

# Abbreviated Curriculum Vitae

<u>Name</u>	<u>Title</u>	<u>Birthday</u>
J. Mark Davis, Ph.D.	Professor	February 3, 1954

<u>Institution and Location</u>	<u>Degree</u>	<u>Date</u>	<u>Field of Study</u>
Cal Poly, San Luis Obispo, CA	B.S.	1976	Physical Education
Purdue University, West Lafayette, IN	Ph.D.	1982	Exercise Physiology/ Neuroscience

## Previous Employment:

1981-1982	Post-Doctoral Research Fellow, Mt. Sinai Medical Center, Department of Medicine, Division of Neuroendocrinology, New York, NY
1982 – 1988	Assistant Professor, Director of the Exercise Biochemistry lab, Department of Exercise Science, School of Public Health, Univ of South Carolina
1989-1994	Associate Professor, Director of the Exercise Biochemistry Lab, Department of Exercise Science, Arnold School of Public Health, University of South Carolina
1995 – current	Professor, Director, Physiology/Immunology of Exercise and Nutrition Lab, Department of Exercise Science, Arnold School of Public Health, University of South Carolina
2000 –2004	Director, Graduate Programs and Research; Division of Applied Physiology, Department of Exercise Science, Arnold School of Public Health, University of South Carolina,
2014 – current	Director, Graduate Programs in Applied Physiology, Department of Exercise Science, Arnold School of Public Health, University of South Carolina

## Honors and Awards

- Board of Trustees, American College of Sports Medicine, 2004-07.
- Sports Medicine Review Board, Gatorade Sports Science Institute (GSSI), 1992-2009
- Henry Montoye Scholar Award, American College of Sports Medicine, Regional Chapter, 2002.
- Fellow, American College of Sports Medicine, 1991- present
- President, American College of Sports Medicine, Regional Chapter, 1992-1994
- Research Review Committee, American College of Sports Medicine, 1996- 1999.
- Regional Chapters Committee, American College of Sports Medicine, 1997-2000.
- Executive Board, , American College of Sports Medicine, Regional Chapter, 1988-1990 & 1997-2000).
- Outstanding Research Award, School of Public Health, University of South Carolina, 1994
- Finalist, James A. Keith Outstanding Teaching Award, University of South Carolina, 1992.
- Cal Poly Athletic Hall of Fame, Inducted 2007
- Education Foundation Award for Research in Health Sciences, University of South Carolina, April, 2009
- President's Lecture, American College of Sports Medicine Convention, May, 2010
- Citation Award (Outstanding Career Achievement), American College of Sports Medicine, May, 2013

## Research Interests:

- Physiology/Immunology/Neuroscience of Exercise and Nutrition
  - o Effects of nutrition and exercise on mental and physical performance athletes and warfighters
  - o Physiological mechanisms of mental and physical fatigue
  - o Prevention of injury and recovery of performance following intense exercise and training
- Immunology of Exercise and Nutrition
  - o Effects of nutrition and exercise on immune function and inflammation with injury, infection and cancer.

## Refereed Publications: (\*INDICATES SENIOR/PRIMARY AUTHORSHIP WITH STUDENT(S); (Over 75% of articles include student co-authors)

1. Yim, G.K.W., Lowy, M.T., Davis, J.M., Lamb, D.R. and P.V. Malven. Opiate involvement in glucoprivic feeding. In: The Neural Basis of Feeding and Reward, B.G. Hoebel and D. Novin (eds.) Haer Institute: Brunswick, ME, pp. 485-498, 1982.

2\*. Davis, J.M., Lowy, M.T., Yim, G.K.W., Lamb, D.R. and P.V. Malven. Relationship between plasma concentrations of immunoreactive Beta-endorphin and food intake in rats. Peptides, 4(1): 79-83, 1983.

3\*. Davis, J.M., Lamb, D.R., Lowy, M.T., Yim, G.K.W. and P.V. Malven. Opioid modulation of feeding behavior following forced swimming exercise in male rats. Pharmacology, Biochemistry and Behavior, 23(5): 701-707, 1985.

4\*. Davis, J.M., Lamb, D.R., Lowy, M.T., Yim, G.K.W. and P.V. Malven. Opioid modulation of feeding behavior following repeated exposure to forced swimming exercise in males rats. Pharmacology, Biochemistry and Behavior, 23(5): 709-714, 1985.

5. Lowy, M.T., Davis, J.M., Lamb, D.R., Malven, P.V. and G.K.W. Yim. Experimental dissociation of induced hyperphagia and plasma B-endorphin following 2-deoxy-D-glucose in rats. Peptides, 6(3): 569-573, 1985.

6\*. Davis, J.M., Lamb, D.R., **Burgess, W.A.** and **W.P. Bartoli**. Accumulation of deuterium oxide (D<sub>2</sub>O) in body fluids following ingestion of D<sub>2</sub>O-labeled beverages. Journal of Applied Physiology, 63:2060-2066, 1987.

7\*. Davis, J.M., Pate, R.R., **Burgess, W.A.** and **C.A. Slentz**. Stress hormone response to exercise in elite and good female distance runners. International Journal of Sports Medicine.8:132-135,(Supplement), 1987.

8\*. Davis, J.M., **Burgess, W.A.**, **Slentz, C.A.**, **Bartoli, W.P.** and R.R. Pate. Effects of ingesting 6% and 12% glucose/electrolyte beverages during prolonged intermittent cycling in a warm environment. European Journal of Applied Physiology, 57:563-569, 1988.

9\*. Davis, J.M., Lamb, D.R., Pate, R.R., **Slentz, C.A.**, **Burgess, W.A.** and **W.P. Bartoli**. Carbohydrate/electrolyte drinks: Effects on endurance cycling in a warm environment. American Journal of Clinical Nutrition. 48:1023-1030,1988.

10\*. Davis, J.M., **Cokkinides, V.E.**, **Burgess, W.A.**, and **W.P. Bartoli**. Effects of a carbohydrate-electrolyte drink or water on the stress hormone response to prolonged intense cycling: Renin, angiotensin-I, aldosterone, ACTH and cortisol. In: Hormones and Sport, Vol. 55 (Z. Laron and A.D. Rogol, eds.),

Raven Press, New York, NY 10036, pp. 193-204, 1989.

11\*. Davis, J.M., **Sadri, S.**, Sargent, R.G. and D. Ward. Weight control and calorie expenditure: Thermogenic effects of pre-prandial and post-prandial exercise. Addictive Behaviors, 4(3):347-351, 1989.

12\*. **Bailey, S.**, Davis, J.M., and B.A. McClenaghan. Metabolic assessment of a subject with a neuromuscular impairment using the doubly labeled water technique. RESNA Conference Proceedings, 53:53-54, 1990.

13\*. Davis, J.M., **Burgess, W.A., Slentz, C.A. and W.P. Bartoli.** Fluid Availability of sports drinks differing in carbohydrate type and concentration. American Journal of Clinical Nutrition. 51:1054-1057, 1990.

14\*. **Slentz, C.A.,** Davis, J.M., **Settles, D.L.,** and R.R. Pate. Glucose feedings and exercise in rats: glycogen use, hormone responses and performance. Journal of Applied Physiology, 69(3):989-994, 1990.

15\*. **Burgess, M.L.,** Davis, J.M., Borg, T.K., and J. Buggy. Intracranial self-stimulation motivates treadmill running in rats. Journal of Applied Physiology, 71(4): 1593-1597, 1991.

16\*. **Burgess, M.L.,** Robertson, R.J., Davis, J.M., and **J.M. Norris.** RPE, blood glucose, and carbohydrate oxidation during exercise: Effects of glucose feedings. Med Sci Sports Exerc. 23(3):353-359, 1991.

17\*. **Burgess, W.A.,** Davis, J.M., **Woods, J.A., and W.P. Bartoli.** Failure of low dose carbohydrate feeding to attenuate glucoregulatory hormone responses and improve performance. International Journal of Sports Nutrition, 1(4): 121-129, 1991.

18. **Carter, J.S.,** Williams, H.G., Davis, J.M., **Rotter, R.A., and Clancy, M.E.** Effects of a Vasopressin Analog (DDAVP) on movement planning and movement execution processes in healthy college-age adults. Peptides, 12(1):1-5, 1991.

19. **Carter, J.S.,** Williams, H.G., Davis, J.M., and K.E. French. Effects of a Vassopressin Analog (DDAVP) on movement planning and movement execution processes in the healthy elderly. Peptides, 12(4):871-876, 1991.

20\*. **Attaway, R., Bartoli, W.P.,** Pate, W.P., and J.M. Davis. Metabolic and perceptual responses to exercise on a new cycle ergometer. Canadian Journal of Sports Sciences, 17:1,56-59, 1992.

21\*. **Bailey, S.P.,** Davis, J.M., and **E.N. Ahlborn.** Effect of increased brain serotonergic activity on endurance performance in the rat. Acta Physiologica Scand.,145:75-76, 1992.

22\*. Davis, J.M., **Bailey, S.P., Woods, J.A., Galiano, F.J., Hamilton, M.T., and W.P. Bartoli.** Effects of carbohydrate feedings on plasma free-tryptophan and branched-chain amino acids during prolonged cycling. European Journal of Applied Physiology. 65:513-519, 1992.

23\*. Davis, J.M., Sargent, R.G., **Brayboy, T.D. and W.P. Bartoli.** Thermogenic effects of pre-prandial and post-prandial exercise in obese females. Addictive Behaviors,17:185-190, 1992.

24. **Klingshirn, L.A.,** Pate, R.R., **Bourque, S.P.,** Davis, J.M., and R.G. Sargent. Effect of iron supplementation on endurance capacity in iron-depleted female runners. Medicine and Science in Sports and Exercise, 24(7):819-824, 1992.

25. Nieman, D.C., Henson, D., Gusewitch, G., Johnson, R., Lebeck, L., Davis, J.M., and S.L. Nehlsen-Cannarella. Immune response to brief, heavy exertion on circulating lymphocyte subpopulations and

- proliferative response. Medicine and Science in Sports and Exercise, 24(12): 1339-1345, 1992.
- 26\*. **Van Houten, D.R.**, Davis, J.M., Durstine, J.L., **Meyers, D.M. and L.J. Goodyear**. Effect of exercise on the cellular distribution of hexokinase in rat skeletal muscle. International Journal of Sports Medicine, 13 (5): 436-438, 1992.
- 27\*. **Bailey, S.P.**, Davis, J.M., and **E.N. Ahlborn**. Neuroendocrine and substrate responses to altered brain 5-HT activity during prolonged exercise to fatigue. Journal of Applied Physiology, 74(6): 3006-3012, 1993.
- 28\*. **Bailey, S.P.**, Davis, J.M. and **E.N. Ahlborn**. Brain serotonergic activity affects endurance performance in the rat. International Journal of Sports Medicine, 6 (August): 330-333, 1993.
- 29\*. **Burgess, M.L.**, Davis, J. M., Borg, T.K., Wilson, S.P., **Burgess, W.A.**, and J. Buggy. Exercise training alters cardiovascular and hormonal responses to intracranial self-stimulation. Journal of Applied Physiology, 75(2): 863-869, 1993.
- 30\*. **Burgess, J.L.**, Davis, J.M., Wilson, S.P., Borg, T.K., and J. Buggy. Effects of intracranial self-stimulation on selected physiological parameters in rats. American Journal of Physiology: Regulatory, Integrative and Comparative Physiology, 264(33):R149-R155, 1993.
31. Pate, R.R., **Miller, B.J.**, Davis, J.M., **Slentz, C.A. and L.A. Klingshirm**. Iron status of female runners. International Journal of Sports Nutrition. 3:222-231, 1993.
- 32\*. **Woods, J.A.**, Davis, J.M., Mayer, E.P., Ghaffar, A., and R.R. Pate. Exercise increases macrophage cytotoxicity. Journal of Applied Physiology. 75(2): 879-886, 1993.
- 33\*. **Bartoli, W.P.**, Davis, J.M., Pate, R.R., Ward, D.S., and P.D. Watson. Weekly variability in total body water and hydrostatic weight. Medicine and Science in Sports and Exercise, 25(12): 1422-1428, 1993.
34. Nieman, D.C., Miller, A.R., Henson, D.A., Warren, B.J., Gusewitch, G., Johnson, R.L., Davis, J.M., Butterworth, D.E., and S.L. Nehlsen-Cannarella. Effects of high- versus moderate-intensity exercise on natural killer cell cytotoxic activity. Medicine and Science in Sports and Exercise. 25(10):1126-1134, 1993.
35. Nieman, D.C., Henson, D.A., Gusewitch, G., Johnson, R.L., Davis, J.M., Butterworth, D.E., and S.L. Nehlsen-Cannarella. Physical activity and immune function in elderly women. Medicine and Science in Sports and Exercise, 25: 823-831, 1993.
- 36\*. **Woods, J.A.**, and J.M. Davis. Exercise, monocyte/macrophage function, and cancer. Medicine and Science in Sports and Exercise, 26(2): 147-157, 1994.
- 37\*. **Woods, J.A.**, Davis, J.M., Mayer, E.P., Ghaffar, A., and R.R. Pate. Effects of exercise on macrophage activation for anti-tumor cytotoxicity. Journal of Applied Physiology, 76(5): 2177-2185, 1994.
38. **Bartoli, W.P., Slentz, C.A., Murdoch, S.D.**, Pate, R.R., Davis, J.M., and J.L. Durstine. Effects of a twelve week racquetball program on maximal oxygen consumption, body composition and blood lipoproteins. Sports Medicine, Training and Rehabilitation, 5: 157-164, 1994.
- 39\*. **Bailey, S.P. and J.M. Davis**. Response to letter to the editor by F. Chaouloff. International Journal of Sports Medicine, 15:340-341, 1994.
- 40\*. **Woods, J.A.**, Davis, J.M., **Kohut, M.L.**, Ghaffar, A., E.P. Mayer, and R.R. Pate. Effects of exercise on the immune response to cancer. Medicine and Science in Sports and Exercise, 26(9):1109-1115, 1994.

41. Nieman, D.C., Miller, A.R., Henson, D.A., Warren, B.J., Gusewitch, G., Johnson, R.L., Davis, J.M., Butterworth, D.E., Harring, J.L., and S.L. Nehlsen-Cannarella. Effects of high- versus moderate-intensity exercise on circulating lymphocyte subpopulations and proliferative response. International Journal of Sports Medicine, 15: 199-206, 1994.
- 42\*. Davis, J.M., Carbohydrates, branched-chain amino acids, and endurance: The central fatigue hypothesis. International Journal of Sports Nutrition, 5:S29-S38, 1995.
43. Nieman, D.C., Henson, D.A., Sampson, C.S., Herring, J.L., Suttles, J., Conley, M., Stone, M.H., Butterworth, D.E., and J.M. Davis. The acute immune response to exhaustive resistance exercise. International Journal of Sports Medicine, 16: 322-328, 1995.
44. Nieman, D.C., Ahle, J.C. Henson, D.A., Warren, B.J., Suttles, J., Davis, J.M., Buckley, K.S., Simandle, S., Butterworth, D.E. Fagoaga, O.R., and S.L. Nehlsen-Cannarella. Indomethacin does not Alter the Natural Killer Cell Response to 2.5 Hours of Running. Journal of Applied Physiology, 79(3): 748-755, 1995.
45. Nieman, D.C., Simandle, S., Henson, D.A., Warren, B.J., Suttles, J., Davis, J.M., Buckley, K.S., Ahle, J.C., Butterworth, D.E., Fagoaga, O.R., and S.L. Nehlsen-Cannarella. Lymphocyte proliferative response to 2.5 hours of running. International Journal of Sports Medicine, 16(6): 404-408, 1995.
- 46\*. Davis, J.M. Central and peripheral factors in fatigue. Journal of Sports Sciences. Vol. 13:S49-S53, 1995.
- 47\*. Davis, J.M. Nutritional Influences on central mechanisms of fatigue involving 5-HT. In: Biochemistry of Exercise IX, R.J. Maughan, S.M. Shirreffs eds. Human Kinetics Publishers, Champaign, IL, 1996, pp. 445-456.
48. Dishman, R.K., Dunn, A.L., Youngstedt, S.D., Davis, J.M., **Burgess, M.**, Wilson, S.P., and M. Wilson. Increased open-field locomotion and decreased striatal GABA binding after activity wheel running. Physiology and Behavior, 60: 699-705, 1996.
- 49\*. Davis, J. M. and **S.P. Bailey**. Possible mechanisms of central nervous system fatigue during exercise. Medicine and Science in Sports and Exercise, 29(1): 45-57, 1997.
- 50\*. **Strasner, A**, Davis, J.M., **Kohut, M.L.**, Pate, R.R., Ghaffar, A., and E. Mayer. Effects of exercise intensity on NK activity in women. International Journal of Sports Medicine, 18(1):56-61, 1997.
51. Nieman, D.C., Henson, D.A., Butterworth, D.E., Warren, B.J., J.M., Davis Fagoaga, O.R., and S.L. Nehlsen-Cannarella. Vitamin C supplementation does not alter the immune response to 2.5 hours of running, International Journal of Sport Nutrition. 7: 173-184, 1997.
52. Nieman, D.C., Henson, D.A., Garner, E.B., Butterworth, D.E., Warren, B.J., Utter, A., Davis, J.M., Fagoaga, O.R., and S.L. Nehlsen-Cannarella. Carbohydrate affects natural killer cell redistribution but not activity after running. Medicine and Science in Sports and Exercise, 29(10): 1318-1324, 1997.
53. Nieman, D.C., Fagoaga, O.R., Butterworth, D.E., Warren, B.J. Utter, A., Davis, J.M., Henson, D.A., and S.L. Nehlsen-Cannarella. Carbohydrate supplementation affects blood granulocyte and monocyte trafficking but not function after 2.5 h of running. American Journal of Clinical Nutrition. 66: 153-159, 1997.
54. Nehlsen-Cannarella, S.L., Fagoaga, O.R., Nieman, D.C., Henson, D.A., Butterworth, D.E.,

Schmitt, R.L., Bailey, E.M., Warren, B.J., and J.M. Davis, Carbohydrate and the cytokine response to 2.5 hours of running. Journal of Applied Physiology, 82(5): 1662-1667, 1997.

55\*. Davis, J.M., **Kohut, M.L., Hertler-Colbert, L.M., Jackson, D.A.,** Ghaffar, A., and E.P. Mayer. Exercise, alveolar macrophage function, and susceptibility to viral infection. Journal of Applied Physiology, 83(5): 1461-1466, 1997.

56\*. Davis, J.M. and **L.M. Hurtler**, The Athletes Immune System, Intense Exercise, and Overtraining. In: D.R. Lamb and R. Murray (Eds.) Perspectives in Exercise Science and Sports Medicine, Vol 10: Recent Advances in the Science and Medicine of Sport, Cooper Publishing Group, Carmel, IN. pp. 269 -311, 1997.

57\*. Davis, JM, **Jackson, D.A., Broadwell, M.S., Queary, J.L., and C.L. Lambert.** Carbohydrate drinks delay fatigue during intermittent, high-intensity cycling in active men and women. International Journal of Sports Nutrition. 7:230-235, 1997.

58\*. **Kohut, M.L.,** Davis, J.M., **Jackson, D.A., Colbert, L.H., Strasner, A.,** Essig, D.A., Pate, R.R., Ghaffar, A., and E.P. Mayer. The role of stress hormones in exercise-induced suppression of alveolar macrophage antiviral function. Journal of Neuroimmunology, 81: 193-200, 1998

59\*. Davis, J.M., **Weaver, J.A., Kohut, M.L., L.H.Colbert,** A. Ghaffar, and E.P. Mayer. Immune system activation and fatigue during treadmill running: Role of Interferon. Medicine and Science in Sports and Exercise, 30(6):863-868, 1998.

60\*. Davis, J.M., **Kohut, M.L., Jackson, D.A., Hurdler-Colbert, L.,** Mayer, E.P., and A. Ghaffar. Exercise Effects on lung tumor metastases and in vitro alveolar macrophage anti-tumor cytotoxicity. American Journal of Physiology, 274(43):R1454-R1459,1998.

61. Nieman, DC, Nehlsen-Cannarella, SL, Fagoaga, OR, Henson, DA, Utter A. Davis, JM, Williams, F, and D.E. Butterworth. Influence of mode and carbohydrate on the cytokine response to heavy exertion. Medicine and Science in Sports and Exercise, 30 (5): 671-678, 1998.

62. Henson, D.A., Nieman, D.C., Parker, J.C.D., Rainwater, M.K., Butterworth, D.E., Warren, B.J., Utter A., **Davis, J.M.,** Fagoga, O.R, and S.L. Nehlsen-Cannerella. Carbohydrate supplementation and the lymphocyte proliferative response to long endurance running. International Journal of Sports Medicine, 19 (8): 574-580, 1998.

63\*. **Kohut, M.L.,** Davis, J.M., **Jackson, D.A.,** Jani, P., Ghaffar, A., Mayer, E.P., and D.A. Essig. Exercise effects on IFN- $\beta$  expression and viral replication in lung macrophages following HSV-1 infection. American Journal of Physiology: Lung Cellular and Molecular Physiology, 19(6) L1089-L1094, 1998.

64. Nieman, D.C., Nehlsen-Cannarella, S.L., Fagaoga, O.R., Henson, D.A., Utter, A., Davis, J.M., Williams, F., and D.E. Butterworth. Influence of mode and carbohydrate on the granulocyte and monocyte response to intensive, prolonged exercise. Journal of Applied Physiology, 84 (4): 1252-1259, 1998.

65\*. **Woods, JA.,** Davis, JM, Smith, JA, and DC Nieman. Exercise and Cellular Innate Immune Function. Medicine and Science in Sport and Medicine. 31 (1): 57-66, 1999.

66\*. Davis, J.M., **Welsh, R.S., DeVolve, K.L., and N.A. Alderson.** Effects of branched-chain amino acids and carbohydrate on fatigue during intermittent, high-intensity running. International Journal of Sports Medicine, 20: 309-314, 1999.

67. Utter, A.C., Kang, J., Nieman, D.C., Williams, F., Robertson, R.J., Henson, D.A., Davis, J.M., and D.E. Butterworth. Effect of carbohydrate ingestion and hormonal responses on ratings of perceived

exertion during prolonged cycling and running. European Journal of Applied Physiology and Occupational Physiology, 80 (2): 92-99, 1999.

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69. Nieman, D.C., Nehlsen-Cannarella, S.L., Fagoaga, O.R., Henson, D.A., Shannon, M., Davis, J.M., Austin, M.D., Hisey, C.L., Holbeck, J.C., Hjertman, J.M., Bolton, M.R., and B.K. Schilling. Immune response to two hours of rowing in elite female rowers. International Journal of Sports Medicine. 20(7): 476-481, 1999.

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71\*. Davis, J.M., **Alderson, N.L., and R.S. Welsh**. Central nervous system fatigue: nutritional considerations. American Journal of Clinical Nutrition. 72 (2): 573S-578S, 2000.

72\*. **Colbert, L.H.**, Davis, J.M., Essig, D.A., Ghaffar, A., and E.P. Mayer. Exercise and tumor development in a mouse predisposed to multiple intestinal adenomas. Medicine and Science in Sports and Exercise. 32(10): 1704-1708, 2000.

73\*. Davis, J.M., **Welsh, R.S., and N.A. Alderson**. Effects of carbohydrate and chromium ingestion during intermittent high-intensity exercise to fatigue. International Journal of Sport Nutrition. 10 (4): 476-485, 2000.

74. Nehlsen-Cannarella SL, Neiman DC, Fagoaga OR, Kelln WJ, Henson DA, Shannon M, Davis JM. Saliva immunoglobulins in elite women rowers. European J Applied Physiology 81(3): 222-228, 2000.

75. Nieman DC, Nehlsen-Cannarella SL, Fagoaga OR, Henson DA, Shannon M, Hjertman JME, Schmitt RL, Bolton MR, Austin MD, Davis JM, Schilling BK, Thorpe R., Immune Function in female elite rowers and nonathletes. Br J Sports Med 34: 181-187, 2000.

76. Henson DA, Nieman DC, Nehlsen-Cannarella SL, Fagoaga OR, Shannon M, Bolton MR, Davis JM, Gaffney CT, Kelln WJ, Austin MD, Hjertman JME, Schilling BK. Influence of carbohydrate on cytokine and phagocytic responses to 2 h of rowing. Med Sci Sports Exerc 32: 1384-1389, 2000.

77\*. **Colbert, L.H.**, Davis, J.M., Essig, D.A., Ghaffar, A., and E.P. Mayer. Tissue expression and plasma concentrations of TNF- $\alpha$ , IL-1 $\beta$ , and IL-6 following treadmill exercise in mice. International Journal of Sports Medicine, 22: 261-267, 2001.

78\*. **Kaufman, T.**, Burke, J.R., Davis, J.M., and J. L. Durstine. Exercise-induced neuromuscular dysfunction under reflex conditions. Eur. J. Appl. Physiol. 84: 510-520, 2001.

79\*. **Benfield, R.D.**, J. Herman, V.L. Katz, S.P. Wilson, and J.M. Davis. Hydrotherapy in Labor. Research in Nursing and Health, 24:57-67, 2001.

80. Nieman DC, Henson DA, Smith LL, Utter AC, Vinci DM, Davis JM, Kaminsky DE, and M. Shute. Cytokine changes after a marathon race. Journal of Applied Physiology. 91(1): 109-114, 2001.

81\*. Davis, J.M., & **A.S. Brown**. Carbohydrates, hormones, and endurance performance. Sports Science Exchange, Gatorade Sports Science Institute, Chicago, IL. Vol 14(1):1-4, 2001.

82. Davis, J.M. and R. Fitts. Mechanisms of muscular fatigue. In: ACSM's Resource Manual: for Guidelines for Exercise Testing and Prescription, J. Roittman (ed.), Lippincott, Williams & Wilkins, Philadelphia, 4<sup>th</sup> edition. pp. 184-190, 2001.
- 84\*. **Welsh, R.S.**, Davis, J.M., Burke, J.M., and H. Williams. Effect of carbohydrates on physical and mental function during intermittent exercise to fatigue. Medicine and Science in Sports and Exercise. 34(4): 723-731, 2002.
85. Nieman, D.C., Henson, D.A., Fagoaga, O.R., Utter, A.C., Vinci, D.M., Davis, J.M. and S.L. Nehlsen-Cannerella. Changes in salivary IgA following a competitive marathon race. International Journal of Sports Medicine. 23: 69-75, 2002.
- 86\*. Hand, G.A., **Hewitt, C.B., Fulk, L.J.**, Stock, H.S., Carson, J.A., Davis, J.M., and Wilson, M.A. Differential release of corticotropin-releasing hormone (CRH) in the amygdala during different types of stressors. Brain Research, 949: 122-130, 2002.
- 87\*. Davis, J.M., **Zhao, Z.**, Stock, H.S., **Mehl, A.**, Buggy, J. and G.A. Hand. Central nervous system effects of caffeine and adenosine on fatigue. American Journal of Physiology: Regulatory, Integrative, Comparative Physiology, 284:R399-404, 2003.
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- 89\*. **McClung, J.M.**, Hand, G.A., Davis, J.M. and J.A. Carson. Effect of creatine supplementation on cardiac muscle of exercise-stressed rats. European Journal of Applied Physiology., 89(1): 26-33, 2003.
- 90\*. **Bodary, P.**, Yasuda, N., **Watson, D., Brown, A.**, Davis, J.M. and R. Pate. Effects of short term exercise on plasminogen activator inhibitor (PAI-1). Medicine and Science Sports Exercise, 35(11):1853-1858, 2003.
- 91\*. J.M Davis, **E.A. Murphy**, A. Ghaffar, E.P. Mayer. Effects of moderate exercise and oat b-glucan on susceptibility to respiratory infection. Am. J. Physiol. 286:R366-R372, 2004.
92. D.C. Nieman, J.M. Davis, V.A. Brown, D.A. Henson, C.L. Dumke, A.C. Utter, D.M. Vinci, M.F. Downs, J.C. Smith, J. Carson, **A. Brown**, S.R. McAnulty, L.S. McAnulty. Influence of carbohydrate ingestion on immune changes following two hours of intensive resistance training. J. Appl. Physiol., 96(4):1292-1298, 2004.
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\*indicates student authorship in **BOLD**

#### **D. Research Support:**

##### Active

1P20GM103641-01 (Nagarkatti PI) 09/01/12 – 08/31/17  
NIH/NIGMS; COBRE - Center for Dietary Supplements and Inflammation

The main goal of Center for Dietary Supplements and Inflammation (CDSI) is to establish multi-disciplinary research that will identify the molecular mechanisms through which botanicals modulate inflammation so that they or their analogs can be used to prevent and/or treat inflammatory diseases. I will be serving the role of a Mentor for Target Faculty Angela Murphy for the project entitled 'Macrophage- Induced Inflammation in High Fat Diet Enhanced Breast Cancer: Benefits of Quercetin. Role: Mentor (10%, 2012 - 2014); Internal Advisory Committee (0%, 2012 – 2017)

GM081740 (Prinz) 07/01/08-06-30-18  
NIH-NGMS  
Biomedical-Behavioral Interface Program  
T32 training grant focused on providing graduate training of behaviorally-base scientists in the basic biomedical disciplines of neuroscience and prevention.  
Role: Mentor (0%), Lab Host, Course Teacher

A Quiver Full (Frosty Towel) (Davis) 09/31/15 – 08/31/16  
Effects of a cooling towel on thermoregulation and performance in the heat. Role:PI (10%)

Flex Pharma (Davis) 01/01/16 – 12/31/16  
Effects of a novel energy drink (spicy TRP-inhibitor) on physical and mental function, and performance during exercise. Role: PI (15%)

##### Recently Completed

Greenville Hospital Systems (Davis) 02/23/09 – 10/01/14

Title: The effect of quercetin supplementation and exercise on inflammation and cancer-related fatigue.  
Aims: The aim of this project is to determine whether quercetin supplementation along with exercise will decrease the severity of fatigue and biomarkers of inflammation in cancer survivors. Role: PI

## **Unfunded (recent)**

### **Title: An Assessment of the Validity of fMRI for Use in Clinical Trials of Mind: Body Therapies**

In response to FOA: PAR-14-182 Exploratory Clinical Trials of Mind and Body Interventions for NCCAM High Priority Research Topics (R21) NIH.

<http://grants.nih.gov/grants/guide/pa-files/PAR-14-182.html>

Co-PI (P. Beattie, PI, Doctor of Physical Therapy Program, Dept Exercise Science) (10%)

### **Title: Central Fatigue Biomarkers in Parkinson's Disease**

In response to RFA-AG-15-007: Grants for Early Medical/Surgical Specialists Transition to Aging Research (GEMSSTAR) (R03) NIH.

Co-PI (Harath, PI, Dept. Neurology, USC School of Medicine) (10%).

### **Title: Benefits of Beta 1,3D Glucan on Upper Respiratory Infection in Athletes during Intense Physical Exercise.**

Transfer Point, Inc. 1225 Laural St. Columbia, SC 29201 (A USC Incubator Company).

PI (Davis) (15%)

Title: "Dry Needling and Supportive Therapies." An R34 grant to the National Center for Alternative and Complementary Medicine. NIH. Scored, but not funded.

Co-PI (with P. Beattie)(10%). Doctor of Physical Therapy Program, Dept Exercise Science.

### **Title: CNS Effects of Exercise on Fatigue in Parkinson's disease**

Michael J. Fox Foundation for Parkinson's Research; Rapid Response Innovation Awards Program

[https://www.michPriyantha Herath <herapx@gmail.com>aeljfox.org/research/grant-detail.php?id=3](https://www.michPriyanthaHerath.com/aeljfox.org/research/grant-detail.php?id=3)

CoPI (Davis with Herath (USC School of Medicine, Neurology) (10%)

## **Completed (2008 – 2014)**

1R24MD002769-01 NIH (Hebert)

07/01/2008 – 06/30/2013

Title: Diet and Activity Community Trial: High Risk Colon Cancer Polyps

Aim: The overall goal of this project is to 1) to conduct a faith-based community-designed, screening to identify individuals having colon polyps 2) to remove polyps detected in the screening process 3) to conduct a case-control study designed to identify factors associated with the presence of polyps and 4) to design and conduct a study to test the effectiveness of dietary and physical activity intervention aimed at modifying levels of inflammatory markers associated with colon cancer risk.

Role: Co-Investigator (10%)

Greenville Hospital Systems (Davis)

02/23/2009 – 02/22/2013

Title: The effect of quercetin supplementation on cancer related fatigue in breast cancer patients

Aims: The aim of this project is to determine whether quercetin supplementation along with exercise will decrease the severity of fatigue in breast cancer patients.

Role: PI (0%)

W81XWH-09-2-0117 Department of the Army – USAMRAA (Glover) 10/01/2008 – 09/30/2011

Title: Soldier Health Promotion to Examine and Reduce Health Disparities (SHPERHD)

Aim: (Subcontract) To reduce injury and infection in soldiers during basic combat training.

Role: PI on subcontract (15%)

1R01CA121249-01 NIH/NCI, (Carson)

04/01/2008 – 3/31/2012

Title: Cachexia in *Apc<sup>Min/+</sup>* mice: The role of IL-6

Aims: The proposal's overall purpose is to determine the importance of IL-6 signaling mechanisms for regulating muscle mass loss with cancer cachexia.

Specific Aim 1. Determine if elevated circulating IL-6 is sufficient to induce muscle wasting in

*Apc<sup>Min/+</sup>* and wild-type mice in the absence of tissue IL-6 expression or a cancerous phenotype. Specific

Aim 2. Determine if elevated circulating cytokine IL-6 induces wasting by distinct mechanisms in fast skeletal muscle.

Role: Co-Investigator (5%)

R21 CA135377 NIH/NCI (Murphy)

05/15/2009 - 12/30/2011

Title: Curcumin and Quercetin in Colon Cancer: Role of Macrophage-Induced Inflammation

Aims: The aims of this project are 1) to elucidate the independent and combined stage specific effects of curcumin and quercetin on macrophage-induced inflammation, colon cancer progression and host survival and 2) to evaluate whether macrophages are a final common cause of the effects of curcumin and quercetin on inflammation, colon cancer progression and host survival.

Role: Co-Investigator (10%)

Quaker Oats Company (Gatorade Sports Science Institute), (Davis) 1/1/02 – 5/31/10

Title: Nutritional Strategies to Improve Performance and Immune Function During Intermittent, High Intensity Exercise

The major goal of this project is to investigate whether carbohydrate and other novel supplements can improve mental and physical performance and offset immune suppression during strenuous exercise training. (active)

Role: PI (20%)

Department of Defense (DOD, Combat Feeding Program, Natick, MA) (Gangemi) 2/15/07-10/31/09

Title: Further development of curcumin, Muscadine, quercetin and caffeine as natural food additives to delay fatigue and enhance physical stamina and mental alertness.

The overall purpose is to extend our previous findings from contract DAAD16-02-C-0015 with a focus on product development for curcumin, muscadine, quercetin and caffeine as food additives to delay fatigue and enhance physical stamina and mental alertness.

Role: PI on USC subcontract (15%)

Defense Advanced Research Program Agency (DARPA/DoD) (Davis)

2/15/07 – 3/14/09

Title: Effects of Quercetin Feedings on Susceptibility to Respiratory Infection Following Exercise Stress: Role of Tissue Macrophages.

The aims of this project are 1) to determine the effects of quercetin feedings on susceptibility to influenza infection following stressful exercise using a well-controlled virus challenge model in mice, and 2) to determine to role of tissue macrophages as immune mediators of the effect of quercetin on viral infection.

Role: PI (15%)

NIH/NCI, (Carson)

11/01/07 – 3/31/10

Title: Cachexia in *Apc*<sup>Min/+</sup> mice: The role of IL-6

Aims: The proposal's overall purpose is to determine the importance of IL-6 signaling mechanisms for regulating muscle mass loss with cancer cachexia.

Specific Aim 1. Determine if elevated circulating IL-6 is sufficient to induce muscle wasting in *Apc*<sup>Min/+</sup> and wild-type mice in the absence of tissue IL-6 expression or a cancerous phenotype.

Specific Aim 2. Determine if elevated circulating cytokine IL-6 induces wasting by distinct mechanisms in fast skeletal muscle.

Role: Co-Investigator (5%)

Quercegen Pharma (Murphy)

09/01/08-31/08/09

Title: Pilot studies on quercetin's effect on health and performance

Aim: To examine the effects of quercetin in models of disease and performance.

Role: Co-PI (10% effort)

### **Selected completed grants prior to 2008**

Defense Advanced Research Program Agency (DARPA) (Nieman)

11/01/05 – 12/31/07

Title: Countermeasures to Immune Dysregulation Induced by Prolonged Intense Physical Stress. The goal is to develop a nutritional/pharmacological countermeasure that the warfighters can use to abrogate immune dysfunction and the risk of infection, disease, injury, and mental and physical fatigue during deployment.

Role: Co-PI on USC subcontract

JM Davis (PI)

1/1/97 – 12/31/07

**Quaker Oats Company (Gatorade Sports Science Institute)**

Title: Nutritional Strategies to Improve Performance and Immune Function During Intermittent, High Intensity Exercise

The major goal of this project is to investigate whether carbohydrate and other novel supplements can improve performance and offset immune suppression during strenuous exercise training.

Role: PI (15%)

JM Davis (co-PI) with D Neiman (PI, Appalachian State)

11/1/05 – 12/31/07

**DARPA (DOD)**

Title: Countermeasures to Immune Dysregulation Induced by Prolonged Intense Physical Stress. The goal is to develop a nutritional/pharmacological countermeasure that the warfighters can use to abrogate immune dysfunction and the risk of infection, disease, injury, and mental and physical fatigue during deployment.

Role: Co-PI (24%)

JM Davis (co-PI) with A Ghaffar & E. Mayer, (School of Medicine), D.Gangemi, (Clemson) & B Michniak (Rutgers Univ.).

02/1/02 – 01/31/05

**Department of Defense (DOD, Combat Feeding Program, Natick, MA)**

Title: Novel Cellular and Small Animal Models to Selectively Screen for Functional Foods and Dietary Supplements Which Delay Fatigue and Enhance Physical Stamina and Mental Alertness.

The goal of this grant is to develop rapid screening methods for the selection of nutraceuticals of value to the military in terms of delaying fatigue and enhancing physical stamina and mental alertness. In addition, this study will evaluate the feasibility of transdermal delivery for those lead compounds, which are selected by the initial screen.

Role: Co-PI (15%)

JM Davis (PI on USC subcontract) with E Zambraski & P Dunne (Natick Soldier Center (PI's on full grant).

**DARPA (DOD)**

Title: Peak Soldier Performance: Phase II (Effects of Quercetin on Mental and Physical Performance). The overall goal is to a) fully assess the potential performance enhancing properties of Quercetin, and b) provide the needed metabolic and biochemical information that will be required not only to initiate human testing, but also be necessary in leading to the possible incorporation of Quercetin into an Army combat ration.

Role: Co-PI (25%)

JM Davis (PI)

05/01/05 – 12/31/05

DARPA (DOD) subcontract (LB Chen, Harvard Univ.) \$86,505

15%

Title: Effects of dietary quercetin on mitochondrial content in rats. The goal is to confirm the expected beneficial effect of quercetin on muscle and brain mitochondrial content under normal conditions and following short-term food deprivation.

JM Davis (Colaborating Scientist) (Murdaugh, School of Nursing, PI)

9/1/99 –

6/30/04 National Institutes Health (NIH)

\$1,497,719

1%

Title: Center for Research in Health Promotion and Risk Reduction in Special Populations

The primary purpose is to provide the infrastructure to (1) develop a critical mass of investigators to study problems related to the center focus, (2) promote and support interdisciplinary collaboration in research; and (3) develop and initiate mechanisms to disseminate research findings into the scientific community, clinical practice, and health care policy.

Davis (consultant) with K. Phillips, School of Nursing (PI)

7/1/00 – 12/31/02

National Institutes of Health (NIH)

\$274,083

1%

Title: Psychoneuroimmunological Correlates of Sleep in Persons with HIV

The major goal of this research is to describe the relationships among stress, immune activation, psychological, endocrine, and immune correlates of sleep, and sleep quality in Persons with HIV within the context of psychoneuroimmunology theory. (active)

JM Davis (co-PI) (with Hebert, Department of Epi/Biostat (PI)  
Department of Army (DOD)

7/1/99 – 6/30/02

\$327,587 (3 yr)

5%

Title: Phase I Induction and Estrogen Metabolism in Women With and Without Breast Cancer and in Response to a Dietary Intervention.

The major goal of this project is to examine the relationship between various potential mediators of breast cancer risk (including estrogen metabolism) and Brassica vegetable intake in women with breast cancer and those at high or low risk for developing breast cancer.

Davis, J.M. (P.I.) Effects of Nutritional Supplements Designed to Offset Central Fatigue and Negative Mood State During Weight Lifting. Experimental and Applied Sciences (EAS). 1998-1999, \$50,000.

Davis, J.M. (P.I.) & D. Saunders. Relationship between Feelings of Exhaustion and Blood Cytokine Levels in Heart Disease. South Carolina Consortium for Cardiovascular Diseases and Stroke. 1998-1999. \$13,389.

### **International Research Presentations (up through 2001):**

Central Nervous System Mechanisms of Fatigue: Implication for Optimal Nutrition, Training and Performance. Brazilian Army's 5th International Symposium on Physical Activity and Performance, Rio de Janeiro, Brazil, November, 2001.

Nutritional Influences on Central Mechanisms of Fatigue. International Olympic Committee (IOC) Nutrition Conference, **Ancient Olympia, Greece**. May, 2000.

Nutrition for Optimal Performance in Team Sports. Pan American Conference on Nutrition in Sport. **Mexico City, Mexico**. October, 2000.

Carbohydrates and Performance of High Intensity Intermittent Exercise. The Chinese University of Hong Kong, **Hong Kong, China**. June, 1999.

Carbohydrates and Performance of Team Sports. Sports Medicine Conference, **Shanghai, China**, June, 1999.

Mechanisms of Fatigue Involving the Central Nervous System in Sport. Norwegian Olympic Sports Medicine Conference, **Oslo, Norway**, March, 1999.

Nutritional Effects on Brain Mechanisms of Fatigue, International Conference on Sports Nutrition, **Rosario, Argentina**, September, 1997.

Influence of Carbohydrate and Amino Acid Supplementation on Intermittent High Intensity Exercise to Fatigue, Southeast Asian Games International Symposium on Nutrition and Sports Performance, **Jakarta, Indonesia**, October, 1997.

Neurotransmitter Influences on Fatigue During Exercise, Canadian Society of Exercise Physiology Annual Convention, **Toronto, Canada**, October, 1997.

Nutritional Influences on Central Nervous System Fatigue During Exercise, Israeli Diabetes Society Annual Conference, **Tel Aviv, Israel**, November, 1997.

Neuroendocrine-Cytokine Regulation of the Innate Immune Response to Exercise, International Society for Exercise Immunology, **Paderborn, Germany**, November, 1997.

Central and Peripheral Mechanisms of Fatigue, Current Issues on Nutrition in Athletics: An International Scientific Consensus Conference, **Monte Carlo, Monaco**, February, 1995.

Nutritional Influences on Central Fatigue. Nutrition and Physical Performance Symposium, 9th International Conference on Biochemistry of Exercise. **Aberdeen, Scotland**. July, 1994.

Fatigue and the Central Nervous System During Prolonged Exercise: Nutritional Considerations. Nutrition and Physical Performance Symposium. International Congress of Nutrition, **Adelaide, Australia**, September, 1993.

Importance of fluid and carbohydrate replacement during prolonged exercise. Presented at The International Symposium on Nutrition and Sports, **Leningrad, Russia, USSR**, October, 1990.

Optimal Fluid Replacement Beverages. Presented at the International Conference on Sports Medicine, **Sao Paulo, Brazil**, November, 1990.

## Teaching History:

### Courses Taught:

EXSC 223/223L: Human Anatomy and Physiology I (>16 times)  
EXSC 224/224L: Human Anatomy and Physiology II (>16 times)  
EXSC 395: Undergrad Research Seminar in Exercise Science (2 times)  
EXSC 530: Undergraduate Exercise Physiology (> 15 times)  
EXSC 780: Physiological Adaptations to Exercise (> 20 times)  
EXSC 781: Lab Techniques in Exercise Physiology (>20 times)  
EXSC 880: Myology and Exercise (6 times)  
EXSC 783: Research Seminar in Exercise Physiology (>10 times)  
EXCC 755: Endocrinology of Exercise and Health (2 times)  
EXSC 555: Exercise Metabolism (Spring 2015)

### Doctoral Students Graduated (Major Professor):

Direct Supervision of Doctoral Dissertations (Major Advisor):  
Fourteen (14) of my doctoral students have graduated. The first student graduated in 1988.

Cris Slentz - Glucose Feedings and Exercise in Rats:  
Glycogen Use, Hormone Responses, and Performance, 1988.  
(Research Associate, Duke University School of Medicine)

Maria Lonnett Burgess - Application of Intracranial Self-stimulation Techniques to the Study of Physiologic Responses to Exercise, 1991. (Associate Professor, Department of Health Sciences, Boston University)

Steve Bailey - The Role of Brain Serotonergic Activity in Fatigue During Prolonged Exercise, 1992. (Professor, Elon College, Department of Physical Therapy)

Jeffery Woods - The Effects of Exercise on Macrophage Activation and Anti-Tumor Function, 1992. (Professor, University of Illinois, Department of Kinesiology)

Marian Kohut - Potential Neuroendocrine and Cellular Mechanisms Mediating the Exercise-Induced Decrease in Antiviral Function, 1995. (Associate Professor, Iowa State University, Department of Health and Kinesiology)

Lisa Hertler Colbert – Exercise effects on Mouse Models of Cancer and the Expression of Inflammatory Cytokines, 1998. (Associate Professor, University of Wisconsin, Department of Kinesiology)

Adrienne Brown – Effects of Gender and Estrogen on Responses to Viral Infection Following Repeated Exercise Stress, 2004. (Postdoctoral Fellow, University of California, San Francisco, Dept Oral & Maxillofacial Surgery San Francisco, CA

Angela Murphy – Role of Macrophages on the Benefits of Oat Beta-Glucan on Susceptibility to Infection Following Exercise Stress, 2004. (Assistant Professor, Department of Pathology, Microbiology and Immunology, University of South Carolina School of Medicine, Columbia, SC).

Martin Carmichael – Role of Brain IL-1 on Central Nervous System Fatigue Following Exercise-Induced Muscle Damage, 2005. (Assistant Professor, Lander University, Greenwood, SC).

Stephen Chen – Effects of Quercetin Supplementation on Physical and Mental Function in Older Adults, 2011. (Assistant Clinical Professor, Department of Exercise Science, University of South Carolina, Columbia, SC).

Seung Ho Jung - The Role of Monocyte Chemotactic Protein-1 in the Development of Central Nervous System Fatigue, 2011. (Post-Doctoral Fellow, Ohio State University, Columbus, OH).

Sara Mahoney – Effects of 5-Fluorouracil Chemotherapy on Fatigue and Inflammation in Mice: Benefits of Quercetin. 2011. (Assistant Professor, Texas A&M, Kingsville, Kingsville, TX).

Jennifer Steiner - Targeting Tumor Macrophages in Breast Cancer: Benefits of Quercetin, 2012. (Post-Doc Fellow, Department of Cell and Molecular Physiology Department, Penn State Hershey College of Medicine).

Reilly Enos - An Investigation into the Influence of Dietary Saturated Fat and Quercetin Supplementation on Adiposity, Macrophage Behavior, Inflammation, and Non-Alcoholic Fatty-Liver Disease, 2013. (Post-Doc Fellow, Department of Pathology, Microbiology and Immunology, USC School of Medicine, Columbia, SC

**Professional Service: (selected items)**

National Level:

American College of Sports Medicine:

Board of Trustees, 2004- 2007

Research Review Committee, 1997-2000

Program Committee, 2003-2005

Regional Chapter Representative to ACSM, 1997-2000

Abstract Reviewer (Carbohydrate Metabolism; 1991 & 1993)

Manuscript Reviewer for Medicine Science Sports and Exercise

Regional Level:

Southeast Chapter, American College of Sports

Medicine: Executive Board (1988-1990 & 1997-2000)

President (1992-1994)

Community Level:

ACSM Fitness Instructor Workshops (9 times since 1988) USC Aerobics Certification Program (7 times since 1991) Governors School for Science and Math (2 times) Carolina Runners Club (4 times) Athletic Department (3 times)

Consultant Activity:

Gatorade Sports Science Institute (GSSI); Sports Medicine Review Board, 1999- 2007

Minnesota Vikings, Vaegre and Benson, Law Firm

Dallas Cowboys Professional Football, Jerry Jones, Owner

Quaker Oats Company, (area of Sports Nutrition), 1988-1998

Nabisco Company, Sports Nutrition

Amway Corporation, Sports Nutrition

Committee of Military Nutrition Research of the Food and Nutrition Board, Institute of Medicine, National Academy of Science

Quercegen Pharma, Science Advisory Board

Institute for Nutraceutical Research, Science Advisory

Board Armgo Pharma, Scientific Advisor

FRS Company, Scientific Advisor, (current)

Aegis Shield, Inc. Scientific Advisor, (current)

Well & Company, Inc. Scientific Advisor (current)

Editorial Board:

International Journal of Sports Nutrition (1993 - 1995)

Research Manuscript Reviewer: (listed only if reviewed > 10 times)

Journal of Applied Physiology

Medicine and Science in Sports and Exercise

International Journal of Sports Medicine

International Journal of Sports Nutrition  
Life Science  
American Journal of Physiology  
European Journal of Applied  
Physiology  
Brain, Behavior, Immunology  
Journal of Applied Physiology,  
Nutrition and Metabolism

Professional And Learned Societies:

American College of Sports Medicine

Fellow (1991)

Board of Trustees (2004-2007)

Citation Award (Career Achievement in Medicine and Science in Sports and Exercise) (2013)

President's Award (2012)

Southeast Chapter, American College of Sports Medicine, 1983- present

Executive Board, 1988-1989,

President, 1992-1994

Scholar Award (2008).

ACSM Representative to the Board (1997-2000)

American Physiological Society

Society for Neuroscience