

Curriculum Vita

Daniel J. McCann, Ph.D.
Professor & Chair, Department of Human Physiology
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Academic Degrees

- 1989 PhD in Physiology, University of California, Davis. Major area: Metabolism. Dissertation: Phosphocreatine kinetics in humans during exercise and recovery using ^{31}P NMR spectroscopy. Advisor: P.A. Molé
- 1980 MA in Ergonomics, University of California, Santa Barbara. Thesis: Preferred and imposed work rates: tempo variability and mechanical efficiency. Advisor: J.A.Gliner.
- 1978 BS in Physical Education, Springfield College, Springfield, MA. Major concentration: Athletic Training.

Professional Experience

- 2017-present Affiliate Professor, Dept. Physiology and Biophysics, University of Washington
- 2015-present Professor & Chair, Dept. Human Physiology, Gonzaga University
- 2011-2015 Professor of Human Physiology, Gonzaga University
- 2008-2011 Professor & Chair, Dept. Human Physiology, Gonzaga University
- 2004-2008 Professor of Human Physiology, Gonzaga University
- 2005-2006 Consultant: Expert Physiologist. CDC/NIOSH Research Lab, Spokane, WA
- 2002-2004 Associate Professor, Gonzaga University
- 1998-2002 Associate Professor & Chair in Exercise Science, Gonzaga University
- 1995-1997 Associate Professor & Chair, Physical Education, Gonzaga University
- 1992-1995 Assistant Professor, Physical Education, Gonzaga University
- 1989-1992 Lecturer and Post-Graduate Researcher, UC Davis
- 1988-1989 Product Manager/Consultant, Loredan Biomedical, Davis, California
- 1985-1988 Post-Graduate Researcher, UC Davis

Courses Taught

Human Anatomy & Physiology I and II
Human Anatomy & Physiology Laboratory I and II
Physiology Research
Environmental Physiology
Experimental Research: Methods and Design
Exercise Physiology with Laboratory
Advanced topics: Translational Physiology
Advanced topics: Comparative Exercise Physiology
Fatigue

Publications

- Fallon, S., A. Belcoe, C. Shawcross, A. May, C. Monteverde, and DJ **McCann**. Ventilatory compensation to decreased inspired O₂ during the Wingate test. *Research Quarterly for Exercise and Sport*. Dec. 2014. DOI: 10.1080/02701367.2014.983448
- McCann**, D.J., and B.K. Higginson. Training to maximize economy of motion in running gait. *Curr. Sports Med Rep.*, Vol. 7, No. 3, pp. 158-162, 2008.
- McCann**, D.J. Body size and $\dot{V} O_{2peak}$: a new perspective? *Int. J. Sports Med.* 25:50-55, 2004
- McCann**, D.J. and W.C. Adams. The size-independent oxygen cost of running. *Med. Sci. Sports Exerc.* 35(6):1049-1056, 2003
- McCann**, D.J. and W.C. Adams. A theory for normalizing resting $\dot{V} O_2$ for differences in body size. *Med. Sci. Sports Exerc.* 34(8):1382-1390, 2002
- McCann**, D.J. and W.C. Adams. A dimensional paradigm for identifying the size-independent cost of walking. *Med. Sci. Sports Exerc.* 34(6):1009-1017, 2002
- Rico-Sanz, J., H. Silverman, D.J. **McCann**, and P.A. Molé. Physiological adaptations to 6 weeks of specific training of intercollegiate soccer players. *Sports Med., Training Rehab.* 10:67-81, 2001
- McCann**, D.J. and W.C. Adams. Wet bulb globe temperature index and performance in competitive distance runners. *Med. Sci. Sports Exerc.* 29:955-961, 1997
- Farrell, P.V. and D.J. **McCann**. Computers, the Internet and marketing athletics. *Sports Marketing Quarterly.* 6:12-13, 1997
- Castro, M.J., D.J. **McCann**, J.D. Shaffrath, and W.C. Adams. Torque per unit lean tissue cross sectional area of the upper arm and thigh in strength trained and untrained young adult males and females. *Med. Sci. Sports Exerc.* 27:397-403, 1995
- McCann**, D.J., P.A. Molé, and J.R. Caton. Phosphocreatine kinetics in humans during exercise and recovery. *Med. Sci. Sports Exerc.* 27:378-389, 1995
- McCann**, D.J. and J.A. Gliner. Preferred and imposed work rates: tempo variability and mechanical efficiency. *Ergonomics* 25:255-258, 1982

Published Abstracts & Letters

- Wehrwein, E.A., J.M. Poteracki, D.J. **McCann**, E.J. Henriksen, M.L. Matyas, and J.R. Halliwill. A nationwide assessment and comparison of curriculum requirements in undergraduate physiology programs. Proceedings: APS Institute on Teaching and Learning (ITL) *The Physiologist*, Program, Nov. Vol 58/No. 6, 2014.
- McCann**, D.J. and W.C. Adams. The cost of outdoor recreational bicycling: influence of body size, age, and sex. *Medicine & Science in Sports & Exercise* 32(5): S448, May 2005
- McCann**, D.J. and W.C. Adams. The size-independent cost of running. *Med. Sci. Sports Exerc.* 32:S88, May, 2003
- Usita C.K., R.M. Ord, A.T. Perez, and D.J. **McCann**. An analysis of metabolic costs among wheelchair basketball players. *Med. Sci. Sports Exerc.* 32:S347. May, 2003
- McCann**, D.J. and W.C. Adams. The size-independent oxygen cost of running. *Med. Sci. Sports Exerc.* 35(5):S88. May, 2003
- McCann**, D.J. and W.C. Adams. Children do not have lower walking economy than adults. *Med. Sci. Sports Exerc.* 32:S71. May, 2000
- McCann**, D.J. and W.C. Adams. Allometric scaling of resting metabolic rates of children and adults. *Med. Sci. Sports Exerc.* 30:S124, 1998
- McCann**, D.J. and W.C. Adams. Predicting sweat rates and core temperature changes during

distance running. *Med. Sci. Sports Exerc.* 29:S136, 1997

McCann, D.J., M.J. Castro, J.D. Shaffrath, and W.C. Adams. Response to Letter to the Editor by E.M. Winter. *Med. Sci. Sports Exerc.* 28:934-935, 1996

McCann, D.J. and W.C. Adams. Examination of the validity of the WBGT index as a means for prevention of heat injury and performance decrements in competitive distance runners. *Med. Sci. Sports Exerc.* 28:S1195, 1996

McCann, D.J., D.L. Grimes, and W.C. Adams. Cardiac output limitations during extreme heat and exercise stress in trained males. *Med. Sci. Sports Exerc.* 27:S187, 1995

McCann, D.J., P.A. Molé and J.R. Caton. Dynamics of ATP, PCr and Pi during exercise and recovery in human forearm muscle. *Med. Sci. Sports Exerc.* 21:S68, 1989

Published Proceedings of Undergraduate Student-Mentored Research

Lowrimore, C; Mason, N; Brost, T; Ward, K; Balmelli, B; Sullivan, L; Phillips, A; and

McCann, D Comparison of cold-water immersion and compression on post-exercise muscle recovery, *International Journal of Exercise Science: Conference Proceedings*: Vol. 8: Iss. 3, Article 27. 2015 Available at: <http://digitalcommons.wku.edu/ijesab/vol8/iss3/27>

Newman, S; Hashimoto, K; Jarvie, R; Lane, K; Orr, M; Townsend, E; White, D; and **McCann, D** Immediate effect of laughter on physiological stress responses in college-ages males, *International Journal of Exercise Science: Conference Proceedings*: Vol. 8: Iss. 3, Article 37. 2015 Available at: <http://digitalcommons.wku.edu/ijesab/vol8/iss3/37>

Reynolds, S; Berkoe, H; Travis, J; Lebon, H; Van Wyck, D; Caudill, K; Lynde, C; and **McCann, D** Effects of beet juice on oxygen consumption between trained and untrained cyclists, *International Journal of Exercise Science: Conference Proceedings*: Vol. 8: Iss. 3, Article 44. 2015 Available at: <http://digitalcommons.wku.edu/ijesab/vol8/iss3/44>

Wheeler, J.L., M.J. Leonetti, C.M. Stahl, K.M. Edinger, C.M. Bishop, P.A. Wambolt, and D. **McCann.** Utilizing Postactivation Potentiation In A Wingate Test. *Int. J. Exerc. Sci.: Conference Abstract Submissions*: Vol. 8: Iss. 2, Article 46. Available at: <http://digitalcommons.wku.edu/ijesab/vol8/iss2/46>. March 2014.

Moore, S., S. Thompson, K. Doesburg, K. Johnston, M. Clark, J. Portillo, T. Leahy, D. **McCann.** Effects Of Neck Posture On Ventilation And Perceived Exertion In Trained Females *Int. J. Exerc. Sci.: Conference Abstract Submissions*: Vol. 8: Iss. 2, Article 38. Available at: <http://digitalcommons.wku.edu/ijesab/vol8/iss2/38>. March 2014.

Klassen, D., Mills, K., Eliason, S., Csicsery, K., Popich, A., and D.J. **McCann.** Performance and physiological response to partnered exercise in females, *Int. J. Exerc. Sci.: Conference Abstract Submissions*: Vol. 8: Iss. 1, Article 9. Available at: <http://digitalcommons.wku.edu/ijesab/vol8/iss1/9>. March 2013.

Sheahan, S.R.; Lilly, A.J.; Kollar, V.C.; Thomas, E.C.; and D.J. **McCann.** Effect of body temperature increases on the VO₂ response to high-intensity interval exercise, *Int. J. Exerc. Sci.: Conference Abstract Submissions*: Vol. 8: Iss. 1, Article 15. Available at: <http://digitalcommons.wku.edu/ijesab/vol8/iss1/15>. March 2013.

Presentations

McCann, D.J., A Flipped Classroom Using Screen-Capture Video. Poster Presentation, Experimental Biology, Boston, MA, March 30th, 2015.

- Halliwill, J.R., E.A. Wehrwein, E.J. Henriksen, D.J. **McCann** and S. Dawson. Teaching Symposium: What's Your Major? The Rise of the Undergraduate Physiology Degree. Experimental Biology, Boston, MA, March, 2015.
- Wehrwein, E.A., J.M. Poteracki, D.J. **McCann**, E.J. Henriksen, M.L. Matyas, and J.R. Halliwill. A nationwide assessment and comparison of curriculum requirements in undergraduate physiology programs. APS Institute on Teaching and Learning (ITL) Bar Harbor, ME, June 26th, 2014
- Fallon S.B., Belcoe A.S., May A.D., Monteverde C.M., Shawcross C.E., and D.J. **McCann**. Effect of acute hypoxia on Wingate performance of trained female athletes. ACSM-NW Annual Conference - oral presentation. March 2012.
- McCann**, D.J. and S. Stavrianeas. Colloquium. Does Student Research Deserve its Own Curriculum? American College of Sports Medicine Annual Meeting, Baltimore, MD. June, 2010
- McCann**, D.J. and S. Stavrianeas Faculty Colloquium: Exercise Science Education, Annual Conference, American College of Sports Medicine, Northwest, Portland, OR. March 6, 2010
- McCann**, D.J. and S. Stavrianeas. Exercise Science Education: a call to action. Annual Conference, American College of Sports Medicine, Northwest, Seattle, WA. Feb. 20, 2009
- Smith, D.S, G.M. Lundberg, D.M. Lemieux, A.E. O'Neil, and D.J. **McCann** Effects of music on short-term anaerobic performance. Annual Conference, Oral Presentation American College of Sports Medicine, Northwest, Seattle, WA. March, 2008.
- McCann**, D.J. and W.C. Adams. The cost of outdoor recreational bicycling: influence of body size, age, and sex. American College of Sports Medicine 2005 Annual Meeting.
- McCann**, D.J. and W.C. Adams. The size-independent cost of running. American College of Sports Medicine national annual conference, San Francisco, CA. May, 2003
- Usita C.K., R.M. Ord, A.T. Perez, and D.J. **McCann**. An analysis of metabolic costs among wheelchair basketball players. American College of Sports Medicine national annual conference, San Francisco, CA. May, 2003
- McCann**, D.J. Growth, development and $\dot{V}O_{2peak}$: a new perspective? Northwest Region American College of Sports Medicine annual conference. Missoula, MT, March 28, 2003
- Ord R.M., C.K. Usita, A.T. Perez, and D.J. **McCann**. Metabolic rate and heart rate responses to recreational wheelchair basketball. Northwest Region American College of Sports Medicine annual conference. Missoula, MT. March 28, 2003
- McCann**, D.J. and W.C. Adams. Children do not have lower walking economy than adults. American College of Sports Medicine National Conference, Indianapolis, IN. May, 2000
- McCann**, D.J. and W.C. Adams. Allometric scaling of resting metabolic rates of children and adults. American College of Sports Medicine National Conference, Orlando FL. May, 1998
- McCann**, D.J. and W.C. Adams. Predicting sweat rates and core temperature changes during distance running. American College of Sports Medicine National Conference, Denver, CO. May, 1997
- McCann**, D.J. and W.C. Adams. Examination of the validity of the WBGT index as a means for prevention of heat injury and performance decrements in competitive distance runners. American College of Sports Medicine National Conference, Cincinnati, OH. May, 1996
- McCann**, D.J. Allometric scaling of muscle strength in male and female subjects. Annual Conference, Northwest Region American College of Sports Medicine, Corvallis, OR. Feb., 1996
- McCann**, D.J., D.L. Grimes, and W.C. Adams. Cardiac output limitations during extreme heat

and exercise stress in trained males. American College of Sports Medicine National Conference, Minneapolis, MI. May, 1995

McCann, D.J. and W.C. Adams. Examination of the validity of the WBGT index as a means for prevention of heat injury and performance decrements in competitive distance runners. Annual Conference, Northwest Region American College of Sports Medicine, Kent, WA. Feb. 1995

McCann, D.J. and W.C. Adams. A mathematical model of heat exchange during competitive distance running. Poster. Annual Conference, Northwest Region American College of Sports Medicine, Kent, WA. Feb., 1995

McCann, D.J., P.A. Molé, and J.R. Caton. Dynamics of ATP, PCr and Pi during exercise and recovery in human forearm muscle. American College of Sports Medicine National Conference, Washington, DC. May, 1989

Grants/Awards

American College of Sports Medicine, Northwest Region Service Award, 2013

Gonzaga University Teaching Excellence Award, 2004-2005

McDonald Work Award Program, Gonzaga University. Funding of salaries for undergraduate students working as laboratory technicians in the Human Performance. Fall 2003 through Fall 05, also Fall 1009-Spring 2010: Total \$12,000.

McCann, D.J. Computerized biological data acquisition and analysis systems. Gonzaga University Academic Computing Special Projects Fund. Funded for \$13,300, 1997-98

McCann, D.J., P.G. Pauw, and R.A. Tankersley. Development of two novel models for studying skeletal muscle growth using cultured muscle cells. Gonzaga Research Council. Funded for \$625. 1995

Adams, W.C. and D.J. McCann. Measurement of breathing rate and volume in routinely performed daily activities. State of California Air Resources Board. Funded for \$87,000, 1991-1993

Max Kleiber Award for Research in Metabolism, Graduate group in Physiology, University of California, Davis. \$500, 1987

McCann, D.J. Determination of high-energy phosphates in human muscle using ³¹P-Nuclear Magnetic Resonance Spectroscopy. Graduate Research Award University of California, Davis. Funded for \$1,500, 1986-1987

Irving I. Hertzendorf Memorial Award in Physiology for Outstanding Scholarship and Humanitarianism, Graduate group in Physiology, University of California, Davis, 1986

Adams, W.C. and D.J. McCann. Examination of the validity of the wet bulb globe temperature (WBGT) index as a means for the prevention of heat injury in competitive distance runners. National Collegiate Athletic Association. Funded for \$8,300, 1984

National Research Service Award (NRSA), Yearly stipend and tuition waiver. Department of Health and Human Services, National Institute of Health, 1980-1983

Current Memberships

American Physiological Society

American College of Sports Medicine, Northwest Chapter

Professional Service

Referee: *International Journal of Sport Physiology and Performance*, 2014
External Reviewer: California Lutheran University Dept. of Exercise Science, 2014
Grant reviewer, M.J. Murdock Charitable Trust, Fall 2014
Referee: *Research Quarterly for Exercise and Sport*, 2014
Grant reviewer, M.J. Murdock Charitable Trust, Fall 2013
Regional Chapters Committee Representative, ACSM Northwest 2010-2013
Referee: student research posters: ACSM Northwest Regional Conference, 2012
Chair, Finance Committee, ACSM Northwest, 2010-2013
Member, Abstract Committee, ACSM Northwest, 2012
Referee: *European Journal of Applied Physiology and Occupational Physiology*, 2010.
Reviewer. *The Physiology of Extreme Environments*. H-C. Gunga. American Academic Press (2010)
Grant reviewer, M.J. Murdock Charitable Trust, Fall 2010
Member, Abstract Committee, ACSM Northwest, 2009-2010
Chair, Nomination Committee, ACSM Northwest, 2009-2010
Member, Task Force on Restructuring the Home Office, ACSM NW, 2009-2010
Referee: student research abstracts: ACSM Northwest Regional Conference, 2010
Referee: student research abstracts: ACSM Northwest Regional Conference, 2009
Past-President: American College of Sports Medicine Northwest, Feb. 2009-2010
President: American College of Sports Medicine Northwest, Feb. 2008-2009
External reviewer for promotion to professor for a candidate at Montana State University. 2009
External reviewer for accreditation, Central Washington University Department of Exercise Science and Nutrition, 2009
President-elect: American College of Sports Medicine Northwest, Feb. 2007-2008
Member: ACSM Northwest Annual Conference Committee, 2007
Referee: *Applied Physiology, Nutrition and Metabolism*, 2008
Referee: *International Journal of Sports Medicine*, 2008
Referee: Undergraduate research abstracts: ACSM Northwest Regional Conference, 2008
Referee: Undergraduate research posters: ACSM Northwest Regional Conference, 2008
Referee: *Journal of Applied Physiology*, 2005
External reviewer for promotion to professor for a candidate at University of the Pacific, Stockton, CA, Fall 2005.
Referee: *Sports Medicine*, 2005
Referee: *International Journal of Sports Medicine*, 2005
External reviewer for promotion and tenure application for a candidate at Montana State University.
Referee: Graduate student research abstracts: NWACSM Northwest Regional Conference, 2003
Referee: *European Journal of Applied Physiology and Occupational Physiology*, 1998
Referee: *International Journal of Sports Medicine*, 1997
Referee: *Acta Physiologica Scandinavica*, 1997
Member: ACSM Northwest Conference Committee 1996-97: Budget
Referee: *Journal of Applied Physiology*, 1995

Current University Service

Department Chair 2015-present
Advisory Council for the Dean of the School of Nursing and Human Physiology 20013-present
Faculty Advisory Council to the President, 2009 - present
Academic Advisor for 35 undergraduate students
Departmental Web Page Liaison: 2011-present

Past University Service

Faculty Senate 2014-2016
Program Director, Dept. Human Physiology 2013-2014
University Budget Committee 2010-2013
Search Committee, Dean Search for The School of Nursing and Human Physiology, 2013
SPS Reappointment, Rank and Tenure Committee 2010-2013
Chair, Department of Human Physiology 2007-2010
University Core Curriculum Revision Committee 2009 - 2011
Faculty Advisory Council to the Academic Vice President, 2007 - 2009
Gonzaga University Board of Regents, Faculty Representative, January 2007-09
Departmental Web Page Liaison: 2007-2008
Library Liaison 1998-2008
School of Professional Studies Reappointment, Rank and Tenure Committee: 2003-2007
Faculty Senate Appointee to the University Academic Council: 2004-06
Faculty Senate: Academic Subcommittee on Finance 2005-06
Faculty Senate: School of Professional Studies Representative: Fall 2004-06
University Academic Council: 2005-06 Chair, Committee on Assessment Outcomes
University Academic Council 2004-05 Member of the Assessment Outcomes
Faculty Senate Academic Committee: 2004-05
Departmental Web Page Liaison: 1998-2005
Faculty Assembly Executive Committee, alternate: Spring 2003
Faculty Assembly Executive Committee: Fall 2002
College of Arts and Science Curriculum Committee, Science Rep., (alternate 2002-03)
McDonald Work Award Program Administrator: 2002-03
Department Chair, Department of Exercise Science: 1998-2002
Chair: Departmental Faculty Search Committee: 2002
Chair: Department Rank and Tenure Committee, 2001
Chair: Department Rank and Tenure Committee, 2000
Chair: Arts and Sciences Committee: Curricular Revision of B.S in Exerc. Sci, Curriculum: 1998
Chair: Gonzaga University Wellness Committee: 1993-94
McDonald Work Award Program Administrator: 2002
Faculty Advisor: Exercise Science Majors' Club: 1998-02
University Budget Committee: 2000-01
Hughes Hall of Science Renovation Committee: 1999-01
Gonzaga University Committee on Careers in Health Science: 1993-00
Gonzaga University YK2 Project: 1999
University Web Page Advisory Committee: 1998
University Curriculum Advising & Program Planning Academic Advisory Committee: 1997-98

Department Chair, Department of Physical Education: 1996-1997
Gonzaga University, Graduate Program Director: 1996-97
School of Education (SOE) NCATE Liaison: 1997-98
SOE Chairs' Committee: 1996-98
SOE Evaluation Committee: 1996-98
SOE Human Subjects' Committee: 1994-97
SOE Think Tank on Reorganization: 1997
Martin Centre Facility Committee: 1997
SOE Curriculum Committee: 1994-97
SOE Technology Advisory Committee: 1996-97
SOE Search Committee for Technology Resource Center: 1996
SOE Leadership Council: 1994-96
SOE Ad Hoc Committee for Parker Palmer visit: 1994
Search Committee, Department of Physical Education: 1994
Gonzaga University Wellness Committee: 1992-93

Past Graduate Student Advising

Research Advisor - Graduate Research Project: Paul Farrell, 1995-96
Research Advisor - Graduate Research Project: Andy Zoldak, 1995-96
Member - Master's Thesis Committee: Ronald Hagen, 1990-93
Thesis Advisor: Mike Castro, 1989-92.
Member - Master's Thesis Committee: Bethany Cone, 1990-92
Member - Master's Thesis Committee: Lee Lipton, 1990-92
Member - Master's Thesis Committee: David Grimes, 1990-91

Community Service

Spokane County Fire Department: District 9. EMS & Safety Lieutenant. Station 6

- Attended and/or participated in over 100 training sessions/meetings and or emergency responses for fire, medical and rescue each year. 1996 – present.
- Instructor for numerous EMS, wildland and structural firefighting classes each year.

Certifications:

Washington State: Emergency Medical Technician
Wildland Firefighter 1