

**Janie M. Fouke (10/04)**

**Office Address:**

University of Florida  
Office of the Provost  
235 Tigert Hall  
PO Box 113175  
Gainesville, FL 32611-3175  
Phone: [REDACTED]  
FAX: [REDACTED]  
E-mail: jfouke@aa.ufl.edu

**Personal Data:**

Birth Date: January 30, 1951  
Citizenship: U.S.A.

**Education:**

B.A., Biology (with Honors) St. Andrews College - 1973  
M.S., Biomedical Mathematics & Engineering University of North Carolina - 1980  
Ph.D., Biomedical Mathematics & Engineering University of North Carolina - 1982

**Professional Experience:**

2005-present	Provost & Senior Vice President for Academic Affairs Professor, Biomedical Engineering University of Florida
1999-2005	Dean, College of Engineering Professor, Electrical and Computer Engineering Michigan State University
1995-1999	Division Director, Bioengineering and Environmental Systems National Science Foundation
1990-1991	Research Associate Professor, Biomedical Engineering Boston University
1989-1995	Adjunct Associate Scientist Southwest Foundation for Biomedical Research
1982-1999	Associated Faculty, Electronics Design Center Case Western Reserve University
1981-1999	Assistant, Associate, Full Professor, Biomedical Engineering Case Western Reserve University
1975-1981	Research Assistant Division of Pulmonary Diseases University of North Carolina
1973-1975	Public School Teacher, Scotland County North Carolina

## **Professional Memberships**

Biomedical Engineering Society (BMES): Senior Member 1991  
Institute for Electrical and Electronics Engineers (IEEE): Fellow 2002  
American Institute of Medical and Biological Engineers: Fellow 1994  
American Association for the Advancement of Science (AAAS): Fellow 1991  
Sigma XI (Research Society of America)  
American Physiological Society (APS)

## **Honors**

Vardell Scholar 1969-1973  
Sigma Xi  
YWCA Cleveland Woman of Achievement Award 1982  
American Cancer Society Volunteer of the Year Award 1989  
NSF Visiting Professorship for Women 1989  
IEEE/EMBS Early Career Award 1990  
AAAS Fellow (Inducted in 1991)  
Martin Endowed Lectureship, Mount Olive College 1993  
AIMBE Fellow (Inducted in 1994)  
Russian Academy of Natural Sciences (Inducted in 1995)  
Mathematical Sciences Colloquium Lectureship, University of Kentucky 1997  
Frontiers in Engineering lectureship 1997  
St. Andrews College Distinguished Alumni Award 2000  
IEEE Third Millennium Award 2000  
Dexter Prize 2000  
IEEE Fellow 2002  
Outstanding Engineer Award (IEEE Southeastern Michigan) 2002  
ADVANCE Lectureship 2003

## **Original Reports:**

1. Fouke, J.M., R.L. Pimmel, and P.A. Bromberg. Direct dynamic measurements of airway diameter. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol.: 51:767-771, 1981.
2. Pimmel, R.L., T.K. Miller, III, J.M. Fouke, and J.G. Eyles. Time constant histograms from the forced expired volume signal. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol., 51:1581-1593, 1981.
3. Gottfried, S.B., K.P. Strohl, W. Van de Graaff, J.M. Fouke, and A.F. Dimarco. Effects of phrenic stimulation on upper airway resistance in anesthetized dogs. J. Appl. Physiol.: Respirat. Environ. Exercise Physiol., 55:419-426, 1983.
4. Strohl, K.P., and J.M. Fouke. Periodic breathing at altitude. Seminars in Respiratory Medicine 5:169-173, 1983.

5. Fouke, J.M. Flow measurements in the upper airway. Measurement and Control of Flow with Applications to Physiological Systems. U.S. Naval Post graduate school. Monterey, CA p. 51-54, 1983.
6. Strohl, K.P., and J.M. Fouke. Dilating forces on the upper airway of anesthetized dogs. J. Appl. Physiol. 58:452-458, 1985.
7. Miller, M.J., R.J. Martin, W.A. Carlo, J.M. Fouke, K.P. Strohl, and A.A. Fanaroff. Oral breathing in newborn infants. J. Pediatrics 107:465-469, 1985.
8. Strohl, K.P., S.B. Gottfried, W. Van de Graaff, R.E. Wood, and J.M. Fouke. Effects of sodium cyanide and nicotine on upper airway resistance in anesthetized dogs. Respiration Physiology 63:161-175, 1986.
9. Strohl, K.P., P.M. House, J.F. Holic, J.M. Fouke, and P.W. Cheung. Comparison of three transmittance oximeters. Medical Instrumentation 20:143-149, 1986.
10. Weisberger, S.A., W.A. Carlo, J.M. Fouke, R.L. Chatburn, T. Tillander, and R.J. Martin. Measurements of tidal volume during high frequency jet ventilation. Peds. Research 20:45-48, 1986.
11. Weisberger, S.A., W.A. Carlo, R.L. Chatburn, J.M. Fouke, and R.J. Martin. Effect of varying inspiratory and expiratory times during high frequency ventilation. J. Pediatrics 108:596-600, 1986.
12. Fouke, J.M., J.P. Teeter, and K.P. Strohl. Pressure-volume behavior of the upper airway. J. Appl. Physiol. 61:912-918, 1986.
13. Fouke, J.M., A.D. Wolin, E. van Lunteren, and K.P. Strohl. Demonstration that pharyngeal muscle activation can result in an airway dilating force. Acta. Biol. Med. Exp., 11:291-299, 1986.
14. Teeter, J.P., K.P. Strohl, and J.M. Fouke. Comparison of volume changes in the upper airway and thorax. J. Appl. Physiol. 62:284-290, 1987.
15. Fouke, J.M., and K.P. Strohl. Effect of position and lung volume on upper airway geometry. J. Appl. Physiol. 63:375-380, 1987.
16. Strohl, K.P., A.D. Wolin, E. van Lunteren, and J.M. Fouke. Assessment of muscle action on upper airway stability in anesthetized dogs. J. Laboratory Clinical Medicine 110:221-230, 1987.
17. Hafer, C.E., K.P. Strohl, and J.M. Fouke. Phasic changes in upper airway impedance. Resp. Physiol. 70:13-24, 1987.

18. Gilbert, I.A., J.M. Fouke, and E.R. McFadden, Jr. Heat and water flux in the intra-thoracic airways and exercise-induced asthma. J. Appl. Physiol. 63:1681-1691, 1987.
19. Fouke, J.M., R.A. deLemos, and E.R. McFadden, Jr. Airway response to short term exposure to ozone. Am. Rev. Resp. Dis. 137:326-330, 1988.
20. Brooks, L.J., P.J. Byard, R.C. Helms, J.M. Fouke, and K.P. Strohl. Relationship between lung volume and tracheal area as assessed by acoustic reflections. J. Appl. Physiol. 64:1050-1054, 1988.
21. Fouke, J.M., A.D. Wolin, K.G. Saunders, M.R. Neuman, and E.R. McFadden, Jr. Sensor for measuring surface fluid conductivity in vivo. IEEE Trans. Biomed. Eng. 35:877-881, 1988.
22. Gilbert, I.A., J.M. Fouke, and E.R. McFadden, Jr. Intra-airway thermodynamics during exercise and hyperventilation in asthmatics. J. Appl. Physiol. 64:2167-2174, 1988.
23. Fouke, J.M., and K.G. Saunders. Catheter-based sensing in the airways. S. of Photo-Optical Instr. Eng. 904:92-97, 1988.
24. Fouke, J.M., and R.A. Brasie. Modeling for complex frequency domain data. Transactions of the Society for Computer Simulations 5:193-207, 1988.
25. Fouke, J.M., A.D. Wolin, K.P. Strohl, and G.M. Galbraith. Elastic characteristics of the airway wall. J. Appl. Physiol. 66:962-967, 1989.
26. Fouke, J.M., and A.D. Wolin. Instrumentation for estimating pulmonary function in patients on positive end-expiratory pressure. Crit. Care Med. 17:265-268, 1989.
27. Brooks, L.J., P.J. Byard, J.M. Fouke, and K.P. Strohl. Reproducibility of measurement of upper airway area by acoustic reflection. J. Appl. Physiol. 66:2901-2905, 1989.
28. Wolin, A.D., K.P. Strohl, B.N. Acree, and J.M. Fouke. Responses to negative pressure surrounding the neck in anesthetized animals. J. Appl. Physiol. 68:154-160, 1990.
29. Fouke, J.M., S. Sugg, and A.D. Wolin. A model of muscular control of upper airway geometry. J. Biomechanics 23:639-646, 1990.
30. Tsai, C.L., G.M. Saidel, E.R. McFadden, Jr., and J.M. Fouke, Radial heat and water transport across the airway wall. J. Appl. Physiol. 69:222-231, 1990.

31. Fouke, J.M., R.A. deLemos, M.J. Dunn, and E.R. McFadden, Jr. Effects of ozone on cyclooxygenase metabolites in the baboon tracheobronchial tree. J. Appl. Physiol. 69:245-250, 1990.
32. Gilbert, I.A., J.M. Fouke, and E.R. McFadden, Jr. The effect of repetitive exercise on airway temperature. Am. Rev. Resp. Dis. 142:826-831, 1990.
33. Fouke, J.M., A.D. Wolin, H.F. Bowman, and E.R. McFadden, Jr. Effect of facial cooling on mucosal blood flow in the mouth in humans. Clinical Science 79:307-313, 1990.
34. Gerstmann, D.R., J.M. Fouke, D.C. Winter, A.F. Taylor, and R.A. deLemos. Proximal, tracheal, and alveolar pressures during HFOV in a normal rabbit model Ped. Research 28:367-373, 1990.
35. Teeter, J.P., G.M. Saidel, and J.M. Fouke. Contribution of large airway to the input impedance of the respiratory system. J. Appl. Physiol. 70:650-657, 1991.
36. Clary, A.L. and J.M. Fouke. Fast responding automated airway temperature probe Med. and Biol. Eng. and Computing 29:501-504, 1991.
37. Fouke, J.M., A.D. Wolin, and E.R. McFadden, Jr. Effects of ozone on lung mechanics and cyclooxygenase metabolites in dogs. Prostaglandins 42:343-353, 1991.
38. Fouke, J.M. and A.C. Jackson. Acoustic rhinometry: Effects of decongestants and posture on nasal patency. J. of Laboratory and Clinical Medicine 119:371-376, 1992.
39. Tsai, C.L. and J.M. Fouke. Noninvasive detection of water and blood content in soft tissue from the optical reflectance spectrum. S. of Photo-Optical Instr. Eng. 1888:479-486, 1993.
40. Gilbert, I.A., K.A. Lenner, J.A. Nelson, A.D. Wolin, and J.M. Fouke. Inhaled furosemide attenuates hyperpnea-induced obstruction and intra-airway thermal gradients. Journal of Applied Physiology 76:409-415, 1994.

### **Monographs, Reviews**

Editor for special volume of Annals of Biomedical Engineering (1986).

G. Longobardo, N.S. Cherniack, K.P. Strohl, and J.M. Fouke, "Mechanics and Control of the Respiratory System" in Bioengineering of the Lung, Churchill Livingstone, Inc., 1987.

L.G. Olsen J.M. Fouke, and K.P. Strohl, "A biomechanical view of upper airway function" in Respiratory Function and the Upper Airway, Marcel Dekker, Inc., 1988.

G.S. Longobardo, N.S. Cherniack, K.P. Strohl, and J.M. Fouke, "Respiratory Control and Mechanics" in Handbook of Bioengineering, R. Skalak and S. Chien (eds), McGraw-Hill, 1987.

Editor, Engineering Tomorrow: Today's Experts Envision the Next Century, IEEE Press, 2000 (Outstanding Academic Title by Choice, the journal for academic librarians, an honor awarded to 3% of the 25,000 titles submitted for review; the World Future Society called it one of the best and most important 70 books in the last five years; The Dexter Prize by The Society for the History of Technology, an award given annually for the single best book in the field published during the preceding three years)

### **Invited Editorials**

1. Fouke, J. M. and M. Intaglietta, "Biomedical Engineering" in Annals of Biomedical Engineering 14:95 (1986).
2. Fouke, J.M., "Mosaic of Biomedical Engineering" in Engineering Medicine and Biology 13:5 (1994).
3. Fouke, J.M., "Biomedical Engineering activities beyond North America" in Engineering in Medicine and Biology 13:165 (1994).
4. Fouke, J.M., "Technology and the cost of health care" in Engineering Medicine and Biology 13: 293 (1994).
5. Fouke, J.M., "Cost reduction in health care" in Engineering in Medicine and Biology 13: 445 (1994).
6. Fouke, J.M., "State of Affairs: IEEE/EMBS" in Engineering in Medicine and Biology 13:653 (1994).
7. Fouke, J.M., "State of Affairs: IEEE/EMBS Conference" in Engineering in Medicine and Biology 14:5 (1995).
8. Fouke, J.M., "Role of bioengineers in society" in Engineering in Medicine and Biology 14:109 (1995).
9. Fouke, J.M., "Structure of bioengineering organizations" in Engineering in Medicine and Biology 14:237 (1995).
10. Fouke, J.M., "Bioengineering in the federal context" in Engineering in Medicine and Biology 14:669 (1995).

## **Proprietary Reports**

1. "Test of the efficacy of bronchodilator RO 25-1553 in cynomolgus monkeys" SWRI Project #12-5885 (with D.C. Winter) May, 1994.
2. "NMR Breast measuring instrument: Second Clinical Study" SWRI 15-9610 (with R. Bransletter) July, 1991.
3. Research Stresses in Colleges and Universities" Prepared for CWRU President Agnar Pytte for the Government-University-Industry Research Roundtable, January 1995.

## **Abstracts/Presentations**

1. Fouke, J.M., R.L. Pimmel, and P.A. Bromberg. Transducer for dynamic tracheal caliber measurements. Proc. of 32nd Ann. Conf. on Eng. in Med. and Biol., p. 159, 1979. Presented at ACEMB annual meeting, October, 1979.
2. Fouke, J.M., R.L. Pimmel, and P.A. Bromberg. Recording rhythmical contractions in the dog trachea. Proc. of 33rd Ann. Conf. on Eng. in Med. and Biol., p. 89, 1980. Presented at ACEMB annual meeting, October, 1980.
3. Miller, T.K., J.G. Eyles, J.M. Fouke, and R.L. Pimmel. Time constant distribution of the forced vital capacity. Proc. of 33rd Ann. Conf. on Eng. in Med. and Biol., p. 77, 1980. Presented at ACEMB annual meeting, October, 1980.
4. Pimmel, R.L., T.K. Miller, J.G. Eyles, and J.M. Fouke. Forced expiratory time constant histogram. The Physiologist 23: 169, 1980. Presented at American Physiological Society fall meeting.
5. Fouke, J.M., and J.G. Horowitz. Contribution of trachea to respiratory impedance. Proc. of 35th Ann. Conf. on Eng. in Med. and Biol., p. 136, 1982. Presented at ACEMB annual meeting, October, 1982.
6. Strohl, K.P., S.B. Gottfried, W.B. Van de Graaff, and J.M. Fouke. Physical and pharmacologic manipulation of upper airway resistance in anesthetized dogs. Clin. Res. 30: 751A, 1982. Presented at American Federation for Clinical Research, November, 1982.
7. Strohl, K.P., J.M. Fouke, S.B. Gottfried, and R. Wood. Transbronchoscopic cinema of the upper airway in anesthetized dogs. Fed. Proc. 42: 1094, 1983. Presented at the Federation of American Societies of Experimental Biology Annual Meeting, April, 1983.
8. Fouke, J.M., and K.P. Strohl. Forced oscillatory impedance of the upper airway in anesthetized dogs. Fed. Proc. 42: 1010, 1983. Presented at the Federation of American Societies of Experimental Biology Annual Meeting, April, 1983.
9. Strohl, K.P., F.G. Mazza, C.E. Hafer, J.P. Teeter, and J.M. Fouke. Geometric and elastic properties of the upper airway in supine anesthetized dogs. Presented at the Prof. of International Union of Physiological Sciences XV: 307, July, 1983.
10. Fouke, J.M. Diaphragm stimulation: Current status. Proc. of 36th Ann. Conf. in Eng. in Med. and Biol. p. 91, 1983. Presented at the ACEMB annual meeting, September, 1983. Invited paper.

11. Hafer, C.E., K.P. Strohl, T.K. Miller, and J.M. Fouke. Phasic changes in upper airway impedance. Proc. of 36th Ann. Conf. on Eng. in Med. and Biol. p. 210, 1983. Presented at the ACEMB annual meeting, September, 1983.
12. Carlo, W.A., R.L. Chatburn, J.P. Teeter, and J.M. Fouke. Alveolar pressures during high-frequency jet ventilation (HFJV) in normal and surfactant deficient lungs. Pediatric Research, 18: 388 A, 1984. Presented at the Society for Pediatric Research annual meeting.
13. Deal, E.C., J.M. Fouke, S.G. Kelsen, and M. Norcia. Effects of somatic and visceral stimuli on tracheal tone. Abstract submitted to 1984 Aspen Lung Conference.
14. Chatburn, R.L., W.A. Carlo, J.M. Fouke, J.P. Teeter, and M.D. Lough. Transmission of airway pressure to alveoli during conventional and high frequency ventilation. Respiratory Care 28: 1336, 1983.
15. Brooks, L.J., R.C. Helms, and J.M. Fouke. Relationship between lung volume and central airway area as measured by acoustic reflection. Am. Rev. Resp. Dis. 129: A255, 1984. Presented at the annual meeting of the American Thoracic Society, May, 1984.
16. Miller, M.J., R.J. Martin, W.A. Carlo, J.M. Fouke, and K.P. Strohl. Oral ventilation occurs in term neonates during spontaneous breathing or nasal obstruction. Am. Rev. Resp. Dis. 129: A207, 1984. Presented at the annual meeting of the American Thoracic Society, May, 1984.
17. Fouke, J.M., W.A. Carlo, R.L. Chatburn, and J.P. Teeter. Detecting mechanical changes in surfactant deficient rabbits using forced oscillations. Fed. Proc. 43: 528, 1984. Presented at the Federation of American Societies for Experimental Biology annual meeting, April, 1984.
18. Strohl, K.P., J.M. Fouke, and J.P. Teeter. Dilating forces on the upper airway of anesthetized dogs. Fed. Proc. 43: 527, 1984. Presented at the Federation of American Societies for Experimental Biology annual meeting, April, 1984.
19. Fouke, J.M., G.M. Galbraith, and K.P. Strohl. Effect of subject position on upper airway geometry. Fed. Proc. 44(3): 838, 1985. Presented at the Federation of American Societies for Experimental Biology annual meeting. April, 1985.
20. Galbraith, G.M., J.M. Fouke, A.D. Wolin, and K.P. Strohl. Pressure-area curves of the upper airway. Fed. Proc. 44(3): 838, 1985. Presented at the Federation of American Societies for Experimental Biology annual meeting, April, 1985.
21. Teeter, J.P., J.M. Fouke, and K.P. Strohl. Effect of feedback on upper airway patency. Proc. of 38th Ann. Conf. on Eng. in Med. and Biol., p. 259, 1985. Presented at the ACEMB, October, 1985.
22. Fouke, J.M., K.P. Strohl, and J.P. Teeter. Pressure-volume behavior of the isolated upper airway in anesthetized dogs. Amer. Rev. Res. Dis. 131(4): A 319, 1985. Presented at the annual meeting of the American Thoracic Society, May, 1985.
23. Brooks, L.J., J. Lepanto, J.M. Fouke, and K.P. Strohl. Reproducibility of measurements of upper airway area by acoustic reflections. Amer. Rev. Resp. Dis. 131(4): A324, 1985. Presented at the annual meeting of the American Thoracic Society, May, 1985.

24. Weisberger, S.A., W.A. Carlo, J.M. Fouke, R.L. Chatburn, T. Tillander, and R.J. Martin. Lung compliance and expiration time influence air trapping during high frequency jet ventilation. Ped. Research 19: 420A, 1985. Presented at the annual meeting of the Society for Pediatric Research.
25. Weisberger, S.A., W.A., Carlo, J.M. Fouke, R.L. Chatburn, T. Tillander, and R.J. Martin. Determination of tidal volume and gas entrainment during high frequency jet ventilation. Amer. Rev. Resp. Dis. 131: A253, 1985. Presented at the American Thoracic Society annual meeting, May, 1985.
26. Fouke, J.M., A.D. Wolin, S. Sugg, and K.P. Strohl. Effect of pharyngeal muscle activation on airway size. Physiologist 28: 266, 1985. Presented at the American Physiological Society Fall meeting, October, 1985.
27. Strohl, K.P., J.M. Fouke, and A.D. Wolin. Pharyngeal muscle stimulation results in upper airway dilation forces. Presented at the First Adriatic Meeting on Control of Breathing, Dubrovnik, July, 1985.
28. Brasie, R.A., and J.M. Fouke. A modeling methodology for complex frequency domain data. Proc. of 8th Ann. Conf. IEEE Vol. 3: 1599-1602, 1986. Presented at the annual meeting of IEEE Engineering in Medicine and Biology Society 8th annual conference, November, 1986.
29. Saunders, K.G., E.R. McFadden, Jr., M.R. Neuman and J.M. Fouke. Sensor for measuring surface fluid conductivity in vivo. Proc. of 8th Ann. Conf. IEEE Vol. 3: 727-730, 1986. Presented at the annual meeting of IEEE Engineering in Medicine and Biology Society 8th annual conference, November, 1986.
30. Brooks, L.J., P.J. Byard, J.M. Fouke, and K.P. Strohl. Central airway growth as measured by acoustic reflections. Am. Rev. Rep. Dis. 133: A 189, 1986. Presented at the American Thoracic Society annual meeting, May, 1986.
31. Weisberger, S.A., W.A. Carlo, J.M. Fouke, R.L. Chatburn, T. Tillander, and R.J. Martin. Determinants of tidal volume during high frequency jet ventilation. Ped. Research 19: 420A, 1985. Presented at the annual meeting of the Society for Pediatric Research.
32. Gilbert, I., K.A. Lenner, J.M. Fouke, A.J. Coreno, and E.R. McFadden, Jr. Comparison of intra-thoracic temperatures during exercise and recovery in normal and asthmatic subjects. Physiologist 29: 143, 1986. Presented at the fall meeting of the American Physiological Society, October, 1986.
33. Strohl, K.P., A.D. Wolin, E. van Lunteren, and J.M. Fouke. Closing pressures, dilating forces and sites of potential upper airway closure. Physiologist 29:143A, 1986. Presented at the fall meeting of the American Physiological Society.
34. Fouke, J.M. Models implicit in pulmonary function testing. Proc. of 39th Ann. Conf. on Eng. in Med. and Biol. p. 90 1986. Presented at ACEMB, October, 1986. Invited paper.
35. Brooks, L.J., P.J. Byard, J.M. Fouke, and K.P. Strohl. Family resemblance for airway size and pulmonary function. Am. Rev. Respir. Dis. 135: A 467, 1987. Presented at the American Thoracic Society Annual Meeting May, 1987.
36. Gilbert, I.A., J.M. Fouke, K.A. Lenner, and E.R. McFadden, Jr. Direct assessment of temperature and water flux in the respiratory tract of asthmatics during exercise. Am. Rev. Respir. Dis. 135: 80, 1987. Presented at the American Thoracic Society Annual Meeting, May, 1987.

37. Gilbert, I.A., J.M. Fouke, K.A. Lenner, A.J. Coreno, and E.R. McFadden, Jr. Comparison of intra-airway temperatures in asthmatics during exercise and hyperventilation. Clinical Res. 35: 631, 1987. Presented at the American Thoracic Society Annual Meeting, May, 1987.
38. Gilbert, I.A., J.M. Fouke, and E.R. McFadden, Jr. Heat flux and evaporative loss in the airways of normals and asthmatics. Physiologist 30(4): 149, 1987. Presented as a symposium at the American Physiological Society Annual Fall Meeting, October, 1987.
39. Taylor, A.F., K. Nose, J. Carter, D.C. Winter, J.M. Fouke, D. Gerstmann, J. Guerra, D. Null, and R.A. deLemos. Pressure transmission through the airways during high frequency oscillation. Fed. Proc. 46: 511, 1987. Presented at the Federation of American Societies of Experimental Biology Annual Meeting, April, 1987.
40. Gerstmann, D.R., A.F. Taylor, K. Nose, D.C. Winter, J.M. Fouke, and R.A. deLemos. In-vivo measurement of alveolar mean pressure heterogeneity during high frequency oscillatory ventilation. Fed. Proc. 47: A 1695, 1988. Presented at the Federation of American Societies of Experimental Biology Annual Meeting, May, 1988.
41. Winter, D.C., D.R. Gerstmann, A.F. Taylor, K. Nose, J.M. Fouke, and R.A. deLemos. Effect of oscillatory frequency and inspiratory:expiratory ratio on tracheal and alveolar pressures in a rabbit model. Fed. Proc. 47: A1695, 1988. Presented at the Federation of American Societies of Experimental Biology Annual Meeting, May, 1988.
42. Gilbert, I.A., J.M. Fouke, F. Midulla, K.A. Lenner, and E.R. McFadden, Jr. Intra-airway thermodynamics during repetitive exercise in asthmatics. Am. Rev. Respir. Dis. 137: 412, 1988. Presented at the American Thoracic Society Annual Meeting, May, 1988.
43. Wolin, A.D., K.A. Lenner, I.A. Gilbert, E.R. McFadden, Jr., and J.M. Fouke. Asthmatic response to sulfur dioxide Physics in Med. and Biol. 33: 303, 1988. Presented at the World Congress on Medical Physics and Biomedical Engineering, August, 1988.
44. Winter, D., D. Gerstmann, A.F. Taylor, K. Nose, J.M. Fouke, and R.A. deLemos. Effect of oscillatory frequency and inspiration:expiriation ratio on tracheal and alveolar pressures in a rabbit model. Physics in Med. and Biol. 33: 223, 1988. Presented at the World Congress on Medical Physics and Biomedical Engineering, August, 1988.
45. Strohl, K.P., B. Spicer, A.D. Wolin, and J.M. Fouke. The effects of positive transmural pressure on extra thoracic upper airway resistance. Clin. Res. 36: 888A, 1988. Presented at AFRCR/CSCR in October, 1988.
46. Fouke, J.M., J.P. Teeter, and G.M. Saidel. Contribution of large airways to respiratory system impedance. Proc. of 10th Ann. Conf. IEEE/EMBS Vol. 10: 768-769, 1988. Presented at the Annual Meeting of IEEE Engineering in Medicine and Biology Society 10th Annual Conference, November, 1988.
47. Fouke, J.M., A.D. Wolin, H.F. Bowman, and E.R. McFadden, Jr. Thermal conductivity of the airway wall: Response to cold. Physiologist 32(4): 203, 1989. Presented at the joint meeting of the American Physiological Society and the American Thoracic Society, October, 1989.

48. Tsai, C.L., G.M. Saidel, E.R. McFadden, Jr., and J.M. Fouke. Heat and water transport across the airway wall. Proc. of 11th Ann. Conf. IEEE/EMBS Vol. 11: 299, 1989. Presented at the Annual Meeting of IEEE Engineering in Medicine and Biology Society 11th Annual Conference, November, 1989.
49. Gilbert, I.A., K.A. Lenner, J.A. Nelson, A.D. Wolin, and J.M. Fouke. Inhaled furosemide attenuates hyperventilation induced obstruction in association with a decrease in intra-airway thermal gradients. American Thoracic Society, May 1992.
50. Tsai, C.L. and J.M. Fouke. Reflectance spectra of a multi-layered skin model. Proc. of the 15th Ann. Conf. IEEE/EMBS Vol. 15: 1614. Presented at the Annual Meeting of the IEEE Engineering in Medicine and Biology Society 15th Annual Conference, October, 1993.
51. Tsai, C.L. and J.M. Fouke. Tissue composition discrimination by NIR spectroscopy. Proc. of the 16th Ann. Conf. of IEEE/EMBS. Presented at the conference, October, 1994.
52. Ghali, K. and J.M. Fouke. Models of heat and water transport. World Congress of Biomechanics, Vol. II: 181a, July, 1994. Presented at the conference.
53. Tsai, C.L. and J.M. Fouke. The change in skin near-infrared spectral reflectance with edema. World Congress on Medical Physics and Biomedical Engineering 39a: 144, August, 1994. Presented at the conference.
54. Fouke, Janie M. Models of respiratory heat and water exchange. Proc. of the 1st Medical Engineering Week of the World pp.49-50. Presented at the conference, Taipei, Taiwan, September, 1994.
55. Tsai, C.L. and Janie M. Fouke. In-vivo skin near infrared reflectance measurement. Proc. of the 1st Medical Engineering Week of the World pp. 49-50. Presented at the conference, September, 1994.
56. Fouke, J.M. Federal Research Resources. International Conference on Biomedical Engineering p. k1, 1996. Presented at the conference, Hong Kong, May, 1996.
57. Fouke, J.M. International Research Resources. Proc. of the 2nd Medical Engineering Week of the World, p. 256, 1997. Presented at the conference, Taipei, Taiwan, June 1996.
58. Tsai, C. L. and J.M. Fouke. Edema and near-infrared reflectance. Proc. of the 2nd Medical Engineering Week of the World. p. 84, 1997. Presented at the conference, Taipei, Taiwan, June 1996.

### **Research Support Funding**

(direct costs only)

#### **Case Western Reserve University Initiation Grant**

Resistance in Upper Trachea in Dogs

\$2,210 for 1 year starting 12/1/81

Principal Investigator: Janie M. Fouke

**National Institutes of Health (RO1 HL 29726)**

Control and Regulation of Upper Airway Resistance

\$306,056 for 3 years starting 1/83

Principal Investigator: K. Strohl

Fouke effort: 30%

(Note that this collaboration, which eventually lasted 7 years, including grants management and indirect cost recovery was entirely managed by Dr. Fouke within the Department of Biomedical Engineering. Dr. Strohl received \$5,000 from the award annually through a subaccount to his hospital).

**American Lung Association of Ohio**

Partitioning Respiratory Mechanical Parameters

\$28,000 for 2 years starting 7/82

Principal Investigator: Janie M. Fouke

**Cystic Fibrosis Foundation**

Early Airways Disease in Young Children with CF

\$34,000 for 2 years starting 3/82

Principal Investigator: J. Horowitz

Fouke effort: 5%

**National Institutes of Health (RO1 HL 29726)**

Control and Regulation of Upper Airway Resistance

\$255,000 for 4 years starting 1/1/86

Co-Principal Investigators: Janie M. Fouke and K. Strohl

**National Institutes of Health (PO1 HL 25830)**

Control of Respiratory Smooth and Skeletal Muscle (Program Project Grant)

\$1,320,000 for 5 years starting 4/1/86

Principal Investigator: Neil Cherniack

Fouke effort: 40%

**National Institutes of Health (P41 RR 02024)**

Resource for Biomedical Sensory Technology

\$632,675 (first year only) for 5 years starting 12/86

Principal Investigator: C. C. Liu

Fouke effort: 5%

**National Institutes of Health (RO3 RR 04288)**

Sensor for Estimating Muscle Blood Flow in the Airway Wall

\$24,570 for 1 year starting 4/88

Principal Investigator: Janie M. Fouke

**National Institutes of Health (RO3 HL 40058)**

Cardiovascular Reactivity

\$49,495 for 1 year starting 7/88

Principal Investigator: Janie M. Fouke

**National Science Foundation (HRD 91 96128)**

Modeling and Stimulation of Acoustic Impedance of the Respiratory System

\$75,755 for 1 year starting 12/89

Principal Investigator: Janie M. Fouke

**National Science Foundation (EID 89 52253)**

Bioengineering Laboratory Equipment

\$39,860 for 2 years starting 7/89

Principal Investigator: Janie M. Fouke

**Case Western Reserve University**

Matching Funds for Laboratory Equipment

\$40,000 for 2 years starting 7/89

Principal Investigator: Janie M. Fouke

**National Institutes of Health (RO1 HL 33791)**

Pathophysiology of Exercise Induced Asthma

\$993,658 for 5 years 5/89

Principal Investigator: E.R. McFadden, Jr.

Fouke effort: 15%

**National Science Foundation (HRD 91 96128)**

Modeling and Simulation of Acoustical Impedance of the Respiratory Systems

\$10,000 for 1 year starting 2/90

Principal Investigator: Janie M. Fouke

**National Institutes of Health (RO1 HL 44920)**

Pathophysiology of Airway Effects of Cold Exposure

\$525,766 for 5 years starting 4/91

Principal Investigator: E.R. McFadden, Jr.

Fouke effort: 15%

**Case Western Reserve University President's Office**

Visiting Faculty Fund

\$5,000 for 1 year starting 7/91

Principal Investigator: Janie M. Fouke

**National Science Foundation (BES 9503308)**

Airway Biomechanics

\$11,898 for 1 year starting 10/94

Principal Investigator: Janie M. Fouke

**National Institutes of Health (RO1 HL 33791)**

Pathophysiology of Exercise-Induced Asthma

\$796,169 for 5 years starting 12/94

Principal Investigator: E.R. McFadden, Jr.

Fouke effort: 15%

**National Institutes of Health (RO1 HL 44920)**

Pathophysiology of Airway Effects to Cold Exposure

\$1,036,566 for 4 years starting 3/95

Principal Investigator: E.R. McFadden, Jr.

Fouke effort: 15%

**National Science Foundation (BES 9526738)**

Bioengineering

\$377,619 for 4 years starting 5/95

Principal Investigator: Janie M. Fouke

**Invited Lectures**

NIH workshop on Physiologic Flow Measurements, Monterey, CA (March 1983)

American Lung of Ohio annual meeting, Columbus, OH (June 1983)

Annual Conference on Engineering in Medicine and Biology, Columbus, OH  
(September 1983)

Cleveland Area Research Directors Annual Meeting (May 1984)

Cleveland Area IEEE (October 1984)

Annual Conference on Engineering in Medicine and Biology, Baltimore, MD  
(October 1986)

Society of Photo-Optical Instrumentation Engineers, Los Angeles, CA (January 1988)

Institute of Electrical and Electronics Engineers: Engineering in Medicine and Biology  
Society, Seattle, WA (November 1989)

NIH/NSF Workshop on Research Collaborations, Washington, D.C. (January 1991)

NIH Workshop on Airway Surface Liquid, Washington, D.C. (September 1991)

American Women in Science and Mathematics Regional Meeting, Cleveland, OH  
**Keynote Lecture** (March 1992)

Martin Lecture, Mt. Olive College, Mt. Olive, NC

**Inaugural Speaker** (March 1993)

Institute of Electrical Engineering, New Delhi Chapter, New Delhi, India (March 1993)

Okayama Medical Information Forum, Okayama, Japan (January 1994)

Second World Congress in Biomechanics, Amsterdam, Netherlands (July 1994)

Biomedical Engineering Society of India

**Keynote Address** (February 1995)

IEEE/EMBS Twin City Chapter, Minneapolis, MN (April 1995)

Biomedical Engineering Society of South Africa and the South African Association for Clinical Engineering (joint meeting), Johannesburg, South Africa  
**Keynote Address** (April 1995)

Biomedical Engineering Society for South Africa, Johannesburg, South Africa  
(April 1995)

Model Based Biomeasurements Conference, Stara Lesna, Slovakia (September 1995)  
Popov Society, Moscow, Russia  
**Keynote Address** (October 1995)

St. George's Hospital, St. Petersburg, Russia (October 1995)

Southern Biomedical Engineering Society Annual Conference, Dayton, OH  
**Keynote Address** (March 1996)

Medical Engineering Week of the World, Taipei, Taiwan (May 1996)

Biomedical Engineering Society, Singapore, Malaysia (May 1996)

International Conference on Biomedical Engineering, Hong Kong  
**Keynote Address** (June 1996)

Okayama Medical Information Forum, Okayama, Japan (February 1997)

Mathematical Sciences Colloquium Series, University of Kentucky (March 1997)

Korean Society of Medical and Biological Engineering, Pusan, Korea  
**Keynote Address** (May 1997)

Korea Advanced Institute of Science and Technology, Taejon, Korea (May 1997)

Korea Institute of Science and Technology, Seoul, Korea (May 1997)

National Academy of Engineers, Frontiers Series, Irvine, CA (September 1997)

Houston Society of Engineers in Medicine and Biology, Houston, Texas (April 1998)

Applied Physics Lab, Johns Hopkins University, Baltimore, MD (June 1998)

International Symposium on Biomedicine, Beijing, China  
**Keynote address** (November 1998)

4<sup>th</sup> Asia-Pacific conference on Medical and Biological Engineering, Seoul, Korea  
Keynote address (September 1999)

International Forum on Medical Progress, Monte Carlo, Monaco  
**Keynote address** (October 1998)

National University of Sciences and Technology, Rawalpindi, Pakistan (March 2000)

Tencon 2000, Kuala Lumpur, Malaysia  
**Keynote address** (September 2000)

Hong Kong University of Science and Technology, Hong Kong (December 2000)

10<sup>th</sup> International Conference on Biomedical Engineering, Singapore  
**Keynote address** (December 2000)

National Institutes of Standards and Technology, Bethesda, MD  
**Keynote address** (January 2001)

Society of Biomaterials Annual Conference, St. Paul, MN  
**Keynote address** (April 2001)

IEEE Southeast Michigan Section Meeting  
**Keynote address** (February 2002)

Old Dominion University-Womengineer Day  
**Keynote address** (March 2004)

## **Visiting Professorships**

Pulmonary Diseases Division, Medical College of Wisconsin, Milwaukee, WI  
(October 1983)

Pulmonary Disease Division, University of Pittsburgh, Pittsburgh, PA (May 1988)

Pulmonary Disease Division, University of North Carolina, Chapel Hill, NC (July 1988)

Health Effects Research Laboratory, Environmental Protection Agency,  
Chapel Hill, NC (July 1988)

Pulmonary Disease Division, Louisiana State University, Shreveport, LA  
(November 1988)

Cardiovascular Pharmacology, Univ. of Texas Health Science Center,  
San Antonio, TX (February 1989)

Pulmonary Disease Division, Univ. of Texas Health Science Center,  
San Antonio, TX (May 1989)

Harvard School of Public Health, Boston, MA (January 1990)

Respiratory Research Group, Boston University, Boston, MA (February 1990)

Medical Physiology and Microcirculation Research Institute, Texas A & M University,  
College Station, TX (April 1991)

Department of Biomedical Engineering, Akron University, Akron, OH  
(November 1991)

Center for Biomedical Engineering, University of New South Wales, Sydney, Australia,  
(February 1993)

Department of Medical Physics and Bioengineering, Christchurch Hospital,  
Christchurch, New Zealand (February 1993)

Departments of Medicine and Biomedical Engineering, University of Montreal,  
Montreal, Canada (October 1993)

Newark College of Engineering, New Jersey Institute of Technology, Newark, NJ  
(January 1994)

School of Engineering, University of Hong Kong, Hong Kong (September 1994)

Bioengineering Center, Wayne State University, Detroit, MI (March 1995)

Biomedical Engineering Seminar Series, University of Minnesota, Minneapolis, MN  
(April 1995)

Department of Biomedical Engineering, University of Cape Town, Cape Town,  
South Africa (April 1995)

Department of Electrical and Electronic Engineering, University of Pretoria,  
South Africa (April 1995)

Department of Mechanical Engineering, University of Stellenbosch, Stellenbosch,  
South Africa (April 1995)

Polish Academy of Sciences, Warsaw, Poland (September 1995)

Bioengineering Department, University of North Carolina-Chapel Hill, NC  
(September 1995)

Biological Engineering Program, College of Agriculture, North Carolina State  
University, Raleigh, NC (October 1995)

Industrial Engineering, The Pennsylvania State University, State College, PA  
(November 1995)

School of Engineering, University of Connecticut, Storrs, CT (January 1996)

Biological Engineering, College of Agriculture, NCSU, Raleigh, NC (September 1996)  
School of Engineering, Mississippi State University (October 1996)  
School of Engineering, Wayne State University, Detroit, MI (December 1996)  
Department of Biomedical Engineering, Akron University, Akron, OH  
(April 1997)  
School of Engineering, Kyungbook National University, Wonjoo, Korea (May 1997)  
Medical Branch at Galveston, University of Texas (April 1998)  
School of Engineering, University of Nebraska (May 1998)  
School of Engineering, Michigan State University, East Lansing, MI (November 1998)  
School of Engineering, U of Alabama-Birmingham (December 1998)  
School of Engineering, Hong Kong University of Science and Technology (December  
2000)  
School of Engineering, U of Texas-Austin (February 2002)  
Women Faculty Annual Meeting, School of Medicine, Case Western Reserve University  
Cleveland, OH (June 2003)  
School of Engineering, U of Washington, Seattle, WA (July 2003)  
School of Engineering, U of Wisconsin, Madison, WI (February 2004)

### **Invited Lectures (Public Policy/Engineering Education)**

School of Medicine, Case Western Reserve University, Cleveland, OH (February 1996)  
Southern Biomedical Engineering Society, Dayton, Ohio (March 1996)  
School of Engineering, Duke University, Durham, NC (May 1996)  
Hong Kong University of Science and Technology, Hong Kong  
**Keynote Address** (June 1996)  
Institute for Biological Engineering, Annual Conference, Phoenix, AZ (July 1996)  
Whitaker Foundation Annual Research Conference, Snowbird, Utah (August 1996)  
Louisiana Tech University, Ruston, LA (March 1997)  
Biological and Agricultural Engineering, Pennsylvania State University,  
University Park, PA (March, 1997)  
Southwest Research Institute, San Antonio, TX (April 1997)  
International Conference on Engineering Education, Chicago, Illinois (August 1997)  
Brown University Sesquicentennial, Providence, RI (September 1997)  
Artificial Intelligence in Neural Networks, St. Louis, MO  
**Keynote address** (November, 1997)  
Case Western Reserve University, Cleveland, OH (April 1998)  
Houston Society of Engineers in Medicine and Biology, Houston, Texas (April 1998)  
Whitaker Foundation Annual Research Conference, La Jolla, CA (August, 1998)  
National Science Teachers' Association annual conference, Orlando, FL  
**Keynote address** (April 2000)  
Tri-County Women's Coalition, Lansing, MI  
**Keynote address** (August 2000)  
Women's Engineering Leadership Conference (sponsored by NSF)  
**Keynote address** (October 2000)  
American Society for Engineering Education, Albuquerque, NM  
Engineering Education Scholars (June 2001)

American Society for Engineering Education, Montreal, Canada  
Recruiting and retaining a diverse faculty (June 2002)  
Corporate Leaders' Panel (June 2002)  
American Council on Education Network, Washington, DC  
**Keynote Address** (October 2002)  
Michigan Economic Development Committee, Lansing, MI  
Summit on Entrepreneurship  
**Keynote address** (December 2002)  
Zonta International of East Lansing (January 2002)  
National Academy of Engineering  
Bioengineering Section Speaker (October 2003)  
American Society of Mechanical Engineering, Washington, DC  
Faculty Development Workshop (December 2003)

### **Consulting/Advisory Activities**

#### **Federal Agencies/Entities**

##### **National Science Foundation**

Reviewer of proposals  
Engineering Research Center site visitor (1988-1989)  
Bioengineering review panel (1987, 1990 – 1994)  
Biological and Critical Systems Division  
Advisory Committee (1991-1993)  
Engineering Directorate  
Advisory Committee (1993-1995)  
Advisory Committee (2003-present)  
Engineering Education and Centers  
Committee of Visitors (2001)  
Review Committee on Bioengineering (joint with NIH) (2001)  
Search Committee: Assistant Director of Engineering (2001-2002)

##### **National Institutes of Health**

Reviewer of proposals  
Small Business Innovation Research study section (1989 – 1994)  
Review Committee on Bioengineering (joint with NSF) (2001)  
Bioengineering Consortium (BECON) (1997-1999)  
Search Committee: Director for the National Institute of Bioimaging  
and Bioengineering (**NIBIB**) (2001)  
Consultant to the Office of the Director  
Peer Review Oversight Group (2000-2003)  
Scientific Boundaries Committee (2000-2002)  
Surgery, Applied Imaging and Applied Bioeng advisory group (2001)  
Conflict of Interest working group (2001-2002)  
BECON External advisory committee (2002)  
Program Chair for annual BECON Symposium: Catalyzing Team Science (2003)

**NIBIB**

Advisory committee (2003-2008) **White House appointment**

**National Aeronautics and Space Administration**

Bioscience and Engineering reviews

National Bioengineering Institute

Chair of review committee and site visits (2002)

**Veteran's Administration**

Proposal Review

**Defense Advanced Research Projects Agency**

Proposal Review

**Department of Defense**

Technology and Review Assessment team (February 2001; March 2003)

**Australian Government**

Research Center site selection committee (1999)

**Brazilian Government**

Research Center site selection committee (2000)

**Canada Foundation for Innovation**

Proposal review (1998, 2000, 2002)

Panel review (2003)

**Swedish Government**

Research Center site selection committee

Committee Chair (1997, 1998)

**National Academy of Engineering**

Biotechnology for Army Applications (1997)

Action Forum on Diversity (2000-2002)

Best Practices in Managing Diversity (2001)

Engineering Ethics (2002)

State Agencies

**State of Texas**

Research and technology proposal review (1995-1997)

**State of Indiana**

21th Century Fund review (2000)

Universities/Departments

**University of Nebraska**, Lincoln, Nebraska  
Campus-wide research evaluation team (1999)

**Duke University**, Durham, North Carolina  
College of Engineering (1990)  
Engineering Research Center peer review committee

**University of North Carolina**, Chapel Hill, North Carolina  
Bioengineering Program review committee

**University of Missouri-Columbia**  
Board of Visitors, College of Engineering (1996-2000)

**Biomedical Engineering Alliance for Connecticut**  
Board of Advisors (1998-2000)

**Medical College of Wisconsin**  
Bioengineering Degree review committee

**University of Southern California**  
Alfred Mann Bioengineering Institute review committee (1998)

**University of Michigan**  
Advisory Committee for Wireless Integrated Microsystems (2000-present)

**University of Wisconsin**  
Department of Bioengineering Advisory Council (1998-present)

**Johns Hopkins University**  
Department of Biomedical Engineering Advisory Council (1999-present)

**Georgia Institute of Technology/Emory University**  
Department of Biomedical Engineering Advisory Board (2000-present)

**Greenfield Coalition for Manufacturing Education**  
Board of Directors (1999-present)

**University of Texas-San Antonio/Health Science Center**  
PhD program evaluation (2002)

## Foundations

### **Whitaker Foundation**

Ad hoc reviewer  
Fellowship Advisory Committee (1992 - 1998)

### **Southwest Foundation for Biomedical Research**, San Antonio, Texas

Pollutant exposure in primates

### **Southwest Research Institute**, San Antonio, Texas

Devices for noninvasive pulmonary function testing  
Evaluation of NMR technology

### **Heinz Family Foundation**

Heinz Award nomination committee (2000-2002)

### **MentorNet**

Board of Directors (2003-present)

## Private Industry

### **Thermal Technologies, Inc.**, Cambridge, Massachusetts

Device for measuring regional airway muscle blood flow

### **Adelsys, Inc.**, Cleveland, Ohio

Device for noninvasive determination of body core temperature

### **WESCON**

Advisory Committee (1994, 1995)

### **BF Goodrich**

Selection Committee for Collegiate Inventor Program (1993-1995)

### **Edison Biotechnology Center**

Proposal review

## Professional Activities

### **Annual Conference on Engineering in Medicine and Biology (ACEMB)**

Session Chairman, 1982, 1983

### **Biomedical Engineering Society (BMES)**

National Conference Program Chairman, 1985  
Board of Directors (1987 - 1990)  
Track Chairman, 1990  
Membership Committee Chairman (1991)

Representative to Association for the Advancement of Medical Instrumentation  
Program Committee (1989 - 1993)  
General Chair of Annual National Conference (1999)

**Institute for Electrical and Electronic Engineers (IEEE)  
Engineering in Medicine and Biology Society (EMBS)**

Session Chairman, 1989  
Administrative Committee (1991-1996)  
Awards Committee (1992-1995)  
Conference Committee (1991 - 2001)  
Chair (1992, 1993)  
Executive Committee (1992-1996)  
Vice President for Technical and Conference Activities (1992)  
Vice President for Conferences (1993)  
President (1994, 1995)  
International Activities Chair (1996)  
Nominating Committee Chair (1996)  
General Chair of Annual International Conference (1999)

**Neural Networks Council (NNC)**

Administrative Committee (1994-1996)

**Transactions on Medical Imaging Steering Committee (1995, 1996)**

**Technical Activities Board (TAB) (1994-2000)**

Products Council (1994, 1995)  
Technical Meetings Council (1994, 1995)  
Division X Nominating Committee (1994, 1995)  
New Ventures Ad Hoc Committee (1995, 1996)  
Judith Resnick Award selection committee (1994-1998)  
Chair (1997, 1998)  
Sloan Foundation Steering Committee (1996)  
Chairman, Society Presidents' Forum (1996, 1997, 1998)  
Reorganization Workshop (1996)  
Blue Ribbon Bylaws Committee (1996, 1997)  
Ad hoc Finance Committee (1995, 1996)  
TAB Management Committee (1995, 1996, 1997, 1998)  
Vice Chair of TAB (1997, 1998)

**Board of Directors (1998-2001)**

Personnel Compensation Committee (1998-2001)  
Audit Committee (1998-2001)  
Ethics and Member Conduct Committee (2000-2002)  
Mulligan Education Medal selection committee (2001, 2002, 2003)  
Finance Committee (1998-2000)

**Association for the Advancement of Medical Instrumentation (AAMI)**

Short course on "Physiological Basis of Signals" (1990, 1991)  
Short course on "Pulmonary Physiology: The basis for Measurements of Respiratory Function" (1992, 1993)  
Program Committee (1990-1993)

**American Institute of Medical and Biological Engineers (AIMBE)**

Fellows Selection Committee (1995-2001)  
Vice-President (1997-1998)  
Vice President (2002-2003)  
Board of Directors (1997-1998, 2001-2003)  
Program Chair, Annual Conference: Bioengineering Education (2002)

**American Society for Engineering Education**

Engineering Dean's Council (2001-2004)  
Public Policy Committee (2002-2004)  
Chair (2003)  
Engineering Dean's Institute  
Instructor for New Deans (2001, 2002, 2004)  
President's Award Selection Committee (2002-present)  
Chair, Michigan delegation to Congress (2003, 2004)

**International Federation of Medical and Biological Engineers**

Advisory Council (1998-2000)

**World Academy of Biomedical Technologies**

Vice-President for Scientific Affairs (1998)

**Editorial consultant**

American Journal of Rhinology  
American Review of Respiratory Disease  
Annals of Biomedical Engineering  
IEEE Transactions in Biomedical Engineering  
Journal of Applied Physiology  
Journal of Biomechanics  
Journal of Engineering Education  
Medical Engineering and Physics  
Respiration Physiology  
Editorial board of "Modeling and Methodology Forum"  
for the American Physiological Society (1991-1998)

## **University Service**

### **Biomedical Engineering Department** (CWRU)

Department administrative committee (1986 - 1988)

Undergraduate education committee (1981 - 1995)

Chairman, Undergraduate education committee (1986 - 1988)

Prepared course curricula for undergraduate program prior to ABET accreditation site visit (1982)

Recruitment of undergraduates: conducted Case Institute of Technology (CIT) scholarship interviews (1982 - 1989); hosted summer Minority Engineers Industrial Opportunity Program students (1983, 1984); organized senior projects for area high school students; gave Binary Day lectures; participated in "shadowing" program for Society of Women Engineers; gave CIT telethon Lectures to freshmen to help them select majors; traveled and conducted seminars for high school students, parents, and guidance counselors in twelve cities (1984, 1985, 1988, 1989)

Job placement: acted as liaison to placement office; met with recruiters; organized opportunities for faculty to counsel with seniors each fall and spring; computerized names of several hundred companies employing biomedics which students could access by state; assisted undergraduate BMES in supplementing this list with results of alumni telephone inquiries.

### **Case School of Engineering** (CWRU)

Committee on Undergraduate Education (1982 - 1985)

Dean's Committee on Undergraduate Recruiting (1987 - 1988)

Search Committee for chairperson of Electrical Engineering and Applied Physics (1992-1993)

Dean's Committee on Cost of Undergraduate Education (1994-1995)

Dean's Committee on Technical Writing (1995)

### **Medical School** (CWRU)

Women Faculty Steering Committee (1984 - 1990)

Search Committee for Division Director in Orthopedic Surgery (1987 - 1988)

**Executive Committee (1990 -1995)**

### **Case Institute of Technology** (CWRU)

Case Committee on Academic Standing (1984 - 1987)

## **Case Western Reserve University**

Selection Committee for Undergraduate Admissions (1988-1990)

### **Faculty Senate (1984 - 1985) (1986 - 1987) (1991-1994)**

Personnel Committee (1984 - 1987)

Chairman (1986 - 1987)

Research Committee (1993-1995)

### **Executive Committee (1991 - 1994)**

Vice-Chairman (1991 -1992)

Chairman (1992 - 1993)

Past Chairman (1993-1994)

President's Steering Committee: North Coast Accreditation (1993-1995) . . . a once per decade event

## **Boston University**

Institutional Use and Care of Animals Committee (IUCAC) (1990)

## **University Circle Incorporated**

Board of Trustees (1991-1992)

## **Michigan State University**

Search Committee: Chair of Department of Surgery (2000)

Search Committee: Football Coach (2002)

Capital Campaign Strategy Committee (2000-2003)

NCAA Accreditation Committee (2004-present)

## **Courses Taught**

EBME 105	Introduction to Biomedical Engineering
EBME 310	Introduction to Biomedical Instrumentation
EBME 313/314	Biomedical Engineering Laboratory
EBME 397	Special Topics in Electronics
EBME 398	Senior Research Design in Biomedical Engineering
EBME 403	Advanced Biomedical Instrumentation
EBME 602	Advanced Respiratory Mechanics
EMCH 657	Experimental Techniques in Fluid and Thermal Sciences

### **Graduate/Post-graduate Supervision**

(Does not include supervision of seventeen senior design projects)

Hafer, Charlene Elaine: Phasic changes in upper airway impedance MS 1984\*

Stewart Weisberger, MD: Mechanics of ventilating neonates with high frequency waveforms (Post-doctoral associate) 1983-1985\*

Mendenhall, Rebecca S.: Comparative analysis of non-invasive neonatal respiration sensors MS 1985\*\*

Sam Weigard: Medical instrumentation MS 1985\*

RuthAnn Brasie: Modeling and simulation of respiratory mechanical system MS 1986\*

Ken Saunders: Microelectronic sensor to monitor conductance of airway surface fluid MS 1986\*

Yili Zhang: Lung mechanics and control MS 1988\*\*

Teh-ho Tao: A micromachined potentiometric pH measurement system on silicon PhD 1989\*\*

Clary, Andrea: Temperature sensing in the human airway MS 1989\*

Allen, Christopher John: Variation due to respiration in magnetic susceptibility measurements of human iron stores MS 1989\*\*

Seidman, Scott: The human torsional vestibulo-ocular reflex during rotation about an earth-vertical axis MS 1989\*\*

Human torsional eye movements in response to visual, mechanical and vestibular stimuli PhD 1993\*\*

Tsai, Cheng Lun: Heat and water transport across the airway wall MS 1990\*

The change in skin near-infrared reflectance with edema PhD 1994\*

Alexis Wolin: Air pollution and the respiratory system MS 1991\*

Saad, Steven Edward: Integrated apnea sensor MS 1991\*

Tawfik, Bassel, PhD: Mechanics of the nose and upper airway (Post-doctoral associate) 1992-1993\*

Teeter, Jeffrey P.: Volume dependence of respiratory mechanics: Effect of large airway MS 1992\*

Ghali, Kamil: Heat and water transport in the airway: three dimensional model (Post-doctoral associate) 1993-1995\*

Willig, Susan: Clinical instrumentation MS 1993\*\*

Mathur, Vijaywanth P.: Real-time, continuous ex-vivo potassium sensor for application in blood MS 1993\*\*

Major Advisor\*

Greater than average advising responsibilities\*\*

### **Graduate Supervision committees**

Kruse, Kara L: Heat and water transport dynamics in the respiratory tract: distributed-model simulation MS 1982

Pedro Acosta: Microfabricated neonatal respiratory sensors MS 1983

Lynn Akerson: Neural control of the respiratory system MS 1983

Bonk, Francis J: The digital analysis of ultrasonic pulses using photographic digitization MS 1983

Elie Abboud: Control of the respiratory system in neonates MS 1984

Murphy, Michael Francis: Continuous non-invasive monitoring of arterial oxygen saturation by optical transmission MS 1984

Holic, John Frank, Jr: A biopotential telemeter MS 1984

Cassidy, James Joseph: The relationship between mechanical and architectural properties in anisotropic cancellous bone MS 1984

Hierarchical structure and mechanical properties of collagen in the intervertebral disc PhD 1990

Steve Jepson: Respiratory gas exchange MS 1985

Goggins, Jean Ann: The relationship between arterial thrombosis and neutralizaion of a polyethylene ionomer PhD 1985

Peterson, David: Electrical activation of the diaphragm using intramuscular stimulation of the phrenic nerve MS 1985

Kevin Kelly: Electronic circuitry for medical instrumentation MS 1986

Jann-Song Lin: Respiratory gas exchange MS 1986

Ho Yin Fuh: Microelectronic circuitry for medical instrumentation PhD 1986

Anita Tenteris: Biomaterials/electrodes for implantation MS 1986

Modarreszadeh, Mohammad: Evaluation of the pulmonary diffusing capacity in the presence of ventilation inhomogeneity MS 1986  
Systems analysis of breath-to-breath ventilatory variations in man: role of CO<sub>2</sub> feedback PhD 1991

Locker, Robert Charles: The development of an external open loop insulin infusion pump using a stepper motor MS 1986

Abramson, Jeffry Robert: A methodology for determining human lens volume PhD 1986

Duerk, Jeffrey Lewis: Magnetic resonance imaging gradient modulation technique for motion artifact reduction and flow quantification PhD 1987

Carter, Randy Ray: Components of the human stretch reflex MS 1987  
Reflex regulation of antagonist muscles in the normal human hand PhD 1990

Dale Slifko: Medical instrumentation MS 1988

Janet Krevolin: Orthopedic biomechanics of bone MS 1988

Tang, Zhengnian: An implantable multichannel biotelemeter for electromyographic data acquisition MS 1991  
A multichannel implantable stimulation and telemetry system for neuromuscular control PhD 1997

Zhu, Wei-lin: The temperature compensation and measurement system of implantable capacitive pressure with its C/V converter circuit MS 1991

Kazden, David: On the automated monitoring and control of extracorporeal membrane oxygenation PhD 1992

Wei, Datong: Quantitative and continuous measurement of cerebral blood flow by a thermal method PhD 1993

Diefes, Richard S.: Diffusional microtitration system for the analysis of biomedical samples MS 1993

Hui, Kwong Yue: Case studies in in vitro electrochemical microsensing MS 1994

Xie, Huijan: Development of electrochemical sensors for metal ions and nitric oxide in biomedical research MS 1996

Liao, Shih-Chu: Real time single fiber optic sensor for physiological parameters PhD 1997