CURRICULUM VITAE

Joseph Vorro

I. PERSONAL DATA

Professor, Department of Family & Community Medicine
Michigan State University, College of Osteopathic Medicine
East Lansing, Michigan 48824

II. EDUCATION

Degree	Institution	Date	Program
B.S.	University of Rhode Island	1967	Biology
M.A.	University of Maryland Graduate School, College Park, Md.	1971	Biomechanics
Ph.D.	University of Maryland Colleges of Medicine and Dentistry, Baltimore, Md.	1976	Anatomy

III. EXPERIENCE IN HIGHER EDUCATION

Appointment	Institution	Academic Status
1968-1969	University of Maryland College Park, Maryland	Graduate Teaching Assistant (M.A. candidate)
1969-1972	Lincoln University Lincoln University, Pennsylvania	Instructor Anatomy, Physiology

III. EXPERIENCE IN HIGHER EDUCATION
(Continued)

1972 - 1975	University of Maryland Colleges of Medicine	Graduate Teaching Assistant
	Department of Anatomy	(Ph.D. candidate)
1975 - 1980	Michigan State University	Assistant Professor
1978	University of Montreal School of Medicine Department of Anatomy & Rehabilitation Institute of Montreal, Canada	Postdoctoral Research Fellow
1980 - 1991	Michigan State University	Associate Professor
1991 - present	Michigan State University	Professor
1986 - 1992	Acting Chairperson: Department of Anatomy	
1994	University of Zimbabwe College of Medicine Harare, Zimbabwe	Visiting Professor
1992 - 1998	Chairperson: Department of Anatomy	
1999 - 2000	College of Medicine Dean's Office	
2000 - present	Department of Family & Community Medicine	

IV. TEACHING EXPERIENCE, CERTIFICATION, HONORS

Lincoln University:
Undergraduate: Anatomy, Physiology

Michigan State University:
Colleges of Medicine: Undergraduate and graduate medical level Anatomy, Histology, Neuroanatomy, Embryology courses
Undergraduate: General Anatomy
Other Teaching: Continuing Legal Education, Workers' Compensation Professionals, Allied Health Professionals and Community Education Programs: Anatomy & Physiology Instruction

Certification: Sectional Imaging and Clinical Problem Solving in Anatomy.
Coursework and certification in MRI, CT and Ultrasound - Departments of Anatomy and Diagnostic Imaging, Temple University School of Medicine, April, 1990.

Teaching Award: Golden Apple Award, College of Osteopathic Medicine, Fall Semester, 1993

Research Award: Honorable Mention, 103rd. MAOP&S and Postgraduate Conference, Detroit, Mi., May 16, 2002.

Nominated: MSUCOM Walter F. Patenge Medal of Public Service, 2003.

Certificate of Recognition: 2003 Diana Award, Greater Lansing YWCA.

V. PUBLICATIONS AND OTHER CREATIVE EFFORTS

A stroboscopic photographic study of motion changes that accompany modifications and improvements in a throwing performance, Master's Thesis, University of Maryland Graduate School, January, 1971.

Vorro, Joseph R. 1973. Stroboscopic study of motion changes that accompany modifications and improvements in a throwing performance, Research Quarterly, 44:216-226.

Vorro, J.R. and Hobart, D.J. 1973. Multi-image stroboscopic photographic techniques for the classroom and for research. JOHPER, 44:63-64.

Hobart, D.J. and Vorro, J.R. 1974. Pre-axial and post-axial neuromuscular relationships in the upper extremity - A method of teaching muscle innervation. Kinesiology IV, 24-31.

Vorro, J.R. and Hobart, D.J. 1974. A cinematographical analysis of the intermittent modifications occurring during the acquisition of a novel throwing skill. R.C. Nelson and C.A. Morehouse (eds.) International Series on Biomechanics, Biomechanics IV. University Park Press, Baltimore. pp. 553-558.

Hobart, D.J. and Vorro, J.R. 1974. Electromyographical analysis of the intermittent modifications occurring during the acquisition of a novel throwing skill. R.C. Nelson and C.A. Morehouse (eds.) International Series on Biomechanics, Biomechanics IV. University Park Press, Baltimore. pp. 559-566.

Staling, L.M., P. Fetchero, and J. Vorro. 1976. Premature occlusal contact influence on mandibular kinesiology. P.V. Komi (ed.) International Series on Biomechanics, Volume 1A, Biomechanics V. University Park Press, Baltimore. pp. 280-288.

A kinematic and myoelectric analysis of skill acquisition, Doctoral Dissertation, University of Maryland Graduate School, 1976.

Vorro, J., F.R. Wilson, and A. Dainis. 1978. Multivariate analysis of biomechanical profiles for the coracobrachialis and biceps brachii (Caput Breve) muscles in humans. Ergonomics, 21:407-418.

Hobart, D., J.R. Vorro and C.O. Dotson. 1978. Synchronized myoelectric and cinematographic analysis of skill acquisition. J. Human Movement Studies. 4:155-166.

Hobart, D. and J. Vorro. 1978. A preliminary study of kinematic and electromyographic differences between males and females during skill acquisition. Amer. J. Physical Therapy, 58:956-965.

Simard, T., J. Vorro, and P. Rocque. 1981. Multiterritorial muscle evaluations for maximal isometric contraction of the deltoid muscle in normal and dystrophic humans. Amer. J. Phys. Med. 60:132-143.

V. PUBLICATIONS AND OTHER CREATIVE EFFORTS
(Continued)

Vorro, J., A.R. Slonim and R.W. Little. 1981. A comparative survey of selected muscles of the trunk in four species of primates. Technical Report, Air Force Aerospace Medical Research Laboratory, TR-81-41: 1-47.

Little, R.W., D.L. Hyler and J. Vorro. 1981. Morphology and histology of spinal ligaments from three primates. Technical Report, Air Force Aerospace Medical Research Laboratory, TR-81-46.

Vorro, J. and D. Hobart. 1981. Kinematic and myoelectric analysis of skill acquisition: I. 90cm Subject Group. Arch. Phys. Med. Rehabil. 60:575-582.

Vorro, J. and D. Hobart. 1981. Kinematic and myoelectric analysis of skill acquisition: II. 150cm Subject Group Arch. Phys. Med. Rehabil. 60:582-589.

Hallgren, R. and J. Vorro. 1981. Transferring binary data from micro to mainframe. Acronyms. 11:9-10.

Jones, M., J. Cunningham, A. Dade, G. Dawson, R. Laine, C.S.F. Williams, D. Alessi, U. Mostosky and J. Vorro. 1982. Caprine Beta-Mannosidosis. Animal Models of Inherited Metabolic Diseases. Alan R. Liss, Inc., New York. pp. 165-176.

Jones, M.Z., Cunningham, J.G., Dade, A.W., Alessi, D.M., Mostosky, U.V., Vorro, J.R., Benitez, J.T., Lovell, K.L. 1983. Caprine beta-mannosidosis: clinical and pathological features. Journal of Neuropathology and Neurobiology. 42:268-285.

Bechtold, J., P. Ridl, R. Hubbard, and J. Vorro. 1983. Head orientation measured with a video system. J. Biomech. Engn. 105:404-406.

Snyder, A. J. Vorro and W. Heusner. 1983. Effects of training on contractile characteristics of dystrophic slow and fast muscle. IRCS Med. Sci., 11:500-501.

Vorro, J. 1984. Kinematic and myoelectric analysis of symmetric and asymmetric cervical function. P.E. Greenman (ed.) Concepts and Mechanisms of Neuromuscular Functions. Springer-Verlag, Berlin. pp. 55-58.

Johnston, W., J. Vorro, and R. Hubbard. 1985. Clinical/biomechanic correlates for cervical function: Part I. A kinematic study. J. Amer. Osteo. Assoc. 85:63-71.

Vorro, J. and W. Johnston. 1987. Clinical/biomechanic correlates for cervical function: Part II. A myoelectric study. J. Amer. Osteo. Assoc. 87:353-367.

Beal, M., J. Vorro, W. Johnston. 1989. Chronic cervical dysfunction: Correlation of myoelectric findings with clinical progress. J. Amer. Osteo. Assoc. 89:891-900.

Vorro, J., W. Johnston, and R. Hubbard. 1991. Clinical/biomechanic correlates for cervical function: Part III. Intermittent secondary movements. J. Amer. Osteo. Assoc. 91: 145-155.

Bush, T., Mills, F., Thakurta, K., Hubbard, R., and J. Vorro. 1995. The use of electromyography for seat assessment and comfort evaluation. Human Factors in Vehicle Design, SAE Technical Series 950143: 27-32.

Vorro, J. The anatomy of the carpal tunnel. 1995. On Workers' Compensation. (May) 5: 49-52.

Vorro, J. The anatomy of the knee. 1995. On Workers' Compensation. (December) 5: 153-155.

Lew, G., Vorro, J., Sakai, S., Ross, L. Study Guide for Human Structure and Function. 1997. Burgess International Group. Minnesota. Pp. 191

Vorro, J. The Spine. 1997. On Workers' Compensation. (August) 7: 9-12.

Vorro, J. Selected Spine Injuries: Herniated Disc, Sciatica, Degenerative Disc disease. 1997. On Workers' Compensation. (September) 7: 9-13.

Jones, MZ, Alroy, J, Boyer, PJ, Cavanagh K, Johnson K, Gage D, Vorro J, Render JA. 1998. Caprine Mucopolysaccaridosis - IIID: Clinical, biochemical, morphological and immunochemical characteristics. J. Neuropathology and Experimental Neurology. 57:148-157.

Vorro, J. and W. Johnston. 1998. Clinical biomechanic correlates of cervical dysfunction: Part IV. Altered regional motor behavior. J. Amer. Osteo. Assoc. 98: 317-323.

Vorro, J. Whiplash. 1998. On Workers' Compensation. (May) 8: 12-13.

Vorro, J. et. al. 1998. Yearbook of the American Academy of Osteopathy. American Academy of Osteopathy. Indianapolis. Pp. 13, 102-139.

Vorro, J. The Rotator Cuff. 1999. On Workers' Compensation. (August) 9: 7-9.

Vorro, J. 2000. Conditions and Procedures Affecting the Respiratory System. On Workers' Compensation. (June) 10: 6-9.

V. PUBLICATIONS AND OTHER CREATIVE EFFORTS
(Continued)

Vorro, J. 2001. Cumulative Trauma Issues in the Workplace. On Workers' Compensation. (March) 11: 6-8.

Aguwa, M. and J. Vorro. 2001. Hepatitis C, the Liver, and Liver Function. On Workers' Compensation. (September) 11: 6-8.

Vorro, J. and WL Johnston. 2003. A Myoelectric Model for Thoracic Spinal Motion Dynamics During Clinical Rotation Tests: Part I, Ipsilateral Regional Motor Performance. J. Amer. Osteo. Assoc., 103: 187-193.

Vorro, J. and WL Johnston. 2003. A Myoelectric Model for Vertebral Motion Behavior in the Mid-thorax During Clinical Rotation Tests: Part II, Segmental Motor Behaviors. J. Amer. Osteo. Assoc., 103: 232-238.

Johnston, WJ and J. Vorro. 2003. A Call for Osteopathic Descriptive Research: Use of a Functional Model to Distinguish Segmental Dysfunction. Journal of Osteopathic Medicine. 6 (1): 30-33.

Johnston, WJ and J. Vorro. 2003. An Objective Basis for Functional Symmetry during Spinal Diagnostic Motion Testing. Ostium. (Autumn Edition) 11-13.

Vorro, J, and M. Aguwa. 2003. Workplace Considerations of Osteoporosis. On Workers' Compensation. (June) 13: 5-8.

Vorro, J. 2004. The Biomechanics of Safe Lifting. On Workers' Compensation. (May) 14: 4-8.

Vorro, J., Reid-Bush, T., Johnston, W.L., Arnsberger, S.M. 2004. Coupled Cervical Movement Behaviors During a Passive Gross Motion Diagnostic Test. First International Scientific Distance Congress on Spine and Spinal Cord Surgery, Interspine – 2004. http://surgeryserver.com. September: 39-41.

Vorro, J. 2005. Functional Methods. American Academy of Osteopathy. Indianapolis. Pp. vii-viii, Preface For The Second Edition.

Vorro, Joseph. 2006. Bewegung ist das Primare Kennzeichen von Leben. Osteopathische Medizin. 7: 41-42.

Bush T, Vorro J. 2008. Kinematic measures to objectify head and neck motions: A pilot study. JAOA 108: 55-62. (February) 108, 55-62.

V. PUBLICATIONS AND OTHER CREATIVE EFFORTS
(Continued)

Bush T, Vorro J, Alderink G, Gorbis S, Mingfei Li, Leitkam S. 2010. Relating a manual medicine diagnostic test of cervical motion function to specific 3-D kinematic variables. Int J Osteo Med. 13 (8) 48-55

Manorama A, Baek S, Vorro J, Sikorskii A, Bush T. 2010. Blood perfusion and transcutaneous oxygen level characterizations in human skin with changes in normal and shear loads- Implications for pressure ulcer formation. Clinical Biomechanics 25 (8) 823-828

VI. ABSTRACTS, PROCEEDINGS, POSTERS

Vorro, J.R. 1972. A stroboscopic photographic study of motion changes that accompany modifications and improvements in a throwing performance. AAHPER. p. 73.

Vorro, J.R. and D.J. Hobart. 1973. A cinematographical analysis of the intermittent modifications occurring during the acquisition of a novel throwing skill. Fourth International Seminar on Biomechanics. p. 85.

Hobart, D.J. and J.R. Vorro. 1973. An electromyographic analysis of the intermittent modifications occurring during the acquisition of novel throwing skill. Fourth International Seminar on Biomechanics. p. 36.

Vorro, J.R. 1975. A four muscle synchronized electromyographic and cinematographic study of skill acquisition in women. The Anatomical Record. 181:502.

Staling, L.M., J.R. Vorro, and P. Fetchero. 1975. Mandibular kinesiology: Occlusal contact effect on mandibular motion and position. Fifth International Congress of Biomechanics. p. 148.

Staling, L.M., J.R. Vorro, R. Gigliotti, P. Fetchero. 1975. Neuromuscular control of mandibular position. International Society of Electrophysiological Kinesiology Newsletter, Number 14, pp. 7-8.

Hobart, D.J. and J.R. Vorro. 1975. Cinematographic and electromyographic analysis of skill acquisition. International Society of Electrophysiological Kinesiology Newsletter, Number 14, pp. 5-6.

Vorro, J.R. and D. Hobart. 1976. A possible functional difference in humans between M. Coracobrachialis and M. Biceps Brachii (Caput Breve). The Anatomical Record. 184:555.

Vorro, J.R. and D. Hobart. 1976. Kinematic and mechanical correlates of skill acquisition: 150 cm. Subject-to-target distance. Abstracts of Communication. pp. 171-175.

Vorro, J.R. 1978. A multivariate analysis of biomechanical profiles for shoulder muscles involved in a skilled human movement. The Anatomical Record. 190:574.

Simard, T., J. Vorro, P. Rocque. 1978. Quantitative electromyographic analysis of the deltoid muscle in normal and muscular dystrophy subjects. Proceedings: International Society of Electrophysical Kinesiology North American Regional Meeting. pp. 75-88.

VI. ABSTRACTS, PROCEEDINGS, POSTERS
(Continued)

Williams, M., U. Mostosky, R. Schirmer, J. Vorro, K.W. Ho, G. Padgett. 1979. An inherited myopathy in dogs. Fed. Amer. Soc. Exp. Biol. V. 38, N. 3.

Vorro, J., W. Johnston, and R. Hubbard. 1979. Biomechanical analysis of symmetric and asymmetric cervical function. J.A.O.A. 79:61.

Vorro, J., S. Herman, R. Hallgren, and R. Carrow. 1979. Effects of forced exercise on normal and myopathic hamsters: An electromyographic study. Fourth International Congress of Electrophysiological Kinesiology, p. 240-1.

Vorro, J., W. Johnston and R. Hubbard. 1980. Biomechanical analysis of symmetric and asymmetric cervical function I. J.A.O.A. 80:297.

Vorro, J., W. Johnston, R. Hubbard. 1981. Biomechanical analysis of symmetric and asymmetric cervical function II. J.A.O.A. 80:752.

Vorro, J., W. Johnston, R. Hubbard. 1982. Biomechanical analysis of symmetric and asymmetric cervical function III. J.A.O.A. 82:140.

Johnston, W. and J. Vorro. 1983. Biomechanical measurements of changes in cervical muscle function following osteopathic manipulative treatment. J.A.O.A. 83:68.

Vorro, J., W. Johnston. 1984. Muscular correlates for clinical asymmetries. J.A.O.A. 84:125.

Beal, M., W. Johnston and J. Vorro. 1985. A correlation of myoelectric findings with clinical progress in patients with chronic cervical pain. J.A.O.A. 85:661-662.

Vorro, J., W. Johnston. 1989. Frequency analysis of symmetric and asymmetric cervical muscle function. J.A.O.A. 89:1358.

Jones, M.Z., R. Fisher, C. Lowrie, C. Wheeler, J. Vorro, R. Leedle, P. Boyer, J. Kelley, R. Common. 1989. Caprine neurovisceral storage disease resembling mucopolysaccharidosis I: Clinical and morphological studies. Abstracts of Proceedings, Canadian International Neuroscience Symposium. p. 79.

Grambo-Fahlgren, J., H. Reynolds, J. Vorro, M. Beal. 1990. 3-D motion of the pelvis during passive leg lifting. Abstract Book, 8th. International Congress of ISEK, p. 61

Johnston, W., J. Vorro, R. Hubbard, M. Beal. 1992. Measurable correlates of cervical dysfunction. Poster. 93rd. MAOP&S and Postgraduate Convention, p. 18.

Vorro, J., W. Johnston. 1994. Adaptive myoelectric patterns of cervical dysfunction. J.A.O.A. 8:678.

VI. ABSTRACTS, PROCEEDINGS, POSTERS
(Continued)

Bush, T., Mills, F., Thakurta, K., Hubbard, R., and J. Vorro. 1994. The use of electromyography for seat assessment and comfort evaluation. Human Factors in Vehicle Design, SAE Technical Series 950143: 27-32.

Vorro, J., W. Johnston. 2000. Myoelectric patterns in the mid-thorax during clinical rotation tests. J.A.O.A. 100:515.

Vorro, J., W. Johnston. 2000. Myoelectric patterns in the mid-thorax during clinical rotation tests. National Osteopathic Medicine Week. MSUCOM. November 12-18.

Johnston, W., J. Vorro, 2002. An EMG analysis of active and passive mid-thoracic spinal segment patterns occurring during diagnostic motion tests. 103rd. MAOP&S and Postgraduate Conference, Detroit, Mi., May 16, 2002.

Johnston, W., J. Vorro, 2002. An EMG analysis of active and passive mid-thoracic spinal segment patterns occurring during diagnostic motion tests. J.A.O.A. 102:441.

Bush-Reid, T., J. Vorro, G. Alderink, S. Gorbis, S. Leitkam. 2008. Use of a kinematic parameter for an evidence-based assessment of a manual medicine diagnostic technique. World Congress on Neck Pain. Hyatt Regency Century Plaza, Los Angeles, California, January 21, 2008.

Rutledge B, Bush TR, Vorro J, DeStefano L, Francisco T, Gorbis S. 2010. Inter-Examiner Comparisons of a Human Cervical Diagnosis Technique. The Annual Meeting for the American Society of Biomechanics (ASB), Providence, RI, August 18-21, 2010.

Rutledge B, Vorro J, DeStefano L, Francisco T, Gorbis S, Bush TR. 2010. Objective Measures Relating Cervical Dysfunction to Clinical Diagnosis and Treatment Effects. ASME 2010 Summer Bioengineering Conference, Naples, FL. June 16-19, 2010.

Rutledge B, Bush-Reid, T, Vorro J, DeStefano L, Francisco T, Gorbis S. 2010 Inter-Examiner Comparisons of a Human Cervical Diagnosis Technique. The Annual Meeting for the American Society of
Biomechanics (ASB), Providence, RI. August 18-21, 2010.

VII. SCIENTIFIC PROGRAM PARTICIPATION

Vorro, J.R. 1972. A stroboscopic photographic study of motion changes that accompany modifications and improvements in a throwing performance. AAHPER. Houston, Texas.

Hobart, D.J. and Vorro, J.R. 1973. An electric timer for synchronized cinematography and electromyography. Electrophysiological Measurements Conference. College Park, Maryland.

Vorro, J.R. 1973. A cinematographical analysis of the intermittent modifications occurring during the acquisition of a novel throwing skill. Fourth International Seminar on Biomechanics, University Park, Pennsylvania.

Vorro, J.R. 1975. A four muscle synchronized electromyographic and cinematographic study of skill acquisition in women. Eighty-eighth Session, American Association of Anatomists. Los Angeles, California.

Vorro, J.R. and Hobart, D. 1976. A possible functional difference in humans between M. Coracobrachialis and M. Biceps Brachii (Caput Breve). Eighty-ninth Session, American Association of Anatomists. Louisville, Kentucky.

Vorro, J.R. and Hobart, D. 1976. Kinematic and mechanical correlates of skill acquisition: 150cm. Subject-to-target distance. Third International Congress of Electrophysiological Kinesiology, Pavia, Italy.

Vorro, J.R. 1978. A multivariate analysis of biomechanical profiles for shoulder muscles involved in a skilled human movement. Ninety-first Session, American Association of Anatomists. Vancouver, British Columbia.

Simard, T., J. Vorro, and P. Rocque. 1978. Quantitative electromyographic analysis of the deltoid muscle in normal and muscular dystrophy subjects. North American Regional Meeting of the International Society of Electrophysiological Kinesiology. Baltimore, Maryland.

Vorro, J., W. Johnston, and R. Hubbard. 1979. Biomechanical analysis of symmetric and asymmetric cervical function I. Twenty-third Annual American Osteopathic Medical Association Research Convention. Chicago, Illinois.

Vorro, J., S. Herman, P. Hallgren, and R. Carrow. 1979. Effects of forced exercise on normal and myopathic hamsters: An electromyographic study. Fourth International Congress of Electrophysiological Kinesiology. Boston.

Vorro, J. 1980. Kinematic and myoelectric analysis of symmetric and asymmetric cervical function. International Conference on Concepts and Mechanisms of Neuromuscular Functions. East Lansing, Michigan.

VII. SCIENTIFIC PROGRAM PARTICIPATION
(Continued)

Vorro, J., W. Johnston, and R. Hubbard. 1980. Biomechanical analysis of symmetric and asymmetric cervical rotation II. Twenty-fourth Annual American Osteopathic Medical Association Research Convention. Chicago, Illinois.

Vorro, J., W. Johnston, and R. Hubbard. 1981. Biomechanical analysis of symmetric and asymmetric cervical function III. Twenty-fifth Annual American Osteopathic Medical Association Research Convention. Chicago, Illinois.

Vorro, J., W. Johnston, and R. Hubbard. 1982. Biomechanical analysis of symmetric and asymmetric cervical function IV. Twenty-sixth Annual American Osteopathic Medical Association Research Convention. Chicago, Illinois.

Johnston, W. and J. Vorro. 1983. Biomechanical measurements of changes in cervical muscle function following osteopathic manipulative treatment. Twenty-seventh Annual American Osteopathic Medical Association Research Convention. Chicago, Illinois.

Vorro, J. and W. Johnston. 1984. Muscular correlates to clinical asymmetries. Twenty-eighth Annual American Osteopathic Medical Association Research Convention. Colorado Springs, Colorado.

Beal, M., W. Johnston, and J. Vorro. 1985. A correlation of myoelectric findings with clinical progress in patients with chronic cervical pain. Twenty-ninth Annual American Osteopathic Medical Association Research Convention. Chicago, Illinois.

Beal, M., W. Johnson, and J. Vorro. 1986. A correlation of myoelectric findings with clinical progress in patients with chronic cervical pain: A pilot study. VIII Congress of the International Federation for Manual Medicine. Madrid, Spain.

Vorro, J. 1987. Myoelectric correlates to clinical progress in patients with chronic cervical pain. North American Regional meeting of the International Society of Electrophysiological Kinesiology. Baltimore, Maryland.

Vorro, Joseph, W. Johnson. 1988. Frequency analysis of symmetric and asymmetric cervical muscle function. Thirty-second Annual American Osteopathic Medical Association Research Convention. Las Vegas, Nevada.

Beal, M., Reynolds, H.M., Vorro, J., & Fahlgren-Grambo, J. 1989. Clinical findings of sacroiliac mobility and their relationships to mechanical properties of the straight leg raising test. Ninth International Congress of Federation Internationale De Medecine Manuelle, London, England, September 18-22.

VII. SCIENTIFIC PROGRAM PARTICIPATION
(Continued)

Jones, M.Z., R. Fisher, C. Lowrie, C. Wheeler, J. Vorro, R. Leedle, P. Boyer, J. Kelley, R. Common. 1989. Caprine neurovisceral storage disease resembling mucopolysaccharidosis I: Clinical and morphological studies. Canadian International Neuroscience Symposium, University of Guelph, Guelph, Ontario, June 5-7.

Jones, M.Z., G. Dawson, R. Fisher, C. Lowrie, C. Wheeler, J. Render, K. Johnson, J. Vorro, R. Leedle, P. Boyer, J. Kelley, R. Common. 1990. Caprine neurovisceral storage disease resembling mucopolysaccharidosis variants: Clinical morphological and preliminary biochemical studies. XIth International Congress of Neuropathology, Kyoto, Japan, September 1-8.

Grambo-Fahlgren, J., H. Reynolds, J. Vorro, M. Beal. 1990. 3-D motion of the pelvis during passive leg lifting. 8th. International Congress of ISEK, Baltimore, August 12-16.

Johnston, W., J. Vorro, R. Hubbard, M. Beal. 1992. Measurable correlates of cervical dysfunction. 93rd. MAOP&S and Postgraduate Conference, Detroit, Mi., May 14, 1992.

Johnston, W., J. Vorro, R. Hubbard, M. Beal. 1992. Measurable correlates of cervical dysfunction. Thirty-sixth Annual American Osteopathic Medical Association Research Convention. San Diego, Ca., November 1-3, 1992.

Vorro, J., W. Johnston. 1994. Adaptive myoelectric patterns of cervical dysfunction. Thirty-eighth Annual American Osteopathic Medical Association Research Convention. San Francisco, Ca., November 16, 1994.

Bush, T., Mills, F., Thakurta, K., Hubbard, R., and J. Vorro. 1995. The use of electromyography for seat assessment and comfort evaluation. Human Factors in Vehicle Design, Society of Automotive Engineering International Congress. Detroit, Mi., February 27, 1995.

Vorro, J., W. Johnston. 2000. Myoelectric patterns in the mid-thorax during clinical rotation tests. Forty-fourth Annual American Osteopathic Medical Association Research Convention. Orlando, Fla., October 30-31, 2000.

Johnston, W., J. Vorro, 2002. An EMG analysis of active and passive mid-thoracic spinal segment patterns occurring during diagnostic motion tests. 103rd. MAOP&S and Postgraduate Conference, Detroit, Mi., May 16, 2002.

Johnston, W., J. Vorro, 2002. An EMG analysis of active and passive mid-thoracic spinal segment patterns occurring during diagnostic motion tests. Annual American Osteopathic Medical Association Research Convention. Las Vegas, NV, October 7-11, 2002.

VII. SCIENTIFIC PROGRAM PARTICIPATION
(Continued)

Bush-Reid, T., J. Vorro, G. Alderink, S. Gorbis, S. Leitkam. 2008. Use of a kinematic parameter for an evidence-based assessment of a manual medicine diagnostic technique. 22nd World Congress on Neck Pain. Hyatt Regency Century Plaza, Los Angeles, California, January 20-22, 2008.

Rutledge B, Vorro J, DeStefano L, Francisco T, Gorbis S, Bush TR. 2010. Objective Measures Relating Cervical Dysfunction to Clinical Diagnosis and Treatment Effects. ASME 2010 Summer Bioengineering Conference, Naples, FL. June 16-19, 2010.

Rutledge B, Bush TR, Vorro J, DeStefano L, Francisco T, Gorbis S. 2010. Inter-Examiner Comparisons of a Human Cervical Diagnosis Technique. The Annual Meeting for the American Society of Biomechanics (ASB), Providence, RI, August 18-21, 2010.

III. RESEARCH GRANTS

Muscular Dystrophy Association
"Delineation of a Degenerative Myopathy in German Wire-haired Pointer Dogs"
Joseph Vorro: Co-Investigator (with George Padgett, Department of Pathology)
Amount: $21,600
Funding Period: 7/1/79 - 6/30/80
Description: Study undertaken to define this myopathy in terms of clinical, pathologic, biochemical and myoelectric parameters for comparison to similar disorder in humans.

American Osteopathic Association
"Kinematic and Myoelectric Analysis of Symmetric and Asymmetric Cervical Function"
Joseph Vorro: Principal Investigator
Amount: $10,000
Funding Period: 9/1/79 - 8/31/80
Description: This study examined patterns of muscular activity in human subjects in response to various cervical motions. Specifically, the study: 1. identified patterns of myoelectric and kinematic cervical activity which upon motion testing were identified as being symmetric and free from motion pathology, 2. compared the control biomechanical patterns with those of subjects diagnosed as demonstrating cervical dysfunction and asymmetrical responses to motion, and 3. incorporated the use of biomechanical procedures in the evaluation of functional changes in cervical mobility.

National Science Foundation
"Engineering Specialized Research Equipment"
Joseph Vorro: Co-Investigator (with Harry Hedges, Department of Computer Science)
Amount: $72,100
Funding Period: 4/79 - 3/81
Description: This proposal was funded to purchase a minicomputer-based digital Fourier Analyzer system with an intelligent graphics terminal, printer/plotter and interfaces. Equipment purchased with this proposal allowed analyses of EMG signals, computer controlled experimentation and, in conjunction with already available equipment and facilities, provided for significantly advanced communication prosthetic research, development and communication enhancement.

VIII. RESEARCH GRANTS
(Continued)

National Science Foundation
"A Study of Human Myoelectric Potential for Application to Computer-Based Communication Enhancement Devices and Systems"
Joseph Vorro: Co-Investigator (with MA Rahimi, Department of Computer Science)
Amount: $279,154
Funding Period: 9/1/80 - 8/31/83
Description: Many individuals with severe neurological or neuromuscular conditions are unable to write or speak understandably. Our group has demonstrated that practical computer-based communication is possible using overt biological signals (EMG). This project further explored the linguistic capabilities and potential of EMG signals as a source of input for communication enhancement devices.

United States Air Force
"Mechanical Stress on Soft Tissue Material Properties"
Joseph Vorro: Co-Principal Investigator (with Robert Little, Department of Biomechanics)
Amount: $166,795
Funding Period: 2/15/79 - 2/18/82
Description: My portion (JV) of this project concerned the survey of back musculature of primates as part of a biomechanical study of the spinal system with emphasis on soft tissues. The comparative study was made of rhesus, baboon, chimpanzee and human specimens. Information regarding the similarities and differences of major muscles supporting the spinal system assisted in interspecies scaling and model development for use in evaluating injuries to aircrew men.

N.I.H. Biomedical Research Support Grant
"Bioelectric Signal Storage Equipment"
Joseph Vorro: Principal Investigator
Amount: $5,400
Funding Period: 5/80 - 5/81
Description: Funds from this proposal were used to purchase a multichannel FM signal recorder.

VIII. RESEARCH GRANTS
(Continued)

American Osteopathic Association
"Frequency Analysis of Symmetric and Asymmetric Cervical Muscle Function"
Joseph Vorro:
Amount: $22,800
Funding Period: 11/1/81 - 5/1/83
Description: This project identified specific muscle spectral (EMG signal processing) responses for cervical motions for both control and experimental groups of human subjects. These data were then examined for their applicability for the evaluation of treatment and/or management of chronic cervical pain and dysfunction.

National Osteopathic Foundation
"Myoelectric Analysis of Symmetric and Asymmetric Motion Function at Thoracic Spinal Segments"
Joseph Vorro: Principal Investigator
Amount: $18,575
Funding Period: 9/1/83 - 8/31/86
Description: This project identified human myoelectric frequency patterns within specific thoracic segments identified as being clinically normal in response to motion testing by a physician. These data were compared with similar data for segments diagnosed as being dysfunctional in response to motion testing.

All-University Research Support
"The Mechanical Properties of the Straight Leg Raising Test"
Joseph Vorro: Co-Principal Investigator
Amount: $12,245
Funding Period: 7/1/86 - 6/30/87
Description: The straight-leg raising test is used clinically to subjectively measure the extent of disability arising from sciatic nerve entrapment. This study investigated the relationships between right and left legs for hip motion, hip resisting moment and thigh myoelectric activity. The data from 30 healthy adult males were compared to clinical results used to detect barriers to motion at the hip and sacroiliac joints. The quantitative analysis of this test added insight to current palpatory tests of hip and pelvic motion dysfunction.

VIII. RESEARCH GRANTS
(Continued)

Johnson Controls, Inc.
"Electromyography Protocol for Assessment of Seats"
Joseph Vorro: Co-Principal Investigator (with Robert Hubbard, Department of Biomechanics)
Amount: $22,698
Funding Period: 9/1/93 - 2/28/94
Description: This project involved the development of a methodology for the use of electromyography utilizing human subjects in the evaluation of automotive seats.

Johnson Controls, Inc.
"Electromyography Protocol for Assessment of Seats"
Joseph Vorro: Co-Principal Investigator (with Robert Hubbard, Department of Biomechanics)
Amount: $27,946
Funding Period: 5/15/94 - 12/15/94
Description: Utilizing the methodology previously established, human muscle activity was evaluated for several prototype automotive seats

MSUCOM Seed Research Support Grant
"Development of a Practical, Objective Measurement Device for Assessment of Human Motor Function"
Joseph Vorro: Principal Investigator (with Tamara Reid-Bush and William Johnston)
Amount: $5,000
Funding Period: 5/01 - 5/02
Description: This study determined the effectiveness of a practical, affordable kinematic measurement technology for application to objective clinical studies. The intention is to make use of this tool in clinical studies related to measurements of human motor function and dysfunction, studies of inter-examiner reliability, and applications to classroom use.

Health Resources and Services Administration, Department of Health and Human Services
“Academic Administrative Units in Primary Care – Family Medicine”
Research Mentor
Amount: $463,529.
Funding Period: 9/01 – 8/04
Description: This project contributes research that develops positive health outcomes in primary care.

VIII. RESEARCH GRANTS
(Continued)

Health Resources and Services Administration, Department of Health and Human Services
“Academic Administrative Units in Primary Care – FM & Peds.”
Research Mentor
Amount: $930,215.
Funding Period: 9/05 – 8/08
Description: This project contributes research that develops positive health outcomes in primary care and pediatrics.

National Osteopathic Foundation
"Myoelectric Analysis of Symmetric and Asymmetric Motion Function at Thoracic Spinal Segments"
Joseph Vorro: Principal Investigator
Amount: $18,575
Funding Period: 9/1/83 - 8/31/86
Description: This project identified human myoelectric frequency patterns within specific thoracic segments identified as being clinically normal in response to motion testing by a physician. These data were compared with similar data for segments diagnosed as being dysfunctional in response to motion testing.

American Academy of Osteopathy
“Objective Kinematic Correlates of Palpatory Diagnosis”
Joseph Vorro: Principal Investigator (with Tamara Reid-Bush)
Amount: $10,000.
Funding Period: 9/06 – 8/07
Description: Results from this project link standard palpatory diagnostic test results to instrumentally measured kinematic data from human subjects.

American Osteopathic Association
“Interexaminer Reliability, Validity, and Outcomes Study of Osteopathic Treatment for Patients with Cervical Somatic Dysfunction?
Joseph Vorro: Principal Investigator
Amount: $49,946
Funding Period: 9/1/09 – 8/31/11
Description: This projected used proven objective measures of human motion analysis to assess specific aspects of purposeful manual medicine diagnostic and treatment affects.

VIII. RESEARCH GRANTS
(Continued)

Fellowships

Educational Commission for Foreign Medical Graduates
"Foreign Faculty Fellowship Program in the Basic Medical Sciences"
Joseph Vorro: Principal Investigator - Director of Fellowship
Amount: $30,000
Funding Period: 1/91 - 12/91
Description: This fellowship enabled Dr. Panayota Pertopoulos, D.D.S., Ph.D. to join the MSU Department of Anatomy to participate in our teaching program. Dr. Petropoulos, an anatomist at the College of Medicine, University of Zimbabwe studied our methods of anatomy presentation in addition to assisting our Department with instruction. The ECFMG Board of Trustees established this fellowship to enable selected basic science faculty from foreign medical colleges to study in the U.S. for a one year period intending that this experience will contribute to the advancement of education in the basic sciences in the awardees home institutions and countries.

IX. GRANT REVIEWER

Medical Research Council of Canada
Electrophysiology, Gross Anatomy, Biomechanics: 1984-1997

All University Research Initiation Grants (AURIG)
General Muscle Function, Gross Anatomy, Biomechanics:
1986-98

American Veterinary Medical Association Council on Research
Electrophysiology, Biomechanics: 1987-98

College of Veterinary Medicine
Graduate Study and Research Committee
BRSG/Companion Animal Fund/Pure-bred Dog Endowment Fund: 1991-98

College of Osteopathic Medicine
Biomedical Research Support Grants

College of Human Medicine
Biomedical Research Support Grants

American Osteopathic Association
Electrophysiology, Gross Anatomy, Biomechanics: 1992-present

U.S. Department of Agriculture
Agriculture Research Service, Regional Poultry Research Lab.

U.S. Public Health Service
National Institute for Occupational Safety and Health
Electrophysiology, Gross Anatomy, Biomechanics: 1987-present

U.S. Department of Health and Human Services
Health Resources and Services Administration
Academic Administrative Units: 2002- present

Medical Science Monitor
International Medical Journal for Experimental and Clinical Research
2003 to present

X. GRADUATE STUDENT COMMITTEES

1. Gary Lawson, Audiology and Speech Science, Ph.D. 1975.
2. Kevin Scribner, Anatomy, M.S. 1977.
3. Carl Freidlander, Computer Sciences, Ph.D. 1979.
4. Linda Riensche, Audiology and Speech Science, Ph.D. 1979.
5. Kent Christopher, Biology, Michigan Tech., M.S. 1979.
6. Richard Evans, Physical Education, Ph.D. 1980.
7. Beverly Ulrich, Physical Education, Ph.D. 1984.
8. Patricia Connelly Taylor, Audiology and Speech Science, Ph.D. 1984.
9. Bruce Jayne, Zoology, Ph.D. 1985.
10. Kuang-Ying Houng, Fisheries and Wildlife, M.S. 1992
11. Tamara Bush, Mechanical Engineering, Ph.D. 2000
12. Yasin Dhaher, Mechanical Engineering, Ph.D. 1996
13. Barry Frost, Material Science, Mechanics, M.S. 1999
14. Richard Setyabudhy, Material Science, Mechanics, Ph.D.
15. Brian Atkins, Anatomy, M.S.
16. Donna Rhors, Anatomy, M.S., 1996
17. Jolynn Nelson, Physical Education, M.S., 1997
18. Zhenyu Liu, Mechanical Engineering, Ph.D., 2004
19. Jaime Tanner, Zoology, Ph.D., 2007
20. Suzanne LaCroix, Zoology, Ph.D., 2011
21. Abinand Anbazhagan Manorama, Mechanical Engineering, M.S., 2008
22. Zahid Rampurawala, Mechanical Engineering, M.S., 2008

XI. JOURNAL AND BOOK REVIEWER

Anatomical Record
Gross Anatomy, Electrophysiology, Biomechanics: 1984-present

Journal of the Baltimore College of Dental Surgery
Electrophysiology, Biomechanics: 1976-80

Kinesiology Reports
In: Journal of Health, Physical Education and Recreation
Electrophysiology, Biomechanics: 1977-1980

Wm. C. Brown Co. Publishers
Undergraduate Anatomy Texts: 1980-90

National Institute of Occupational Safety and Health, D.S.R.,
Morgantown, WV: 1985-present

Medical Science Monitor (www.medscimonit.com)
2004-present

XII. PROFESSIONAL ACTIVITIES

Membership in Professional Organizations

American Association of Anatomists Chairmen's Association
American Society of Biomechanics
International Society of Biomechanics
International Society of Electrophysiological Kinesiology
Board of Certification in Emergency Medicine, Academic Advisory Council, 1998

XIII. INVITED TALKS

Louisiana State University, Department of Anatomy, College of Medicine, New Orleans, February 12, 1974. "Electromyography in Biomedical Research".

University of Kansas, Department of Anatomy, College of Medicine, Kansas City, March 4, 1974. "EMG Evaluations of Human Movement".

University of Illinois, Department of Anatomy, College of Medicine, Chicago, March 18, 1974. "Electromyographic Research Techniques".

George Washington University Medical Center, Department of Anatomy, Washington, February 6, 1975. "Biomechanical Assessments of Human Movement".

Emory University Regional Rehabilitation Research and Training Center, February 23, 1975. "EMG Applications to Rehabilitation Medicine".

Michigan State University, Department of Anatomy, April 7, 1975. "Cinematographic and Electromyographic Study of the Acquisition of Human Motor Skill".

Michigan State University, Department of Biomechanics, East Lansing, April 7, 1976. "EMG Evaluations of Skeletal Muscle Function".

Michigan State University, Department of Anatomy, East Lansing, May 17, 1977. "Biomedical Research in Anatomy".

Michigan Trial Lawyers Association, Lansing, Michigan: Lecturer in Anatomy and Physiology: 1978.

University of Maryland, Department of Physical Therapy, College of Medicine, Baltimore. Workshop in Gross Anatomy of the Lower Extremity. February 23-25, 1978.

Michigan State University, Department of Biochemistry, East Lansing, April 17, 1978. "Electromyographical Techniques in Biomedical Research".

Michigan Center for Continuing Education in Osteopathic Medicine, Neuro-Musculo-Skeletal Problems-Osteopathic Approach, Jackson, Michigan, October 25, 26, 1980. "Micro Anatomy of Muscles and Nerves".

Third Annual Pain Seminar Pain Research and Control Institute, Southfield, Michigan, March 8, 1981. "EMG Findings in Stress Related to Musculoskeletal Pain".

Neuroscience Program - Brown Bag Seminar, Michigan State University, East Lansing, November 19, 1981. "Principles of Electromyography".

XIII. INVITED TALKS
(Continued)

Michigan Center for Continuing Education in Osteopathic Medicine, Medical and Surgical Chest, Pontiac, Michigan, November 7, 8, 1981. "Surgical and Medical Considerations".

Michigan Trial Lawyers Association, Lansing, Michigan: Lecturer in Anatomy and Physiology: 1981.

Michigan Osteopathic Medical Assistant's Association - In Service Training Program: 1982-1985

Michigan Center for Continuing Education in Osteopathic Medicine, Series of Urology Seminars, Pontiac, Michigan, March 9, 1983. "Renal Anatomy".

Educational Council on Osteopathic Principles, Michigan State University, East Lansing, October 14, 15, 1983. "EMG Assessment of Neuromuscular Dysfunction".

Michigan Center for Continuing Education in Osteopathic Medicine, Diagnosis and Osteopathic Treatment of Myositis and Osteitis, Pontiac, Michigan, December 10-11, 1983. "Anatomy of the Head and Neck".

Lansing General Hospital, General Anatomy Lectures: June-October 1983.

Lansing General Hospital, Lectures to Surgical Residents: January-February, 1984.

Michigan State University, Institute for Research on Teaching, Design Institute for Gifted and Talented Students, August 8 and 13, 1984.

Department of Biomechanics, Michigan State University, East Lansing, March 1, 1985. "EMG and Spinal Motion".

Faculty Forum, College of Osteopathic Medicine, October 21, 1985. "The Primacy of Movement Function"

Chicago College of Osteopathic Medicine, Chicago, April 19, 1985. "Instrumental Methods for Osteopathic Clinical Research"

Michigan Trial Lawyers Association, Lansing, Michigan: Lecturer in Anatomy and Physiology: 1985.

Institute of Continuing Legal Education, Ann Arbor, Michigan: Lecturer in Anatomy and Physiology: 1986.

Second Annual Orthopaedic Conference, Vistas of the Cervical Spine, Michigan State University, East Lansing, December 6, 1986. "Anatomical Basis for Study of the Cervical Spine"

Botsford Hospital: Anatomy Review for Anesthesia Residents, October, 24, 1987

Neuroscience Program - Brown Bag Seminar, Michigan State University, East Lansing, October 1, 1987. "Electrophysiology Research - EMG"

Michigan Trial Lawyers Association, Lansing, Michigan: Lecturer in Anatomy and Physiology: 1988.

Institute of Continuing Legal Education, Ann Arbor, Michigan: Lecturer in Anatomy and Physiology: 1988

OMM Residents - Seminar presentation: Electromyography techniques. Michigan State University, East Lansing, January 23, 1994

Anatomy for Orthopaedic Surgeons, Michigan State University, East Lansing, January 3 - 7, 1995

Anatomy for General Surgeons, Michigan State University, East Lansing, March 8 - 11, 1995

Anatomy for Workers' Compensation Practitioners. Lectures, June & November 1995 to 2000

Anatomy for Orthopaedic Surgeons, Michigan State University, East Lansing, January 2 - 5, 1996

Anatomy for General Surgeons, Michigan State University, East Lansing, March 20 - 23, 1996

Genesys Regional Medical Center, St. Joseph Hospital, Flint, Michigan. Podiatry Lecture Series. Endoscopic Heel Systems, Plantar Fasciatomy, May 11, 1996

General Surgery Continuing Medical Education. East Lansing. Breast Disease: Benign & Malignant, June 19, 1996.

General Surgery Continuing Medical Education. East Lansing. Anatomy of Abdominal Wall & Inguinal Region. October 23, 1996.

Anatomy for Orthopaedic Surgeons, Michigan State University, East Lansing, January 6 - 10, 1997.

Anatomy for General Surgeons, Michigan State University, East Lansing, March 19 - 22, 1997.

Anatomy for OBGYN Residents, Michigan State University, East Lansing, March 24 - 26, 1997.

III. INVITED TALKS
(Continued)

Anatomy for Orthopaedic Surgeons, Michigan State University, East Lansing, January 5 - 8, 1998.

Anatomy for General Surgeons, Michigan State University, East Lansing, March 18 - 21, 1998.

Anatomy for OBGYN Residents, Michigan State University, East Lansing, March 16 - 17, 1998.

The Therapy Institute. Cadaveric Prosections of the Upper and Lower Extremities. East Lansing. June 12, 13, 1998.

Anatomy for General Surgeons, Michigan State University, East Lansing, October 28, 1998. Anatomy of Hernia Repair.

Anatomy for Orthopaedic Surgeons, Michigan State University, East Lansing, November 11, 1998. Upper Extremity Development & Molecular Markers.

Anatomy for Orthopaedic Surgeons, Michigan State University, East Lansing, August 11, 1999. Selected Anatomy of the Knee.

Anatomy for Orthopaedic Surgeons, Michigan State University, East Lansing, October13, 1999. Anatomy of the Pelvis: Includes Anterior and Posterior Surgical Approaches.

XIV. PROFESSIONAL SERVICE

A. Scientific

Editorial Board, Kinesiology Reports, Journal of Health, Physical Education and Recreation. 1877-79

Invited Session Chairman: North American Meeting - International Society of Electrophysiological Kinesiology, Baltimore, June, 1978. Biomechanics Session.

Invited Session Chairman: North American Meeting - International Society of Electrophysiological Kinesiology, Baltimore, August, 1987.

Elected Council Member: International Society of Electrophysiological Kinesiology, Enschede, The Netherlands, July, 1988.

Editor: Newsletter of the International Society of Electrophysiological Kinesiology. Elected at the ISEK Congress in Enschede, The Netherlands, 1988 - 1990.

Invited Session Chairman: International Congress of Electrophysiological Kinesiology, Ergonomics Session. Baltimore, Md. August, 1990.

Invited Session Chairman: North American Congress on Biomechanics, Anthropology Session, Chicago, IL. August, 1992.

Invited Item Writer: Level 1, National Board of Osteopathic Medical Examiners, 1996-98.

Appointed: Academic Advisory Council, National Board of Certification in Emergency Medicine, April, 1997.

Invited Presentation: President's Banquet, MAOP&S and Postgraduate Conference, Detroit, Mi., May 17, 2002.

XIV. PROFESSIONAL SERVICE
(Continued)

B. Department

Department of Anatomy Advisory Committee: Elected member 1976-1977, 1979, 1980-82, 1982-85, and 1998. Elected chairman 1985.

Anatomy Faculty Selection (Recruitment) Committees: Elected member: Dennis Steindler-1978, William Falls-1979, Irena Grofova-1979, Duke Tanaka-1979, Mary Rheuben-1979, Charles Wilson-1979, Sandra Haslam-1980, Sharleen Sakai-1984

Anatomy Department Chairperson Search Committee: Elected member 1979

Nomination, M.S.U. Teacher/Scholar Award, October, 1979

Acting Department of Anatomy Chairman January, 1986 to October 1, 1992

Department of Anatomy Chairman: 1992- 1998

Department of Family and Community Medicine Executive Committee 2000-

Chairman, Department of Family and Community Medicine Research Committee: 2000-2001

Chairman, Department of Family and Community Medicine Faculty and Staff Selection (Recruitment) Committee 2000-present

XIV. PROFESSIONAL SERVICE
(Continued)

C. Colleges

1. College of Osteopathic Medicine

Admissions Committee: Appointed: 1977-1979
Chairman - College Admissions Committee: Elected 1979
Minority Student Admissions Subcommittee: 1977-1979
Chairman - Minority Admissions Subcommittee: Elected 1979
Admissions Interviewer: 1976 to present
Taskforce on Osteopathic Theory and Methods: Appointed 1977-1984
Academic Advisor: 1977 to present
Musculoskeletal Systems Biology Task Force: Appointed 1977-1978
NIH Biomedical Research Support Program Committee: Appointed, 1981-1983
Clinical Review Committee: Appointed 1982
Committee on Student Evaluation: Appointed 1982-1984
Chairman - COSE: Elected 1983
Educational Council on Osteopathic Principles: Oct. 14,15, 1983- Participant and Seminar presentation.
Tenure and Promotion Advisory Committee: Elected 1984-1986
Academic Leadership Program: 1987-1989, by invitation of Dean Magen
College Self-Study Committee (1983-1988): AOA Accreditation Preparation: April 1988-February 1989
Surgical Anatomy for Osteopathic General and Orthopedic Residents: Co- organizer, sponsor and faculty member, July 22-24, 1989
Task Force on Basic Sciences, Appointment, July - October, 1991
Accreditation Visitation Committee, American Osteopathic Association. October 20, 1992.
Surgical Advisory Committee, Presentation, February 9, 1993
Patenge Endowed Chair Search Committee, 1999-96
College Advisory Committee, Elected, 1998
College Promotion & Tenure Committee, Elected, 2001-2002
College Promotion & Tenure Sub-committee for Health Programs Faculty, 2001-03
College Promotion & Tenure Sub-committee for Health Programs Faculty, Associate Chairperson, 2002-03

XIV. PROFESSIONAL SERVICE
(Continued)

2. College of Veterinary Medicine

Lecturer and Resource Person: Wildlife Rotation: By request, 1976 to present
Summer Research Apprenticeship Program: Voluntary mentor, June-August, 1984
Admissions Interviewer: 1988 to 1996
MSU Pre-Veterinary Club: Lecturer and wildlife resource person, 1977 to present
Continuing Education Symposium on Zoo and Wildlife Medicine and Management (SCAVMA): Lecturer, "Care and Treatment of Injured Wildlife and Wildlife and Zoo Animal Restraint" October 17, 1981, Michigan State University
Student Chapter of the American Veterinary Medical Association's National Symposium: Lecture and Laboratory sessions on raptor rehabilitation, handling and treating birds of prey, March 25-26, 1983
Summer Research Apprenticeship Program, Seminar Presentation, July 11, 1984.
Student Chapter of Association of Avian, Zoo and Wildlife Veterinarians: Lecturer, "Veterinary aspects of birds of prey. January 23, 1992. M.S.U.
Invited Judge: Graduate and professional student research presentations, Phi Zeta Day: 1993, 1994, and 1995
Wildlife Club, Lecture, October 9, 2000
Wildlife Club, Lecture, April 16, 2003

3. College of Human Medicine

NIH Biomedical Research Support Program: Grant reviewer, 1988 to present
CHM/COM Curriculum Revision Committee, Level B: Anatomy Representative
LCME Basic Science Review Committee, 1991-92
ABLE Instructor, 1994-95

XIV. PROFESSIONAL SERVICE
(Continued)

D. University

University Grievance Panel: 1981
Medical Technology Curriculum Evaluation Committee: 1981
MSU Fisheries and Wildlife Club: Lecturer and resource person, 1977 to present
Summer Design Institute for Gifted and Talented Students in the Arts and Sciences: Faculty member, Aug. 9-15, 1984
M.S.U. Karate Club: Faculty Advisor, 1985-1986
Spartan Speakers Bureau: 1989 to present: Lectures given at: Lake Superior State University, Northern Michigan University, Central Michigan University, Oakland Community College, Sienna Heights College, Hillsdale College, Albion College, Ferris State University, Hope College, Delta College
Michigan Science Olympiad, College of Natural Science Outreach; K-12, July, 1991
International Studies and Programs: Interview Egyptian Vice President Dr. Maher Mostafa Kamel, Menla University, September 1, 1992

E. Land Grant/Outreach/Community Service

-Michigan Department of Natural Resources, Wildlife Division: Resource person and consultant, 1976-90
-The Ypsilanti Press. Winged Hunters. January 29, 1978. Interview.
-Bay City Times. Talking Back. February 2, 1978. Interview.
-Saginaw News. Falconers Become Subject of Heated Debate. February 5, 1978. Interview
-Jackson Citizen Patriot. Feathers Fly as Falconers Seek Status. January 7, 1978. Interview
-Town Courier, East Lansing Mi. Falconer Explains Sport to Okemos Cornell students. January 11, 1978. School visit, Interview
-The Sunday Chronicle, Muskegon, Mi. Michigan Licensed Falconers Under Fire. Jan. 15, 1978. Interview
-The State Journal. From Persia to Grand Ledge. January 29, 1978. Interview
-Grand Rapids Press. State's Falconers Become the Subject of Public Debate. January 29, 1978. Interview
-The Detroit News. Ancient Art Sparks Michigan Dispute. January 30, 1978. Interview
-Natural Resources Commission: Testimony Relating to Michigan Birds of Prey, February, 1978
-Michigan Out-of-Doors. Peregrines May be Reintroduced Here, V. 32, N. 3. March, 1978. Interview. p. 35
-Michigan State News. State Falconry Proposal Controversial. March 29, 1978. Interview.
-M.S.U. Fisheries & Wildlife Club, Seminar, April, 1978
-The State News. Falconry: Natural Way of Hunting. August 25, 1978, Interview. p. 5

XIV. PROFESSIONAL SERVICE
(Continued)

-The Sunday Sun, Marquette, Michigan, Studying the art of flight. September 17, 1978
-MSU News Bulletin, Prof Offers 'Flight school' for Injured Birds. July 12, 1979
-Detroit News, His Lessons are for the Birds. July 25, 1979
-Focus, MSU College of Ag & Nat Res. Flight School for Grounded Birds: XIV, 2, p 6-7.
-The Lansing State Journal, Birds attend his Flight School. August 2, 1979
-Chippewa Nature Center, Wildlife Recovery Association: Natural Science Series - "Treatment, Rehabilitation and Release of Raptorial Birds". Midland, December 4, 1979
-Editor-in-Chief, North American Falconers Association Journal: 1979-1985
-Belle Isle Nature Center, City of Detroit, Consultant: 1979 to 83
-Detroit Zoo, Medical Advisory Committee: By invitation, 1980 to 83
-Michigan Natural Resources. Falconer Helps Birds to Fly. V. 49, N. 4, July-August, 1980. Interview
-Television Interview, Channel 23 WKAR, Michigan Outdoors - Interview by Fred Trost, September, 1982
-Michigan United Conservation Clubs - Michigan Birds of Prey: Houghton Lake, August 13-15, 1982 and February 4-6, 1983
-Saginaw Valley Field and Stream Meeting: "Raptor Rehabilitation and Appreciation", Saginaw, September 15, 1983
-Impression 5 Museum: Lectures and demonstration in Anatomy for Children's Programs, 1984 to 1990
-Michigan United Conservation Clubs - Outdoorama, Detroit, Michigan. Presentation, February 22, 1987
-Radio Interview: WKAR, Steve Jensen Show, East Lansing, 1987 Habitat News, Spring 1987 Issue - Interview, p. 4
-Michigan Wildlife Habitat Foundation - Southfield Festival: "Wildlife Rehabilitation," Southfield, April 4, 1987
-Michigan Wildlife Habitat Foundation, Habitat News, Spring, 1987. Article, p. 4.
-Television Interview: WKBD, Ch. 50, Southfield, Michigan, Sherry Woodward: Morning Break Program, July 21, 1987
-The State News, Michigan State University. Interview. V82, N115. July 31, 1987
-Television Interview: WOTV, Ch. 8, Grand Rapids, Michigan, Bernie Reno, August 1, 1987
-Habitat News, Spring, 1987 Issue - Article, p. 6
-The Grand Rapids Press. Interview. August 15, 1987
-Habitat News, Summer, 1987 Issue - Article, p. 6
-Cooperative Extension Service - Video Interview by Lisa Telder, August 11, 1987
-The Advisor Newspapers. Interview. September 21, 1987
-"Energy People" Publication of the Michigan Consolidated Gas Co., October, 1987. Looking Up for the Peregrine. pp. 14-17
-Michigan United Conservation Clubs "Outdoorama." Special Presentation, Peregrines Falcons in Detroit, February 22, 1987

XIV. PROFESSIONAL SERVICE
(Continued)

-Ingham County Probate and Juvenile Court Youth Center: Lecture to Juvenile Offenders - "Careers in Science", Lansing, June 6, 1988
-Michigan State University, News Bureau Publication, July 26, 1988, Tom Oswald: News and Features
-Radio Interview: WJR, Detroit, August 2, 1988
-Kellogg Biological Station: "Michigan Birds of Prey" November 5, 1988
-Eastern Michigan University - Graduate Biology Course-ESC 591, January 13, 1989 - "Biology of Birds of Prey"
-Oakland Community College: Michigan Community College Biologists Meeting, Raptor Biology. April 7, 1989
-Lansing State Journal, "What They're reading". Interview. May 28, 1989
-Michigan State University - Faculty Folk Club: "Michigan Birds of Prey" January 12, 1990
-Department of Animal Science, Michigan State University, East Lansing, April 2, 1990. "Biological Aspects of Birds of Prey"
-Lansing Farmers' Club: "Michigan Birds of Prey" May 7, 1990
-East Lansing Kiwanas Club: "Michigan Birds of Prey" September 17, 1990
-Sigma Xi, The Scientific Research Society, M.S.U., Michigan Birds of Prey, March 29, 1991
-Science Day at the Mall. Presentation re: Department of Anatomy, M.S.U., Meridian Mall, February 22, 1992
Eastern Michigan University - Graduate Biology Course-ESC 591, February 5, 1993, "Biology of Birds of Prey"
-Michigan United Conservation Clubs "Outdoorama." February 28, 1993. "Falconry" Magazine Interview. Michigan Outdoor Journal, Whose Ethics, June 1993. p. 25-29.
-"Peregrine Return, an Urban Wildlife Celebration." Detroit - Book Building. Fund raising for Michigan DNR Natural Heritage Program. May 18, 1995
-Anatomy & Physiology Lecturers. Law Firm: Fraser, Trebilcock, Davis & Foster. Feb-Mar, 1996.
-Lansing State Journal: “Skeletal System-Kid Science”. February 5, 1997. p. 6D.
-Michigan Wildlife Habitat Foundation - Southfield Festival: "Wildlife Rehabilitation," Southfield, March 15, 1997
-Habitat News, Spring 1997 Issue - Article
-Lansing State Journal, Minority Report, August 8, 2003 - Article and photograph
-http://www.msutoday.msu.edu/23Mar2007-5; MSU News Bulletin, V38, N 14, March 29, 2007; Researchers use innovative technology to diagnose and treat head, neck pain by Laura Mercer, March 23, 2007
-http://newsroom.msu.edu/site/indexer/3042/content.htm; Researchers use innovative technology to diagnose and treat head, neck pain; March 29, 2007
-MSU Alumni Magazine, Spring 2007, Vol. 24, No., 3, p.7; New Technology for Head, Neck Pain.
- MSU, Men’s Health Fair, October 15, 2009, Ask the Doctors.

personal data â€” asmens duomenys statusas Aprobuotas sritis asmens duomenÅ³ apsauga apibrÄ—Å¾tis Bet kuri informacija, susijusi su fiziniu asmeniu â€“ duomenÅ³ subjektu, kurio tapatybÄ— yra Å¾inoma arba gali bÅ«ti tiesiogiai ar netiesiogiai nustatyta pasinaudojant tokiais â€¦ Lithuanian dictionary (lietuviÅ³ Å¾odynas). personal data â€” asmeniniai duomenys statusas T sritis informatika apibrÄ—Å¾tis AsmenÄ¯ identifikuojantys ir su juo susijÄ™ duomenys: â†‘ The Law on Personal Data defines personal data as any information referring directly or indirectly to a particular or identified individual (a data subject). Law enforcement practice, along with official recommendations issued by administrative bodies (Roskomnadzor[2], the Ministry of Communications), specifies this kind of broad legal definition of data. The crucial factor in treating information as personal data is the possibility of identifying the person. â€˜personal dataâ€™ shall mean any information relating to an identified or identifiable natural person (â€˜data subjectâ€™); an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identification number or to one or more factors specific to his physical, physiological, mental, economic, cultural or social identityÂ Personal Data. Recital 26 of the Directive states that whether or not the individual is