

CURRICULUM VITAE

JANE A. KENT, Ph.D.

Department of Kinesiology
Totman 111
University of Massachusetts
Amherst MA 01003

(413) 545-9477
(413) 545-2906 FAX
jkent@kin.umass.edu

I. EDUCATION

California State University, Long Beach, B.A., Physical Education, 1980

California State University, Long Beach, M.A., Physical Education (Exercise Physiology), 1983

University of Southern California, Ph.D., Physical Education (Exercise Physiology), 1987

4/87-8/89: **Post-Doctoral Fellow**, Department Biochemistry & Biophysics, School of Medicine, University of Pennsylvania, Philadelphia. *Topic: In vivo* NMR spectroscopy studies of human skeletal muscle metabolism.

9/89-6/90: **Post-Doctoral Fellow**, Department of Biochemistry, University of Massachusetts, Amherst. *Topic: Single-cell fluorescence studies of intracellular calcium transients and nicotinic receptor desensitization.*

7/90-8/92: **Post-Doctoral Fellow**, Department of Radiology, University of California, San Francisco. *Topic: Metabolic studies of skeletal muscle fatigue in neuromuscular disease.*

II. WORK EXPERIENCE

1983-1984: **Instructor**, Freshman Writing Program, University of Southern California. Responsibilities: independently designed and taught writing classes required of all freshmen at USC

1982-1988: **Founder and Co-Director**, Sports Medicine & Science Program of the Olympic Yachting Committee, United States Yacht Racing Union. Responsibilities: organized and conducted clinics and training camps around the country and at the U.S. Olympic Training Center in Colorado Springs, wrote relevant informative articles and exercise prescriptions for elite-level sailors, coaches' education, referrals for special needs, development clinics for younger athletes, etc.

1984-1987: **Sport Scientist**, *America II* Challenge for the America's Cup. Directed all aspects of human performance for the 22-man crew. Responsibilities:

exercise training, sport psychology, injury prevention and care, nutrition & diet design, biomechanical testing and evaluation of equipment, and full-time crew member

- 9/92- 12/99: **Adjunct Assistant Professor**, Department of Radiology, University of California, San Francisco. Laboratory: Magnetic Resonance Unit, VA Medical Center. *Focus*: Metabolic and neurophysiologic studies of human skeletal muscle fatigue and deconditioning in health, aging and chronic disease
- 1/00- 1/03: **Associate Professor**, Department of Exercise Science and Organismic & Evolutionary Biology Program, University of Massachusetts, Amherst; Director, Muscle Physiology Lab. *Focus*: Human skeletal muscle function, fatigue, aging, gender, neuromuscular disorders
- 6/01- 12/14 **Visiting Research Scientist**, Department of Diagnostic Radiology (Magnetic Resonance Research Center), Yale University School of Medicine
- 2/03- present: **Professor**, Department of Kinesiology (Exercise Science), and *Organismic & Evolutionary Biology Program*, University of Massachusetts, Amherst
- 2003-2017: **Professor**, *Neuroscience & Behavior Program*, University of Massachusetts, Amherst
- 2014-present: **Faculty**, Center for Personalized Health Monitoring, *Institute of Applied Life Sciences*, UMass, Amherst
- 2015-2017: **Founding Co-Director**, Human Magnetic Resonance Center, *Institute of Applied Life Sciences*, UMass, Amherst
- 2017-present: **Chair**, Department of Kinesiology

III. PROFESSIONAL AFFILIATIONS and AWARDS

- American College of Sports Medicine (since 1982)
- Elected Fellow, American College of Sports Medicine (1994)
- American Physiological Society (since 1994)
- Gerontological Society of America (2001, 2011)
- International Society for Magnetic Resonance in Medicine (1987-89, 2003-)
- Elected Fellow, National Academy of Kinesiology (2007)
- Member, NIH Musculoskeletal Rehabilitation Sciences Study Section (2011-2015)
- Exceptional Merit Award, University of Massachusetts, Amherst (2012)

IV. RESEARCH ACTIVITIES

Publications

Refereed Papers:

- Chance, B, JS Leigh, BJ Clark, J Maris, **J Kent**, S Nioka, D Smith. Control of oxidative metabolism and oxygen delivery in human skeletal muscle: A steady-state analysis of the work/energy cost transfer function. *Proc. Natl. Acad. Sci., USA*, 82:8384-8388, 1985
- Chance, B, JS Leigh, **J Kent**, KK McCully. Metabolic control principles and ³¹P NMR. *Fed. Proc.*, 45:2915-2920, 1986
- Chance, B, JS Leigh, **J Kent**, KK McCully, S Nioka, BJ Clark, J Maris, T Graham. Multiple controls of oxidative metabolism in living tissues as studied by phosphorus magnetic resonance. *Proc. Nat. Acad. Sci., USA*, 83:9458-9462, 1986
- Chance, B, S Nioka, **JA Kent**, KK McCully, M Fountain, R Greenfield, G Holtom. Time resolved spectroscopy of hemoglobin and myoglobin in resting and ischemic muscle. *Anal. Biochem.*, 174:698-707, 1988
- Chance, B, E Borer, A Evans, G Holtom, **JA Kent**, M Maris, KK McCully, J Northrop, M Shinkwin. Optical and NMR studies of hypoxia in human tissue and tumors. *Annals NY Acad. Sci.*, 551:1-16, 1989
- Hall, SJ, **JA Kent**, VR Dickinson. Comparative assessment of novel sailing trapeze harness designs. *Inter. J. Sport Biomech.*, 5(3):289-296, 1989
- Kent-Braun, JA**, KK McCully, B Chance. Metabolic effects of training in humans: a ³¹P MRS study. *J. Appl. Physiol.*, 69(3):1165-1170, 1990
- Lyford, LK, **JA Kent-Braun**, EW Westhead. Substance P enhances desensitization of the nicotinic response in bovine chromaffin cells but enhances secretion upon removal. *J. Neurochem.*, 55:1960-1965, 1990
- Kent-Braun, JA**, LK Lyford, DJ Gross, EW Westhead. Effects of substance P on secretion of catecholamines from populations of bovine chromaffin cells and on calcium transients in individual cells. *Annals NY Acad. Sci.*, 632:241-248, 1991
- McCully, KK, BJ Clark, **JA Kent**, J Wilson, B Chance. Biochemical adaptations to training: implications for resisting muscle fatigue. *Can. J. Physiol. Pharmacol.*, 69:274-278, 1991
- McCully, KK, H Kakihira, K Vandenborne, **J Kent-Braun**. Noninvasive measurements of activity-induced changes in muscle metabolism. *J Biomech*, 24(S1):153-161, 1991
- Kent-Braun, JA**, RG Miller, MW Weiner. Phases of metabolism during progressive exercise to fatigue in human skeletal muscle. *J. Appl. Physiol.* 75(2):573-580, 1993
- Kent-Braun, JA**, KR Sharma, B Massie, MW Weiner, RG Miller. Central basis of muscle fatigue in chronic fatigue syndrome. *Neurology*, 43:125-131, 1993
- Kent-Braun, JA**, KR Sharma, MW Weiner, RG Miller. Effects of exercise on muscle activation and metabolism in multiple sclerosis. *Muscle Nerve* 17:1162-1169, 1994
- Kent-Braun, JA**, KR Sharma, RG Miller, MW Weiner. Postexercise phosphocreatine resynthesis is slowed in multiple sclerosis. *Muscle Nerve*, 17:835-841, 1994
- Sharma, KR, **JA Kent-Braun**, MA Mynhier, MW Weiner, RG Miller. Excessive muscular fatigue in the postpoliomyelitis syndrome. *Neurology*, 44(4):642-646, 1994
- Sharma, KR, **JA Kent-Braun**, M Mynhier, MW Weiner, RG Miller. Evidence of an abnormal intramuscular component of fatigue in multiple sclerosis. *Muscle Nerve* 18:1403-1411, 1995
- Sharma, KR, **JA Kent-Braun**, S Majumdar, Y Huang, M Mynhier, MW Weiner, RG Miller. Physiology of fatigue in amyotrophic lateral sclerosis. *Neurology* 45:733-740, 1995

- Kent-Braun, JA**, KR Sharma, MW Weiner, RG Miller. Effects of electrically stimulated exercise training on muscle function in multiple sclerosis. *J Neuro Rehab* 10:143-152, 1996
- Kent-Braun, JA** and R LeBlanc. Quantitation of central activation failure during maximal voluntary contractions in humans. *Muscle Nerve* 19:861-869, 1996
- Ng, AV, RG Miller, **JA Kent-Braun**. Central motor drive is increased during voluntary muscle contractions in multiple sclerosis. *Muscle Nerve* 20:1213-1218, 1997
- Kent-Braun, JA**, AV Ng, M Castro, GA Dudley, RG Miller. Strength, skeletal muscle composition and enzyme activity in multiple sclerosis. *J Appl Physiol* 83:1998-2004, 1997
- Ng, AV and **JA Kent-Braun**. Quantitation of lower physical activity in persons with multiple sclerosis. *Med Sci Sports Exer* 29:517-523, 1997
- Castro M, **JA Kent-Braun**, AV Ng, RG Miller, GA Dudley. Muscle fiber-type specific myofibrillar actomyosin Ca²⁺ ATPase activity in multiple sclerosis. *Muscle Nerve* 21:547-549, 1998
- Kent-Braun, JA**, C Walker, MW Weiner, RG Miller. Functional significance of upper and lower motor neuron impairment in amyotrophic lateral sclerosis. *Muscle Nerve* 21:762-768, 1998
- Kent-Braun, JA**. Central and peripheral contributions to muscle fatigue during sustained maximal effort in humans. *Eur J Appl Physiol* 80:57-63, 1999
- Ng, AV and **JA Kent-Braun**. Slowed muscle contractile properties are not associated with a decreased EMG/force relationship in older humans. *J Gerontol Biol Sci* 54A:B452-B458, 1999
- Kent-Braun, JA** and AV Ng. Specific strength and voluntary muscle activation in young and elderly women and men. *J Appl Physiol* 87:22-29, 1999
- Kent-Braun, JA**, AV Ng, K Young. Skeletal muscle contractile and non-contractile components in young and older women and men. *J Appl Physiol* 88:662-668, 2000
- Ng, AV, HT Dao, RG Miller, DF Gelinas, **JA Kent-Braun**. Blunted pressor and intramuscular metabolic responses to voluntary isometric exercise in multiple sclerosis. *J Appl Physiol* 88:871-880, 2000
- Johansen, KL, GM Chertow, AV Ng, K Mulligan, S Carey, PY Schoenfeld, **JA Kent-Braun**. Physical activity levels in patients on hemodialysis and healthy sedentary controls. *Kidney International* 57:2564-2570, 2000
- Kent-Braun JA** and RG Miller. Central fatigue during isometric exercise in amyotrophic lateral sclerosis. *Muscle Nerve* 23:909-914, 2000
- Johansen KL, Painter P, **Kent-Braun JA**, Ng AV, Carey S, Da Silva M, Chertow GM. Validation of questionnaires to estimate physical activity and functioning in end-stage renal disease. *Kidney International* 59:1121-7, 2001
- Kent-Braun JA**, AV Ng, JW Doyle, TF Towse. Human skeletal muscle responses to fatigue vary with age and gender during fatigue due to incremental isometric exercise. *J Appl Physiol*, 93:1813-23, 2002
- Johansen KL, T Shubert, J Doyle, B Soher, G Sakkas, **JA Kent-Braun**. Muscle atrophy in patients receiving hemodialysis: effects on muscle strength, muscle quality, and physical function. *Kidney International*, 63:291-297, 2003
- Russ DW, **JA Kent-Braun**. Sex differences in human skeletal muscle fatigue are eliminated under ischemic conditions. *J Appl Physiol* 94:2412-2422, 2003
- Damon B, D Bartholomew, Z Ding, J Gore, **JA Kent-Braun**. Cluster analysis of muscle functional MRI data. *J Appl Physiol* 95:1287-96, 2003

- Lanza IR, TF Towse, GE Caldwell, DM Wigmore, **JA Kent-Braun**. Effects of age on human muscle torque, velocity and power in two muscle groups. *J Appl Physiol* 95:2361-2369, 2003
- Ng AV, Miller RG, Gelinas D, **JA Kent-Braun**. Functional relationships of central and peripheral muscle alterations in multiple sclerosis. *Muscle Nerve* 29:843-52, 2004
- Lanza IR, Russ DW, **Kent-Braun JA**. Age-related fatigue enhancement of resistance is evident during both isometric and dynamic tasks. *J Appl Physiol* 97:967-75, 2004
- Wigmore DM, BM Damon, DM Pober, **JA Kent-Braun**. MRI Measures of perfusion-related changes in human skeletal muscle during progressive contractions. *J Appl Physiol* 97:2385-94, 2004
- Russ DW, IR Lanza, D Rothman, **JA Kent-Braun**. Sex differences in glycolysis during brief, intense isometric contractions. *Muscle Nerve* 32:647-55, 2005
- Johansen KL, J Doyle, GK Sakkas, **JA Kent-Braun**. Neural and metabolic mechanisms of excessive muscle fatigue in maintenance hemodialysis patients. *Am J Physiol Regul Integr Comp Physiol* 289:R805-13, 2005
- Lanza IR, DE Befroy, **JA Kent-Braun**. Age-related changes in ATP-producing pathways in human skeletal muscle in vivo. *J Appl Physiol* 90:1736-44, 2005
- Wigmore DM, K Propert, **JA Kent-Braun**. Blood flow does not limit skeletal muscle force production during incremental isometric contractions. *Eur J Appl Physiol*. 96:370-8, 2006
- Sakkas GK, **JA Kent-Braun**, JW Doyle, T Shubert, P Gordon, KL Johansen. Effect of diabetes mellitus on muscle size and strength in patients receiving dialysis therapy. *Am J Kidney Dis* 47:862-9, 2006
- Lanza IR, DM Wigmore, DE Befroy, **JA Kent-Braun**. In vivo ATP production during free-flow and ischemic muscle contractions in humans. *J Physiol* 577(Pt 1): 353-67, 2006
- Damon BM, JL Hornberger, M Wadington, DA Lansdown, **JA Kent-Braun**. Dual gradient-echo MRI of post-contraction changes in skeletal muscle blood volume and oxygenation. *Magn Res Med* 57:670-9, 2007
- Chung LH, DM Callahan, **JA Kent-Braun**. Age-related resistance to skeletal muscle fatigue is preserved during ischemia. *J Appl Physiol* 103:1628-35, 2007
- Lanza IR, RG Larsen, **JA Kent-Braun**. Effects of old age on skeletal muscle energetics during fatiguing contractions with and without blood flow. *J Physiol* 583(Pt 3):1093-105, 2007
- Russ DW, TF Towse, DM Wigmore, IR Lanza, **JA Kent-Braun**. Contrasting influences of age and sex on muscle fatigue. *Med Sci Exer Sport* 40:234-41, 2008
- Remelius JG, J Hamill, **J Kent-Braun**, REA Van Emmerik. Gait initiation in multiple sclerosis. *Motor Control* 12:93-108, 2008
- Wigmore DE Befroy, IR Lanza, **JA Kent-Braun**. Contraction frequency modulates muscle fatigue and intracellular oxygenation during incremental contractions in humans. *Appl Physiol Nutr Metab* 33:915-21, 2008
- Chung LH, JG Remelius, REA Van Emmerik, **JA Kent-Braun**. Leg power asymmetry and postural control in women with multiple sclerosis. *Med Sci Sports Exer* 40:1717-24, 2008
- Sakkas G, K Mulligan, M DaSilva, JW Doyle, H Khatami, T Schleich, **JA Kent-Braun**, M Schambelan. Creatine fails to augment the benefits from resistance training in patients with HIV infection: A randomized, double-blind, placebo-controlled study. *PLoS ONE* 4(2):e4605, 2009
- Callahan DM, Foulis SA, **Kent-Braun JA**. Age-related fatigue resistance in the knee extensor muscle is specific to contraction mode. *Muscle Nerve* 39(5):692-702, 2009

- Tevald MA, Lanza IR, Befroy DE, **Kent-Braun JA**. Intramyocellular oxygenation during ischemic muscle contractions in vivo. *Eur J Appl Physiol* 106:333–343, 2009
- Larsen RG, Callahan DM, Foulis SA, **Kent-Braun JA**. In vivo oxidative capacity varies with muscle and training status in young adults. *J Appl Physiol* 107(3):873-9, 2009
- Tevald MA, Foulis SA, Lanza IR, **Kent-Braun JA**. Lower energy cost of skeletal muscle contractions in older humans. *Am J Physiol Regul Integr Comp Physiol*. 298(3):R729-39, 2010
- Lanza IR, Tevald MA, Befroy DE, **Kent-Braun JA**. Intracellular energetics and critical PO₂ in resting ischemic human skeletal muscle in vivo. *Am J Physiol Regul Integr Comp Physiol* 299(5):R1415-22, 2010
- van Emmerik, REA, Remelius JG, Johnson MB, Chung LH, **Kent-Braun JA**. Postural control in women with multiple sclerosis: effects of task, vision and symptomatic fatigue. *Gait Posture* 32(4):608-14, 2010
- Christie A, Snook EM, **Kent-Braun JA**. Systematic review and meta-analysis of skeletal muscle fatigue in old age. *Med Sci Sports Exerc*. 43:568-77, 2011
- Sanchez OA, Copenhaver EA, Chance MA, Fowler MJ, Towse TF, **Kent-Braun JA**, Damon BM. Postmaximal contraction blood volume responses are blunted in obese and type 2 diabetic subjects in a muscle-specific manner. *Am J Physiol Heart Circ Physiol*. 301(2):H418-27, 2011
- Hasson CJ, **Kent-Braun JA**, Caldwell GE. Contractile and non-contractile tissue volume and distribution in ankle muscles of young and older adults. *J Biomech* 44(12):2299-306, 2011
- Callahan DM, **Kent-Braun JA**. Effect of old age on human skeletal muscle force-velocity and fatigue properties. *J Appl Physiol*. 111(5):1345-52, 2011
- Chang R, **Kent-Braun JA**, Hamill J. Use of MRI for volume estimation of tibialis posterior and plantar intrinsic foot muscles in healthy and chronic plantar fasciitis limbs. *Clin Biomech (Bristol, Avon)*. 27(5):500-5, 2012
- Larsen RG, Callahan DM, Foulis SA, **Kent-Braun JA**. Age-related changes in oxidative capacity differ between locomotory muscles and are associated with physical activity behavior. *Appl Physiol Nutr Metab*. 2012 Feb;37:88-99
- Remelius JG, Jones SL, House JD, Busa MA, Averill JL, Sugumaran K, **Kent-Braun JA**, Van Emmerik RE. Gait impairments in persons with multiple sclerosis across preferred and fixed walking speeds. *Arch Phys Med Rehabil*. 93:1637-42, 2012
- Larsen RG, Befroy DE, **Kent-Braun JA**. High-intensity interval training increases in vivo oxidative capacity with no effect on Pi->ATP rate in resting human muscle. *Am J Physiol Regul Integr Comp Physiol*. 304(5):R333-42, 2013
- Callahan DM, Umberger B, **Kent-Braun JA**. A computational model of torque generation: neural, contractile, metabolic and musculoskeletal components. *PLoSOne* 8(2):e56013, 2013
- Kent-Braun JA**, Callahan DM, Fay JL, Foulis SA, Buonaccorsi JP. Muscle weakness, fatigue, and torque variability: effects of age and mobility status. *Muscle Nerve* 49:209-17, 2014
- Larsen RG, Maynard L, **Kent JA**. High-intensity interval training alters ATP pathway flux during maximal muscle contractions in humans. *Acta Physiol* 211(1):147-60, 2014
- Christie AD, Tonson A, Larsen RG, DeBlois JP, **Kent JA**. Human skeletal muscle metabolic economy *in vivo*: effects of contraction intensity, age and mobility impairment. *Am J Physiol-Reg* 307(9):R1124-35, 2014
- Tevald MA, Foulis SA, **Kent JA**. Effect of age on in vivo oxidative capacity in two locomotory muscles of the leg. *Age (Dordr)* 36(5):9713, 2014

- Sasaki JE1, Hickey A, Staudenmayer J, John D, **Kent JA**, Freedson PS. Performance of activity classification algorithms in free-living older adults. *Med Sci Sports Exerc* 48(5):941-50, 2016
- Callahan DM, Umberger BR, **Kent JA**. Mechanisms of in vivo muscle fatigue in humans: Investigating age-related fatigue resistance with a computational model. *J Physiol.* 594(12): 3407-21, 2016
- Christie AD, Seery E, **Kent JA**. Physical activity, sleep quality, and self-reported fatigue across the adult lifespan. *Exp Geront* 77:7-11, 2016
- Chung LH, Angelo J, van Emmerik REA, **Kent JA**. Energy cost of walking, symptomatic fatigue and perceived exertion in persons with Multiple Sclerosis. *Gait Posture* 48:215-9, 2016
- Christie AD, Foulis SA, **Kent JA**. ATP cost of muscle contraction is associated with motor unit discharge rate in humans. *Neurosci Lett* 629:186-8, 2016
- Fitzgerald LF, Christie AD, **Kent JA**. Heterogeneous effects of old age on human muscle oxidative capacity *in Vivo*: A systematic review and meta-analysis. *Appl Physiol Nutr Metab* 41(11):1137-1145, 2016
- Foulis SA, Jones SL, van Emmerik RE, **Kent JA**. Post-fatigue recovery of power, postural control and physical function in older women. *PLoS One.* 2017 Sep 7;12(9):e0183483
- Hafer J, **Kent JA**, Boyer KA. Physical activity and age-related biomechanical risk factors for knee osteoarthritis. *Gait Posture* 70:24-29, 2019
- Hafer JF, Miller MS, **Kent JA**, Boyer KA. The Roles of Sex and Physical Activity in Gait and Knee Extensor Function With Age. *J Appl Biomech.* 2019 Aug 1;35(4):263-271. PubMed PMID: 31034317
- Ducharme SW, **Kent JA**, van Emmerik REA. Comparable Stride Time Fractal Dynamics and Gait Adaptability in Active Young and Older Adults Under Normal and Asymmetric Walking. *Front Physiol.* 2019; PMC6823242
- Bartlett MF, Fitzgerald LF, Nagarajan R, Hiroi Y, **Kent JA**. Oxidative ATP synthesis in human quadriceps declines during 4 minutes of maximal contractions. *J Physiol.* 2020 Feb 11; [Epub ahead of print] PubMed PMID: 32045011
- Sato S, Lim J, Miehm JD, Buonaccorsi 4, Rajala C, Khalighinejad F, Ionete C, **Kent JA**, van Emmerik REA. Rapid foot-tapping but not hand-tapping ability is different between relapsing-remitting and progressive multiple sclerosis. *Mult Scler Relat Disord.* 2020 Feb 27;41:102031.[Epub ahead of print]
- Jaber Y, Jiminez Francisco E, Bartlett MF, Fitzgerald, **Kent JA**, Sup FC. Magnetic resonance compatible knee extension ergometer. *J Biomech Engineering* doi.org/10.1115/1.4046585 March 6, 2020 [epub ahead of print]

Chapters, Reviews and Letters:

- McCully, KK, JA Kent, B Chance. Evaluation of athletic performance using 31-P magnetic resonance spectroscopy. *Revista de Investigacion y Documentacion sobre las Ciencias de la Educacion Fisica y del Deporte Instituto de Ciencias de la Educacion Fisica y del Deporte.* Madrid, Spain, 4(8):71-92, 1988
- McCully, KK, **JA Kent**, B Chance. Application of 31P magnetic resonance spectroscopy to the study of athletic performance. *J. Sports Med. (New Zealand)*, 5:312-321, 1988

- McCully, KK, **JA Kent**, B. Chance. Muscle injury and exercise stress measured with 31-P magnetic resonance spectroscopy. Inter. Cong. Muscle Energetics, Alan Liss, Co. (R.J. Paul, K Yamada and G Elzinga, eds.), 1989
- Kent-Braun JA**, RG Miller, MW Weiner. Magnetic resonance spectroscopy studies of human muscle. DJ Sartoris, ed. Radiologic Clinics of North America, WB Saunders Co., 32(2):313-335, 1994
- Miller, RG, **Kent-Braun JA**, KR Sharma, MW Weiner. Mechanisms of human muscle fatigue: quantitating the contribution of metabolic factors and activation impairment. SC Gandevia, ed. Fatigue, Plenum Press, pp. 195-210, 1995
- Kent-Braun JA**, RG Miller, MW Weiner. Human skeletal muscle metabolism in health and disease: utility of magnetic resonance spectroscopy. JO Holloszy, ed. Exercise and Sport Sciences Reviews, Williams & Wilkins, 23:305-347, 1995
- Miller, RG, **Kent-Braun JA**, MW Weiner. Techniques for quantifying central and peripheral factors in fatigue. J Kimura and H Shibasaki, eds. Recent Advances in Clinical Neurophysiology, Elsevier, pp.708-710, 1996
- Kent-Braun, JA**. Noninvasive measures of central and peripheral activation in human muscle fatigue. Muscle & Nerve, Supplement5:S98-S101 1997
- Meyerhoff, DJ, **JA Kent-Braun**, C Greyson, MW Weiner. Magnetic resonance spectroscopy and spectroscopic imaging. CB Higgins, H Hricak, CA Helms, eds. Magnetic Resonance Imaging of the Body, 3rd ed. Lippincott-Raven Pubs, Philadelphia p. 153-174, 1997
- Kent-Braun JA**. Sensitivity of twitch interpolation: a reply [letter]. Muscle Nerve 20:708-709, 1997
- Ng AV, RG Miller, **JA Kent-Braun**. Blunted pressor and intramuscular metabolic responses to voluntary isometric exercise in multiple sclerosis: a reply [letter]. J Appl Physiol 89:2105-2106, 2000
- Hicks AL, **JA Kent-Braun**, DS Ditor. Sex differences in human skeletal muscle fatigue. Exerc Sports Sci Rev 2:109-112, 2001
- Ng AV, **JA Kent-Braun**. Basis of muscle fatigue in multiple sclerosis. Multiple Sclerosis Quarterly Report, 23:13-17, 2004
- Russ DW, **JA Kent-Braun**. Is skeletal muscle oxidative capacity decreased in old age? Sports Medicine 34:221-9, 2004
- Kent-Braun JA**, BM Damon, DM Wigmore, DM Pober. BOLD indirect versus ASL direct measurement of muscle perfusion: a reply [letter]. J Appl Physiol, 2005
- IR Lanza, **JA Kent-Braun**. ATP synthesis during ischemic muscle contractions. Physiol News 69:1-3, 2007
- Kent-Braun, JA**. Skeletal muscle fatigue in old age: Whose advantage? Exer Sports Sci Rev 37: 3-9, 2009 NIHMSID 117784
- Kent-Braun JA**, DM Callahan, SA Foulis, LH Chung. Muscle fatigue in elderly people. In: Human Muscle Fatigue, C Williams and S Ratel, eds. Routledge, Taylor & Francis, pp. 103-134, 2009
- Kent-Braun JA**, Fitts RH, Christie A. Skeletal muscle fatigue. Compr Physiol 2:997-1044, 2012
- Chung LH, **Kent-Braun JA**. Multiple Sclerosis, in Clinical Exercise Physiology, 3rd edition, Ehrman, Gordon, Cisich, Keteyian, eds. Human Kinetics Pub, pp. 511-24, 2013
- Kent JA**, Ørtenblad N, Hogan MC, Poole DC, Musch TI. No muscle is an island: Integrative perspectives on muscle fatigue. Med Sci Sports Exer 48(11):2281-2293, 2016

- Kent JA**, Fitzgerald LF. In vivo mitochondrial function in aging skeletal muscle: capacity, flux, and patterns of use. *J Appl Physiol* 121(4):996-1003, 2016
- Chung S, Nelson MD, Hamaoka T, Jacobs RA, Pearson J, Subudhi AW, Jenkins NT, Bartlett MF, Fitzgerald LF, Miehm JD, **Kent JA**, Lucero AA, Rowlands DS, Stoner L, McCully KK, Call J, Rodriguez-Miguel P, Harris RA, Porcelli S, Rasica L, Marzorati M, Quaresima V, Ryan TE, Vernillo G, Millet GP, Malatesta D, Millet GY, Zuo L, Chuang CC. Commentaries on Viewpoint: Principles, insights, and potential pitfalls of the noninvasive determination of muscle oxidative capacity by near-infrared spectroscopy. *J Appl Physiol* 124(1):249-255, 2018
- Hasson CJ, **Kent JA**, Caldwell GE. Magnetic resonance images and measurements of the volume, proportion, and longitudinal distribution of contractile and non-contractile tissue in the dorsi- and plantar flexor muscles of healthy young and older adults. *BMC Research Notes* 11(1):910, 2018 PMC6302418
- Meyerspeer M, Boesch C, Cameron D, Dezortová M, Forbes SC, Heerschap A, Jeneson JAL, Kan HE, **Kent J**, Layec G, Prompers JJ, Reyngoudt H, Sleigh A, Valkovič L, Kemp GJ. 31 P magnetic resonance spectroscopy in skeletal muscle: Experts' consensus recommendations. *NMR Biomed.* 2020 Feb 10;:e4246 [Epub ahead of print] PubMed PMID: 32037688.

For an updated listing of publications:

http://www.ncbi.nlm.nih.gov/sites/mvncbi/1j_Ca5l1YeY5H/bibliography/47312573/public/?sort=date&direction=descending

Grants Awarded

- Muscular Dystrophy Association Research Grant.* Muscle fatigue and exercise training in ALS. (RG Miller, PI) Period: 1/1/92-12/31/94. Direct Costs \$98,359. Kent-Braun, Co-investigator.
- National Multiple Sclerosis Society Research Grant.* Mechanisms of fatigue in multiple sclerosis. (RG Miller, PI) Period: 4/1/93-3/31/96. Direct Costs \$253,229. Kent-Braun, Co-investigator.
- Jimmie Heuga Center Research Grant.* Central motor drive in multiple sclerosis. (Kent-Braun, PI) Period: 09/01/94 - 08/30/96. Direct Costs \$75,440.
- California Pacific Medical Center Pilot Grant.* Muscle fatigue in aging. (Kent-Braun, PI) Period: 1/1/95-12/31/95. Direct costs: \$19,640.
- National Multiple Sclerosis Society Pilot Project Grant.* Cardiovascular autonomic function in MS. (Kent-Braun, PI) Period: 4/1/97 – 3/30/98. Direct costs: \$26,739.
- Muscular Dystrophy Association Research Grant.* Muscle activation and fatigue in amyotrophic lateral sclerosis. (Kent-Braun, PI) Period: 1/1/95-12/31/97. Direct costs: ~\$142,000.
- National Institutes of Health (NIA) R29 (FIRST) Award.* Skeletal muscle function in aging. (Kent-Braun, PI) Period: 9/1/95-8/31/00. Direct costs: \$349,202.
- National Multiple Sclerosis Society Research Grant.* Muscle fatigue and upper motor neuron function in MS. (Kent-Braun, PI) Period: 10/1/96-3/31/00. Direct costs: \$249,781.
- National Institutes of Health (NIA) R21 Award.* Sarcopenia and estrogen replacement therapy in post-menopausal women. (Kent-Braun, PI) Period: 4/1/99- 5/31/02. Direct costs: \$198,230.
- National Institutes of Health (NIDDK) R01 Award.* Anabolic steroids and exercise in dialysis patients (K. Johansen, PI). Period: 8/1/99 - 7/31/03. Direct costs: \$871,784. Kent-Braun, Co-investigator.

- National Institutes of Health (CAM) R01 Award.* Ergogenic effects of creatine supplementation in HIV-associated wasting. (M. Schambelan, PI). Period: 7/1/00 - 6/30/04. Direct costs: \$594,187. Kent-Braun, Co-investigator.
- National Multiple Sclerosis Society Research Grant.* Mechanisms of fatigue in multiple sclerosis. (AV Ng, PI). Period: 10/1/00-9/30/03. Direct costs: \$287,250. Kent-Braun, Co-investigator.
- University of Massachusetts Faculty Research Grant.* Mechanisms of human muscle fatigue in older adults. (Kent-Braun, PI). Period: 12/1/00-11/30/01. Direct costs: \$14,574.
- National Institutes of Health (NIA) R01 Award.* Skeletal muscle fatigue in older adults. (Kent-Braun, PI). Period: 9/30/02-12/31/13. Direct costs: \$2,400,000.
- National Multiple Sclerosis Society Pilot Project Grant.* Postural stability and fatigue in multiple sclerosis. (Van Emmerik, PI). Period: 6/1/03-5/31/04. Direct costs: \$39,906
- National Institutes of Health (NIA) K02 Award.* Mechanisms of skeletal muscle fatigue in aging adults. (Kent-Braun, PI). Period: 7/01/04-5/31/11. Direct costs: \$572,130
- National Institutes of Health (NIA) R03 Award.* Muscular properties and balance control in older adults (Caldwell, PI; Kent-Braun, consultant). Period: 7/1/06-6/30/08. Direct costs: ~\$100,000
- National Institutes of Health (NIDDK) R21 Award.* MRI detection of skeletal muscle microvascular dysfunction (Damon, PI; Kent-Braun, consultant). Period: 12/1/06-11/30/08. Direct costs: ~\$275,000
- National Institutes of Health (NCI) U01 Award.* Development of an integrated measurement system to assess physical activity (Freedson, PI; Kent-Braun, co-investigator) Period: 7/1/07-7/30/13. Direct costs: \$1,934,941
- National Multiple Sclerosis Society Research Grant Award.* Dynamic balance control and fatigue in MS (van Emmerik, PI; Kent-Braun, co-investigator). Period: 10/1/07-9/30/12. Direct costs: ~\$474,500
- University of Massachusetts, Amherst MRI Pilot Research Grant.* Skeletal Muscle Perfusion by Functional MRI: Application to Aging. Period: 3/1/08-2/28/09 Direct costs: \$15,000
- University of Massachusetts, Amherst Faculty Research Grant.* A Model for Simulating Skeletal Muscle Energy Consumption. Umberger, PI; Kent-Braun, Co-investigator Period: 7/1/08-6/30/09 Direct costs: \$30,000
- University of Massachusetts, Amherst MRI Pilot Research Grant.* Low Testosterone: Impact On Skeletal Muscle and Visceral Fat in Type 2 Diabetes. Chipkin, MD, PI; Kent-Braun, Co-investigator, Period: 8/1/08-7/31/09 Direct costs: \$14,980
- School of Public Health & Health Sciences, Research Enhancement Opportunity Award.* Fatigue and the metabolic cost of activity in young and older adults. JA Kent, PI. Period: 4/1/14-3/30/16 Direct costs: \$10,000
- National Multiple Sclerosis Society Pilot Project Grant.* Foot Tap Speed: A Biomarker for Mobility in MS? Kent, PI. Period: 4/1/15-3/31/17 Direct costs: \$43,421
- Department of Defense, Multiple Sclerosis Research Program.* The MS Neuromotor Test: A Non-Ambulatory Measure of Sensorimotor Function to Identify and Track Progressive MS. van Emmerik, PI; Kent, Co-investigator. Period: 10/1/16-9/30/19. Total costs: \$863,000
- National Institutes of Health, NIA R01 AG-047245.* Sex-Specific Adaptation to Different Resistance Exercise Programs in Older Adults. Miller (PI), Kent, Chipkin, Staudenmayer (Co-Is). Period: 9/1/2017-3/31/22 Total costs: \$2,523,927

- UMass Institute of Applied Lifes Sciences. Human Magnetic Resonance Center Pilot Grant.*
Mechanical Disruption of Force Transmission by Adipose Tissue in Human Skeletal Muscle. Kent (PI), Miller (Co-I) Period: 3/13/17-3/31/18 Total costs: \$7,500
- UMass Institute of Applied Lifes Sciences; Human Magnetic Resonance Center Pilot Grant.*
Energetic Basis of Muscle Fatigue in Aging. Kent (PI), Miller (Co-I). Period: 3/6/17-12/31/18 Total costs: \$7,444
- UMass Institute of Applied Lifes Sciences; Human Magnetic Resonance Center Pilot Grant.*
Skeletal muscle composition in healthy older men and women. Miller (PI), Kent (Co-I) Period: 3/19/17-3/31/18 Total costs: \$7,500
- American College of Sports Medicine Foundation, Doctoral Research Grant.* Mechanisms Underlying Age-Related Differences in Muscle Fatigue. Kent (PI), Fitzgerald (Co-I). Period: 6/1/17-10/31/18. Total costs: \$4,950
- American College of Sports Medicine Foundation, Doctoral Research Grant.* An In Vivo Respirometry Protocol to Detect Mitochondrial Uncoupling During High-Intensity Contractions. Kent (PI), Bartlett (Co-I). Period: 7/1/18-6/30/19. Total costs: \$5,000
- National Institutes of Health, NIA R01 AG0472245.* Sex-specific adaptation to resistance exercise programs in older adults. Miller (PI), Kent (Co-I). Period: 9/1/2017-3/31/2022. Total costs: \$2,523,927
- National Institutes of Health, NIAMS R21 AR073511.* Mechanical Disruption of Force Transmission by Adipose Tissue in Human Skeletal Muscle. Kent (PI), Miller, Chipkin, Buonaccorsi (Co-Is). Period: 8/1/18-7/30/20. Total costs: \$374,188
- National Institutes of Health, NIAMS R01AR073831.* Development and Application of Muscle Diffusion Tensor MRI. Damon (PI), Kent (consultant). Period: 5/7/2019-4/30/24. Total costs: \$2,315,736
- National Institutes of Health, NIA R01AG058607.* Muscle Fatigue and its Impact on Mobility Function in Aging. Kent (PI), Miller, Boyer, Chipkin. Period: 8/15/19-5/31/24. Total cost: \$2,563,832

Invited Lectures

- Magnetic Resonance Spectroscopic Studies of Muscle Metabolism in Multiple Sclerosis.* Center for Research in Disease Prevention, Stanford University, November 1992 (seminar)
- Exercise in Non-Controllable Diseases.* University of California Berkeley Extension, October 1992 (lecture)
- Deconditioning and Exercise in Special Populations.* California State University, Hayward Extension, October 1993 (lecture)
- Exercise Science and the Study of Multiple Sclerosis.* American College of Sports Medicine Annual Meeting, Seattle, June 1993 (colloquium)
- Exercise for People with Neurologic Diseases/Disorders.* Western Athletic Clubs, American College of Sports Medicine Continuing Education Program, San Francisco, May 1993 (symposium)
- Localizing the Source of Muscle Fatigue in Clinical Populations.* Society of Magnetic Resonance Workshop, Liverpool, England, June 1994 (symposium)
- Magnetic Resonance Spectroscopy: Applications in Exercise Physiology.* Southwest ACSM Meeting, San Deigo, November, 1995 (tutorial)
- Human Skeletal Muscle Metabolism: Investigations Using Magnetic Resonance Spectroscopy.* Department of Kinesiology, University of Colorado at Boulder, October 1995 (seminar)

- Noninvasive Measures of Central and Peripheral Activation During Muscle Fatigue.* National Institute on Aging Workshop, Bethesda MD. July, 1996 (presentation).
- Skeletal Muscle Function in Aging.* Department of Human Biodynamics, University of California at Berkeley. April, 1996 (seminar)
- Muscle Function in Chronic Disease.* Department of Kinesiology, San Francisco State University, October 1997 (seminar)
- Human Skeletal Muscle Function.* Exercise Science Department, Oregon State University. May, 1997 (seminar)
- 31-Phosphorus Magnetic Resonance Spectroscopy Studies of Muscle Metabolism and Fatigue: Integration with Other Methodologies.* American College of Sports Medicine National Meeting, Denver. May 1997 (symposium)
- Muscle Function in People with Multiple Sclerosis.* American College of Sports Medicine National Meeting, Denver. May 1997 (colloquium)
- Is It Fat or Is It Muscle, and Why do We Care?* Magnetic Resonance Unit, University of California, San Francisco. May, 1998 (seminar)
- Human Skeletal Muscle Function in Aging and Chronic Disease.* Blood Flow Group, University of California, San Francisco & Berkeley, June 1998 (presentation)
- Magnetic Resonance Spectroscopy: Applications to Exercise Science and Sports Medicine.* Southwest Chapter Meeting, American College of Sports Medicine, Las Vegas, November 1998 (symposium)
- Evaluation of Human Skeletal Muscle Function: Conditions of Disuse.* Michels Forum, American Physical Therapy Association, Combined Sections Meeting, Seattle, February 1999 (symposium)
- Peripheral Contributions to Motor Fatigue in Disorders of the Central Nervous System.* Second International Congress of Neurological Rehabilitation, Toronto, Canada, April 1999 (symposium)
- Human Skeletal Muscle Function: Activation, Metabolism and Fatigue.* School of Kinesiology, University of Western Ontario, London, Ontario, Canada, April 1999 (seminar)
- Neuromuscular Disorders and Fatigue.* American College of Sports Medicine National Meeting, Seattle, June 1999 (symposium)
- Skeletal Muscle Function and Gender: Women and Men Might Be Different!* American College of Sports Medicine National Meeting, Seattle, June 1999 (mini-symposium)
- Strategic Health Initiatives: Opening the Doors to the College's Programmatic Priorities.* American College of Sports Medicine National Meeting, Seattle, June 1999 (colloquium)
- Noninvasive Measurement of Human Skeletal Muscle Function.* Department of Exercise Science, University of Massachusetts, Amherst, February 2000 (seminar)
- Studies of Muscle Energetics and Aging Using MRI Spectroscopy.* National Institute on Aging, Health ABC Project, Bethesda, March 2000 (symposium)
- Mechanisms of Human Skeletal Muscle Fatigue.* Sargent College of Health and Rehabilitation Sciences, Boston University, March 2000 (lecture)
- Implications of Disuse in Neuromuscular Disorders.* American College Sports Medicine National Meeting, Indianapolis, June 2000 (symposium)
- Skeletal Muscle Function: Influence of Age and Gender.* European College of Sport Science Annual Meeting, Jyväskylä Finland, July 2000 (symposium)
- Noninvasive Measures of Human Skeletal Muscle Function.* New England Chapter Meeting, American College of Sports Medicine, Providence, November 2000 (tutorial)

- Mechanisms of Muscle Fatigue in Aging Men and Women.* Department of Diagnostic Radiology, Yale University School of Medicine, November 2000 (seminar)
- Human Skeletal Muscle Function: Effects of Age & Gender.* Neuroscience and Behavior Program, University of Massachusetts, Amherst. November 2000 (seminar)
- Mechanisms of Human skeletal muscle fatigue: do age or gender play a role?* Department of Health Sciences, Boston University. March 2002 (lecture)
- Age & Sex: Effects on the Fatigability of Muscular Contractions.* American College of Sports Medicine National Meeting, St. Louis, May 2002 (symposium)
- Do the Mechanisms of Fatigue Vary With Age and Gender?* 2nd Annual Muscle Meeting, Amherst MA, June 20-21, 2002 (seminar)
- The Mechanisms of Fatigue in Young and Older Men and Women.* John B. Pierce Foundation, New Haven CT, February 2003 (seminar)
- Mechanisms of skeletal muscle fatigue: do age and sex matter?* Magnetic Resonance Research Center, Yale University School of Medicine, February 2003 (seminar)
- Mechanisms of Muscle Fatigue: Men and Women May be Different!* Department of Biological Sciences, Smith College, October 2003 (seminar)
- Integrative Approaches to the Study of Skeletal Muscle Fatigue.* Bio-TAP Program, Biology Department, University of Massachusetts Amherst, October 2003 (colloquium)
- Old Age and Skeletal Muscle Fatigue: A Relatively Optimistic View.* Research Symposium, Physical Therapy Department and Exercise Science Program, Marquette University, April 2004 (seminar)
- Age-Related Changes in Human Skeletal Muscle Fatigue.* American College of Sports Medicine, Indianapolis, June 2004 (symposium)
- Skeletal Muscle Fatigue Resistance in Old Age: Neural and Metabolic Factors.* Exercise Science Department, Syracuse University, September 2004 (seminar)
- Novel Approaches to Rehabilitation Research in MS: Application of Chaos Theory.* Workshop on Rehabilitation Research in Multiple Sclerosis, New York NY, May 2005
- In Vivo Magnetic Resonance: Techniques and Applications.* American College of Sports Medicine, Indianapolis, June 2005 (symposium)
- Human Skeletal Muscle Function: What Changes as We Grow Old?* University of Massachusetts Retired Faculty Club, September 2005
- Skeletal Muscle Fatigue in Older Adults.* Workshop on Human Muscle Function In Vivo, Nashville TN, October 2005
- Human Skeletal Muscle Energetics in Vivo.* New England ACSM, Providence RI, Nov. 2005 (symposium)
- Age-Related Alterations in Skeletal Muscle Energetics and Fatigue.* Mayo Clinic, Rochester MN, April 2006 (seminar)
- Muscle Fatigue: A Paradox in Aging Skeletal Muscle?* Prince of Wales Research Institute, University of New South Wales, Sydney Australia, March 2007 (seminar)
- Neuromuscular Function: Relevance to Unexplained Fatigue?* National Institute on Aging Exploratory Workshop on Unexplained Fatigue in the Elderly, Bethesda MD, June 2007 (invited talk)
- Skeletal Muscle Fatigue in Old Age: Consensus and Controversy.* American College of Sports Medicine Annual Meeting, Indianapolis, June 2008 (symposium)
- Effects of Old Age on Human Skeletal Muscle Fatigue.* American College of Sports Medicine Annual Meeting, Indianapolis, June 2008 (symposium)

- Neural and Muscular Factors in Fatigue of Older Adults: Role of Energetics.* American Gerontological Society/National Institute on Aging Conference: *Idiopathic Fatigue of Aging*, September 2008 (invited talk)
- Biomarkers of Human Skeletal Muscle Health.* Adult Skeletal Muscle Symposium, University of Kentucky, October 2008 (invited talk)
- Skeletal Muscle Physiology In Vivo: Aging Comes of Age!* President's Lecture, American College of Sports Medicine Annual Meeting, Seattle 2009 (invited talk)
- Skeletal Muscle Bioenergetics and Fatigue in the Elderly: Is it All About Physical Activity Level?* Geriatric Grand Rounds, University of Colorado School of Medicine, Denver CO. February 2010 (invited talk)
- Skeletal Muscle Energetics in Vivo: Interactions Between Age and Activity.* Department of Health & Exercise Science. Colorado State University, Ft. Collins CO. February 2010 (invited talk)
- Workshop on Exercise-Drug Synergy: Neuroprotection and Neural Plasticity in HD.* Cure Huntingtons Disease Initiative February 2011 (invited participant)
- Muscle Function and Fatigue in Chronic Fatigue Syndrome. NIH State of Knowledge Workshop: Myalgic Encephalomyelitis/Chronic Fatigue Syndrome Research, April 2011 (invited talk)
- Bioenergetic Basis of Muscle Fatigue: Insights About Aging.* Department of Human Physiology, University of Oregon, February 2012 (seminar)
- Might Foot Tap Speed Be Useful in Predicting Mobility Impairment?* Research Institute, CPMC, San Francisco. November 2012 (invited talk)
- Skeletal Muscle Bioenergetics and Fatigue in Older Adults: Role of Physical Activity?* McLean Hospital, Harvard University. January 2013 (invited talk)
- Muscle Bioenergetics and Fatigue in Aging.* Institute on Aging, University of Florida. November 2013 (invited talk)
- Locomotory Muscle Bioenergetics in Vivo: Impact of Aging?* Center for Exercise Medicine, University of Alabama, Birmingham. March 2014 (invited talk)
- Skeletal Muscle Bioenergetics, Fatigue and Function in Older Adults.* University of Vermont School of Medicine, March 2014 (invited talk)
- Single Muscle Metabolic Economy and Aging.* American College of Sports Medicine Annual Meeting, Orlando FL, June 2014 (symposium)
- In Vivo Bioenergetics of Aging Skeletal Muscle in Humans.* Experimental Biology, Boston MA, April 2015 (symposium)
- Using Fatigue to Probe the Integration of Physiological Systems in Vivo.* World Congress on the Basic Science of Exercise Fatigue, American College of Sports Medicine Annual Meeting, San Diego CA, May 2015 (symposium)
- Use of MRS to Measure Mitochondrial Function in Vivo.* 9th Mitochondrial Physiology School, Greenville NC, August 2015 (featured speaker)
- Muscle Function and Its Consequences in Aging Adults.* Distinguished Speaker Tour, Texas Chapter-ACSM, Lamar University, Beaumont TX, October 2015 (seminar)
- In Vivo Muscle Bioenergetics.* Distinguished Speaker Tour, Texas Chapter-ACSM, Texas A&M University, College Station TX, October 2015
- Muscle Function and its Consequences in Aging Adults.* Distinguished Speaker Tour, Texas Chapter-ACSM, Texas Christian University, Ft. Worth TX, October 2015 (seminar)
- Skeletal Muscle Fatigue.* Distinguished Speaker Tour, Texas Chapter-ACSM, Texas A&M University, Corpus Christi Tx, October 2015 (seminar)

Muscle Physiology. BioTap Program, University of Massachusetts Amherst, December 2015
(invited speaker)

Use of Magnetic Resonance Spectroscopy to Measure Mitochondrial Function in Vivo.
Kinesiology Department Graduate Research Seminar, December 2015

Muscle Fatigue and Fatigability in Aging and Chronic Disease. UMass Amherst School of
Nursing, November 2016 (seminar)

Mitochondrial and Energetic Function in Vivo. National Institute on Aging Predictors
Workshop, December 2016 (invited talk)

In Vivo Skeletal Muscle Bioenergetics and Fatigue. Advances in Skeletal Muscle Biology in
Health and Disease Conference, Myology Institute, University of Florida, March 2017
(invited talk)

Muscle Fatigue, Bioenergetics and Mobility in Older Adults. National Institute on Aging,
Baltimore MD, April 2017 (seminar)

Integrative Studies of Muscle Function and Energetics: Putting the “Motor” in Motor Control.
National Academy of Kinesiology Annual Conference. Washington DC, September 2017
(invited talk)

Skeletal Muscle Performance in Older Adults: There’s Good News, Too! New England
American College of Sports Medicine Annual Conference. Providence RI, November 2018

Perspectives on Human Skeletal Muscle Function in Vivo: Aging. University of Calgary, July
2019 (invited talk)

Training of Post-Doctoral Fellows

- Alexander Ng, Ph.D., 1996-1999, University of California, San Francisco. *Current position*- Associate Professor, Exercise Science Program, Physical Therapy Department, Marquette University, Milwaukee WI
- David Russ, P.T., Ph.D, 2001-2003, University of Massachusetts, Amherst. *Current position*- Associate Professor, Department of Physical Therapy, Ohio University, Athens OH
- Michael Tevald, P.T., Ph.D, 2005-2009, University of Massachusetts, Amherst. *Current position*- Associate Professor, Physical Therapy Department, Arcadia University, Philadelphia PA
- Anita Christie, PhD., University of Massachusetts, Amherst, 2009- 2011. *Current position*- Assistant Professor, School of Kinesiology, University of Western Ontario, Canada
- Anne Tonson, PhD, University of Massachusetts, Amherst, 2011- 2013. *Current position*- Research Scientist, CRMBM, University of Marseille, France

V. TEACHING ACTIVITIES

Teaching Pedagogy

- University of Massachusetts Center for Teaching Workshop; *Technology for Change*, April 2000
- University of Massachusetts Center for Teaching Workshop; *Innovation in the Classroom*, April 2000
- University of Massachusetts Center for Teaching Workshop; *Promoting Civility in Large Classrooms*, March 2001
- Microsoft IMPACT Fellow, University of Massachusetts Amherst, 2011-2012; *Blended Learning Fellowship*

Courses Taught

Undergraduate Courses

- *Human Physiology*; Exercise Science 205 (formerly 297B), course coordinator and team teacher, each semester through Spring 2004
- *Junior Year Writing*; Exercise Science 300, Spring 2002
- *Exercise Physiology*; Kinesiology 470; on-going
- *History of the Olympics*; FFYS, Fall 2015
- *Scientific Mentoring in Physiology*; KIN 397E, Spring 2016

Graduate Courses

- *Graduate Seminar*; KIN 891 (all semesters)
- *Physiology Seminar*; Exercise Science 651, course coordinator, Fall 2001 & Spring 2002
- *Mechanisms of Skeletal Muscle Fatigue*; Exercise Science 797B, Fall 2002
- *Physiology Seminar*, Exercise Science 697J, Spring 2003
- *Muscle Bioenergetics*, Exercise Science 697J, Spring 2004
- *Oxygen Handling in Skeletal Muscle*, Exercise Science 697O, Spring 2005
- *Doctoral Qualifying Exam Seminar*, Kinesiology 696, coordinator Spring 2006
- *Graduate Seminar*, Kinesiology 891; coordinator, Fall 2007, Spring 2008, Spring 2009
- *Skeletal Muscle Physiology*, Kinesiology 697G, Fall 2010,
- *Skeletal Muscle Physiology*, Kinesiology 597K, Spring 2013
- *Bioenergetics and Fatigue in Aging*, Kinesiology 797J, Fall 2013
- *Responsible Conduct of Research*, Kinesiology 697RC
- *Introduction to Research in Human Movement*, KIN 600
- *Muscle Biochemistry*, KIN 697Z
- *Concepts & Lab Methods in Muscle Physiology*, KIN 697MP

Training of Students

Graduate Students: Primary Advisor and Thesis or Dissertation Committee Chair

(* indicates Chair of Doctoral Comprehensive Examination)

- Danielle (Bartholomew) Wigmore,* MS/PhD (2000-2006)
- Ian Lanza,* MS/PhD (2000- 2007)
- L. Marie Walsh, MS (2002-2004)
- Niki Rybko, MS (2002-2003)
- Linda Chung,* MS/PhD (2003- 2010)
- Damien Callahan,* MS/PhD (2004- 2011)
- Ryan Larsen,* PhD (2005- 2011)
- Stephen Foulis,* MS/PhD (2005-2013)
- Jacob Deblois, MS (2010- 2014)
- Jessica Fay, MS (2011-2014)
- Erica Hartman (2013-2015)
- Benjamin Hoffmann (2013-2015)
- Liam Fitzgerald,* (2014-2019)
- Miles Bartlett* (2015-2019)
- Julia Miehm (2016-present)
- Joseph Gordon (2017-present)
- Christopher Hayden (2018-present)

Graduate Students: Committee Member

- James Loehr, Master's Research Project, 2000
- Abigail Watras, Master's Research Project, 2000
- Joohyung Lee, Doctoral Comprehensive Exams Committee, 2001
- Amy Howell, Master's Thesis, 2002
- David Rice, Master's Research Project, 2002
- Monica Hubal, 2002, Doctoral Comprehensive Exams Committee
- Katherine Eck, Master's Thesis, 2002-2003
- Scott Rubinstein, Master's Thesis, 2002-2003
- Monica Hubal, 2003-2006, Doctoral Dissertation Committee
- Jebb Remelius, Master's Project, 2004-2005
- Anita Christie, 2005, Doctoral Comprehensive Exams Committee
- Brooke Stephens, 2006, Doctoral Comprehensive Exams Committee
- Ryan Chang, 2007- 2009, Doctoral Dissertation Committee
- Jebb Remelius, Doctoral Comprehensive Exam Committee, 2008
- Alexis Gidley, Doctoral Comprehensive Exam Committee, 2009
- Jebb Remelius, Doctoral Dissertation Committee, 2009
- Jeffer Sazaki, Doctoral Comprehensive Exam Committee, 2011
- Andrea Morand, Master's Thesis Committee, 2011-2012
- Juli (Averill) Eve, Master's Committee, 2011-2013
- Michael Busa, Doctoral Comprehensive Exam Committee, 2012
- Jeffer Sazaki, Doctoral Dissertation Committee, 2012-2013
- Scott Ducharme, Doctoral Comprehensive Exam Committee, 2014
- Jocelyn Hafer, Doctoral Comprehensive Exam Committee, 2015
- Thomas Longyear, Doctoral Comprehensive Exam Committee, 2015

- Alexis Gidley, Doctoral Dissertation Committee, 2010-2015
- Jocelyn Hafer, Doctoral Dissertation Committee, 2015-present
- Ryan Wedge, Doctoral Comprehensive Exam Committee, 2015
- Juilanna Averill, Doctoral Comprehensive Exam Committee, 2015
- Scott Ducharme, Dissertation Committee, 2015-present
- Nathan Smith, Master's Thesis Committee, 2013-2016
- Youssef Jabor, Master's Thesis Committee, Dept. Mechanical Engineering, 2016-2018
- Corienne Serviente, Doctoral Dissertation Committee, 2017- 2018
- Aurora Foster, Master's Thesis Committee, 2017-present
- Erica Casto, Doctoral Comprehensive Exam Committee, 2018

Undergraduate Honors Theses

- Rebecca Bell (2001-2002, committee member)
- Kristyn Kneeland (2001-2002, committee member)
- L. Marie Walsh (2001-2002, chair)
- Keith Propert, Biology (2003-2004, chair)
- Stephen Foulis, Biology (2004-2005, chair)
- Jillian Angelo, Kinesiology (2008-2009, chair)
- Emily Seery (2009- 2011, chair)
- Christina Machaby (2009- 2011, committee member)
- Jessica Fay (2010- 2011, chair)
- Teresa O'Brien (2010- 2011, chair)
- Stephen McLean (2010- 2011, committee member)
- Amy Desmond (2013- 2014, chair)
- Jugert Bango (2014-2015, chair)
- Weiixen Fam (2015-2016, chair)
- Ellen Chow (2016-2017, chair)
- Margaret Ryan (2016-2017, chair)
- Jessica Benoit (2017-2018, chair)
- Sebastien Rauch (2019-present, committee member)
- Anand Panigrahy (2020-present, chair)
- Samantha Gilmore (2020-present, chair)

Undergraduate Independent Studies Students

- Colleen Lawson, Spring 2001
- L. Marie Walsh, Spring 2001
- Rebecca Bell, Spring 2001
- Sabrina Macchiaroli, Fall 2001
- Aidan Howley, Spring 2002
- Elizabeth Gallagher, Spring 2002
- Cody Milne, Spring 2003
- Keith Propert (Biology), Spring 2003
- Stephen Foulis (Biology), Spring 2004
- Jared Powers, Spring 2009

- William Harris, Fall 2008
- Emily Seery, Fall 2009
- Faisal Alam (Biology), Fall 2009
- Kamille Spence, Fall 2010
- Sam Kmail, Fall 2010
- Marcella Eramo, Fall 2010
- Lauren Quigley, Fall 2011-Spring 2012
- Andrea Arabadjis, Spring 2012
- Derek Lockwood, Spring 2012
- Ian McDonald, Fall 2012-Spring 2013
- Richard Lam, Spring 2013
- John Sisay, Spring 2013 (NE LSAMP mentor)
- Jugert Bango, Spring 2014
- Margaret Ryan, Spring 2015- 2016
- Ellen Chow, Spring 2015- 2016
- Drew Eskovitch, Spring 2015-2016
- Luke Arieta, 2017-2018
- Jamie Truax, Fall 2017
- Megan Kelly, 2017-2018
- Yuen Lee, 2017-2018
- Johanna Copeland, 2018-present
- Anthony Martin, 2018-present
- Zach Dumas, 2019-present
- Amir Shah, 2020-present

Student Advising

- 2000-2001 Academic Year: Primary academic advisor to 27 undergraduate Exercise Science Majors and 2 graduate students
- 2001-2002 Academic Year: Primary academic advisor to 35 undergraduate Exercise Science Majors and 2 graduate students
- 2002-2003 Academic Year: Primary academic advisor to 32 undergraduate Exercise Science Majors and 3 graduate students
- 2003-2004 Academic Year: Primary academic advisor to 32 undergraduate Exercise Science Majors and 4 graduate students
- Since 2004, all undergraduate students in Kinesiology are advised by the Undergraduate Program Director and the Advising Staff

Additional Teaching Activities

- Departmental Grant-Writing Workshop, May 2000
- Departmental Summer Writing Group, June and July, 2002
- School Public Health and Health Sciences, Grantsmanship Workshop, December 2002
- University of Massachusetts Bio-Tap Program (invited talk), October 2003

- Entomology 697, Teaching Skills for Large Lecture (guest lecture), Spring 2004
- Kinesiology Graduate Research Seminar (all semesters)
- Kinesiology Doctoral Qualifying Exam (spring semesters)
- Kinesiology Physiology Journal Club (every fall semester)

VI. SERVICE ACTIVITIES

Committee Work

- American College of Sports Medicine Youth Clinic Committee (1993-95)
- Member, Organizing Committee for 1996 NIH National Institute on Aging Workshop: Sarcopenia in Aging (1995-1996)
- Member, American College of Sports Medicine's Strategic Health Initiative on Aging in Exercise Science and Sports Medicine (1996-2000)
- Chair, American College of Sports Medicine's Strategic Health Initiative on Aging (1997-2000)
- Co-Founder and Chair, American College of Sports Medicine's Interest Group on Aging (1997)
- Ad Hoc Consultant, Advisory Committee of the General Clinical Research Center, University of California, San Francisco (1999)
- Departmental Personnel Committee, Department of Kinesiology (Exercise Science), University of Massachusetts, Amherst (2000- present)
- Strategic Planning Committee, School of Public Health, University of Massachusetts, Amherst (2002- 2004)
- American College of Sports Medicine, Board of Trustees (2001-2004)
- Perkins Memorial Scholarship Committee, American Physiological Society (2003-2006)
- Research Advisory Committee, American College of Sports Medicine (2004-2007)
- Program Committee (member), *Workshop on Investigation of Human Muscle Function in Vivo* (2004-2005)
- Research Committee, School of Public Health & Health Sciences, University of Massachusetts, Amherst (2004-2007)
- Strategic Planning Committee (chair), Kinesiology Department (2005-2007)
- Qualifying Exam Committee, Kinesiology Department (2006-2008); Chair 2010
- Member, Research Council of the Academic Senate, University of Massachusetts, Amherst (2007-2011)
- Member, Research Policy Committee, University of Massachusetts, Amherst (2007-2011)
- Chair, Research Policy Committee, University of Massachusetts, Amherst (2009- 2011)
- Departmental Graduate Program Director, University of Massachusetts, Amherst (2012-present)
- Member, Doctoral Program Review Committee, University of Massachusetts, Amherst (2012-2013)
- Member, University Strategic Planning Committee, University of Massachusetts, Amherst (2012-2013)

- Organizing Committee, 6th World Congress on the Basic Science of Exercise Fatigue (2014-2014)
- Steering Committee, Human Magnetic Resonance Center, UMass Amherst (2015-present)
- Steering Committee, *Center for Personalized Health Monitoring*, UMass Amherst (2015-2019)
- Member and Faculty Liason, IALS/SPHH Energy Metabolism Search Committee (Fall 2015- Spring 2016)
- Member, Departmental Personnel Committee (Fall 2014-2016)
- Member, AQAD Writing Team, Kinesiology Department (Fall 2015)
- Member, SPHHS Personnel Committee (2016-present)
- Co-Chair, IALS/SPHHS/Kinesiology Energy Metabolism Search Committee (Fall 2016-2017)
- Member, SPHHS Research Committee (2016-2017)
- Reviewer, UMass Amherst Commonwealth Honors College, Honors Research Assistant Fellowship and Research Grants (2015, 2016)
- Member, Kinesiology Department Qualifying Exam Committee (2017)
- Member, Chair's Advisory Committee (2016-2017)

Grant Review Work

- Natural Sciences & Engineering Research Council of Canada, grant reviewer (since 1996)
- NIH Geriatrics and Rehabilitation Medicine Study Section, ad hoc member (2000, 2001)
- National Institute on Neurological Disorders and Stroke, Special Emphasis Panel, member (2000)
- National Institute on Aging, Special Emphasis Panel member (2000-2001)
- Canadian Foundation for Innovation, grant reviewer (2001)
- National Multiple Sclerosis Society, ad hoc reviewer (2001- 2006)
- Canadian Diabetes Association, Research Grant Reviewer (2002)
- National Institutes of Health, Skeletal Muscle & Exercise Physiology Study Section, ad hoc member (2004)
- National Institutes of Health, Musculoskeletal Rehabilitation Sciences (MRS) Study Section, ad hoc member, (2006)
- National Multiple Sclerosis Society, Scientific Peer Review Committee C, member (2006-present)
- National Institutes of Health, ZRG1 MOSS-L (02) Study Section Member, ad hoc member (2007)
- National Institute on Aging, ZAG1 ZIJ-8, Pepper Centers Review Committee, ad hoc member (2007)
- National Institutes of Health, MRS Study Section Member (ad hoc) 2008
- MRI Pilot Project Program, University of Massachusetts, Amherst, review committee (2008-2010)
- National Institutes of Health, Musculoskeletal Rehabilitation Science Study Section, member (2011-2015)

- National Institutes of Health, Molecular Transducers Physical Activity Health, Study Section, Animal Cores, ad hoc member (July 2016)
- National Institutes of Health, Molecular Transducers Study Section, ad hoc member (June 2018)

Journal Work

- Associate Editor, *Exercise and Sports Science Reviews* (1999-2005; 2016-2018)
- Editorial Board, *Journal of Applied Physiology* (1999-2002)
- Manuscript Reviewer (sampling):
 - Acta Physiologica Scand*
 - American Journal of Physiology; Metabolism & Endocrinology*
 - American Journal of Physiology; Regulatory*
 - American Journal of Rehabilitation Research*
 - Applied Physiology, Nutrition & Metabolism*
 - Archives Physical Medicine & Rehabilitation*
 - European Journal of Applied Physiology*
 - Experimental Gerontology*
 - Experimental Physiology*
 - Journal of Applied Physiology*
 - Journal of Neurophysiology*
 - Journal of Physiology*
 - Journals of Gerontology*
 - Magma*
 - Magnetic Resonance in Medicine*
 - Medicine & Science in Sports & Exercise*
 - Muscle & Nerve*
 - Neurology*
 - PLOS-ONE*

Other Service, Volunteer and Mentoring Work

- Science and Health Education Partnership, University of California, San Francisco, Volunteer Scientist (1991-1996)
- Medical and Research Staff, The Jimmie Heuga Center, Avon, Colorado (1992-2006)
- Mentor, Women In Life Sciences Program, University of California, San Francisco (1994-1997)
- Co-Mentor, Undergraduate Mentoring in Environmental Biology Program, University of Massachusetts, Amherst. Sponsor: National Science Foundation (2000, 2002)
- Mentor, Women's Health Research Forum, University of Massachusetts, Amherst and Baystate Medical Center (April 12, 2002)
- Co-Director, Public Service Endowment Project, University of Massachusetts, Amherst. "*Translating Research in Exercise Science*" (2005-2006)
- Community Outreach talks (various locations), Muscle Physiology Lab, Kinesiology Dept., University of Massachusetts, Amherst

- “*Healthy Living*” Semi-annual newsletter about healthy aging, Muscle Physiology Lab, Kinesiology Dept., University of Massachusetts, Amherst (2009-2011)
- Community Talk: *Healthy Muscles = Healthy Aging*. Healthy Aging in the Valley Program, sponsored by the Daily Hampshire Gazette, October 2015
- External Reviewer for Promotion & Tenure (various universities), approx. 2 per year, on-going
- External Advisory Board, NIH P20 NR016599, (Jacelon, PI) University of Massachusetts Amherst UManage Center, 2016- present
- External Master’s Thesis Examiner, Western Sydney University, Australia (2019)
- External Doctoral Examiner, Department of Kinesiology, University of Calgary (2019)
- Organizing Committee, National Institutes of Health Workshop on Gait, Cost of Walking and Fatigability in Aging (2020)