malignant mesothelioma. *Am J Surg Pathol* 8: 277-280, 1984.
63. Churg A, Harley RA: Long fibre asbestos in a chrysotile textile worker. *Lancet* 1: 845, 1984 (letter).
64. Andrew Churg and J.L. Wright: Pathologic changes in small airways induced by asbestos and nonasbestos mineral dusts. *Chest* 85 (Supp): 36S-37S, 1984.
65. Andrew Churg and Barry Wiggs: Fiber size and number in asbestos-induced mesothelioma. *Amer J Pathol* 115: 437-442, 1984.
66. Roberta Miller, Andrew Churg, Steven Lam: Pulmonary alveolar proteinosis and exposure to aluminum dust. *Amer Rev Respir Dis* 130: 312-315, 1984.
67. Brian Chiu, Andrew Churg, Anders Tengblad, Richard Pearce, WTE McCaughey: Qualitative and quantitative analysis of glycosaminoglycans in the diagnosis of malignant mesothelioma. *Cancer* 54: 2195-2199, 1984.

68. Andrew Churg, Lisa DiPaoli, Brigit Kempe, Bonnie Stevens: Lung asbestos content in chrysotile workers with mesothelioma. *Amer Rev Respir Dis* 130: 1042-1045, 1984.
69. Andrew Churg, J.L. Wright, Barry Wiggs, Peter Pare, Neil Lazar: Small airways disease and mineral dust exposure: Prevalence, structure, and function. *Amer Rev Respir Dis* 131: 139-143, 1985.
70. Andrew Churg: Malignant mesothelioma in British Columbia in 1982. *Cancer*, 55: 672-674, 1985.
71. Andrew Churg: Asbestos and Neoplasia. In: Carcinogens and Mutagens in the Environment. Vol IV: The Workplace, edited by H.F. Stich. Boca Raton, CPC Press, 1985. Pages 33-41.
72. Douglas Filipenko, Joanne L Wright, and Andrew Churg: Small airway changes after amosite asbestos exposure in the Guinea pig. *Amer J Pathol* 119: 273-279, 1985.
73. Andrew Churg: Lung cancer cell type and asbestos exposure. *JAMA* 253: 2984-2985, 1985.
74. Kus J, Bergin C, Miller R, Ongley R, Churg A, Enarson D: Lymphocyte subpopulations in allergic angitis and granulomatosis (Churg-Strauss syndrome). *Chest* 87: 826-827, 1985.
75. Ostrow D, Buskard N, Hill RS, Vicars L, Churg A: Bronchiolitis obliterans complicating bone marrow transplantation. *Chest* 87: 828-830, 1985.
76. William Sinclair, Joanne L Wright and Andrew Churg: Lymphangioleiomyomatosis presenting in a post-menopausal woman. *Thorax*, 40: 475-476, 1985.
77. Gylseth B, Churg A, Davis JMG, Johnson N, Morgan A, Mowe G, Rogers A, Roggli V. Analysis of asbestos fibers and asbestos bodies in human lung tissue samples. An international interlaboratory trial. *Scand J Work Environ Hlth* 11: 107-110, 1985.
78. Andrew Churg: Immunohistochemical staining for vimentin and keratin in malignant mesothelioma. *Amer J Surg Pathol* 9: 360-365, 1985.
79. Andrew Churg and Barry Wiggs: Mineral particles, mineral fibers, and lung cancer. *Environ Res* 37: 364-372, 1985.
80. Joanne L Wright and Andrew Churg: Severe diffuse small airways disease in long term chrysotile miners. *Br J Indust Med* 42: 556-559, 1985.
81. Douglas Webber, Victor Tron, Frederic B Askin and Andrew Churg: S-100 staining in the diagnosis of eosinophilic granuloma of lung. *Amer J Clin Pathol* 84: 447-453, 1985.
82. Janet Holden and Andrew Churg: Asbestos bodies and the diagnosis of asbestosis in chrysotile workers. *Environ Res* 1986; 39:232-236.
83. Andrew Churg: Non-neoplastic asbestos induced disease. *Mt. Sinai J Med* 1986; 53: 409-414.
84. Thomas V Colby and Andrew Churg: Patterns of pulmonary fibrosis. In: Pathology Annual, 1986. Volume 21, part 2. Edited by SC Sommer and PP Rosen. Pages 277-309.
85. Fergall Magee, Joanne L Wright, Michael Kay, Dwight Peretz and Andrew Churg: Pulmonary capillary hemangiomatosis. *Amer Rev Respir Dis* 134: 922-925, 1985.

86. Andrew Churg: Analysis of asbestos fibres from lung tissue: Research and diagnostic applications. *Sem Resp Med* 7: 234-243, 1986.
87. Andrew Churg and Barry Wiggs: Fiber size and number in users of processed chrysotile ore, chrysotile miners, and members of the general population. *Amer J Indust Med* 9: 143-157, 1986.
88. Deborah McFadden, Joanne L Wright, Barry Wiggs, Andrew Churg: Smoking inhibits asbestos clearance. *Amer Rev Respir Dis* 133: 372-374, 1986.
89. Deborah McFadden, Joanne L Wright, Barry Wiggs, Andrew Churg: Smoking increases the penetration of asbestos fibres into airway walls. *Amer J Pathol* 123: 95-99, 1986.
90. Fergall Magee, Joanne L Wright, Norman Chan, Lindsay Lawson, Andrew Churg: Malignant mesothelioma caused by childhood exposure to long-fiber low aspect ratio tremolite. *Amer J Indust Med* 1986; 9: 529-533.
91. Andrew Churg: Lung asbestos content in long-term residents of a chrysotile mining town. *Amer Rev Respir Dis* 1986; 134: 125-127.
92. Victor Tron, Fergall Magee, Joanne Wright, Thomas Colby, Andrew Churg: Pulmonary capillary hemangiomatosis. *Human Pathol* 1986; 17: 1144-1150.
93. Joanne Wright, Victor Tron, Barry Wiggs, Andrew Churg: Pathophysiologic correlations in asbestos-induced airflow obstruction in the guinea pig. *Expt Lung Res* 1986; 11: 307-317.
94. Victor Tron and Andrew Churg: Chronic necrotizing pulmonary aspergillosis mimicking bronchocentric granulomatosis. *Pathol Res Pract* 1986; 181: 621-624.
95. Churg A: Pathologic reactions to chrysotile and their mineralogic correlates. In, Biological Effects of Chrysotile, edited by JC Wagner. *Accomplishments Oncol* 1986; 1: 54-58.
96. Andrew Churg: Pathologist and pulmonologist: Ever the two shall meet? *Human Pathol* 1986; 17: 763-764 (editorial).
97. Ken Berean, Victor Tron, Andrew Churg, Philip Clement: Mammary fibroadenoma with multinucleated stromal giant cells. *Amer J Surg Pathol* 1986; 10: 823-827.
98. Janet Holden, Clarisse L Dolman, Andrew Churg: Immunohistochemistry of meningiomas including the angioblastic type. *J Neurol Exptl Neuropath* 1987; 46: 50-56.
99. Andrew Churg and Barry Wiggs: Types, numbers, and sizes of mineral particles in the lungs of urban male smokers. *Environ Res* 1987; 42: 121-129.
100. Andrew Churg: Tumors of the lung. In Pathology of the Lung, edited by W.M. Thurlbeck. New York, Thieme-Stratton, 1988, p 711-802.
101. Andrew Churg: Quantitative methods for analysis of disease induced by asbestos and other mineral particles using the transmission electron microscope. In, Microprobe Analysis in Medicine, edited by P Ingram, JD Shelburne, and VL Roggli. New York, Hemisphere Publishing Company, 1989. Pages 79-96.
102. Andrew Churg: Diseases of the pleura. In, Pathology of the Lung, edited by W.M. Thurlbeck. New York, Thieme-Stratton, 1988, p 769-802.

103. Andrew Churg: Pulmonary Disease in the Immunocompromised Host. In, Pathology of the Lung, edited by W.M. Thurlbeck. New York, Thieme-Stratton, 1988, p 246-262.
104. Andrew Churg: Lung biopsy: Handling and limitations. In, Pathology of the Lung, edited by W.M. Thurlbeck. New York, Thieme-Stratton, 1988, p 67-78.
105. Andrew Churg and Joanne L Wright: Mineral particles in the walls of small airways in long term chrysotile miners. In, Inhaled Particles VI, edited by J Dodgson et al. New York, Pergamon, 1988. Pages 173-180.
106. Victor Tron, Joanne L Wright, Andrew Churg: A comparison of immunohistochemical staining for carcinoembryonic antigens and milk fat globule protein in the separation of adenocarcinoma from malignant mesothelioma. Arch Pathol Lab Med 1987; 111: 291-293.
107. Victor Tron, Joanne L Wright, Nigel Harrison, Barry Wiggs, Andrew Churg: Cigarette smoke makes airway and early parenchymal asbestos-induced lung disease worse in the guinea pig. Amer Rev Respir Dis 1987; 136: 271-276.
108. Andrew Churg, Barry Wiggs: Accumulation of long asbestos fibers in the peripheral upper lobe in cases of mesothelioma in man. Amer J Indust Med 1987; 11: 563-570.
109. Blake Gilks and Andrew Churg: Aluminum induced fibrosis: Do fibers play a role? Amer Rev Respir Dis 1987; 136: 176-179.
110. Andrew Churg and Francis HY Green, editors. Pathology of Occupational Lung Diseases. New York; Igaku-Shoin Medical Publishers, 1988.
111. Andrew Churg, Victor Tron, Joanne L Wright: Effects of cigarette smoke on retention of asbestos fibers in various compartments of the guinea pig lung. Amer J Pathol 1987; 129: 385-393.
112. Andrew Churg and Joanne L Wright: Non-neoplastic lung disease. Modern Pathol 1988; 1: 64-87.
113. Andrew Churg and Lisa DePaoli: Clearance of chrysotile from human lung. Exptl Lung Res 1988; 14: 567-574.
114. Joanne Wright, Victor Tron, Barry Wiggs, Andrew Churg: Cigarette smoke potentiates asbestos-induced airflow abnormalities. Exptl Lung Res 1988; 14: 537-548.
115. Churg A, Wright J: Fiber content of lung in amphibole vs chrysotile induced mesothelioma: Implications for environmental exposure. In, Biological Effects of Mineral Fibers in the Nonoccupational Environment, edited by J. Bignon et al. Lyon, IARC, 1989. Pages 314-318.
116. Andrew Churg: Chrysotile, tremolite, and mesothelioma in man. Chest 1988; 93: 621-628.
117. Charles Lombard, Andrew Churg, Steven Wink: Postoperative airway occlusive disease following therapy for malignant neoplasms. Chest 1987; 92: 8.
118. Andrew Churg and Bonnie Stevens: Association of lung cancer and airway particle concentration. Environ Res 1988; 45: 58-63.
119. Blake Gilks, Czaba Hegedus, Hugh Freeman, Leonard Fratkin, Andrew Churg: Malignant peritoneal mesothelioma after remote abdominal radiation. Cancer 1988; 61: 2019-2021.

120. Blake Gilks, Joanne L Wright, Andrew Churg: Effects of cigarette smoke on tissue uptake and retention of iron oxide in the guinea pig. *Amer Rev Respir Dis* 1988; 137: 1382-1384.
121. Joanne L Wright, Nigel Harrison, Barry Wiggs, Andrew Churg: Quartz but not iron oxide causes airflow obstruction, emphysema, and small airway lesions in the rat. *Amer Rev Respir Dis* 1988; 138: 129-135.
122. Andrew Churg and Lisa DePaoli: Environmental pleural plaques in residents of a Quebec chrysotile mining town. *Chest* 1988; 94: 58-60.
123. Andrew Churg and Joanne L Wright: An animal model of co-exposure to cigarette smoke and mineral dusts. In Biological Interaction of Inhaled Mineral Fibers and Cigarette Smoke, edited by AP Wehner. Batelle Press, 1989. Pages 85-96.
124. Jane Hobson, Blake Gilks, Joanne Wright, Andrew Churg: Cigarette smoke directly enhances asbestos fiber penetration and asbestos induced epithelial proliferation in rat tracheal explants. *JNCI* 1988; 80: 518-521.
125. Visscher D, Churg A, Katzenstein A-L A: Significance of crystalline inclusions in lung granulomas. *Modern Pathol* 1988; 1: 415-419.
126. Churg A: Contributions of analytical microscopy to the understanding of asbestos-related disease. In Current Pulmonology, Volume 10, edited by D.H. Simmons. Chicago, Year Book Medical Publishers, 1989. Pages 73-88.
127. McElvaney G, Wilcox PG, Churg A, Fleetham JA: Pleuropulmonary disease during bromocryptine treatment of Parkinson disease. *Arch Int Med* 1988; 148: 2231-2240.
128. Churg A, Wright JL: Effects of cigarette smoke on uptake of asbestos and iron oxide in rat tracheal explants. In Effects of Mineral Dusts on Cells, edited by B. T. Mossman and R. Begin. Berlin, Springer-Verlag, 1989. Pages 1-6.
129. Churg J, Churg A: Primary and secondary vasculitis. *Modern Pathol* 1989; 2: 144-160.
130. Churg A, Wright JL, DePaoli L, Wiggs B: Mineralogic correlates of fibrosis in chrysotile miners and millers. *Amer Rev Respir Dis* 1989; 139: 891-896.
131. Churg A, Wright JL, Gilks B, DePaoli L: Rapid short term clearance of chrysotile compared to amosite asbestos in the guinea pig. *Amer Rev Respir Dis* 1989; 139: 885-890.
132. Churg A: The diagnosis of asbestosis. *Human Pathol* 1989; 20: 97-99 (editorial).
133. Churg A, Hobson J, Wright JL: A functional and morphologic comparison of silica and elastase induced airflow obstruction. *Exp Lung Res* 1989; 15: 813-822.
134. Churg A, Wiggs B: The distribution of amosite asbestos fibers in the lungs of workers with mesothelioma or carcinoma. *Exp Lung Res* 1989; 15: 771-783.
135. Churg A: The pathogenesis of asbestos-related disease in man: Studies by analytical electron microscopy. In Electron Microscopy of the Lung, edited by D. Schraufnager. Lung Biology in Health and Disease, Claude Lenfant, general editor. New York, Marcel Dekker 1990. Pages 491-516.

136. Churg A, Harrison K, Wright J: Scavengers of active oxygen species prevent cigarette smoke induced lung injury. *Amer J Pathol* 1989; 135: 599-603.

137. Churg A, Wright JL, Stevens B: Exogenous mineral particles in the human bronchial mucosa and lung parenchyma. I. Nonsmokers in the general population. *Expt Lung Res* 1990; 16: 169-175.
138. Churg A: Small airways disease associated with mineral dust exposure. *Sem Respir Med*, in press.
139. Churg A, Hobson J, Wright JL: Effects of cigarette smoke dose and time after smoke exposure on uptake of asbestos fibers by rat tracheal epithelial cells. *Amer J Resp Cell Molec Biol* 1990; 3: 265-269.
140. Churg A: The distribution of amosite asbestos in the periphery of the normal human lung. *Br J Indust Med* 1990; 47: 677-681.
141. Churg A: Mineral analysis of the lung parenchyma. In: The Lung: Scientific Foundations, edited by R. Crystal and J West. New York, Raven Press, 1991, Pages 1869-1884.
142. Jederlinic PJ, Abraham JL, Churg A, Himmelstein JS, Epler GR, Gaensler EA: Pulmonary fibrosis in aluminum workers: Investigation of 9 cases with pathology and microanalysis in 3 cases. *Amer Rev Respir Dis* 1990; 142: 1179-1184.
143. Hobson J, Wright JL, Churg A: Active oxygen species mediate asbestos fiber uptake by tracheal epithelial cells. *FASEB J* 1990; 4: 3135-3139.
144. Wright JL, Churg A: Cigarette smoke causes physiological and morphological changes of emphysema in the guinea pig. *Amer Rev Respir Dis* 1990; 142: 1422-1428.
145. Churg A, Wright J, Wiggs B, DePaoli L: Mineralogic parameters related to amosite asbestos induced fibrosis in man. *Amer Rev Respir Dis* 1990; 142: 1331-1336.
146. Churg A, Churg J (editors): Systemic Vasculitis. New York, Igaku-Shoin Medical Publishers, in press.
147. Wright JL, Wiggs B, Churg A: Pulmonary hypertension induced by amosite asbestos: A physiological and morphological study in the guinea pig. *Lung* 1991; 169: 31-42.
148. Weill H, Abraham J, Balmes J, Case B, Churg AM, Hughes J, Schenker M, Sebastien P: Health effects of tremolite. *Amer Rev Respir Dis* 1990; 142: 1453-1458.
149. Wiggs B, Churg A, Wright JL: The influence of weight upon pulmonary function in the adult guinea pig. *Respiration*, in press.
150. US-Canadian Mesothelioma Reference Panel: The diagnosis of diffuse malignant mesothelioma. Experience of a US/Canadian mesothelioma panel. *Modern Pathol*, in press.
151. Wright JL, Churg A: The effect of long term cigarette smoke exposure on pulmonary vascular structure in the guinea pig. *Expt Lung Res*, in press.
152. Rom WN, Churg A, Leapman R, Fiori C, Swyt C: Evaluation of alveolar macrophage particle burden in individuals occupationally exposed to inorganic dusts. *J Aerosol Med* 1990; 3 (Supp 1): S43-S56.
153. Churg A: Fiber toxicology in man: Findings from analysis of the asbestos fiber content of human lung. In: Fiber Toxicology, edited by D.B. Warheit. Academic Press, in press.

...containing particles as a marker of cigarette smoke exposure in human